

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, 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

Automated Single Substrate Resist Develop and Chrome Etch system

_____ 30 _____ days

Opportunities will be posted for 30 days unless specified

Item to be Scouted

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 capable of providing an automated, single substrate, resist development and chrome etch processing system to support nanofabrication in the Center for Nanoscale Science and Technology (CNST) user facility. The system will be sited and used as a shared resource accessible to researchers from industry, academia, NIST, and other government agencies in the CNST NanoFab. The automated, single substrate, resist development and chrome etch processing system is used to develop patterns in photoresist and perform wet chrome etch processing on wafers and photomasks. Applications include fabricating nano-semiconductor and nano-photonics devices.

2022-138

Supplier Scouting Number (NIST MEP use)

333242

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

TECHNICAL INFORMATION:	1. Supplier Information	a. Type of supplier being sought*		
		<input checked="" type="checkbox"/> Manufacturer	<input type="checkbox"/> Contract Manufacturer <input type="checkbox"/> Distributor	
	<input type="checkbox"/> Other _____		b. Reason for scouting submission*	
	<input type="checkbox"/> 2nd Supplier <input type="checkbox"/> Price <input type="checkbox"/> Re-shore <input type="checkbox"/> Past supplier no longer available		<input type="checkbox"/> New Product Startup	
<input checked="" type="checkbox"/> Other _____				
2. Summary of Technical Specifications and Performance Requirements:	a. Describe the manufacturing processes (elaborate to provide as much detail as possible).*			
	Item to be purchased as a standalone unit			
		b. Provide dimensions / size / tolerances / performance specifications for the item.*		
<p>this automated, single substrate, resist development and chrome etch processing system is a wet chemical processing tool that uses TMAH-based photoresist developers and ceric ammonium nitrate-based chrome etchants to resolve lithographically defined patterns in photoresists and etch the chrome layer on photomasks. This new single substrate processing system will be used to simplify and standardize resist development and chrome etch processes, help to minimize chemical usage, improve process repeatability, improve safety for the facility users. 1. The system shall have the following configuration: 1) A process chamber that is compatible with tetramethyl ammonium hydroxide (TMAH) based photoresist developers and ceric ammonium nitrate-based chrome etch chemistries. 2) Chemical delivery hardware capable of handling two separate developers and chrome etch chemistry. 3) Chemical source hardware shall be capable of using chemicals in the one-gallon source bottles as delivered by OEM chemical suppliers. 4) Chemical source hardware shall be designed for easy and rapid replacement of source chemicals. 5) A chemical drain shall be equipped with a diverter to allow for the developer to follow one path and the chrome etchant to follow a separate path. 6) The software shall support both manual and automatic operation. 7) The system shall have safety interlocks to keep NanoFab user community safe. 2. Wafer compatibility and wafer heating: 1) The system shall be able to process 100 mm and 150 mm diameter semi-spec silicon wafers. 2) The system shall be able to process photomasks with following dimensions: a. 5 inch square, 0.090-inch-thick quartz photomasks b. 6 inch square, 0.120-inch-thick</p>				

		<p>quartz photomasks c. 6 inch square, 0.250-inch-thick (6025) semi spec quartz photomasks 3. Established process library: 1) The system shall have established base line processes for etching chrome from semi spec: a. 5 inch square, 0.090-inch-thick quartz photomasks b. 6 inch square, 0.120-inch-thick quartz photomasks c. 6 inch square, 0.250-inch-thick (6025) semi spec quartz photomasks 2) The system shall have established base line processes for developing positive tone resists using CF26 TMAH based developer on: a. 100 mm and 150 mm semi spec silicon substrates b. 5 inch square, 0.090-inch-thick quartz photomasks c. 6 inch square, 0.120-inch-thick quartz photomasks d. 6 inch square, 0.250-inch-thick (6025) semi spec quartz photomasks</p>
		<p>c. List required materials needed to make the product, including materials of product components.*</p>
		<p>Item to be purchased as a standalone unit</p>
	<p>2. Summary of Technical Specifications and Performance Requirements cont:</p>	<p>d. Are there applicable certification requirements?* <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Please explain</p>
		<p>e. Are there applicable regulations?* <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Please explain</p>
		<p>f. Are there any other standards, requirements, etc.?* <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Please explain</p>
		<p>g. Additional Comments: Is there other information that would impact the item's performance or usefulness? Please explain.</p>
<p>BUSINESS INFORMATION:</p>	<p>3. Volume and Pricing</p>	<p>3a. Estimated potential business volume (i.e., # Units Per Day, Month, Year)*:</p>
		<p>One unit</p>
		<p>b. Estimated target price / unit cost information (flexible and negotiable <u>not</u> accepted)*:</p>
		<p>\$700,000.00</p>
	<p>4. Delivery Requirements:</p>	<p>a. When is it needed by? (Immediate, 30 Days, 6 months, etc.)*</p>
		<p>ASAP</p>
		<p>b. Describe packaging requirements (i.e., individually/group packaging)*</p>
		<p>Flexible</p>
		<p>c. Where will this item be shipped?*</p>
		<p>NIST, 100 Bureau Drive, Gaithersburg, MD 20899</p>

-	5. Additional Comments:	<p data-bbox="251 136 885 168">Is there other information you would like to include?</p> <p data-bbox="820 357 836 378">-</p>
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Photos or diagrams of the item (helpful but not required).

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