

## \*\*COMPLETE THIS FORM TO INITIATE SUPPLIER SCOUTING\*\*

### MEPNN Supplier Scouting Opportunity Synopsis

\*The submitting entity agrees to notify NIST MEP of the status of actions taken as a result of this scouting instance within 30 days after receiving a results report. For instances where the submitting entity is an MEP Center submitting on behalf of a client, the MEP Center agrees to notify NIST MEP on behalf of their client. For instances where the submission is direct from federal/state agencies or is a private company, the submitting federal/state agency or private company entity agrees to notify NIST MEP. Notification should be via email to [scouting@nist.gov](mailto:scouting@nist.gov), indicating the following:

- Contact with matches identified in report complete and supply contract awarded, process complete
- Contact with matches identified in report complete and no supply contract awarded, process complete
- Contact with matches identified in report complete and supply negotiations underway, process in progress
- Contact with matches identified in report underway; supply negotiations not yet begun; process in progress
- Contact with matches identified in report not yet begun, process in progress
- Contact with matches identified in report will not occur within the next 6-months, process complete

Field Emission Scanning Electron Microscope

Item to be Scouted

\_\_\_\_\_ 30 \_\_\_\_\_ days

**Opportunities will be posted for 30 days unless specified**

**Please describe the item application/ the end use of item.\* Provide the item number if applicable: (N95 Mask vs Protective Mask).**

The National Institute of Standards and Technology (NIST) seeks information on commercial vendors that are capable of providing a Field Emission Scanning Electron Microscope (FESEM) to support nanofabrication in the Center for Nanoscale Science and Technology (CNST), NIST's NanoFab user facility. The FESEM will be sited and used as a shared resource accessible to researchers from industry, academia, NIST, and other government agencies in the CNST NanoFab. CNST seeks a high resolution FESEM to provide fundamental multi-scale morphological and physical information for tracking wafer processing parameters during nanofabrication. This microscope will replace existing SEM imaging capability in the CNST NanoFab for imaging materials on the nanometer and micrometer scale during nanofabrication. The system must be capable of high resolution imaging of nonconductive samples, including photoresist-coated wafers and quartz wafers.

2022-128

Supplier Scouting Number (NIST MEP use)

334516

Scouting customer/product [NAICS Code](#), if known

<b>TECHNICAL INFORMATION:</b>	<b>1. Supplier Information</b>	<b>a. Type of supplier being sought*</b>		
		<input checked="" type="checkbox"/> <b>Manufacturer</b>	<input type="checkbox"/> <b>Contract Manufacturer</b>	<input type="checkbox"/> <b>Distributor</b>
	<input type="checkbox"/> <b>Other</b> _____			
	<b>b. Reason for scouting submission*</b>			
<input type="checkbox"/> <b>2<sup>nd</sup> Supplier</b> <input type="checkbox"/> <b>Price</b> <input type="checkbox"/> <b>Re-shore</b> <input type="checkbox"/> <b>Past supplier no longer available</b>				
<input type="checkbox"/> <b>New Product Startup</b>				
<input checked="" type="checkbox"/> <b>Other</b> _____				
<b>2. Summary of Technical Specifications and Performance Requirements:</b>	<b>a. Describe the manufacturing processes (elaborate to provide as much detail as possible).*</b>			
	<b>Item needed as one standalone unit</b>			
<b>b. Provide dimensions / size / tolerances / performance specifications for the item.*</b>				
<p>This FESEM is intended to be used by NanoFab users who need to quickly perform inspection of wafers during nanofabrication. The FESEM must have excellent low voltage performance for imaging nonconductive samples and have the ability to image wafers up to 100 mm (4 inch) in diameter. The microscope shall have an extremely stable gun that is capable of operating 24 hours a day, 7 days a week. 2. BASE MICROSCOPE a. The microscope shall have a minimum resolution of 0.5 nm at 15 kV and &lt;1.0 nm at 1 kV. b. The microscope shall be capable of operating with probe currents between 1 pA (or less) and 20 nA (or greater). c. The microscope shall be equipped with a minimum of 3 electron detectors, an Everhart Thornley secondary detector, and in-lens secondary and backscatter electron detectors. d. The microscope shall be equipped with a five axis stage. e. The microscope chamber shall be able to accommodate up to a 100 mm (4 inch) diameter wafer with travel of at least 130 mm and 130 mm in the x and y directions respectively, z travel of 50 mm, tilt of -4 to 70 degrees, and rotation of 360 degrees. f. The microscope shall be equipped with load lock for specimen exchange. g. The microscope shall be equipped with navigation camera.</p>				

c. List required materials needed to make the product, including materials of product components.\*

Item needed as one standalone unit

2. Summary of Technical Specifications and Performance Requirements cont:	d. Are there applicable certification requirements? * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Please explain
	e. Are there applicable regulations? * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Please explain
	f. Are there any other standards, requirements, etc.? * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Please explain
	g. Additional Comments: Is there other information that would impact the item's performance or usefulness? Please explain.
BUSINESS INFORMATION:	3. Volume and Pricing
	3a. Estimated potential business volume (i.e., # Units Per Day, Month, Year) *:
	One Unit
	b. Estimated target price / unit cost information (flexible and negotiable <u>not</u> accepted) *:
	\$700,000.00
	4. Delivery Requirements:
	a. When is it needed by? (Immediate, 30 Days, 6 months, etc.)*
	ASAP
	b. Describe packaging requirements (i.e., individually/group packaging)*
	Flexible
c. Where will this item be shipped? *	
NIST, 100 Bureau Drive, Gaithersburg, MD 20899	
5. Additional Comments:	
Is there other information you would like to include?	

Photos or diagrams of the item (helpful but not required).