



राष्ट्रीय रेडियो खगोलभौतिकी केन्द्र - टाटा मूलभूत अनुसंधान संस्थान

National Centre for Radio Astrophysics - Tata Institute of Fundamental Research
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Tel: +91-20-2571 9000/9276/9266/9206/9205 E-mail: purchase@ncra.tifr.res.in

Tender No. NCRA:WF065:CPPP:2026-27

RXS45 से सिंक्रोनाइज्ड, मल्टी-स्लाइस बैंड 4/5a/5b डेटा ट्रांसफर को सपोर्ट करने के लिए Stratix 10 RXPU FPGA पर चार 100G ईथरनेट IP ब्लॉक का डिजाइन, प्लानिंग, इम्प्लीमेंटेशन, इंटीग्रेशन और वेरिफिकेशन करना। यह काम पहले से पूरी हो चुकी RXPU स्टडी आर्किटेक्चर पर आधारित होगा और इसे स्कोप डॉक्यूमेंट्स, शर्तों और SKAO की मंजूरी के अनुसार किया जाएगा।

Design, Planning, Implementation, integration and verification of four 100G Ethernet IP blocks on the Stratix 10 RXPU FPGA to support synchronised, multi-slice Band 4/5a/5b data transfer from RXS45, building upon the completed proprietary RXPU study architecture, as per the scope documents, terms & conditions and satisfactory acceptance from SKAO side



टाटा मूलभूत अनुसंधान संस्थान का राष्ट्रीय रेडियो खगोलभौतिकी केंद्र, भारत सरकार के परमाणु ऊर्जा विभाग के प्रशासनिक नियंत्रण में एक संस्थान है। यह सावित्रीबाई फुले पुणे विश्वविद्यालय परिसर, पुणे में स्थित है एवं रेडियो खगोलभौतिकी के क्षेत्र में अनुसंधान में संलग्न है। एनसीआरए ने नारायणांगंव, तालुका-जुन्नार, जिला-पुणे के पास खोडद में विशाल मीटरवेव रेडियो टेलीस्कोप (जीएमआरटी) का निर्माण किया है एवं जीएमआरटी तथा ऊटी रेडियो टेलीस्कोप (ओआरटी) दोनों का संचालन करता है।

The National Centre for Radio Astrophysics (NCRA) of the Tata Institute of Fundamental Research (TIFR), an Institution under the administrative control of the Department of Atomic Energy, Govt. of India, is located in the Savitribai Phule Pune University Campus, Pune and is engaged in research in the field of radio astrophysics. NCRA has built the Giant Metrewave Radio Telescope (GMRT) at Khodad near Narayangaon, Taluka-Junnar, District-Pune and operates both GMRT and Ooty Radio Telescope (ORT), Udthagamandalam.

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CHAPTER - I

NOTICE INVITING TENDER (NIT)

To,
SCI-COM Software India Private Limited
401, Kapil Zenith, LMD Chowk
4th, Floor Bavdhan, Pune 41107, India
Ph: +91-2022951983 /907 /871
Website:- www.scicomsoftware.com

Two-part Tender (Technical Bid and Financial Bid) under Single Tender Enquiry is invited on behalf of the Centre Director, NCRA-TIFR through the CPPP for award of contract/ Order for "Design, Planning, Implementation, integration, and verification of four 100G Ethernet IP blocks on the Stratix 10 RXP FPGA to support synchronised, multi-slice Band 4/5a/5b data transfer from RXS45, building upon the completed proprietary RXP study architecture, as per the scope documents, terms & conditions and satisfactory acceptance from SKAO side" (Hereinafter referred to as "the said work").

The details of the tender including the scope of work etc is given in this tender document

Tender Mode	Single Tender Enquiry
Name of Work	"Design, Planning, Implementation, integration, and verification of four 100G Ethernet IP blocks on the Stratix 10 RXP FPGA to support synchronised, multi-slice Band 4/5a/5b data transfer from RXS45, building upon the completed proprietary RXP study architecture, as per the scope documents, terms & conditions and satisfactory acceptance from SKAO side" (Hereinafter referred to as "the said work")
Tender Issue Date & Time	31.07.2026 at 1630 hrs.
Last Date & Time of Tender Submission	14.08.2026 at 1630 hrs.
Earnest Money Deposit (EMD)	Rs. 1,80,000 (One Lakh eighty thousand Only) towards EMD has to be deposited in the form of Demand Draft, Fixed Deposit Receipt, Banker's cheque, BG or through online transfer through bank (Bank details shall be provided on demand) in favour of TIFR Pune. EMD shall be interest-free, and it will be refunded to the unsuccessful bidder without any interest. EMD will be forfeited if the bidder withdraws or amends, impairs or derogates from the Tender in any respect. EMD should be submitted along with the bid, as specified in this document. Bank Details for online Transfer of payment: - Bank A/c Name : TIFR Name of Bank : Bank of India Branch : Pashan Road, Pune Bank A/c No : 51620110000508 IFSC code : BKID0000516

Pre-bid Queries / Meeting	NCRA-TIFR shall hold a pre-bid meeting in order to clarify and discuss issues with respect to this tender. The meeting shall be held on 10.08.2026 at 1100 hrs. at NCRA-TIFR, Pune. The bidder is requested to submit their pre-bid queries via email to purchase@ncra.tifr.res.in with a subject line – Pre-bid Query for the said work. Any requests or clarifications in writing must be sent to the Purchase Department's Email ID purchase@ncra.tifr.res.in on or before 09.08.2026 at 1700 hrs. This will ensure that the queries can be addressed effectively during the meeting.
Corrigendum, if any	The due date for final submission may be extended if a corrigendum is issued with additional information, changes, etc., which necessitates the due date extension.
Date of Opening of Technical Bids	17.08.2026 at 1600 hrs.
Date of Opening Financial Bids	Date of Opening of Financial / Price Bids shall be intimated through email
Completion Period	12 months from the issue of the Work Order. However, if there is any situation which compels a change in the completion period, it will be discussed and agreed with the Supplier at a later date. If there is no change in the completion date and if the delivery is delayed, NCRA shall apply the LD clause. Additional 6 months post-integration support must be provided.
Performance Bank Guarantee (PBG)	5% of the Work Order / Contract value including taxes, statutory expenses and other charges to be submitted immediately within 14 days from the date of the work order.
Security Deposit (SD)	2.5% will be deducted from each invoice as a security deposit and will be released after completion of the total work + 60 days. This deposit will be interest-free and it will be returned by the NCRA after the work is completed and accepted by SKAO + two months.
Payment Terms	As per Chapter VI in this document
Delivery place	The delivery of this project is at NCRA in a phased manner and it is handed over to SKAO from time to time, after testing and acceptance.

For further instructions, please refer to Instructions to Bidder and other relevant sections in this document.

In case of any clarification about the submission of bids, please contact:

Purchase Department
NCRA-TIFR, Pune
purchase@ncra.tifr.res.in
Tel: 020-2571 9276 / 9266 / 9206

In case of any technical clarifications, please contact by email to: scc@gmrt.ncra.tifr.res.in

Administrative Officer-C (P&S)
NCRA-TIFR, Pune

CHAPTER – II

ELIGIBILITY CRITERIA

All the documents pertaining to the eligibility conditions (techno-commercial) along with relevant documents need to be uploaded along with the technical bid on the CPPP.

S. No.	Description
1	Bidder must be a Firm / Company registered under the Indian Companies Act OR a Society registered under Societies Act, 1860 OR a PSU / Autonomous bodies or any other venture not covered above, registered under the relevant Government Statute and authorised to carry out the services/ work / business. Joint Ventures and Consortia are not permitted.
2	The Bidder must have all relevant registrations such as PAN and GST as applicable
3	The bidder must have been in the business for the last seven years prior to 30.06.2026
4	The average annual financial turnover of the bidder during the last three years ending on 31.03.2025 should be at Rs. 27 Lakhs (Rupees Twenty-Seven Lakhs Only) as per the audited balance sheet and profit & loss account of the relevant period, duly authenticated by a Chartered Accountant/ Cost Accountant. The net worth of the bidder firm should not be negative as on 31.03.2025.
5	The bidder must submit a Solvency Certificate from a Nationalised / Scheduled Commercial Bank in India where the Bidder has a working current account, for at least Rs. 36 Lakhs
6	The bidder must furnish the undertaking regarding Acceptance of Terms & Conditions of Tender and Non-Blacklisting / Debarment.
7	The bidder must warrant that there is no legal action ongoing against it for any cause in any legal jurisdiction. If such an action exists and the bidder considers that it does not affect its ability to deliver the Tender requirements, it shall provide details of the action(s).
8	The Bidder should have executed at least one project of any scale or technical complexity similar to the requirements of this Tender, in the field of RXPU or equivalent kind of work development, carried out in India.
9	The Bidder must have the necessary in-house infrastructure, trained personnel and expertise for meeting the technical / work requirements. No subcontracting will be allowed for this work.
10	Certificate of Local Content issued by Statutory Auditor or Cost Auditor of the company
11	Certificate of Compliance regarding Restrictions on procurement from Bidders from a country or countries or a class of countries
12	Bidder must submit a Certificate of Integrity in the prescribed format

Note: Kindly fill up the above details with relevant documents, signed, stamped and enclose them along with your technical bid (Cover-I); otherwise, your bid will be rejected.

CHAPTER – III EVALUATION PROCESS

This Table shall be used by the TEC for evaluating the bid received, along with the detailed Technical Evaluation Report, for making the final decisions (NOT TO BE FILLED BY THE BIDDER)

Sr. No.	Evaluation criterion	Criterion met or not (to be evaluated by the TEC)
1	Whether the bidder has fulfilled the requirement specified under Item #1 of the eligibility criteria	YES / NO
2	Whether the bidder has fulfilled the requirement specified under Item #2 of the eligibility criteria	YES / NO
3	Whether the bidder has fulfilled the requirement specified under Item #3 of the eligibility criteria	YES / NO
4	Whether the bidder has fulfilled the requirement specified under Item #4 of the eligibility criteria	YES / NO
5	Whether the bidder has fulfilled the requirement specified under Item #5 of the eligibility criteria	YES / NO
6	Whether the bidder has fulfilled the requirement specified under Item #6 of the eligibility criteria	YES / NO
7	Whether the bidder has fulfilled the requirement specified under Item #7 of the eligibility criteria	YES / NO
8	Whether the bidder has fulfilled the requirement specified under Item #8 of the eligibility criteria	YES / NO
9	Whether the bidder has fulfilled the requirement specified under Item #9 of the eligibility criteria	YES / NO
10	Whether the bidder has fulfilled the requirement specified under Item #10 of the eligibility criteria	YES / NO
11	Whether the bidder has fulfilled the requirement specified under Item #11 of the eligibility criteria	YES / NO
12	Whether the bidder has fulfilled the requirement specified under Item #12 of the eligibility criteria	YES / NO

The Centre reserves the right to suspend or cancel the entire process, without assigning any reasons. The Centre may stop any of the activities/processes of this Tender for reasons beyond its control.

Notes:

- a) The finally accepted bid will be considered for further course of action such as opening Financial Bid documents, negotiations by a committee if required under some circumstances, placing of work order/contract, supply of prototypes for specific work proposed based on the requirements. During these processes, the Centre may ask the bidder to provide more information about their financial terms and conditions, including rate charts, in order to complete the awarded work/SITC contract, etc.
- b) In case of the bidder becoming technically, legally, or otherwise disqualified / ineligible at any point in time, NCRA reserves the right to cancel /suspend/terminate the contract if it is necessary.
- c) The bidder who has successfully completed the Tendering process and become eligible for completion of the said work, will have to sign the declaration and NDA, as per the procedures, which will be communicated later at any point in time.

CHAPTER – IV SCOPE OF WORK

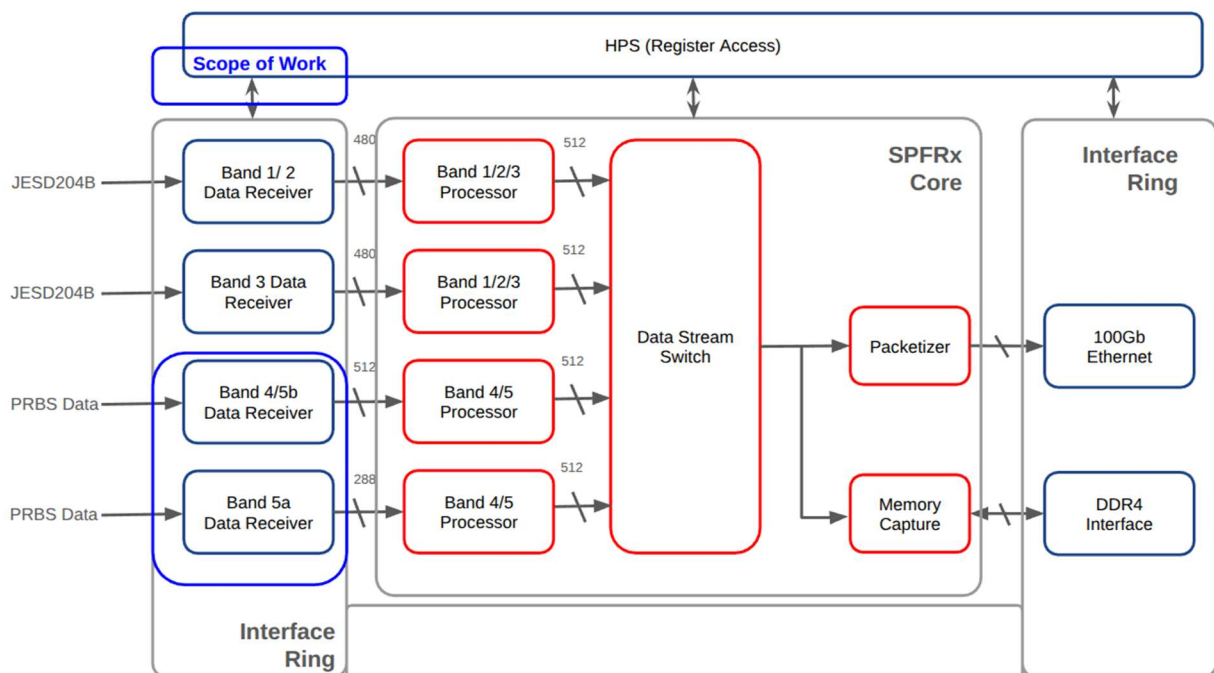
1. Background:

NCRA has formally received the Work Package from the SKAO for the design, development, and delivery of the Receiver Processing Unit (RXPU) firmware, constituting a key part of India's In-Kind Contribution to the international SKA-Mid telescope project. The RXPU firmware handles high-speed data reception from the frontend Receiver Digitiser Unit (RXS45 - Band 4/5a/5b) and integrates it into the downstream signal processing chain.

2. Information:

As established in the South African Radio Astronomy Observatory (SARAO) **Technical Memo summarised here**, detailed engineering investigations revealed that the direct protocol and extreme data rate required by the RXS45's Jariet Electra MA ADC transceiver (which utilizes the JESD204C protocol) are not natively supported by the RXPU's FPGA architecture. To bypass this hardware incompatibility, the approved architectural solution introduces a packetising FPGA onto the RXS45 to convert Band 4/5a/5b raw Digital Down Converter (DDC) data into an Ethernet frame protocol.

Due to the massive total data throughput required per polarization—calculating to a Per-Pol Rate of **190.272 Gbps** based on a maximum DDC sample rate of **7.928 Gsps** at 24 bits (12b I + 12b Q) - the data must be dynamically sliced. The approved solution splits each polarization concurrently into a 6-bit Most Significant Bit (MSB) slice stream and a 6-bit Least Significant Bit (LSB) slice stream. These streams are sent concurrently at a per-slice rate of **95.135 Gbps** over each four dedicated 100 GbE interfaces driven by Amphenol Leap Transceivers (utilizing 8 out of 12 available transceiver pairs). Four lanes of 100 Gbe Ethernet IP blocks are required for transfer of I & Q quadratic data per polarization for dual polarized channels. Additionally, the legacy TLK interface for Control and Monitoring (CAM) functions will be replaced and combined over one of the 100 Gbe links.



RXPU Functional Block Diagram

3. Objective & System Background:

The Procuring Entity requires the procurement of specialized **Bespoke Software Development and System Integration Services** to design, implement, and verify high-speed data ingestion firmware on an Intel Stratix 10 GX FPGA (part: 1SX280HU2F50E1VG) residing on the Receiver Processing Unit (RXPU) platform.

The core objective is to achieve a reliable synchronized, multi-slice data transfer framework from an external Receiver Digitizer Unit (RXS45) across a high-speed communication backbone.

4. SKAO Mandate & Engineering Background:

This work package is driven strictly by international **Square Kilometre Array Observatory (SKAO)** telescope design requirements. To ensure system reliability at such high bandwidths, the SKAO mandated a formal **Technical De-Risking Study** for this specific architectural layer. This baseline study successfully validated the fundamental feasibility of the interface logic, clocking hierarchies, and resource utilization constraints on the target Stratix 10 platform.

Consequently, the scope of this tender transitions the design into production through execution of the implementation, HDL coding, and hardware verification stages, adhering to the architectural baseline established in the de-risking study and aligning with all SKAO interface specifications.

5. Input Data Architecture & Reference Documents:

The final firmware deliverables must strictly comply with the authorized interface configurations, packet protocols, and register maps defined by the international project office.

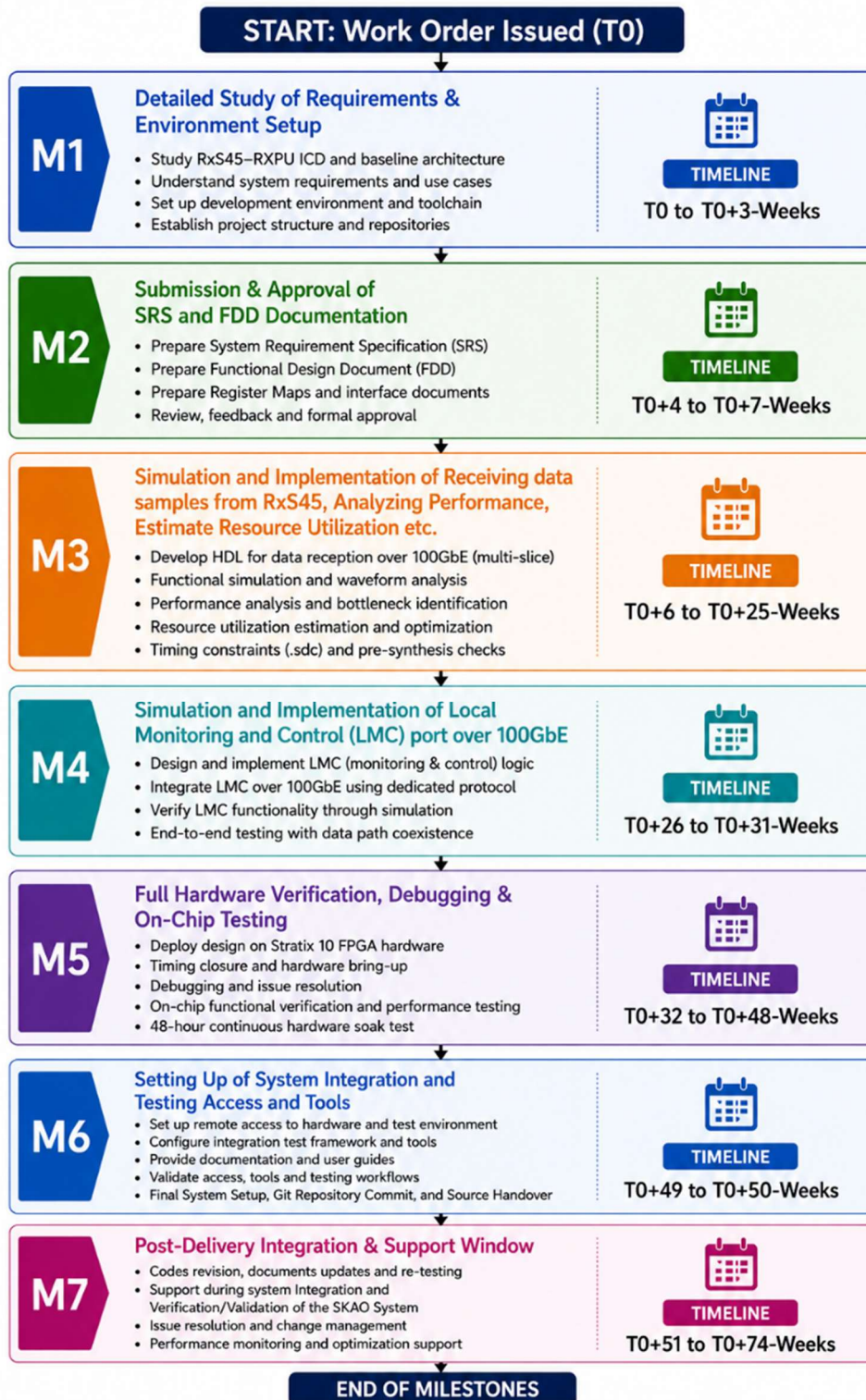
- **The Core Interface Target:** The firmware must ingest a total aggregated throughput per polarization of **190.27 Gbps** (derived from a DDC sample rate of **7.927999 Gsps** at 24-bit resolution: 12-bit I + 12-bit Q).
- **Data Slicing Mandate:** The incoming data stream is split into a 6-bit Most Significant Bit (MSB) slice stream and a 6-bit Least Significant Bit (LSB) slice stream, running concurrently at a per-slice rate of **95.13599 Gbps** over four dedicated physical **100 Gbe interfaces**.
- **Primary Reference Specification:** The developer's design entry must achieve complete compatibility with the official interface control reference: **"RXS45 - RXPU Interface Control Document (ICD)" (Document ID: 318-030000-004)**. This document will be provided to the successful bidder upon contract award.
- **Control Link:** The UDP port based separation/combination of CAM data exchanges with RXS45 shall be realized through one of the 100 Gbe (first one carrying polarisation-1 with quadrature-I samples) communication links at the output.

6. Detailed Scope of Work:

The successful bidder (hereafter referred to as the "Developer") shall execute the following technical tasks using Intel Quartus 23.4.0 (Build 79, with Patches 0.27) and QuestaSIM (Altera FPGA Edition) or the suitable version:

- **Baseline Study:** Review and analyze existing baseline open-source firmware architectures for compatible receiver versions (RXS123) to ensure mandatory compliance with system design patterns and repository standards.
- **Platform Setup:** Set up and configure the complete local simulation, synthesis, and compilation environment required for the development cycle.

- **RTL Coding & Design Entry:** Write clean, well-commented Hardware Description Language (HDL—VHDL) code as suggested by SKAO (<https://ska-telescope.gitlab.io/developer.skatelescope.org/tools/codeguides/vhdl-codeguide.html>).
 - **Simulation & Timing Closure:** Create functional pre-synthesis testbenches and execute comprehensive waveform analysis. Enforce strict logic synthesis constraints to achieve acceptable timing closure across all clock domains on the Stratix 10 device.
 - **Functional Block Implementation:** Develop and implement the following core logic capabilities:
 - Real-time data sample ingestion from the RXS45 via four 100 GbE channels.
 - Local Control and Monitoring (CAM) workflows handling automated system power-up, safe shutdown, and dynamic band selection, configuration workflow for smooth function of RXPU.
 - Data Formatting: Organize, align, and serialize data structures as mandated for downstream signal processing blocks.
 - Processor Interfacing: Establish fully decoded register mappings and communication interfaces with the host processor.
 - Cross-Platform Communication: Implement stable 100 Gbe data transfer between the SPFRx and RXPU.
7. **Methodology & Deliverables:** The development adheres to a standard digital design pipeline specified by intel / Altera Design Flow Guideline. The final contract closure is subject to the submission and acceptance of the following milestones:
- **Design Documentation:** System Requirement Specifications (SRS), Functional Design Documents (FDD) including comprehensive system block diagrams, and register map tables.
 - **Source Code Base:** Fully verified RTL source code (VHDL) and host-side C-code if any, including all simulation testbenches, waveform analysis and constraint files..
 - **Binary Deployables:** Compiled stable bitstreams/binary files ready for on-chip hardware deployment.



- **Reports:** Comprehensive Functional Simulation Reports, Timing Closure Reports, and Hardware Test Logs.

SECTION: COMMERCIAL & EXECUTION TERMS

8. Inspection and Pre-Delivery Testing:

- **Pre-Delivery Simulation Review:** Before hardware deployment, the Developer must demonstrate error-free functional simulation (Pre-Synthesis) on the Developer's local testbenches. Waveform

logs proving packet alignment and without data loss must be submitted to the Procuring Entity for technical clearance.

- **Hardware-in-the-Loop Testing:** Post-bitstream generation, testing will be executed on actual RXS45/RXPU hardware units. The Procuring Entity will provide the Developer with secure access (physical or remote) to the target hardware platforms, standard test setups, and required GitLab repositories.

9. Acceptance Criteria of Delivery

Final delivery acceptance is subject to successful verification on RXPU hardware board verification. The firmware will only be deemed "Accepted" if it passes the following criteria during real-time hardware testing:

- Continuous, stable operation over a 48-hour soak-test window.
- Successful, locked timing closure without any setup/hold violations reported by the timing analyzer.
- Error-free data validation proving data formatting matches the downstream hardware

10. Completion Period and Delivery Schedule:

The entire assignment must be successfully completed within a period of **50 Weeks** (excluding post-integration support) from the date of the Work Order (T0). The milestone timelines are fixed as follows:

Sr. No.	Milestone Activity	Timeline
M1	Detailed Study of Requirements & Environment Setup	T0 to T0+3-Weeks
M2	Submission & Approval of SRS and FDD Documentation	T0+4 to T0+7-Weeks
M3	Simulation and Implementation of receiving data samples from RxS45, Analysing Performance, Estimating Resource Utilisation, etc.	T0+6 to T0+25-Weeks
M4	Simulation and Implementation of Local Monitoring and Control (LMC) port over 100 GbE	T0+26 to T0+31-Weeks
M5	Full Hardware Verification, Debugging & On-Chip Testing	T0+32 to T0+48-Weeks
M6	Setting Up of System Integration and Testing Access and Tools. Final System Setup, Git Repository Commit, and Source Handover	T0+49 to T0+50-Weeks
M7	Post-Delivery Integration & Support Window where code revisions, documents and re-testing etc. during the system Integration and Verification/Validation of the SKAO System	T0+51 to T0+74

11. Post-Delivery Technical Support & Debugging

- **Mandatory Integration Support:** Following the successful completion and delivery of the core firmware packages T0+50, the Developer must provide **24 Weeks of continuous Technical Support**. (T0+51 to T0+74)
- **Scope of Support:** This support window explicitly includes system-level integration testing with the wider global telescope framework, bug tracking, fixing regressions, updating documentation, and regenerating bitfiles if global system interface parameters change.
- **Debugging Service Level Agreement (SLA):** During the integration support period, any critical bugs, timing failures, or interface mismatches discovered during full-scale system testing must be addressed, debugged, and resolved by the Developer within **48 hours** of official notification by the institutional team.

12. Risk & Responsibility Matrix:

To safeguard project timelines against technical risks, the following operational boundaries are established:

- **NCRA/SARAO Deliverables:** Responsible for providing the latest approved version of the "318-030000-004 RXS45 - RXPU ICD" interface control documents, related hardware documentation revisions, and required GitLab workflow training.
- **Hardware and Repository Access (Critical Path Risk):** The Developer will be provided remote/physical access to both the target GitLab codebases and actual RXPU Hardware Units to execute mandatory physical verification and validation of the streaming links.
- **Vendor Accountability:** The vendor maintains sole responsibility for design accuracy, achieving timing closure across all concurrent 100 Gbe pipelines, handling packet overheads, and providing post-delivery troubleshooting support throughout the active system integration timeline.

CHAPTER - V
General Conditions of Contract (GCC)
General Information and Definitions

1. Definitions:

In this Contract, the following terms shall be interpreted as indicated:

- i. "The Order" means the Purchase Order placed by the Purchaser (NCRA-TIFR) including all the attachments and appendices thereto and all documents incorporated by reference therein;
- ii. "The Contract Price" means the price payable to the Supplier under the Order for the full and proper performance of its contractual obligations;
- iii. The Bidder or Tenderer means and includes persons, parties, companies, firms, etc. who are participating in this Tender process and submitting the tender documents.
- iv. "Services" means services required to be performed, executed, completed within the timeline, etc. with due compliance, covered under the Contract
- v. "GCC" means the General Conditions of Contract contained in this Tender.
- vi. "SCC" means the Special Conditions of Contract.
- vii. "The Purchaser's country" is "India".
- viii. "The Supplier" means the individual/ firm or company which will be awarded a work contract/ work contract/work order under this tender after successful completion of all required formalities.
- ix. "Day" means calendar day.
- x. "Centre" means NCRA-TIFR located at Pune and its premises.
- xi. NCRA / NCRA-TIFR / Centre Director / Purchaser represents the same entity.
- xii. The 'Contract' means the documents forming the Tender and acceptance thereof and the formal agreement executed between the Competent authority on behalf of the Centre Director, NCRA-TIFR and the Contractor/Bidder together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.
- xiii. The expression 'Works' or 'Work' shall, unless there be something either in the subject or context repugnant to RXPU related works, be construed and taken to mean the works by or by virtue of the contract contracted to be executed, whether temporary or permanent and whether original, altered, substituted or additional.
- xiv. Work Order/Contract/Purchase Order etc. in this particular document means the order issued by competent authority for "Design, Planning, Implementation, integration, and verification of four 100 GbE Ethernet IP blocks on the Stratix 10 RXPU FPGA to support synchronised, multi-slice Band 4/5a/5b data transfer from RXS45, building upon the completed proprietary RXPU study architecture, as per the scope documents, terms & conditions and satisfactory acceptance from SKAO side"
- xv. The 'Site' shall mean the land or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.
- xvi. The 'Contractor / Bidder' shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal representative of such individual or the persons composing such firm or company or the successors of such firm or company and the permitted assignees of such individual, firm or company.

- xvii. The 'Engineer-in-Charge' means the Engineer / Officer, authorised by NCRA-TIFR for this particular work and who shall supervise and be in charge of the work on behalf of NCRA-TIFR, Pune.
- xviii. 'Temporary Work' means all temporary works of every kind required in or about the execution, completion and maintenance of the works.
- xix. 'NCRA-TIFR' means National Centre for Radio Astrophysics-Tata Institute of Fundamental Research, Pune.
- xx. 'Tendered value' means the value of the entire work as stipulated in the letter of award/acceptance.
- xxi. Time limit: The time allowed for completion of the work shall be reckoned from the date of issuance of the Work Order.

2. Application

These General Conditions shall apply to the extent that they are not superseded by provisions in other chapters of the Contract. All terms and conditions mentioned in this document, with proper interpretation, shall be binding on and applicable to bidders.

3. Use of Contract Documents and Information

The bidder shall not, without the Purchaser's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

4. Patent Rights

The bidder shall indemnify the Purchaser against all third-party claims of infringement of patent, trademark or industrial design rights arising from use of the Goods or any part thereof in India.

5. Standards

The Services and deliverables rendered under this Contract shall conform to the standards mentioned in the Technical Specifications. The bidder should provide adequate information in the technical bid document.

6. Post-Delivery Technical Support & System Integration Scope (24 Weeks):

Following the successful initial delivery and code handover at T0 + 50 weeks, the developer shall provide 24 consecutive weeks of Technical Support as and when required.

During this 24-week post-delivery support phase, the scope of work shall explicitly encompass:

1. **Code & RTL Revisions:** Implementing necessary modifications, bug fixes, parameter adjustments, or architectural updates to the RTL codebase, constraint files, and host C-code arising during full-scale system-level Integration, Verification, and Validation (IV&V) of the wider SKAO System.
2. **Bitstream Regeneration:** Re-synthesising, re-closing timing, and regenerating compiled bitfiles/deployable binaries whenever global SKAO system interface specifications or parameters are updated.
3. **Documentation Updates:** Updating and maintaining all System Requirement Specifications (SRS), Functional Design Documents (FDD), Register Maps, and test reports to accurately reflect any code revisions or interface modifications made during the integration phase.
4. **Re-Testing & Regression Validation:** Executing necessary functional re-simulations, timing analyses, and hardware-in-the-loop test runs to ensure that any code changes do not introduce regressions into the system.
5. **SLA Compliance:** Adhering to the mandatory 48-hour Debugging SLA for analysing, resolving, and deploying fixes for any critical bugs, timing failures, or interface mismatches identified during SKAO system integration testing.

7. Subcontracts

Subcontracting shall not be allowed under this tender.

8. Delays in the Supplier's Performance

Since time is the essence of the contract, delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified by the Purchaser in the Contract.

9. Liquidity Damages

If the Supplier fails to perform or complete the work within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as LD, a sum equivalent to 0.5% per week and the maximum deduction is 5% of the Contract Price.

10. Termination for Default

The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the contractor, terminate the Contract in whole or part:

- i. If the contractor fails to complete the works within the period(s) specified in the order, or within any extension thereof granted by the Purchaser.
- ii. If the contractor fails to perform any other obligation(s) under the Contract.
- iii. If the contractor, in the judgment of the Purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract. For the purpose of this Clause:
 - a) "Corrupt practice" means the offering, giving, receiving or soliciting of gratification to influence the action of a public official(s) in the procurement process or in contract execution.
 - b) "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the purchaser, and includes collusive practice among Bidders (prior to or after bid

submission) designed to establish bid prices at artificial non- competitive levels and to deprive the purchaser of the benefits of free and open competition.

11. Termination of Contract by the Purchaser

The NCRA-TIFR Pune reserves the right to cancel the contract at any time by giving one month's written notice. Extension of the contract may be considered with mutual agreement, depending on the needs of the Centre and based on the past performance of the contractor.

If the Contractor/Supplier commits any 'Act of Insolvency' or shall be adjudged an Insolvent or shall have an order for compulsory winding up made against him or pass effective resolution for winding up voluntarily, or if the Contractor/Supplier shall suffer any payment under this contract to be attached by or on behalf of any of the creditors of the Contractor/ Supplier, or shall assign the Contract without the prior consent in writing of the Engineer, or shall charge or encumber this Contract or any payments due or which may become due to the Contractor there under, or if the Engineer shall certify in writing to the Purchaser that the Contractor/Supplier

- a) has abandoned the Contract,
or
- b) has failed to commence the works, or has, without any lawful excuse, these conditions suspended the progress of the works for seven days after receiving from the Engineer written notice to proceed,
or
- c) has failed to proceed with the work with such due diligence and failed to make such due progress as would enable the works to be completed in accordance with the approved programme of work,
or
- d) has neglected or failed persistently to observe and perform all or any of the acts matters or things by this contract to be observed and performed by the Contractor for seven days after written notice shall have been given to the Contractor/ Supplier requiring the Contractor/Supplier to observe or perform the same,
or
- e) has to the detriment of good workmanship or in defiance of the Engineer's instructions to the contrary, sublet any part of the contract.

Then and in any of the above said causes, the Purchaser with the written consent of the NCRA authorised person may, notwithstanding any previous waiver, after giving seven days' notice in writing under the provisions of this clause to the Contractor/Supplier, determine the contract but without prejudice to the powers of the Engineer or the obligations and liabilities of the Contract, the whole of which shall continue to be in force as if the contract has not been so determined and as if the work subsequently executed has been executed by and on behalf of the Contractor/Supplier. This kind of Termination will attract LD clause, proper financial penalty and appropriate action by NCRA-TIFR against the contractor.

12. Force Majeure

- 12.1 The Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, its delays in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

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

13. Resolution of Disputes

13.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

13.2 If, after thirty (30) days from the commencement of such informal negotiations, the Purchaser and the Supplier have been unable to resolve amicably a contractual dispute, either party may require that the dispute be referred for resolution to the formal mechanisms. These mechanisms may include, but are not limited to, conciliation mediated by a third party, adjudication in an agreed national or international forum, and national or international arbitration.

13.3 In case of Dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or differences shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules thereunder and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the Director, TIFR and if he is unable or unwilling to act, to the sole arbitration of some other person appointed by him willing to act as such Arbitrator. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order.

14. Taxes and Duties

Bidders shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted works to the Purchaser. Bidder, while quoting rate, should consider all the statutory dues, duties and any incidental expenses required for the delivery at the location mentioned in the tender document.

15. Applicable Law: The place of jurisdiction would be Pune, INDIA.

16. Notices: For the purpose of all notices, the following shall be the address of the Purchaser and Supplier.

**NCRA-TIFR, Pune
SP Pune University Campus, Pune – 411 007
Maharashtra, IND**

CHAPTER - VI

Payment Terms and Conditions

1. Payment Terms:

Payment will be made as per the billing for the part of work completed, delivered and accepted by NCRA and SKAO. The detailed terms and conditions are as under:

The successful bidder will raise an invoice after completion of each milestone as mentioned below as per the rates agreed in the Work Order.

i. Project Milestones for payment terms:

1. **Milestone 1:** Detailed Study of Requirements & Environment Setup : (Timeline - T0 to T0+3 weeks : 4 weeks) with key deliverables - Study of project specifications, baseline architecture review, and local software/toolchain development environment setup. No Payment for this Milestone
 2. **Milestone 2:** System Architecture & Documentation Approval : (Timeline - T0+4 to T0+7 weeks : 4 weeks) with key deliverables - Submission and formal institutional approval of System Requirement Specifications (SRS), Functional Design Documents (FDD), and Register Maps. Payment: 15%
 3. **Milestone 3:** Data Ingestion Logic Simulation & Implementation : (Timeline: T0+6 to T0+25, weeks : 20 weeks) with key deliverables - Simulation and implementation of receiving data samples from RxS45 over 100GbE, performance analysis, and resource utilization estimation. Payment: 20%
 4. **Milestone 4:** LMC Port Simulation & Implementation over 100GbE: (Timeline - T0+26 to T0+31 weeks: 6 weeks) with key deliverables - Functional simulation and RTL implementation of the Local Monitoring and Control (LMC) interface port over 100GbE. Payment: 15%
 5. **Milestone 5:** On-Chip Hardware Verification & Soak Testing : (Timeline - T0+32 to T0+48 weeks : 17 weeks) with key deliverables - Full hardware verification on Stratix 10 FPGA, timing closure optimization, on-chip debugging, and completion of a 48-hour continuous hardware soak test. Payment: 20%.
 6. **Milestone 6:** System Integration Setup & Code Handover: (Timeline - T0+49 to T0+50 weeks : 2 weeks) with key deliverables - Setting up system integration/testing tools, final system setup, source code push to official SKAO GitLab repository, and formal delivery handover. Payment: 25%
 7. **Milestone 7:** Post-Delivery Integration & Support Window : (Timeline: T0+51 to T0+74 weeks : 24 weeks Post-Delivery Window) with key deliverables: 24 weeks of continuous system-level integration support, code/document updates, re-testing, and compliance with the 48-hour debugging SLA Payment: 5%
- ii. The invoice amount will be worked only after delivery of the partial work qualifying for the relevant milestone and accepted by the Engineer In-charge duly recorded properly.
- iii. It is important that the work completed for each milestone needs to be accepted by NCRA and SKAO. In case of debugging, modifications, changes, etc. are required in the said work, the bidder has to carry out the said work to the satisfaction of concerned authorities, without any cost to NCRA.
- iv. The invoice will be checked and certified by the Engineer In-charge, assigned for this work, before it is submitted to the Accounts Department, NCRA for payment.

- v. Payment will be made after 30 days from the date of receipt of Invoice in the Accounts Department, NCRA and the work is accepted by NCRA and SKAO. All payments will be made after deduction of Income Tax, GST, TDS, Security Deposit and any other statutory dues applicable.
- vi. NCRA reserves the right to withhold/delay/reject the payment of any particular milestone, which has failed the acceptance test, until it is delivered/handed over satisfactorily for tests and thereafter accepted by NCRA and SKAO.

CHAPTER -VII
Forms and Formats
 (To be printed on letterhead)

Annexure - 1

Bidder's Details

1	Name of the Firm/ Company		
2	Address of the Firm/ Communication Address:		
3	Name and Designation of Authorized Signatory		
4	Mobile No.:		
5	Telephone No.:		
6	E-Mail ID:		
7	Website:		
8	GST Registration Number:		
9	PAN Number:		
10	Firm's Bank Account details	Bank Account No.:	
		Name of the Bank:	
		IFSC Code No:	
		Name of Branch:	
11	Communication details of the concerned contact person to whom all references shall be made regarding this tender enquiry		
a)	Name of Person:		
b)	Designation:		
c)	Mobile No:		
d)	E-Mail ID:		

Authorized Signatory (signature in full):

Name:

Designation:

Seal of the Firm/Company:

CERTIFICATE OF COMPLIANCE

[On the letterhead of the applicant, including full postal address, email address and telephone no.]

Bid Ref. No.: _____

Date: _____

To,
The Centre Director
National Centre for Radio Astrophysics (NCRA)
Tata Institute of Fundamental Research (TIFR)
Savitribai Phule Pune University Campus
Ganeshkhind, Pune – 411007, Maharashtra, INDIA

Sub.: Restrictions on procurement from Bidders from a country or countries or a class of countries under Rule 144(xi) of the General Financial Rules 2017.

Sir,

“We have read the clause regarding restrictions on procurement from a Bidder of a country which shares a land border with India; and solemnly certify that we are not from such a country or, if from such a country, we are registered with the Competent Authority (copy enclosed). We hereby certify that we fulfil all requirements in this regard and are eligible to be considered.”

Penalties for false or misleading declarations:

We hereby confirm that the particulars given above are factually correct and nothing is concealed and also undertake to advise of any future changes to the above details. We understand that any wrong or misleading self-declaration by us would be a violation of the Code of Integrity and would attract penalties as mentioned in this tender document, including debarment.

Authorized Signatory (signature in full):

Name:

Designation:

Seal of the Firm/Company:

(To be printed on letterhead)

CERTIFICATE OF PRICE JUSTIFICATION

Bid Ref. No.:

I/We, M/s. _____ certify that the rates quoted are not higher than the rates quoted for the same item/services in an approximate or comparable quantity, to any Government / PSU /University / Research Institution during the last one year.

Authorized Signatory (signature in full):

Name:

Designation:

Seal of the Firm/Company:

DECLARATION REGARDING NON-BLACKLISTING / DEBARMENT

(To be printed on letterhead)

Tender No.:

1. I/We _____ (Applicant) hereby declare that our firm/company namely M/s _____ has not been blacklisted or debarred in the past by the Central Govt. / State Govt. / Public Sector Undertaking/ Universities/ Research Institutions or any other Govt. organization from taking part in Government Tender.

(OR)

2. I/We _____ (Applicant) hereby declare that our firm/company namely M/s. _____ was blacklisted or debarred by the Central Govt. / State Govt. / Public Sector Undertaking/ Universities/ Research Institutions or any other Govt. organization from taking part in Government Tender for a period of ____ years w.e.f. _____ to _____. The period is over on _____ and now the firm/company is entitled to take part in the Government Tender.

** Please strike off whichever is not applicable*

Authorised Signatory and Seal of the Firm/ Company

Name :

Designation :

Email Address :

SELF-CERTIFICATION FOR LOCAL CONTENT

(Certification under the preference to Make in India Order)

(To be printed on letterhead)

Date:.....

To,

The Centre Director

National Centre for Radio Astrophysics (NCRA)

Tata Institute of Fundamental Research (TIFR)

Savitribai Phule Pune University Campus

Ganeshkhind, Pune – 411007, Maharashtra, INDIA

Sub.: Self-Certification for Local Content -reg.

Sir,

In line with the Public Procurement (Preference to Make in India) Order No. P-45021/2/2017-PP (BE-II)- Part(4)Vol.II dated 19.07.2024 and its amendments issued by the Department for Promotion of Industry and Internal Trade, Government of India, we hereby certify that we, M/s.

_____ are local supplier meeting the requirement of minimum local content i.e., _____% excluding transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as defined in above orders for the material against NCRA-TIFR, Pune Enquiry / Tender No. _____ dated _____.

Details of the location at which local value addition will be made are as follows:

We also understand, false declarations will be in breach of the code of integrity under rule 175(1) (i) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.

Thanking you,

Authorised Signatory and Seal of the Firm/ Company

Name :

Designation : Email Address :

(To be printed on letterhead)

ACCEPTANCE OF TERMS & CONDITIONS OF TENDER

Dated: _____

To,
The Centre Director
National Centre for Radio Astrophysics (NCRA)
Tata Institute of Fundamental Research (TIFR)
Savitribai Phule Pune University Campus
Ganeshkhind, Pune – 411007, Maharashtra, INDIA

Subject: Acceptance of Terms & Conditions of Tender

Bid Ref. No.:

Sir,

I/We hereby certify that I/we have read the entire technical specifications, bid-specific terms and conditions and buyer-added terms and conditions of the subject bid (including all documents like annexure(s), etc.), which form part of the contract agreement and I/we shall abide by the terms/conditions/clauses contained therein.

I/We hereby unconditionally accept the tender conditions of above-mentioned bid document(s) / corrigendum(s) in its totality/entirety.

I/We do hereby declare that our Firm has not been blacklisted/ debarred by any Government. Department/Public sector undertaking.

Authorized Signatory (signature in full):

Name:

Designation:

Seal of the Firm/Company:

Date:

Place:

PROFORMA FOR PERFORMANCE BANK GUARANTEE

(To be executed by the successful bidder on a stamp paper of Rs. 500
from any Nationalised Bank or Scheduled Bank)

In consideration of the NATIONAL CENTER FOR RADIO ASTROPHYSICS - TATA INSTITUTE OF FUNDAMENTAL RESEARCH (hereinafter called "NCRA-TIFR") having agreed under the terms and conditions of Work Order No _____ dated _____ made between NCRA-TIFR and M/s. _____ (hereinafter called "the said Contractor(s)") for the work (hereinafter called "the said Work Order") having agreed to production of an irrevocable bank Guarantee for Rs. _____ (Rupees _____ Only

only), as a security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said Work Order, we _____ (Indicate the name of the Bank) (hereinafter referred to as "the Bank") hereby undertake to pay to the NCRA-TIFR an amount not exceeding Rs. _____ (Rs _____ only) on demand by the NCRA-TIFR.

2. We (indicate the name of Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the NCRA-TIFR stating that the amount claimed is required to meet the recoveries due or likely to be due from the said Contractor(s). Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs..... (Rupees only).

3. We, the said bank, further undertake to pay to the NCRA-TIFR any money so demanded, notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceeding pending before any Court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Contractor(s) shall have no claim against us for making such payment.

4. We _____ (indicate the name of Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Work Order and that it shall continue to be enforceable till all the dues of the NCRA-TIFR under or by virtue of the Work order have been fully paid and its claims satisfied or discharged or Purchase Officer on behalf of the NCRA-TIFR certifies that the terms and conditions of the said Work Order have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.

5. We (indicate the name of Bank) further agree with the NCRA-TIFR that the NCRA-TIFR shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Work Order or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the NCRA-TIFR against the said Contractor(s)

and to forbear or enforce any of the terms and conditions relating to the said Work Order and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any forbearance, act of omission on the part of the NCRA-TIFR or any indulgence by the NCRA-TIFR to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

7. We, _____ (indicate the name of Bank) lastly undertake not to revoke this guarantee except with the previous consent of the NCRA-TIFR in writing.

8. This guarantee shall be valid up to _____ unless extended on demand by NCRA-TIFR. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. _____ (Rupees _____ only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee, all our liability under this guarantee shall stand discharged.

Signed and sealed,

Dated the day of for

(indicate the name of Bank)

* * (Note: The Letter of Intent shall form part of the Agreement)

FORM OF AGREEMENT

(To be executed at the time of awarding the contract)

This Agreement made on the _____ day of _____ 2026, between National Centre for Radio Astrophysics-Tata Institute of Fundamental Research (NCRA-TIFR), Pune for the entering into work(s) for (hereinafter called "The Centre") who enters into this Agreement of the one party and M/s. (hereinafter called "The Supplier") of the other party.

Whereas the Employer is desirous that certain works should be executed by the Contractor viz. _____ ("the Works") and has accepted a Bid by the Contractor for the execution and completion of the works and the remedying of any defects therein.

Now this Agreement is witnessed as follows:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.
 - A. The Letter of Award
 - B. The said Bid
 - C. The General Conditions of Contract
 - D. Prequalification document
 - E. Instructions to Tenderers and Specific Conditions of Contract
 - F. The Specification
 - G. The Drawings
 - H. The Financial Bid
 - I. Any other relevant documents referred to in this Agreement or in the aforementioned documents
3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity with all respects with the provisions of this work.
4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein the Contract Price or only such other sums as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

In Witness whereof, the parties hereto have caused this Agreement to be executed on the day and year first before written.

Signed, Sealed, and Delivered by the Said

Binding Signature for and
on behalf of NCRA-TIFR, Pune.

In the presence of:

Witness (1):

Witness (2):

Binding Signature of Contractor

INTEGRITY PACT
(to be printed on Supplier's letterhead)

General

This pre-bid pre-contract Agreement hereinafter called the Integrity Pact is made on _____ day of the month of _____, between, on one hand,

Centre Director, National Centre of Radio Astrophysics - Tata Institute of Fundamental Research (NCRA-TIFR), Pune hereinafter called the “BUYER” of the First Part and M/s. _____ represented by Shri. _____, Director/Chief Executive Officer/General Manager/Authorised person hereinafter called the “BIDDER/Seller” of the Second Part.

WHEREAS the BUYER proposes to procure _____ (Name of the Stores/Equipment/Item) and the BIDDER/Seller is willing to offer/has offered the stores and

WHEREAS the BIDDER is a private company/public company/Government undertaking/partnership/registered export agency, constituted in accordance with the relevant law in the matter and the BUYER is an Autonomous Body under the Department of Atomic Energy, Government of India.

NOW, THEREFORE, to avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to:-

Enabling the BUYER to obtain the desired said stores / equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement and

Enabling BIDDERS to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the BUYER will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

1. Commitments of the BUYER

1.1 The BUYER undertakes that no official of the BUYER, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favor or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the Contract.

1.2 The BUYER will, during the pre-contract stage, treat all BIDDERS alike and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERS.

1.3 All the officials of the Buyer will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.

2. In case any such preceding misconduct on the part of such official (s) is reported by the BIDDER to the BUYER, with full and verifiable facts and the same is prima facie found to be correct by the BUYER, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the BUYER and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the BUYER the proceedings under the contract would not be stalled.

3. Commitments of BIDDERS

3.1 The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:

3.2 The BIDDER will not offer, directly or through intermediaries, any bribe, consideration, gift, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the Contract.

3.3 The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the Contract or any other Contract with the Government for showing or for bearing to show favour or disfavour to any person in relation to the Contract or any other Contract with the Government.

3.4 BIDDERS shall disclose the name and address of agents and representatives and Indian BIDDERS shall disclose their foreign principals or associates.

3.5 BIDDERS shall disclose the payments to be made by them to agents / brokers or any other intermediary, in connection with this bid/contract.

3.6 The BIDDER further confirms and declares to the BUYER that the BIDDER is the original manufacturer/ integrator/ authorized government sponsored export entity of the defence stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the BUYER, or any of its functionaries, whether officially or unofficially to the award of the contract to the BIDDER, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.

3.7 The BIDDER, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the BUYER or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.

3.8 The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.

3.9 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

3.10 The BIDDER shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the BUYER as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.

3.11 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.

3.12 The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.

3.13 If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of the BUYER, or alternatively, if any relative of an officer of the BUYER has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filing of tender. The term relative for this purpose would be as defined in Section 6 of the Companies Act 1956.

3.14 The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the BUYER.

4. Previous Transgression

4.1 The BIDDER declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER's exclusion from the tender process.

4.2 The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

5. Security Deposit / Performance Guarantee

5.1 Performance Guarantee Bond is mandatory.

5.2 Successful tenderer/ bidder should submit performance guarantee as prescribed above to be sent to the Centre Director, NCRA-TIFR, Pune within 14 days of receipt of our order. The PBG to be furnished in the form of bank guarantee as per proforma or annexure of the tender documents, for an amount covering 5% of the purchase order/work order value.

5.3 The Performance Guarantee should be established in favour of “Centre Director, NCRA-TIFR, Pune”.

5.4 PBG to be established through any of the National Banks (whether situated at Pune or outstation) with a clause to enforce the same on their local branch of Pune or any scheduled bank (other than national bank) situated at Pune. Bonds issued by cooperative banks will not be accepted.

5.5 Performance Guarantee Bond shall be for the due and faithfully performance of the contract and shall remain binding, notwithstanding such variations, alterations for extensions of time as may be made, given, conceded or agreed to between the successful tenderer and the purchaser under the terms & conditions of acceptance to the tender.

5.6 The successful tenderer is entirely responsible for due performance of the contract in letter and spirit and all other documents referred to in the acceptance of tenders.

5.7 The PBG shall be kept valid during the period of the contract and shall continue to be enforceable and valid till completion of works and post-integration support plus two months i.e. Total 20 Months. In case PBG needs extensions up to the extension period, then the supplier shall initiate extensions to PBG one month prior to expiry of PBG.

5.8 For successful suppliers, if PBG is not submitted within 14 days from the date of Order Acknowledgement, then the Purchase Order/ Work Order will be cancelled with forfeiting of EMD.

5.9 No interest shall be payable by the buyer to the Bidder on PBG.

6. Sanctions for Violations

6.1 Any breach of the aforesaid provisions by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle the BUYER to take all or any one of the following actions, wherever required:

- i. To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(s) would continue.
- ii. The Earnest Money Deposit (in pre-contract stage) and/or Security Deposit/Performance Bond (after the contract is signed) shall stand forfeited either fully or partially, as decided by the BUYER and the BUYER shall not be required to assign any reason therefore.
- iii. To immediately cancel the contract, if already signed without giving any compensation to the BIDDER.
- iv. To recover all sums already paid by the BUYER and in case of an Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER from the BUYER in connection with any other contract for any other stores, such outstanding payment could also be utilized to recover the aforesaid sum and interest.
- v. To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the BUYER, along with interest.
- vi. To cancel all or any other Contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the BUYER resulting from such cancellation/rescission and the BUYER shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.
- vii. To debar the BIDDER from participating in future bidding processes of the Government of India for a minimum period of two years, which may be further extended at the discretion of the BUYER.
- viii. To recover all sums paid in violation of this pact by the BIDDER(s) to any middleman or agent or broker with a view to securing the contract.
- ix. In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the BUYER with the BIDDER, the same shall not be opened.
- x. Forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

6.2 The BUYER will be entitled to take all or any of the actions mentioned at para 6.1(i) to (x) of this Pact also on the Commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act 1988 or any other statute enacted for prevention of corruption.

6.3 The decision of the BUYER to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the independent Monitor(s) appointed for the purposes of this Pact.

7. Fall Clause

7.1 The BIDDER undertakes that it has not supplied/is not supplying similar product/systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry / Department of the Government of India or PSU and if it is found at any stage that similar product/system or sub-system was supplied by the BIDDER to any other Ministry/Department of the Government of India or PSU at a lower

price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the BIDDER to the BUYER, if the contract has already been concluded.

8. Independent monitors

8.1 The BUYER has appointed Independent Monitors (hereinafter referred to as Monitors) for this Pact in consultation with the Central Vigilance Commission.

8.2 The task of the Monitor shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.

8.3 The Monitor shall not be subject to instructions by the representatives of the parties and performs their functions neutrally and independently.

8.4 Both the parties accept that the Monitor have the right to access all the documents relating to the project/procurement, including minutes of the meetings.

8.5 As soon as the Monitor notices, or believes to notice, a violation of this Pact, he will so inform the Authority designated by the BUYER.

8.6 The BIDDER(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the BUYER including that provided by the BIDDER. The BIDDER will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor shall be under contractual obligation to treat the information and documents of the BIDDER/Subcontractor(s) with confidentiality.

8.7 The BUYER will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.

8.8 The Monitor will submit a written report to the designated Authority of BUYER/ Secretary in the Department/within 8 to 10 weeks from the date of reference or intimation to him by the BUYER/ BIDDER and should the occasion arise, submit proposals for correcting problematic situations.

9. Facilitation of Investigation

In case of any allegation of violation of any provisions of this Pact or payment of commission, the BUYER or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information & documents in English and shall extend all possible help for the purpose of such examination.

10. Law and Place of Jurisdiction

This Pact is subject to Indian Law. The place of performance and Jurisdiction is the Seat of the BUYER.

11. Other Legal Actions

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

12. Validity

12.1 The validity of this Integrity Pact shall be from the date of its signing and extend upto 5 years or the complete execution of the contract to the satisfaction of both the BUYER and the BIDDER/ Seller,

including the warranty period, whichever is later. In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract.

12.2 Should one or several provisions of this Pact turn out to be invalid, the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

The Parties hereby sign this Integrity Pact.

BUYER

BIDDER

Centra Director, NCRA-TIFR, Pune

Signature with seal

Date & Place:

Date & Place:

Witness

Witness

1. _____
(Indenter)

1. _____

2. _____

2. _____

CHAPTER - VIII
Instructions for Online Bid Submission

1. Procedure for Registration by the Bidder

1.1. Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link "Click here to Enroll" on the CPP Portal.

1.2. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.

1.3. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.

1.4. Upon enrollment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.), with their profile.

1.5. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.

Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

2. Searching for Tender Documents

2.1. There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP Portal.

2.2. Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.

2.3. The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

3. Procedure for preparation and submission of bids

3.1. The documents should be page numbered and contain the list of contents with page numbers. The deficiency in documentation may result in the rejection of the Bid.

3.2. Bidders should take into account any corrigendum published (if any) on the tender document before submitting their bids.

3.3. Bidders are advised to go through the Tender advertisement and the Tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which

the bid documents have to be submitted, the number of documents - including the names and content of each of the documents that need to be submitted. Any deviations from these may lead to rejection of the bid.

3.4. Bidders, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF formats. Bid documents may be scanned with 100dpi.

3.5. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for the bid submission process.

3.6. As part of the bid, bidder should provide all the documents as follows:-

- Bidders should log into the site well in advance for bid submission so that he/she uploads the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- The serve time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- All the documents being submitted by the bidders would be encrypted to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done.
- The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings

4. Assistance to Bidders:

Any queries relating to the NIT document and the terms and conditions contained therein should be addressed to the Purchase Officer, NCRA-TIFR, Pune. For, any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 0120-4200462 / 0120-4001002 / 0120-4001005 / 0120-6277787.