

# Request for Quotations from Domestic manufacturers for a 6-axis Robot Arm System

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This is a Request for Quotations (RFQ) from domestic (India-based) manufacturers for a 6-axis Robot Arm System at the Mechanics & Computation Lab located in the Department of Mechanical Engineering (ME), Indian Institute of Science, Bengaluru.

All interested vendors shall submit a response to the Chair, Department of Mechanical Engineering, IISc Bangalore. The deadline for submission is September 06, 2021 at 5:00 PM IST.

Kindly direct all questions concerning the acquisition to Dr Ramsharan Rangarajan by email at rram@iisc.ac.in.

## Summary

1.	RFQ Number	ME/RR/2021/6Axis-Robot
2.	RFQ due date	September 06, 2021 at 5:00 PM IST
3.	Item description	6-axis Robot Arm System
4.	Quantity	1
5.	Tender type	Two bid system: (a) Technical bid (Part A) (b) Commercial bid (Part B)
6.	Place of submission	The Chair, Department of Mechanical Engineering, Indian Institute of Science, Bengaluru, Karnataka India 560012
7.	Point of contact	Dr Ramsharan Rangarajan Room 403 Department of Mechanical Engineering IISc Bangalore Email: rram@iisc.ac.in

# General Terms and Conditions

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## Eligibility, terms & conditions:

1. Bidding is invited exclusively from Indian Original Equipment Manufacturers (OEM) or their Indian authorized distributor.
2. Quotes should be on FOR-IISc Bangalore basis in INR only.
3. The bidder should belong to either class 1 or class 2 supplier distinguished by their “local content” as defined by the recent edits to GFR. The bidder should clearly mention their class in the cover letter:
  - (a) Class 1 supplier: Goods and services should have local content of equal to or more than 50%
  - (b) Class 2 supplier: Goods and services should have local content of equal to or more than 20% but less than 50%.
4. The bidder must clearly identify items/components manufactured in India, quantify their costs and identify their place of manufacture.
5. The bidder must fully justify qualification as a class 1 or as class 2 supplier, and provide self-certification that they meet the minimum local content requirement of their class.
6. The bidder should have an existence of a minimum of 5 years, with operations in India for a period of 3 years or longer. A copy of the company registration certificate (or equivalent document) must be enclosed.
7. The bidder must not be blacklisted/banned/suspended or have any service-related dispute with any organization in India or elsewhere. A declaration to this effect should be provided.
8. The bidder should have supplied a 6-axis robot system to Centrally Funded Technical Institutes (IISc, IITs, IISc, IISER, NIT) within the last 4 years. The bidder should provide details and contact information.
9. The bidder should have qualified technical service personnel for the equipment based in India, and preferably at Bengaluru.
10. Bidders are required to provide details of their PAN and GST registration numbers.
11. Bidders are required to furnish details of annual turn-over for the last 3 financial years.
12. All submitted documents must be in English.
13. The bid should be valid for a period of at least 90 days from the last date of submission.
14. The terms of payment must be clearly specified in both technical and commercial bids. Advance payment will be possible only against a line of credit or a bank guarantee.

15. On receipt of a Purchase Order, the bidder must provide an Order Acknowledgement within a period of 30 days.
16. The lead time for the delivery of the equipment should be clearly mentioned in both technical and commercial bids, and cannot be more than 3 months from the date of receipt of our purchase order.
17. The bidder shall specify the shipping and insurance details, which is required to be only as air freight except within Bengaluru city limits.
18. The bidder shall sign and submit a declaration accepting the “Terms and Conditions” listed herein.

## **Submission of bid:**

1. Tender will follow a two-bid system and should be submitted in two separate envelopes. Envelope A should contain the technical bid and envelope B should contain the commercial bid. Envelopes A & B, along with the set of supporting documents listed herein should be placed in a larger envelope. All envelopes should be labelled with the tender reference code, signed, and should indicate the submission time.
2. **Technical Bid:**
  - a. The Technical bid should clearly identify all items/components manufactured in India.
  - b. Technical bid should include a table of conformance to technical specifications, consisting of 5 columns addressing compliance with list of technical specifications detailed below should be included.
  - c. The first column in the conformance table must list the technical specifications in the order that they are given in this document.
  - d. The second column should provide specifications of the instrument against the requirement. Please provide quantitative responses wherever possible.
  - e. The third column should describe the bidder’s compliance with a “Yes” or a “No” response only.
  - f. The fourth column should state the reasons/explanations/extent of deviations, if any.
  - g. The fifth column can contain additional remarks. The bidder can use this column to highlight technical features, qualify response to requirement, provide additional details, compare with competitors.

- h. The technical bid will clearly state requirements for installation of the robot, including aspects related to physical space, electrical power, UPS rating and safety of handling.
- i. The technical bid should contain all commercial terms and conditions, while omitting the price.
- j. The technical bid must include terms of warranty for the 6-axis robot system, for each accessory included, and the update schedule for all software. A minimum of 1-year warranty is required for the system supplied. Bidders will specify the point of contact for claims related to warranty.
- k. The technical bid must include terms and conditions for annual maintenance contracts applicable beyond the warranty period.
- l. The bidder is encouraged to provide details comparing their equipment with those of competitors and highlight advantages.
- m. The bidder is encouraged to highlight features of their equipment related to the technical requirements as well as otherwise, using data sheets, technical plots, etc.

**3. Commercial Bid:**

- a. The Technical bid should clearly identify all items/components manufactured in India and quantify the cost of each.
- b. The commercial bid must include all terms and conditions of sale, including period of warranty for the system supplied. A minimum of 1-year warranty on the system supplied.
- c. The commercial bid must include terms and conditions for annual maintenance contracts applicable beyond the warranty.
- d. The price should be quoted in INR only.
- e. The commercial bid should clearly indicate all applicable taxes and levies.
- f. The equipment required is for research purposes only, and IISc is a DSIR registered institution. In case GST is applicable, a rate of 5% is applicable. This must be reflected in the price quoted.
- g. The equipment required is for research purposes only. The bidder is requested to include discounts and apply academic pricing.

## **Summary of documents required:**

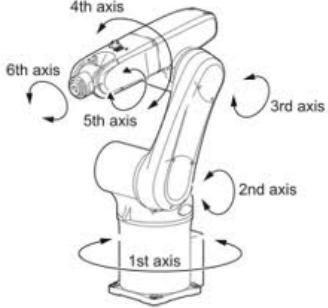
1. Bidder details
2. GST & PAN numbers in case of Indian bidders
3. Declaration of acceptance of Terms & Conditions
4. Self-certification that the bidder meets the minimum local content requirement and qualification as either class 1 or 2 supplier, as the case may be.
5. Declaration of a clean track record
6. Document supporting bidder's existence/operations in India and service locations
7. Details of recent sales of similar equipment to centrally funded educational institutions
8. Technical bid in Envelope A
9. Commercial bid in Envelope B
10. Compliance certificate on conforming to the list of technical specifications

## **Cancellation of tender:**

Notwithstanding anything specified in this tender document, IISc Bangalore, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights:

- To accept or reject any bids
- To disqualify bids that do not satisfy either specifications or the set of terms and conditions listed herein
- To annul the bidding process and reject all bids at any time prior to the award of contract without thereby incurring any liability of the affected bidder

## Technical specifications & requirements

S.No	Item	Specification
1.	Number of axes	6 rotary axes (minimum)
2.	Payload	8 kg or higher
3.	Horizontal reach	700 mm or larger
4.	Position repeatability	0.03 mm or better
5.	Mounting position	Floor or Table top
6.	Size of robot base	300 mm x 300 mm or smaller
7.	Ambient operating temperature	Inclusive of the range 0°C to 45° C.
8.	Weight	75 kg or lower
9.	Operating noise level	70 dB or quieter
10.	Axis-wise motion range (in degrees)	 <p>Axis 1: 300 or better            Axis 2: 200 or better            Axis 3: 225 or better            Axis 4: 320 or better            Axis 5: 225° or better            Axis 6: 600° or better</p>
11.	Operating speed at rated payload (in degrees/second)	200 or better
12.	Axes drives	Servo for all axes
13.	Controller OS compatibility	Windows or Linux
14.	Robot calibration system	Electronic
15.	Robot diagnostics, failure analysis and troubleshooting	Required
16.	Controller interface	USB port, Ethernet IP bus system, Digital I/O
17.	Handheld remote control (Pendant)	Required
18.	Controller programming interface (software)	Required
19.	Robot motion offline simulation software	Required
20.	Workspace offline simulation software	Required
21.	Axis positioning readout during operation	Required
22.	Load limit checking (software)	Required
23.	Connectors and essential accessories for operation	Required
24.	On-site installation	Required
25.	On-site training	Required
26.	1-year online support	Required
27.	Parallel jaw gripper	Required, 1 or more

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