

(TENDER NOTICE No.: SASMIRA/R&D /Proj-3D /01)

**THE SYNTHETIC & ART SILK MILLS' RESEARCH ASSOCIATION (SASMIRA)**  
(Approved Body of the Ministry of Textiles, Govt. of India)

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**Notice Inviting Limited Tender under Two-Cover Bid System**

**for**

**Supply and Installation of Composite 3D printer (Continuous Fiber Reinforcement Technology)**

<b>Limited Tender No.</b>	<b>:</b>	<b>SASMIRA/R&amp;D /Proj-3D /01</b>
<b>Date</b>	<b>:</b>	<b>16/08/2024</b>

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## NOTICE INVITING TENDER

The Synthetic & Art Silk Mills' Research Association (SASMIRA), Worli Mumbai -400030 invites limited tender with 180 days validity in Two bid system (Technical & Commercial bid) from eligible and qualified Original Equipment Manufacturers / Authorized Distributors of OEM / Authorized Dealers of OEM for the Supply, Commissioning & Training at site for **Composite 3D Printer (Continuous Fiber Reinforcement Technology)**, the specifications of which are detailed in **Annexure-I**.

The details are summarized below: -

a)	Tender number	Reference number for inviting bids through this tender is <b>SASMIRA/R&amp;D /Proj-3D /01</b>
b)	Date of Issue of tender	<b>16/08/2024 at 11.00 AM</b>
c)	Last Date of Submission of bids	<b>02/09/2024 Upto 03.00 PM</b>
d)	Purchaser	The Synthetic & Art Silk Mills' Research Association (SASMIRA), Worli Mumbai -400030
e)	Usage of Machine	The purchaser shall place the machine in their R&D laboratory and shall be utilized for product development purpose.
g)	Scope of Tender	Supply, Installation, Commissioning & Training.
h)	Specification/ Details of machine	The detailed specifications of machine are specified in tender and placed at <b>Annexure-I</b>
i)	Locations of supply	The machine is proposed to be supplied at SASMIRA, Worli, Mumbai.
j)	Earnest Money Deposit (EMD) along with Tender	<b>EMD of Rs.1,10,000/- (Rupees One Lakh and Ten thousand Only)</b> shall be paid through DD only in favour of 'The Synthetic & Art Silk Mills' Research Association (SASMIRA).' payable at Mumbai and to be enclosed in the Technical Bid while submitting the tender.
K)	Date of Technical Bid opening	<b>Will be intimated to the bidders</b>
l)	Date of Commercial Bid opening	Will be intimated by email to the qualified bidders.

## **INSTRUCTIONS TO THE TENDERERS**

The Tender shall be submitted in accordance with these instructions, as under.

### **1. Eligible Bidder:**

- a) The intending Bidder, in case of Original Equipment manufacturers shall submit a self-declaration on their letter-head, along with the Technical Bid, confirming that they are regular in manufacturing & supplying the similar machines, as required in this tender, for the last five (05) years. They should have full-fledged manufacturing facilities, assembling & testing.

The bidder, being OEM should have supplied the tendered machine/or similar type & capacity machine of **at least 5 times of** the quantity indicated in this Tender (which the bidder proposes to supply) in **India** during the last three years ending on 31.03.2024 out of which atleast **5 (five) machine** should be in successful operation for last one year ending on **31.07.2024**.

To demonstrate the above, the Bidder shall furnish details of experience and past performance, for the machines offered and for those of similar nature and submit **Performance statement** as per proforma (Annexure – V). Performance certificate duly signed and sealed from the authorized signatory of the user to be submitted along with offer.

The original equipment manufacturers shall possess ISO Certificate for their establishment. A copy of the valid ISO Certificate shall be furnished with the Technical Bid.

- b) The intending Bidder, in case of Authorized Distributor of OEM / Authorized Dealer of OEM shall possess valid authorized Distributorship / Dealership license from Original Equipment Manufacturers who should have valid ISO Certificate and shall be engaged in regular manufacturing and supply of similar machine for the last five (05) years. The Bidder shall furnish a copy of the same in technical bid while submitting the tender.

If a Bidder is not a Manufacturer, but is offering the machines on behalf of the Manufacturer under Manufacturer's Authorization Form, the bidder shall demonstrate the above qualifications as furnished in Point No.1 Clause 'a' and submit all necessary documents of the manufacturer.

The Bidder (Authorized representative of the manufacturer) shall demonstrate that bidder has been in the business of supplying particular tendered machine/or similar type and capacity during the past three years and has supplied and serviced Machinery/Equipment during the period in India. To demonstrate this, the bidder shall furnish **Performance statement** for the last three years as per Proforma (Annexure – V).

**2. Location of supplies:**

a) The details of location where the machine has to be supplied through this tender are as under:

#	Location	Address for supplies
1	Mumbai	The Synthetic & Art Silk Mills' Research Association (SASMIRA), Sasmira Marg, Worli Mumbai - 400 030

b) The bidder is free to inspect the location in the premises before submitting the bid under this tender.

It may be noted that the Senior Director, SASMIRA shall have full rights to cancel the supply even after calling for the offers from bidders but before the issue of supply order without assigning the reason.

**3. Scope of Supplies:**

- a) The machine shall be supplied in compliance to the specifications mentioned in Annexure- I of the tender.
- b) The specifications of the machine as mentioned in the Annexure-I are the requirements of tender, however higher specifications of machine may be considered subject to their cost economics i.e. competitiveness in financial terms for the particular location.
- c) After the supply of machine as mentioned in the Annexure-I, the bidder has to execute their Erection & Commissioning at our site (SASMIRA, Mumbai). Successful commissioning at the site is the responsibility of the supplier. During Erection and Commissioning the supplier should keep all the items required at site and arrange to carry out the job with their team, materials, tools, other equipments etc. under their own arrangement and supervision. Necessary site data as required will be provided by the purchaser. Non-availability of any facility at the site of the purchaser shall not be treated as breach of the contract or reason for delay in handing over the machine. No extra cost shall be paid for Erection & Commissioning.
- d) Foundation drawing, if any, should be handed over to the purchaser within two weeks from the receipt of the supply order.
- e) After the Erection & commissioning of machine, training to our officials shall be given for 5-10 Working Days, wherein, the training about the machine's operations, maintenance, information about Do's & Don'ts as well as trouble shooting & all other areas which are necessary for smooth functioning of machine shall be provided at site, by the bidder. No extra cost shall be paid to the successful bidder for imparting this training.

- f) The bidder shall offer on-site comprehensive warranty of machine for three years from the date of successful commissioning of machine at the designated location. The purchaser is not liable to pay any extra charges on any account during warranty period.
- g) The bidder shall cover the machine under Maintenance Contract for three years after the expiry of warranty period without asking for any additional financial charges from purchaser.

## **5. Delivery**

- a) The bidder has to complete the delivery of the machine with required accessories within thirty (30) calendar days from the date of issue of purchase order. However, the bidders have an option to submit in the best delivery time, but in any case, the delivery should be before 30 days from the date of issue of purchase order by purchaser.
- b) The machine shall be inspected on receipt at site and bidder shall be responsible for any damage during the transit of machine/ equipment.
- c) The bidder shall not arrange part shipments and/or trans-shipments without the permission of purchaser. The insurance cover including insuring the goods against the loss or damage incidental to manufacture or acquisition, transportation, storage and delivery/Erection & Commissioning shall be obtained by the bidder in his own name and not in the name of purchaser. The purchaser will as soon as possible but not later than 30 days from the date of arrival of goods at destination shall notify the bidder of any loss or damage to the goods.

## **6. Warranty**

- a) The bidder shall offer on-site comprehensive warranty of machine for three (3) years from the date of successful commissioning of machine at the designated location & shall cover each and every part of the machine including parts having limited life etc. The purchaser is not liable to pay any extra charges on any account during warranty period.
- b) The bidder shall pay to the purchaser such compensations that may arise by reasons of the warranty therein contained but not attended by the bidder.
- c) Any part or parts fail or proved defective within the on-site warranty period specified above, owing to defect in design, material or workmanship, the bidder shall have to replace them at the place of Erection without asking for any charges.
- d) During the warranty period, expert(s) shall be deputed at site by the bidder within three working days from the date of request from purchaser, to rectify and fixing the defects of machine at the location where the machine is supplied. The cost of deputation of expert(s) and any other associated expenditure shall be borne by the bidder.

## **7. Three Years Maintenance Contract**

The bidder shall cover the machine under Maintenance Contract for three (03) years after the expiry of warranty period without claiming any additional financial charges from purchaser. The financial bid for the machine shall be quoted accordingly.

## **8. After Sales Services**

- a) The bidder shall ensure to render after sales services during the warranty period and in the period of Maintenance Contract to the satisfaction of purchaser.
- b) The bidder will have a full-fledged Service Centre in Mumbai and will depute their engineer within 24 hours to attend the service call received in writing/through E-mail from the purchaser.

## **9. Manuals:**

The bidder has to supply three (03) sets of the following manuals in hard format and one (01) soft format along with machine:

- i. Installation Manual
- ii. Operation Manual
- iii. Maintenance Manual
- iv. Training Manual

## **10. Tender documents:**

- a) The tender documents will be available on the web portal of SASMIRA.
- b) The Purchaser may amend the Bidding Documents by issuing addendum at any time prior to the deadline for submission of bids. The prospective bidders are advised to remain in touch with the web portal for any update in respect of this tender.

## **11. Authorization for Submission of Tender:**

- a) The original and all copies of the bid shall be signed by the person duly authorized to sign on behalf of the Bidder. The written confirmation of authorization (in the form of letter on the bidder's letter head) to sign on behalf of the bidder confirming the signature of the person duly authorized to sign should be attached with the technical bid of the tender.
- b) The person signing the tender form or any other documents on behalf of the Bidder shall be deemed to warrant that he has authority to bind the Bidder. If it subsequently comes to light that the person so signed had no authority to do so, the Purchaser may without prejudice seek any other civil & criminal remedies to cancel the tender and hold the Bidder liable for all costs, charges and damages.

## **12. Earnest Money:**

- a) The payment of **EMD of Rs.1,10,000/- (Rupees One Lakh and Ten thousand Only)** shall be paid through Demand Draft (DD) in favour 'The Synthetic & Art Silk Mills' Research Association (SASMIRA)' payable at Mumbai and to be enclosed in the Technical Bid while submitting the tender.

The offers without EMD shall be rejected.

- b) The Purchaser shall not be liable for payment of any interest on EMD.
- c) The EMD will be returned to the unsuccessful bidders, soon after the orders are placed on the successful bidder. In case of successful bidder, the EMD will be returned as per terms mentioned at Para 26 of Instructions to the Tenderers.

## **13. Special Provision for Micro & Small Enterprises:**

Micro and Small Enterprises (MSEs) participating in the tender will be given benefit as per Public Procurement Policy, 2012. Further, the MSEs owned by SC/ST entrepreneurs will also be given benefits as per Public Procurement Policy, 2012. The definition of MSEs owned by SC/ST is as given under:

- (a) In case of proprietary MSE, Proprietor shall be SC/ST
- (b) In case of partnership MSE, the SC/ST partners shall be holding at least 51% shares in the unit
- (c) In case of Private Limited Companies, at least 51% share shall be held by SC/ST Directors/Promoters.

Documents to claim benefits shall be furnished in Technical Bid.

## **14. Submission of Tender:**

- a) The bidder to examine all instructions, forms, terms and specifications in the tender documents and to furnish with its bid all documents or information as required.
- b) The language for all the correspondence and documents related to the tender shall be in English only. Moreover, the printed literature/technical details for the machine shall also be in English.
- c) The tender must be submitted by the bidder in two bids, viz. Technical Bid and Commercial/Price Bid in two separate envelopes enclosed in one envelope. It should be mentioned as "Tender for Supply of Composite 3D Printer (Continuous Fiber Reinforcement Technology)" with tender inquiry number and its due date on the envelopes. The Catalogue with complete specifications of the Machine has to be submitted along with technical bid.



**15. Financial Bid Submission:**

- a) Bidder shall take into account of all costs of the Machine including Standard Accessories, Three Year Warranty, AMC for Three Years, Packing & Forwarding, Transport, Transit Insurance, unloading charges of the machine at our site (SASMIRA, Mumbai) and Training Charges for the supply of the Machine.
- b) The Bidder is advised to seek clarification, if any, desired before submitting the tender.
- c) No representation for the revision of the quoted “Price of Machine” shall be considered till the supplies are completed to our site (SASMIRA, Mumbai).

**16. Last date of submission of Tender:**

- a) The last date for submission of Tender is **02/09/2024 upto 03.00 PM.**
- b) The purchaser may, at their discretion, extend the deadline for the submission of bids by amending the Tender Documents, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended. The prospective bidders are advised to visit the web Portal regularly for any updates in respect of their tender.
- c) The purchaser shall not consider any bid submitted after the deadline for submission of bids. Late submission of bids shall be rejected.

**17. Validity of Tender:**

- a) The tender shall be valid for a period of 180 days from the date of opening of the Technical Bid of tender. Terms and financial details submitted in the bid shall be treated as firm during the said period of 180 days.
- b) In exceptional circumstances, prior to the expiry of the bid validity period, the Purchaser may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing.

**18. Evaluation of Bids:**

- a) To assist in the examination, evaluation, comparison of the bids and qualification of the Bidders, the Purchaser may, at their discretion, ask any Bidder for a clarification of their Bid. Any clarification submitted by a Bidder in respect of their Bid and that is not in response to a request by the Purchaser shall not be considered. The Purchaser’s request for clarification and the response shall be in writing.
- b) If the Bidder does not provide clarifications of their bid by the date and time set in the Purchaser’s request for clarification, the bid may be rejected.
- c) The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to supply order, without thereby incurring any liability to Bidders. In

case of annulment, all bids submitted and specifically Bid document, EMD deposits shall be promptly returned to the Bidders.

- d) The Purchaser shall compare the “Price of Machine” of all the responsive bids to determine the lowest bid.

**19. Accuracy Test:**

Two (2) sample components (Standard) of supplier choice to be proved in presence of the Inspection team of SASMIRA for dimensional accuracy of **Composite 3D Printer (Continuous Fiber Reinforcement Technology)** against this tender on working machine, as post Qualification Test. No extra amount will be paid by the Purchaser for proving out the accuracy of the machine. All the required tools and measuring instruments etc. are to be arranged by the bidder for proving the accuracy test. If required, the machine shall be inspected by the Inspection team of SASMIRA in the presence of the prospective bidder or their representative. Report of the Inspection team of SASMIRA shall be final.

**20. Forfeiture of Earnest Money Deposit:**

- a) If any Bidder withdraws his tender before the period of 180 days from the date opening of technical bid or makes any modifications in the terms and the conditions of the tender which are not acceptable to the purchaser, then the purchaser shall, without prejudice to any other rights or remedy, be at liberty to forfeit the EMD.
- b) The EMD will also be forfeited in following cases:
  - i.If the bidder fails to accept the order based on his offer (bid) and within the prescribed time.
  - ii. If the bidder fails to supply the Machines with specifications as mentioned in Annexure –I
  - iii. If the bidder delays the supplies beyond a reasonable time resulting in disruption of project.
  - iv.Bidder for any reason whatsoever withdraws the tender after it is accepted or becomes unable or fails to execute the orders within stipulated delivery period.
  - v.Submission of misleading/contradictory/false statement or information and fabricated/invalid documents is detected before or after the issue of order to execute the supplies.
  - vi.The successful bidder does not submit Bank Guarantee within the prescribed time.

**21. Notification of Award:**

Prior to the expiry of the period of bid validity, the purchaser shall notify the successful Bidder, through email, that their Bid has been accepted. The notification shall specify the sum that the Purchaser will pay to the bidder in consideration of the supply of Machine.

## **22. Pre-dispatch Inspection:**

A pre-dispatch inspection by technical team of purchaser may be carried out at bidder's site of manufacturing machines. This pre-dispatch inspection will not absolve bidder's responsibility to execute supply in accordance with the tender terms.

SASMIRA reserves the option of inspecting the machine at supplier's works prior to packing and dispatch. Supplier shall provide all inhouse facilities for carrying out the inspection.

Internal test report/Type test report from Central Govt./NABL/ILAC Accredited lab covering all technical requirement to be supplied prior to dispatch of the machine for pre-dispatch inspection waiver at supplier's premises, if the purchaser so decides. However, Inspection at SASMIRA after supply, Erection and commissioning shall be final.

Accuracies of the machine to be checked as per technical specifications given in tender document after Erection and commissioning at SASMIRA.

**All the features of the machine mentioned in specifications to be demonstrated at SASMIRA after Erection and commissioning.**

## **23. Packing:**

- a) The bidder shall provide packing of the machine/ equipment, as is required to prevent their damages or deterioration during the transit to their final destination. The packing shall be sufficient to withstand, without limitation, rough handling during transit. In case the consignment received with damaged packaging, the purchaser would not accept the delivery.
- b) The machine & 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. The bidder shall be responsible for any loss/ damage to material during transportation to the designated location.

## **24. Delivery Time:**

- a) The bidder shall indicate the period within which the ordered quantity will be supplied. The bidder shall note that in case bidder fails to supply within the period of delivery indicated by the bidder in technical bid of this tender, penalty @1% of value of the order per week of delay would be levied subject to maximum 4 weeks. It means, the bidder shall have the liability of delayed supply to the maximum of 4 weeks after expiry of scheduled delivery date. After that the supply order shall be cancelled and EMD will be forfeited and bidder will be debarred from participation in any future tenders.

- b) The successful Bidder shall, within a week from the date of receipt of communication of acceptance of quotes from purchaser shall intimate his acceptance of the order. The successful bidder shall complete the supply strictly as per the accepted delivery period.

**25. Payment:**

- a) The 70% payment of total bill will be made by the purchaser through RTGS/NEFT for which the bidder shall send bills in duplicate (original + copy) along with copies of delivery note against delivery at SASMIRA.
- b) The 30% payment of total bill after successful Erection & Commissioning of machine and completion of training to officials at site.
- c) The EMD shall be released after training against submission of Performance Bank Guarantee by the successful bidder of amounting 5% of the order value and will be retained for the warranty period from the date of commissioning.

**26. Causes of Rejection of Tender:**

- a) While submitting the tender, if any of the prescribed conditions are not fulfilled or are incomplete in any form, the tender is liable to be rejected.
- b) If any Bidder stipulates any condition of his own, such conditional tender is liable to be rejected.

**27. Claims:**

- a) If the Machine supplied is found to be off size and shape different compared to those in the accepted offer and are of specifications lower than those stipulated in the accepted offer, the purchaser shall have the right to totally reject the machine/ equipment and/or to claim for compensation from bidder. The bidder shall reimburse to purchaser, the claim lodged in writing within 15 (fifteen) days of its demand. The bidder shall also compensate for losses, if any, sustained by purchaser due to defective packing and/or wrong marking of the machine/ equipment.
- b) The bidder shall be responsible for arranging the rejected machine/ equipment to be removed at his cost from purchaser premises.

**28. Address for communication:**

All the communication with respect to the tender shall be addressed to:

The Senior Director,  
The Synthetic & Art Silk Mills' Research Association (SASMIRA),  
Sasmira Marg, Worli, Mumbai - 400030.

**29. Force Majeure:**

In the event of any unforeseen circumstances directly interfering with the supply of goods/work/service arising during the execution of order such as war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, floods, earthquakes, explosions, epidemics, quarantine restrictions, strikes, lockouts, or acts of God, the Bidder shall, within a week from the commencement thereof, notify the same in writing to the Purchaser with reasonable evidence thereof. Either party shall have the option to terminate the contract on expiry of 90 days of commencement of such force majeure by giving 14 days “notice to the other party in writing. In case of such termination, no damages shall be claimed by either party against the other.

**30. Code of Ethics:**

The Purchaser as well as the Bidder shall observe the highest standard of ethics including laws against fraud and corruption in force in India namely “Prevention of Corruption Act 1988”, during the procurement or execution of such contracts. If the bidders are found in Bid pooling or against law against fraud and corruption, then their firms may be blacklisted.

**31. Jurisdiction:**

In the event of any legal dispute, the dispute shall be subject to the jurisdiction of Mumbai Court only.

*We confirm with our acceptance to the instructions (S. No. 1 to 31 above) as given above.*

**BIDDER’S NAME & SIGNATURE WITH SEAL**

*These duly signed “Instructions to the Tenders” as under shall be attached with technical bid of the tender as a mark of acceptance of bidder and any tender not confirming the instructions is liable to be rejected.*

<b>Composite 3D Printer (Continuous Fiber Reinforcement Technology) Technical Specifications</b>		
<b>Sl. No</b>	<b>Description</b>	<b>Requirements</b>
1	<b>Technology</b>	Continuous Fiber Reinforcement (CFR) Composite 3D Printing technology
2	<b>Printer mandatory specification.</b>	Should be Rugged Should support plug-and-play electronics system Should be capable for firmware upgradation as per latest version 3.2" X 2" LCD Display and storage memory of minimum 1GB
3	<b>Materials</b>	Should support High performance material like <ul style="list-style-type: none"> <li>• Nylon with chopped carbon fiber,</li> <li>• Nylon, PLA (Poly Lactic acid), Precise PLA,</li> <li>• TPU (Rubber based material), Smooth Precise TPU 95A, etc.</li> <li>• Fiberglass</li> <li>• Carbon Fiber</li> <li>• Graphene reinforced filament</li> <li>• Kevlar</li> <li>• High-Strength High-Temperature Material for application requiring higher temperature with HDT approx. 150 deg. C. or more.</li> <li>• High-Strength High-Temperature (HSHT) fiberglass</li> <li>• Material properties datasheet of all the materials as per international norms to be provided. Material should be chemically resistant.</li> <li>• Print Settings should be pre-configured in machine and software): NYLON, PLA, and fibre composites</li> <li>• Research Material: User can run self-developed/ open-source materials polymer composite filaments).</li> <li>• Open-source operation should be certified by OEM</li> <li>• Vendor should attach the quality certificate of each material with test report evaluating the parameters according to ASTM/DIN standards tested on same/similar machine from same OEM</li> </ul> (Materials preferable for high-speed impact resistant applications.)
4	<b>Build Volume Minimum Size</b>	<b>300 mm x 130 mm x 150 mm</b>
5	<b>Build Platform</b>	Print bed with flexibility to remove the bed during print and reposition to continue the print (Required for Metal insert, etc.)
6	<b>Printing Speed</b>	50 mm/sec (min) or Better (in X and Y plane)
7	<b>Filament Diameter</b>	Standard Diameter should be 1.75 mm (min)
8	<b>Resolution</b>	100 microns or better
9	<b>Nozzle</b>	Dual Nozzle should be capable of supporting the offered material type
10	<b>Software</b>	<ul style="list-style-type: none"> <li>• Industry 4.0 compliant</li> <li>• Organization Admin Portal</li> <li>• Supported OS Mac OS 10.7 Lion +, Win 7+, Linux2.</li> <li>• Auto queuing of slicing and printing</li> <li>• Fiber laying: Isotropic layer fully programmable for lay-up angle.</li> </ul>

		<ul style="list-style-type: none"> <li>• Should have option of pausing &amp; placing insets while printing.</li> <li>• Software should be able to Import any native CAD (Computer Aided Design) formats like. STL., obj., VRML, Para solid, native files or CAD (Computer Aided Design) packages etc. and be able to repair errors like open surfaces, inverted normal etc. without use of and 3rd party software_ Slicing software should be provided from OEM of the Machine</li> <li>• Life time free update</li> <li>• Option of laying concentric fiber reinforcement on parts at different geometry &amp; locations</li> </ul>
11	<b>Power Requirements</b>	Voltage: 230 V +/- 10% Single Phase Frequency: 50 Hz Physical On/Off Switch
12	<b>User Interface</b>	<ul style="list-style-type: none"> <li>• USB 3.0 Ports (External), WLAN: Wi-Fi Capable or better.</li> <li>• Touch Screen Using computer with appropriate software. Software should display and control. Complete program of solution must be provided.</li> <li>• Provide lifetime warranty for touch screen and software update related issues</li> </ul>
13	<b>Certification</b>	<b>CE /FCC certified</b>
14	Support material Extruder	Support material distinct material which should extrude from a different print head/ nozzle. Material specific print head/ nozzle and need to provide suitable separate Extruder for different supports.
15	Warranty	Consumables (especially, Extruder nozzle tubes) must have warranty for the period of 2 year from the date of installation.
16	Machine Warranty	Warranty should be 03 years.
17	Material Delivery	Material spool bays to be supplied for two years in a phased manner.
18	Part accuracy	Parts are produced within an accuracy of +/- .020mm or +/-_002 mm/mm, whichever is greater.
19	Support Structure	Soluble and breakaway
20	Material Flow Rate	Specify the part accuracy of the Product printed with different flow rate for Carbon/ Graphene, Kevlar, RA, ABS and Nylon materials.
21	Machine Control	Machine should build parts in circulated air heated chamber two or more heat exchangers and blowers to provide uniform temperature control and heated build environment throughout the volume of the build and each layer of the print.
		<ul style="list-style-type: none"> <li>• The machine shall automatically calibrate nozzle and build platform in X, Y and Z axis before the start of each job.</li> <li>• Auto-calibration</li> </ul>
		Non Heated removable and flexible build plate made from heat absorbing material such as polycarbonate or equivalent
22	Monitoring	Live camera for tracking and monitoring
23	Tool kit	Standard toolkit for start-up, Removal and cleaning
24	Additional Item to be supplied along with the machine	<b>Extruder &amp; Nozzle:</b>
		Need separate extruder for each material, (PLA ABS, Nylon and Carbon, Kevlar Fibres) — Ranges Up to 300 °C
		Need two separate extruders with maximum of 300°C for Open-source materials ex. Graphene. (Nos of Open-source Extruders = 2)
		<b>Consumables:</b>

		<p>The vendor is required to provide an additional quantity of 2 for each consumable item, such as build platforms, extruder nozzles, wiper blades, and brushes.</p> <p><b>Materials:</b></p> <ul style="list-style-type: none"> <li>For commercial filaments, including PLA, ABS, ABS-R Rapid-Rinse, Nylon, and Carbon fiber composites, please ensure the provision of 5 spools for each type.</li> <li>Additionally, we require an adequate supply of support material, with 7 spools each for Pt and ABS filaments.</li> </ul> <p>Vendor should supply all the other accessories, material transport trolleys / carts and spares required for effective and better utilization of machine</p>
25	De-humidifier	Supplier should provide dehumidifier to maintain Humidity level, should be within suitable range for machine operation
26	Online UPS	Vendor should supply suitable UPS with minimum 60 minutes power backup for the machine and essential accessories. Should be within suitable range for machine Operation
27	High-end Workstation	Vendor should supply suitable OEM workstation computer (32-inch screen) system with complete accessories and UPS_ It should have minimum configuration, of i7 64GB {3.4 RAM 6hz, quad (2400MHz, core) DDR4), Windows 11 OS, processor 1TB of hard disk latest (7200 RPM), and 4GB graphics card or better configuration, with windows operating system (Windows 11) and MS office recent version (Office 365)
		3- Year warranty for Workstation
		Should provide lifetime license for OS (Office) and Microsoft office.
<b>Note</b>		
1		Vendor should state the space required and any other requirements for prior installation of the aforesaid machine and equipment's. State clearly the specifications of the following items required for installation such as Transformer, Chiller, UPS, Air conditioner, Dehumidifier, Separate special earthing, Vibration isolation -
2		Supplier should have sizable installations of similar equipment/instrument worldwide and at least three same or similar equipment/instrument in India. Manufacturers of the quoted equipment should be ISO certified and supplied same/similar machine in India/globally for a period of minimum of 10 years
3		<b>Safety requirements:</b> The machine and all the accessories supplied to meet objective should be able to operate without any risk or hazard, without any additional protection, provision, training or guarding devices and meet current international standards such as CE, FCC, EMC, Low Voltage Directive 60950-1, 52368-Certificate of Conformance to be attached
4		Vendor should supply complete start up package necessary to prove the machine and provide training. List for scope of compiled certification should be submitted & Maintenance manual and spare manual
5		<b>Environmental Protection:</b> The machine and all the accessories supplied should be safe to use without emission of any hazardous gases, noise level and radiation without any need for additional equipment, provision or training and meet current international standards
6		<b>Consumables accessories and their availability:</b> List all such material that will be used in building part. Tender shall include list of all essential spares and consumables to be provided with replacement time prescribed for each such Item and its availability within reasonable time period. In case if any such item is likely to be out of availability within service period of machine, such item shall be included in initial supply
7		Price list of each material with minimum order quantity machine spares and consumables are to be quoted
8		<b>Installation and requirements</b>



	<ul style="list-style-type: none"> <li>• Vendor should state the space required and condition of floor and any other requirements for installation of the machine and equipment's State clearly the specifications of the following items required for installation such as, UPS, Air conditioner, Dehumidifier, separate special earthing, vibration isolation.</li> <li>• Vendor should carry out installation and commissioning of the machine and its accessories</li> </ul>
9	<p><b>Training and Documentation:</b></p> <ul style="list-style-type: none"> <li>• Minimum of 5 days training for five persons which includes basic &amp; advanced level training. Training content and plan to be submitted. Training faculty must have adequate experience in this field</li> <li>• The vendor should supply the necessary manuals such as Software instruction Maintenance manual, Training material, Installation and Commissioning Handling of accessories Software key if any) Software CDs</li> </ul>

**(Undertaking from Bidder on Rs. 100 nonjudicial bond paper)**

To

The Senior Director,  
The Synthetic & Art Silk Mills’ Research Association (SASMIRA),  
Sasmira Marg, Worli, Mumbai - 400030.

Subject: Undertaking for the participation in the tender No. **SASMIRA/R&D /Proj-3D /01**

Dear Sir,

**HAVING EXAMINED AND PERUSED THE FOLLOWING DOCUMENTS**

1. Notice Inviting Tender
2. Instruction To the Tenderer
3. Technical Specifications of machine (Annexure-I)
4. Annexure – III (Technical Bid)
5. Annexure – IV (Commercial Bid)
6. Annexure – V (Performance Statement)

I/We .....do hereby submit the above tender in prescribed formats duly completed in all respects in accordance with the conditions applicable. If this tender is accepted, I/We agree to abide by and fulfill all the terms and conditions of the tender documents

I/We hereby distinctly and expressly declare and acknowledge that before the submission of this tender, I/We have carefully followed the instructions and I/We have understood the existing system of supply at the location of purchaser including the scope and nature of duties expected from the Bidder.

I/We distinctly agree that I/We would hereafter make no claim or demand upon the purchaser based upon or arising out of any alleged misunderstanding or misconceptions or mistake on my/our part of the said stipulations, restrictions and conditions.

I/ We declare that our unit has never made any default in supplying the machine/ equipment to Government / Semi Government/ Central or State Public sector enterprise(s) in terms of quality and financial agreed supply conditions.

Any notice required to be served on me/us shall be sufficiently served on me/us by post (registered or ordinary) or courier or left at my/our address furnished herein.

.....  
.....

I/We fully understand the terms and conditions in the tender documents.  
I/We understood that the purchaser is not bound to accept any proposal without assigning any reason thereof.

Dated this.....day of ..... 2024

Authorized Signatory

Seal:

**FORMAT & REQUIREMENTS FOR SUBMITTING TECHNICAL BID**

1. Tender Ref. No: SASMIRA/R&D /Proj-3D /01
2. Name of Bidder: .....
3. Complete office address of Bidder: .....
4. Confirmation of acceptance of Technical Specifications for the supply of machine:

<b>Composite 3D Printer (Continuous Fiber Reinforcement Technology)</b>				
<b>Technical Specifications</b>				
<b>Please Mention</b>		<b>Make:</b>		
<b>Model:</b>				
<b>Sl. No</b>	<b>Description</b>	<b>Requirements</b>	<b>Acceptance to the Specification as placed at Annexure-I and agreed to supply with required Quantity (write your specification)</b>	<b>Specify the deviation if any, in specification of the machine offered for the supply</b>
1	<b>Technology</b>	Continuous Fiber Reinforcement (CFR) Composite 3D Printing technology		
2	<b>Printer mandatory specification.</b>	Should be Rugged Should support plug-and-play electronics system Should be capable for firmware upgradation as per latest version 3.2" X 2" LCD Display and storage memory of minimum 1 GB		
3	<b>Materials</b>	Should support High performance material like <ul style="list-style-type: none"> <li>• Nylon with chopped carbon fiber,</li> <li>• Nylon, PLA (Poly Lactic acid), Precise PLA,</li> <li>• TPU (Rubber based material), Smooth Precise TPU 95A, etc...</li> <li>• Fiberglass</li> <li>• Carbon Fiber / Graphene</li> <li>• Kevlar</li> <li>• High-Strength High-Temperature Material for application requiring higher temperature with HDT approx. 150 deg. C. or more.</li> <li>• High-Strength High-Temperature (HSHT) fiberglass,</li> <li>• Material properties datasheet of all the materials as per international</li> </ul>		

		<p>norms to be provided. Material should be chemically resistant.</p> <ul style="list-style-type: none"> <li>• Print Settings should be pre-configured in machine and software): NYLON, PLA, and fibre composites</li> <li>• Research Material: User can run self-developed/ open-source materials polymer composite filaments).</li> <li>• Open-source operation should be certified by OEM</li> <li>• Vendor should attach the quality certificate of each material with test report evaluating the parameters according to ASTM/DIN standards tested on same/similar machine from same OEM</li> </ul> <p>(Materials preferable for high-speed impact resistant applications.)</p>		
4	<b>Build Volume Minimum Size</b>	<b>300 mm x 130 mm x 150 mm</b>		
5	<b>Build Platform</b>	Print bed with flexibility to remove the bed during print and reposition to continue the print (Required for Metal insert, etc.)		
6	<b>Printing Speed</b>	50 mm/sec (min) or Better (in X and Y plane)		
7	<b>Filament Diameter</b>	Standard Diameter should be 1.75 mm (min)		
8	<b>Resolution</b>	100 microns or better		
9	<b>Nozzle</b>	Dual Nozzle should be capable of supporting the offered material type		
10	<b>Software</b>	<ul style="list-style-type: none"> <li>• Industry 4.0 compliant</li> <li>• Organization Admin Portal</li> <li>• Supported OS Mac OS 10.7 Lion +, Win 7+, Linux2.</li> <li>• Auto queuing of slicing and printing</li> <li>• Fiber laying: Isotropic layer fully programmable for lay-up angle.</li> <li>• Should have option of pausing &amp; placing insets while printing.</li> <li>• Software should be able to Import any native CAD (Computer Aided Design) formats like. STL., obj., VRML, Para solid, native files or CAD (Computer Aided Design) packages etc. and be able to repair errors like open surfaces, inverted normal etc. without use of and 3rd party software_ Slicing software should OEM of the Machine</li> <li>• Life time free update</li> <li>• Option of laying concentric fiber reinforcement on parts at different geometry &amp; locations</li> </ul>		

11	<b>Power Requirements</b>	Voltage: 230 V +/- 10% Single Phase Frequency: 50 Hz Physical On/Off Switch		
12	<b>User Interface</b>	<ul style="list-style-type: none"> <li>• USB 3.0 Ports (External), WLAN: Wi-Fi Capable or better.</li> <li>• Touch Screen Using computer with appropriate software. Software should display and control. Complete program of solution must be provided.</li> <li>• Provide lifetime warranty for touch screen and software update related issues</li> </ul>		
13	<b>Certification</b>	<b>CE/FCC certified</b>		
14	Support material Extruder	Support material distinct material which should extrude from a different print head/ nozzle. Material specific print head/ nozzle and need to provide suitable separate Extruder for different supports.		
15	Warranty	Consumables (especially, Extruder nozzle tubes) must have warranty for the period of 2 year from the date of installation.		
16	Machine Warranty	Warranty should be 03 years.		
17	Material Delivery	Material spool bays to be supplied for two years in a phased manner.		
18	Part accuracy	Parts are produced within an accuracy of +/- .020mm or +/- .002 mm/mm, whichever is greater.		
19	Support Structure	Soluble and breakaway		
20	Material Flow Rate	Specify the part accuracy of the Product printed with different flow rate for Carbon/ Graphene, Kevlar, RA, ABS and Nylon materials.		
21	Machine Control	Machine should build parts in circulated air heated chamber two or more heat exchangers and blowers to provide uniform temperature control and heated build environment throughout the volume of the build and each layer of the print.		
		<ul style="list-style-type: none"> <li>• The machine shall automatically calibrate nozzle and build platform in X, Y and Z axis before the start of each job.</li> <li>• Auto-calibration</li> </ul>		
		Non Heated removable and flexible build plate made from heat absorbing material such as polycarbonate or equivalent		
22	Monitoring	Live camera for tracking and monitoring		
23	Tool kit	Standard toolkit for start-up, Removal and cleaning		
24	Additional Item to be supplied along with the machine	<b>Extruder &amp; Nozzle:</b> Need separate extruder for each material, (PLA ABS,		
		Nylon and Carbon, Kevlar Fibres) — Ranges Up to 300 °C		

		Need two separate extruders with maximum of 300°C for Open-source materials ex. Graphene. (Nos of Open-source Extruders = 2)		
		<b>Consumables:</b> The vendor is required to provide an additional quantity of 2 for each consumable item, such as build platforms, extruder nozzles, wiper blades, and brushes.		
		<b>Materials:</b> <ul style="list-style-type: none"> <li>For commercial filaments, including PLA, ABS, ABS-R Rapid-Rinse, Nylon, and Carbon fiber composites, please ensure the provision of 5 spools for each type.</li> <li>Additionally, we require an adequate supply of support material, with 7 spools each for Pt and ABS filaments.</li> </ul>		
		Vendor should supply all the other accessories, material transport trolleys / carts and spares required for effective and better utilization of machine		
25	De-humidifier	Supplier should provide dehumidifier to maintain Humidity level, should be within suitable range for machine operation		
26	Online UPS	Vendor should supply suitable UPS with minimum 60 minutes power backup for the machine and essential accessories. Should be within suitable range for machine Operation		
27	High-end Workstation	Vendor should supply suitable OEM workstation computer (32 inch screen) system with complete accessories and UPS_ It should have minimum configuration, of i7 64GB {3.4 RAM 6hz, quad (2400MHz, core) DDR4), Windows 11 OS, processor 1TB of hard disk latest (7200 RPM), and 4GB graphics card or better configuration, with windows operating system (Windows 11) and MS office recent version (Office 365)		
		3- Year warranty for Workstation		
		Should provide lifetime license for OS (Office) and Microsoft office.		
<b>Note</b>				
1	Vendor should state the space required and any other requirements for prior installation of the aforesaid machine and equipment's. State clearly the specifications of the following items required for installation such as Transformer, Chiller, UPS, Air conditioner, Dehumidifier, Separate special earthing. Vibration isolation -			
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3	<b>Safety requirements:</b> The machine and all the accessories supplied to meet objective should be able to operate without any risk or hazard, without any additional protection, provision, training or guarding devices and meet current international standards such as CE, FCC, EMC, Low			

	Voltage Directive 60950-1, 52368-Certificate of Conformance to be attached		
4	Vendor should supply complete start up package necessary to prove the machine and provide training. List for scope of compiled certification should be submitted & Maintenance manual and spare manual		
5	<b>Environmental Protection:</b> The machine and all the accessories supplied should be safe to use without emission of any hazardous gases, noise level and radiation without any need for additional equipment, provision or training and meet current international standards		
6	<b>Consumables accessories and their availability:</b> List all such material that will be used in building part. Tender shall include list of all essential spares and consumables to be provided with replacement time prescribed for each such Item and its availability within reasonable time period. In case if any such item is likely to be out of availability within service period of machine, such item shall be included in initial supply		
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8	<b>Installation and requirements</b> <ul style="list-style-type: none"> <li>• Vendor should state the space required and condition of floor and any other requirements for installation of the machine and equipment's State clearly the specifications of the following items required for installation such as, UPS, Air conditioner, Dehumidifier, separate special earthing, vibration isolation.</li> <li>• Vendor should carry out installation and commissioning of the machine and its accessories</li> </ul>		
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**5. Confirmation for supply to the location:**

#	Details	Location
		The Synthetic & Art Silk Mills' Research Association (SASMIRA), Sasmira Marg, Worli, Mumbai - 400030
1	<b>Tentative quantity required</b>	<b>One number</b>
2	<b>Consent to supply: (write YES/ NO only)</b>	

**6. PAN of bidder** (self-attested copy to be enclosed) .....

**7. GSTIN registration number of bidder** (self-attested copy to be enclosed) .....

**8. Documents - Details to be enclosed with the technical bid by bidder are as under:**

- a) In case the bidder is Original Equipment Manufacturer, the bidder to submit a self-declaration on their letter-head, confirming that they are regular in manufacturing & supplying the similar machines, as asked in this tender, for the last five (05) years.
- b) In case the bidder is Authorized Distributor of OEM / Authorized Dealer of OEM, the bidder to attach self-certified valid authorized Distributorship / Dealership license from Original Equipment Manufacturer who should have valid ISO Certificate and shall be engaged in regular manufacturing and supply of similar machine for the last five (05) years.
- c) The Original Equipment Manufacturer shall attach the self-certified copy of valid ISO Certificate for their establishment.
- d) In case the bidder is Authorized Distributor of OEM / Authorized Dealer of OEM, the bidder to attach the self-certified copy of valid ISO Certificate of their OEM.
- e) To avail benefit of Public Procurement Policy by SC/ST Micro & Small Enterprises, the requirement of documents to substantiate their claim (As per Para 13 of this tender) shall be submitted with Technical Bid.
- f) Undertaking as per Annexure-II on official Letter head.
- g) Duly signed all pages of "Instructions to Tenderers" of the tender document as a mark of acceptance.
- h) The letters substantiating performance from at least three (03) other purchasers, to whom, the similar machine supplied by the bidder in last five (05) years, wherein, the machine shall be in operation to the satisfaction of buyer for the last three (03) years, to access performance of the machine supplied by your organization.
- i) Technical Literature of machine(s) with particular reference to the model of machine proposed to supply against this tender along with reference of website to assess the further features.
- j) Authorization letter/ Power of Attorney in favour of personnel to sign the tender on behalf of bidder.
- k) Self-attested copy of Registration Certificate of the firm.
- l) Self-attested copy of valid GSTIN registration.
- m) Self-attested copy of valid PAN.
- n) Self-attested copy of Bank details.
- o) The Bidders shall furnish complete technical details/Catalogue of machine offered to supply through the participation of this tender (use separate sheet to elaborate the details of technical specifications such as Measuring Range/Size, Least Count/Resolution, Accuracy, Materials used, Accessories, Tools, Spares etc.).
- p) To submit all supporting information with respect to the technical data, drawings or booklets of product. Any product brief, test certificates available may be enclosed.

**I/We, as bidder certify that:**

- a. The tender shall remain valid for acceptance for **180** days from the date of opening the Technical Bid of the tender.
- b. Agree to offer services for onsite comprehensive warranty on the machine supplied through this tender.
- c. Agree to offer services for maintenance contract for the next three (03) years after the warrantee period for the machine supplied through this tender.
- d. Agree to impart onsite training to the designated personnel of Purchaser for 10 working days.



- e. No price of any Machine/ Equipment/ Spares/ Accessories shall be given in Technical Bid.
- f. All above Machine/Equipment/Spares/Accessories should be provided with safety features/ curtains/enclosure etc. wherever applicable.
- g. Bidder should certify that all consumables, electrical and electronic parts of the product conform to national/ international standard(s).
- h. Agree to supply three (03) sets of the Installation, Operation, Maintenance, and Training Manuals with machine.

**Name & Signature of the authorized bidder with seal**  
Contact details of authorized person of bidder who has signed the tender.

Name.....  
Designation.....  
Phone (office).....  
Phone (Mobile).....  
E mail.....

**FORMAT FOR SUBMISSION OF COMMERCIAL BID****Composite 3D Printer**  
**(Continuous Fiber Reinforcement Technology)**1. Tender Ref. No. **SASMIRA/R&D /Proj-3D /01**2. Name of the Bidder with Address  
.....  
.....

3. Quantity: 1 Number

#	Details		Amount (Rs.)	
1	2		3	
1.	(a)	Basic Price of the Machine including Standard Accessories, Three Year Warranty, Packing & Forwarding, Transport, and Training Charges for the supply of the Machine as agreed in technical bid of the tender No. <b>SASMIRA/R&amp;D /Proj-3D /01</b> with commitment to offer onsite 'After sales Services' during the period of Warranty.	<b>Do not quote your rates here</b>	
	(b)	Annual Maintenance Charges - First Year		
		Annual Maintenance Charges – Second Year		
		Annual Maintenance Charges – Third Year		
(c)	Erection & Commissioning Charges:			
2.	<b>Total Price of Machine</b> for supply to the Location at Mumbai			

**Signature with Seal of the Bidder**

**PROFORMA FOR PERFORMANCE STATEMENT**

**Performance Statement for the period of last three years from the date of bid opening  
(Year wise)**

**Tender No. SASMIRA/R&D /Proj-3D /01**

Order placed by (full address of Purchaser) and contact details (e- mail and phone / Mobile No.)	Order No. and date	Description and quantity of ordered equipment	Value of order	Date of completion of delivery	Remarks indicating reasons for late delivery, if any	Has the equipment been satisfactorily functioning to the satisfaction of purchaser? Attach the performance certificate from the customer
1	2	3	4	5	6	7
<b>Year -1</b>						
<b>Year -2</b>						
<b>Year – 3</b>						

Signature and seal of the Bidder