



**Kerala Start-Up Mission**  
(Formerly Technopark TBI)  
G3B, Thejaswini, Technopark Campus  
Thiruvananthapuram 695 581  
Kerala

**TENDER DOCUMENT**

**KSUM/T/FABLAB/RK/2022-23 dt 10.10.2022**

**Goals of this Tender**

The objective of this tender is to invite tenders from the interested bidders for supplying various machines and consumables required as part of setting up fab labs in Calicut University.

**Tender Issuing Authority**

This tender is issued by the Kerala Startup Mission (KSUM) with the intent to purchase the equipment's and consumables for setting up mini fab lab across Kerala and selection of bidder through this tender shall be final and KSUM reserves the right to reject any or all the tender received without assigning any specific reason thereof.

**Tender Initiator Details:**

The Chief Executive Officer,  
Kerala Startup Mission  
G3B, Thejaswini, Technopark Campus,  
Kariyavattom Trivandrum- 695581  
Phone: 0471- 2700270  
Email: ceo@startupmission.in  
Website: [www.startupmission.kerala.gov.in](http://www.startupmission.kerala.gov.in)

**Tentative Calendar of Events**

Sl No	Milestone	Date & Time
1	Release of Tender	10.10.2022
2	Pre Submission Meeting	15.10.2022, 11:00 am
3	Last date for submission of Tender	25.10.2022, 6:00pm
4	Technical Evaluation of the items	26.10.2022, 11:00am

Kerala Startup Mission is the nodal agency designated by Government of Kerala for promoting innovation and entrepreneurship in the state. KSUM is headquartered in Technopark, Trivandrum and runs various schemes and programs for the same. KSUM as part of promoting the maker culture in the state has set up fablabs with the support of Center for Bits and Atoms, MIT, USA and Fab Foundation.

With the support of Government of Kerala, Kerala Startup Mission (KSUM) has established twenty two Digital Fabrication labs called Fab Labs across Kerala. This includes two Main fab labs and twenty mini fab labs. A Fab Lab is a technical prototyping platform for innovation and invention which aims at providing stimulus for local entrepreneurship and serves as a platform for learning and innovation. It is a small scale workshop offering digital fabrication which empowers the users to create smart devices for themselves which can be tailored to local or personal needs.

In connection with the above KSUM is initiating various tenders for the procurement of several machines and consumables required for setting up the mini fablab. The requirement quantity may vary based on the requirement. KSUM may issue work order to selected bidder to deliver and install the mentioned items at identified sites/location based on programs of project over the period not more than two years.

### **Items required**

<b>Sl No</b>	<b>Description of items required</b>	<b>Specification</b>	<b>Qty</b>
1.	Robotic Learning Kit	MSP432P401R Board Motor Driver and Power Distribution Boards Robot chassis, motors, Line IR sensors 50+ other mechanical and electronic components	1 nos
2.	MATLAB Robotics Kit	Arduino Engineering Kit for learning MATLAB and Simulink	2 nos
3.	Arduino Robotics Kit	Robot Chassis Wheel Motor Driver Sensor Kit	10 nos
4.	Robotic Arm	Plastic or Metal Arduino Compatible Operating Distance 30 cm Gripper Load Capacity 150 grams	1 nos
5.	Hexapod	Arduino Based Servo Motor Controlled Plastic or Metal	1 nos
6.	Mini Industrial Robot	Metal Body, Minimum 7 Servos ,4 Control Channels	1 nos
7.	Arduino Tank Robot	Arduino Based,Belt Wheel,Wireless	1 nos

		connectivity ,Battery Operated	
8.	Drone Kits	Arduino Based Belt Wheel Wireless connectivity Battery Operated	1 nos
9.	Motor Pack[Stepper,Gear Motor,Servo]	BLDC Motors Remote Control Lipo Battery	5 nos
10.	CNC Kit {linear rail,threaded rod,shafts,couplers,spindle,belts, aluminium frame,T Slot,bearings,Board,RAMPS,Limit Switch]	Must Include linear rail,threaded rod,shafts,couplers,spindle,belts,aluminium frame,T Slot, Bearings Control Board,Limit Switch Minimum size 15cmX10cmX5cm	1 nos
11.	SMPS	48 Volt , 5.2 Ampere	5 nos
12.	Omni directional wheel	60mm Dia	4 nos
13.	Linear Actuator	DC 12V100 mm Size	2 nos
14.	Hydraulics Kit	Stainless Steel 75 mm Bore Size 32 mm Double Action cylinder	2 nos
15.	Robotic Sensors Kit	20 Sensors Kit	2 nos
16.	Robotic Frames,Wheels	4 wheel Chassis 4 wheels in 1 kit 1 Ball Caster wheel	5 nos

## General Terms & Conditions

### 1. Eligibility Criteria:

- a) Should be a Firm/Company Incorporated in India.
- b) Bidder should have a fully functional service centre with spares stock for attending the breakdown calls. Details of the service centre must be provided.

### 2. Scope of Supply:

- a) The tenders shall be submitted as per the technical specifications as per **Annexure – I**
- b) Submission of the tender implies that these conditions of tender have been read by the tenderer and is aware of the scope of the supply and the quality of the material to be supplied. The final acceptance of the tender rests with the Chief Executive Officer, Kerala Startup Mission who reserves the right to accept or reject any or all tenders without assigning any reason thereof.

### 3. Submission of bids

The tender should be submitted in two parts as under.

## I. Technical Bid

The technical bid shall comprise of the following:

1. Company registration details
2. Company profile
3. Previous Work orders
4. Copy of GST registration
5. Tender form
6. Annexure 1
7. Specify the brand of the items quoted along with datasheet

## II. Financial Bid

- a. BOQ as per the format as given in Annexure II and the rate shall be inclusive of all taxes and duties

Bid to be submitted in the below mentioned address

### **The Chief Executive Officer,**

Kerala Startup Mission  
G3B, Thejaswini, Technopark Campus,  
Kariyavattom Trivandrum- 695581  
Phone: 0471- 2700270  
Email: ceo@startupmission.in  
Website: [www.startupmission.kerala.gov.in](http://www.startupmission.kerala.gov.in)

**Tender fee:** The tender fee is **Rs. 0** /-

**Earnest money deposit:** **Rs 4,500/-**

The tenderer must pay earnest money along with the tender as given in the notice inviting tenders failing which the tender will be summarily rejected. Earnest Money deposit of Rs. 3,000 /- (Rupees Three Thousand Only) is to be remitted DD in favour of Technopark Technology Business Incubator. The Earnest Money deposited by successful tenderer will be retained towards the security deposit for the fulfillment of the contract. EMD of unsuccessful bidders will be returned without any interest, directly to their account.

1. Bidder shall submit EMD online in the e-tender portal & non- submission of sufficient EMD shall be one of the primary reasons for rejection of the offer in the first round.



2. Public Sector Undertakings and MSMEs registered within the State are exempted from remittance of EMD subject to submission of valid documents
3. None of the bidders other than those specified above are exempted from the remittance of EMD, in any case.
4. EMD of unsuccessful bidder will be discharged/ returned as promptly through online transfer.
5. The successful bidder's EMD will be discharged upon the bidder signing the contract and furnishing the performance security.
6. No interest will be paid for the EMD submitted.

- All details as mentioned in Technical Bid

#### **4. Validity of Tender**

- a) The tender shall be valid for a period of 120 days from the date of opening of the tender.
- b) Tenderer for any reason whatever, withdraws the tender after it is accepted or become unable or fails to execute the orders within stipulated delivery period, KSUM shall be at liberty to cancel the order forthwith and the EMD of the tender in such a case will be forfeited by the KSUM.
- c) No representation for the enhancement of the prices of the accepted tender or alteration of the terms and conditions will be entertained till supplies are completed.

#### **5. Guarantee of Quality and Warranty of goods supplied:**

- a. Guarantee/Warranty and Support and defects liability period-The supplier shall guarantee that all equipments are free from any defects due to the defective materials and poor workmanship, that the equipments are not less than the guaranteed values. The Guarantee shall be valid for the period mentioned against each item above after successful testing and taking over. Any part found defective shall be replaced free of cost by the supplier.

#### **6. Packing**

- a. The supplier shall provide packing of the goods, as required to prevent their damages or deterioration during the transit to their final destination as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit.

- b. The equipment shall be securely boxed, crated and protected from mechanical damage, moisture etc. suitable for both storage and transit according to the nature of the material and mode of transport.

## 7. Price

- a) The price shall be firm and shall include all applicable taxes and charges. Any variation in the duties, levies etc. during the period of supplies shall be charged to the tenderer account. The rates quoted shall be all inclusive, with the delivery, up to destination i.e. Calicut University.
- b) The Tenderer shall submit the copy of PAN Number, GST Number registration details along with the tender.

## 8. Delivery

- a. The successful tenderer shall complete supplies strictly within the accepted delivery period. Material ordered by the KSUM shall be delivered to destination securely packed as may be necessary.
- b. The Items shall have to be delivered and installed in Calicut University upon the satisfaction of concerned Authority.

## 9. Payment

The payment will be made by KSUM by e-Transfer to the bank account as mentioned in the bank mandate. The tenderer shall submit the documents, which shall clearly indicate the Proper Installation & successful Testing of Equipment.

## 10. Service Facility

In order to ensure proper and timely after sales service, contact details with addresses of service center nearest to all over Kerala shall be provided along with the bid.

## 11. Taxes

Suppliers shall be entirely responsible for all taxes, duties, license fees, octroi, road permits, etc., incurred until delivery of the contracted Goods to the Purchaser.

## 12. Termination for Default

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

- a. If the supplier fails to deliver any or all of the Goods within the period(s) specified in the order, or within any extension thereof granted by the Purchaser; or
- b. If the Supplier fails to perform any other obligation(s) under the Contract.
- c. If the Supplier, 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 anything of value to influence the action of a public official 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 Borrower, and includes collusive practice among Tenderers(prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition”.

In the event the Purchaser terminates the Contract in whole or in part, the Purchaser may procure, upon such terms and in such manner, as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for such Goods or Services. However, the Supplier shall continue the performance of the contract to the extent not terminated.

### **13. Claims:**

- a. If the material supplied are found to be off size and shape different than those in the accepted offer and are of specifications lower than those stipulated in the accepted offer, KSUM shall have the right to totally reject the goods and/or to prefer a claim for compensation for the part of goods, which are rejected.
- b. The supplier shall reimburse to KSUM, the actual expenditure incurred, on such goods, within 15 (fifteen) days of its demand.
- c. The supplier shall be responsible for arranging the rejected goods to be removed at his/her cost from KSUM, Trivandrum premises.
- d. The supplier shall also compensate for losses, if any, sustained by KSUM due to defective packing and/or wrong marking of the goods.

### **14. Evaluation and Comparison of Bids**



70 % weightage will be awarded for Technical Evaluation and 30 % weightage will be awarded for Financial Evaluation

Technical Bid will be assigned a Technical score (Ts) out of a maximum of 100 points, as per the Scoring Model provided in the previous section.

The commercial scores would be normalized on a scale of 100, with lowest score being normalized to 100 and the rest being awarded on a pro-rata basis. Such normalized scores would be considered for the purpose of QCBS based evaluation, explained in section below.

### **Final Evaluation Criteria - Quality and Cost based selection (QCBS)**

The individual Bidder's commercial scores (CS) are normalized as per the formula below:

$F_n = F_{min}/F_b * 100$  (rounded off to 2 decimal places) Where,

$F_n$ = Normalized commercial score for the Bidder under consideration

$F_b$ = Absolute financial quote for the Bidder under consideration

$F_{min}$ = Minimum absolute financial quote

Composite Score (S) =  $T_s * 0.7 + F_n * 0.3$

The Bidder with the highest Composite Score(S) would be awarded the contract.

**We confirm with our acceptance to the Commercial & General Terms & Conditions Sl. No. 1 to 14 as given above.**

**Date:**

**Name, Signature and seal of tenderer**





## **TENDER FORM**

### **The Chief Executive Officer**

Kerala Start-Up Mission (Formerly Technopark TBI),  
G3B, Thejaswini,  
Technopark Campus,  
Trivandrum 695581

Dear Sir,

Sub: Bid form

Ref: Tender No.: KSUM/T/FABLAB/RK/2022-23

1. Having examined the conditions of tender contract, the receipt of which is hereby duly acknowledged. I/we undersigned, offer to supply all hardware & software and execute all works in conformity with tender specifications referred above and also to the said terms & conditions from the sum shown in the commercial bid(s) attached herewith and made part of this bid.
2. I/We undertake, if our Bid is accepted to complete delivery & commissioning of all Items specified in the contract within 4 weeks calculated from the date of issue of your purchase order/LOI.
3. We understand that you are not bound to accept the lowest or any bid, you may receive.
4. I / We affirm that I / We have enclosed the acceptance of all terms and conditions and also all brochures detailing the technical specification of the items quoted by me/us.
5. I / We hereby confirm that all the items supplied are in proper working condition and tested successfully.
6. The tender document for the works mentioned above have been obtained by me from the URL: <http://etenders.kerala.gov.in/nicgep/app> , the official website of Govt of Kerala and I / we hereby certify that I / we have read the entire terms and conditions of the tender document, which shall form part of the contract agreement and I / we shall abide by the conditions / clauses contained therein.
7. My /our GST & PAN Numbers are as follows.
8. GST Registration Number. ....
9. PAN Number. ....
10. Dated this .....day of..... 202.....
11. Signature of
12. In capacity of
13. Duly authorized to sign the bid for and on behalf of -----
14. Witness 1. -----
15. Signature
16. Witness 2. -----
17. Signature

## Annexure I Compliance Sheet

### Technical Specification for the Supply of Robotic kits

Sl No	Description of items required	Specification	Qty	Compliance (Yes/No)	If No, specify exact specification
1.	Robotic Learning Kit	MSP432P401R Board Motor Driver and Power Distribution Boards Robot chassis, motors, Line IR sensors 50+ other mechanical and electronic components	1 nos		
2.	MATLAB Robotics Kit	Arduino Engineering Kit for learning MATLAB and Simulink	2 nos		
3.	Arduino Robotics Kit	Robot Chassis Wheel Motor Driver Sensor Kit	10 nos		
4.	Robotic Arm	Plastic or Metal Arduino Compatible Operating Distance 30 cm Gripper Load Capacity 150 grams	1 nos		
5.	Hexapod	Arduino Based Servo Motor Controlled Plastic or Metal	1 nos		
6.	Mini Industrial Robot	Metal Body, Minimum 7 Servos, 4 Control Channels	1 nos		
7.	Arduino Tank Robot	Arduino Based, Belt Wheel, Wireless connectivity, Battery Operated	1 nos		
8.	Drone Kits	Arduino Based Belt Wheel Wireless connectivity Battery Operated	1 nos		
9.	Motor Pack [Stepper, Gea	BLDC Motors Remote Control Lipo Battery	5 nos		

	r Motor,Servo]				
10.	CNC Kit {linear rail,threaded rod,shafts,couplers,spindle,belts,aluminium frame,T Slot,bearings,Board,RAMPS,Limit Switch]	Must Include linear rail,threaded rod,shafts,couplers,spindle,belts,aluminium frame,T Slot, Bearings Control Board,Limit Switch Minimum size 15cmX10cmX5cm	1 nos		
11.	SMPS	48 Volt , 5.2 Ampere	5 nos		
12.	Omni directional wheel	60mm Dia	4 nos		
13.	Linear Actuator	DC 12V100 mm Size	2 nos		
14.	Hydraulics Kit	Stainless Steel 75 mm Bore Size 32 mm Double Action cylinder	2 nos		
15.	Robotic Sensors Kit	20 Sensors Kit	2 nos		

## Annexure II

### BOQ model

#### Financial Bid for the Supply of Robotic Kits

BOQ		
Sl No	Description of items required	Price (Inclusive of all taxes and duties)
1	Supply of Robotic Kits	
	<b>TOTAL</b>	