Government eProcurement System

Government eProcurement System

Tender Details

Date : 27-Jun-2022 02:34 PM

Print

Basic Details

Organisation Chain	Council of Scientific and Industrial Research||CSIO-Chandigarh - CSIR||Purchase-CSIO - CSIR		
Tender Reference Number	CSIO-3-7-2021		
Tender ID	2022_CSIR_120403_1		
Tender Type	Open Tender	**Form of contract**	EOI
Tender Category	Goods	**No. of Covers**	1
General Technical Evaluation Allowed	No	**ItemWise Technical Evaluation Allowed**	No
Payment Mode	Not Applicable	**Is Multi Currency Allowed For BOQ**	No
Is Multi Currency Allowed For Fee	No	**Allow Two Stage Bidding**	No

Cover Details, No. Of Covers - 1

Cover No	Cover	Document Type	Description
1	Fee/PreQual/Technical/Finance	.pdf	Expression of Interest for procurement of Atomic Force Microscope details attached
		.xls	Expression of Interest for procurement of Atomic Force Microscope details attached

Tender Fee Details, [Total Fee in ₹ * - 0.00]

Tender Fee in ₹	0.00		
Fee Payable To	Nil	**Fee Payable At**	Nil
Tender Fee Exemption Allowed	No		

EMD Fee Details

EMD Amount in ₹	0.00	**EMD through BG/ST or EMD Exemption Allowed**	No
EMD Fee Type	fixed	**EMD Percentage**	NA
EMD Payable To	Nil	**EMD Payable At**	Nil

Click to view modification history

Work /Item(s)

Title	CSIO-3-7-2021-Pur				
Work Description	Expression of Interest for procurement of Atomic Force Microscope details attached				
Pre Qualification Details	Please refer Tender documents.				
Independent External Monitor/Remarks	NA				
Show Tender Value in Public Domain	No				
Tender Value in ₹	0.00	**Product Category**	Laboratory and scientific equipment	**Sub category**	NA
Contract Type	Tender	**Bid Validity(Days)**	90	**Period Of Work (Days)**	45
Location		**Pincode**	160030	**Pre Bid Meeting Place**	CSIR-CSIO Chandgiarh

	CSIR-CSIO Sector 30 Chandigarh				
Pre Bid Meeting Address	Online meeting through BOQ link	**Pre Bid Meeting Date**	11-Jul-2022 11:00 AM	**Bid Opening Place**	CSIR-CSIO Sector 30 Chandigarh
Should Allow NDA Tender	No	**Allow Preferential Bidder**	No		

Critical Dates

Publish Date	27-Jun-2022 03:00 PM	**Bid Opening Date**	13-Jul-2022 03:30 PM
Document Download / Sale Start Date	27-Jun-2022 03:00 PM	**Document Download / Sale End Date**	12-Jul-2022 03:00 PM
Clarification Start Date	27-Jun-2022 03:00 PM	**Clarification End Date**	08-Jul-2022 03:00 PM
Bid Submission Start Date	27-Jun-2022 03:00 PM	**Bid Submission End Date**	12-Jul-2022 03:00 PM

Tender Documents

NIT Document

S.No	Document Name	Description	Document Size (in KB)
1	Tendernotice_1.pdf	Expression of Interest for procurement of Atomic Force Microscope details attached	401.54

Work Item Documents

S.No	Document Type	Document Name	Description	Document Size (in KB)
1	BOQ	BOQ_131300.xls	Expression of Interest for procurement of Atomic Force Microscope details attached	280.50

Auto Extension Corrigendum Properties for Tender

Iteration	No. of bids required for bid opening a tender	Tender gets extended to No. of days
1.	2	7

Bid Openers List

S.No	Bid Opener Login Id	Bid Opener Name	Certificate Name
1.	ramesh.eproc@csir.res.in	Ramesh Kumar	RAMESH KUMAR
2.	sunder.eproc@csir.res.in	Sunder Lal	SUNDER LAL
3.	jayantrao.eproc@csir.res.in	Jayant Mohan Rao	JAYANT MOHAN RAO
4.	anilyadav.eproc@csir.res.in	Anil Kumar Yadav	ANIL KUMAR YADAV

GeMARPTS Details

Reason for non availability of GeMARPTS ID	Urgent nature of Procurement
Remarks	Expression of Interest
Document Name	AFMTPC.pdf
Document Size (in KB)	332.31

Tender Properties

Auto Tendering Process allowed	No	**Show Technical bid status**	Yes
Show Finance bid status	Yes	**Show Bids Details**	Yes
BoQ Comparative Chart model	Normal	BoQ Compartive chart decimal places	2
BoQ Comparative Chart Rank Type	L	Form Based BoQ	No

Tender Inviting Authority	
Name	Controller of Stores and Purchase
Address	The Director CSIR-CSIO Sector 30 Chandigarh

Tender Creator Details	
Created By	Ramesh Kumar
Designation	Assistant
Created Date	27-Jun-2022 02:29 PM

Expression of Interest (EoI) for procurement of Atomic Force Microscope (AFM)

Documents to be submitted by the OEM or Authorized Representative of OEM:

1. Model number(s) of the instrument which meets the specifications (or very closely matches the specifications).

2. Brochures/Catalogues with respect to point no.1.

3. Compliance sheet of the specifications mentioned in the EoI. The compliance sheet must be vetted by the OEM. If any of the specifications is not complying, then mention the actual parameter value that the instrument Model mentioned in point no. 1 offers.

4. Valid authorization letter from OEM.

5. Domestic user list of similar system with Model No.

Expression of Interest

Pre indent conference/expression of interest is required for Atomic Force Microscope (AFM) for MLP 2027 with the following tentative specifications:

One Unit is required.

Items	Detailed Technical Specification
1. Cantilever	1.1. Surface Engagement: During engagement coarse movement of Z should be manual and fine engagement should be automatic through software
	1.2. Cantilever Exchange: Exchange of cantilever should be user friendly. The AFM system alignment grooves should be compatible to allow the user to mount cantilever purchased from 3rd party such as Nanosensors. Part number of such cantilever available with the third party viz. Nanosensors to be specified.
	1.3. Compatibility: The system should be compatible with a wide range of commercially available cantilevers with resonance frequency between 60 kHz to 1.3 MHz
	1.4. The system must include a probe holder that supports all listed modes of operation and must support operation in air.
	1.5. The cantilever holder and the optical lever assembly (laser, optics and detector) must be housed within a single rigid frame to eliminate artifacts due to relative motion between the optical lever arm and the cantilever during imaging and force measurements.
	1.6. The system should automatically calibrate or load the cantilever sensitivity (deflection sensitivity/detector voltage to distance conversion) and spring constant by simply selecting the probe type through software. To avoid tip damage, at no point during the calibration may the tip touch the sample
2. Scanner	2.1. Sample Scanning/Tip Scanning or such combination would be acceptable.
	2.2. X-Y scan range: ≥ 100 um X 100 um (with a single scan head)
	2.3. X-Y position noise: ≤ 0.6 nm rms or less (closed-loop), For sample scanning AFM XY noise need to be demonstrated with a heavy sample (~500g) mounted
	2.4. X-Y scanner resolution: 0.05nm or less
	2.5. Z scan range: 10 um or more.
	2.6. Z scanner Noise: ≤ 0.25 nm rms (closed loop)
	2.7. Z scanner resolution: 0.05nm or better
	2.8. Vertical Noise Floor <50pm RMS. Please specify typical imaging bandwidth
	2.9. The system configuration should allow a single scanner to be able to achieve large area and small area high resolution images.
	2.10. The scanner must have integrated position sensor/ equivalent position sensor for seamless close loop operation and be able to operate in open and closed-loop in XY and Z.
	2.11. Low drift performance <1 nm/min.
	2.12. XYZ scanner must be flexure /piezo based in all 3 dimensions. Voice coil or other EM based scanners are not acceptable.
3. Sample	3.1. Soft and hard thin films, Polymer samples, Nano materials, Tribology samples, Magnetic samples, Semiconductor samples, Piezoelectric samples, Ferroelectric samples, Microelectronics samples etc.
	3.2. Max sample size: Up to 150 mm diameter or 150mmX150mm
	3.3. Sample thickness: 10mm or more
4. Stage	4.1. The system should have XY sample positioning with travel range > 20 mm and an accuracy of minimum 2 micron.
	4.2. The AFM system must allow software controlled automated cantilever approach, focus and stage control using motorized Z stage.

	4.3. The travel range of Z stage should be at least 15 mm with 0.1 µm step with motorized software control with automatic engage for 10 mm substrate; During engagement coarse movement of Z should be manual and fine engagement should be automatic through software
5. Modes of operation	The system must include the following scanning modes:
	5.1. AFM Contact Mode
	5.2. AFM Non-Contact Mode/ Tapping Mode
	5.3. Lateral Force Microscopy
	5.4. Phase Imaging
	5.5. Force-Distance (F-D) Spectroscopy
	5.6. Force modulation microscopy
	5.7 The offered system should be upgradable to the following modes (for inclusion in future without any change in controller): ▪ Magnetic force microscopy (to be done in lift mode) ▪ Electric Force microscopy (EFM) ▪ Kelvin probe force microscopy(KPFM) ▪ Multifrequency AFM to allow multi-frequency AC mode (tapping mode) operation with two specific drive frequencies to measure the amplitude and phase response at both these frequencies – please specify whether can be offered in standard mode ▪ Conducting probe AFM ▪ Scanning Tunneling microscopy (STM) and spectroscopy (STS) ▪ High resolution mode for imaging delicate soft samples in both air & liquid environment while maintaining resolution & clarity.
	5.8 The MFM/ EFM and topography images should get displayed simultaneously in real-time as acquired line-by-line.
	5.9 Nanolithography and nanomanipulation module to be included with basic system
6. System Optics	6.1. The AFM system must provide on-axis view of sample and cantilever from top
	6.2. The Field-Of-View (FOV) should be within 200µm to 1000µm.
	6.3. The AFM must include top-view optics with motorized focus & digital zoom
	6.4. The optics must have manual/software-controlled illumination
	6.5. The optics and CCD camera system should have resolution between 1.5µm -2µm or better and software to display and store the optical image from within the AFM software.
	6.6. Overview of the entire sample carrier
	6.7. Highlight of the region of interest (ROI)
	6.8. Highlight of the current measurement position. Live tracking of the exact cantilever position
7. System Controller	7.1 The system must provide the capability to calibrate the cantilever spring constant by thermal tuning of the cantilever.
	7.2 Must have 20-bit or more converters (ADC/DAC) for scan control in X, Y and Z.
	7.3 The system provides thermal tunes / cantilever oscillation up to 5MHz or better
	7.4 Should be able to acquire 8 channels or better simultaneously.
	7.5 It must allow customizable input/output signal paths through a signal access module integrated inside the controller with BNC connector whose function is software-selectable for all the signals
	7.6 The software automatically recognizes the Hardware and configures with the software appropriately
	7.7 Must provide 2 or more users accessible lock-in amplifiers
	7.8 Provides real time adjustment to all scanning parameters scan rate, scan size, scan offset, gains and others

	7.9 The data acquisition system must be capable of recording individual image sizes of Minimum 4000x4000 pixel resolution for smallest scan area
	8.0 Min. of 6 digital feedback channels to run in parallel through FPGA
8. Light source	Appropriate laser light source, Four Quadrant (or better) position sensitive photo detector
9. Data acquisition and image processing software	9.1The data acquisition system must be capable of recording individual image sizes with 4k pixel
	9.2 The AFM system should have software for multiple data acquisition and display.
	9.3 The AFM system should have separate software for data analysis and data acquisition.
	9.4 Should facilitate seamless data transfer to the analysis software
	9.5Should be able to perform multi-tasking with Microsoft windows-based data acquisition or equivalent, optical view, image processing, analysis and presentation for all modes in SPM/ AFM
	9.6 The system's software must include a one-click configuration tool that sets up the software for standard and user-defined operation modes.
	9.7 Software package must include both image acquisition and data processing software.
	9.8 Analysis software must be able to be installed on unlimited number of off-line PC.
	9.9 The data acquisition software should be user friendly, which enables new operator to acquire topography images
	9.10 The data acquisition software should allow users to plot any two signal channels on the same real-time dual-axis graph for comprehensive analysis.
	9.11 The data acquisition software must have built-in macros, which can be easily loaded and applied for repeating operations, such as moving the XY or the Z stage to a specific location or resetting the operation. Users can edit existing macros or create new ones as needed.
	9.12 Free software upgrade for next 10 years
10. Computer with Monitor	The system must have SPM /AFM compatible latest version high performance computer having following specifications ▪ Intel i7 or higher/ equivalent processor, ▪ 16 GB RAM or higher, ▪ 27" or higher dual monitor, ▪ Internal hard drive space 2 x 1 TB or higher capacity, ▪ Graphic card, sufficient number of USB ports, DVD RW, Mouse, Keyboard, etc. ▪ Appropriate cables and power cables to be provided
11. Power supply	The instrument and computer should be compatible with the power supply specification in India, 220V, 50/60 Hz, (Operating range 210-240V).
12. Acoustic & Vibration Isolation	The system must include a thermally- and acoustically isolating enclosure.
	The system must include an active vibration isolation table suitable for the system performance and specifications.
13. Consumables	13.1. Cantilever Type: Suitable Cantilevers should be offered for all the modes quoted with minimum 20 nos. each. (Detailed technical specifications of all the tips/probes are to be provided). For tapping mode: 50 nos. of cantilevers
14. Calibration	13.1. AFM calibration kit with necessary standard samples for all the above modes.
	13.2. Separate calibration samples should be provided for calibration for 1micron and 100nm range.
	13.3. All the standard modes listed above must be demonstrated using standard sample
	13.4. The system must come with demo probe kit and necessary tool kit.
15. Optional items	Compatible UPS for at least 60 minutes backup time for carrying out shut down procedures.

The specifications will be finalized after expression of interest.

Note: All the manufacturers from India as well as from global market are invited.