COMBINED SYNOPSIS / SOLICITATION

Tabletop Scanning Electron Microscope (SEM) with Energy Dispersive X-ray Spectroscopy (EDS)

Notice ID	FA700026Q0064
Date of Posting	11 August 2026
Response Due Date	18 August 2026 at 10:00 AM MDT United
Issuing Agency	States Air Force Academy (USAFA)

Notice to Offeror(s)/Supplier(s):

Funds are not presently available for this effort. No award will be made under this solicitation until funds are available. The Government reserves the right to cancel this solicitation, either before or after the closing date. In the event the Government cancels this solicitation, the Government has no obligation to reimburse an offeror for any costs incurred in preparing or submitting a proposal.

Table of Contents

1.0 GENERAL INFORMATION 2

2.0 REQUIREMENT DESCRIPTION 2

3.0 SALIENT CHARACTERISTICS 2

- 3.1 System Design and Footprint 2
- 3.2 Electron Optics and Imaging 3
- 3.3 Sample Manipulation 3
- 3.4 Elemental Analysis (EDS) Capabilities 3
- 3.5 Software and Computing Hardware 3
- 3.6 Services and Warranty 4

4.0 SECTION L – INSTRUCTIONS TO OFFERORS 4

5.0 SECTION M – EVALUATION CRITERIA 5

6.0 OMBUDSMAN 6

7.0 ATTACHMENTS 6

1.0 GENERAL INFORMATION

This is a combined synopsis/solicitation for commercial products prepared in accordance with the format in FAR Subpart 12.6, as supplemented with additional information included in this notice. This announcement constitutes the only solicitation; quotes are being requested and a written solicitation will not be issued.

This solicitation is issued as a Request for Quote (RFQ). The solicitation document and incorporated provisions and clauses are those in effect through the Federal Acquisition Circular (FAC).

NAICS Code	334516 – Analytical Laboratory Instrument Manufacturing
Small Business Size Standard	1,000 Employees
Set-Aside	None. This requirement is being solicited using Full and Open Competition (Unrestricted).

2.0 REQUIREMENT DESCRIPTION

The United States Air Force Academy (USAFA) has a requirement for the procurement of a commercial Tabletop Scanning Electron Microscope (SEM) equipped with a fully integrated Energy Dispersive X-ray Spectrometer (EDS/EDX).

To be considered for award, the proposed system must meet all minimum Salient Characteristics detailed in Section 3.0 below.

3.0 SALIENT CHARACTERISTICS

Any proposed solution must meet the following minimum salient characteristics:

3.1 System Design and Footprint

- **System Type:** Benchtop/Tabletop Scanning Electron Microscope (SEM) with fully integrated Energy Dispersive X-ray Spectroscopy (EDS/EDX) system.
- **Weight & Footprint:** Compact design suitable for standard laboratory counters. Weight of the entire system must not exceed 200 lbs.
- **Power Requirements:** Must operate on standard 110VAC electrical power without requiring dedicated facility modifications or specialized infrastructure.
- **Power Backup:** Must include a compatible Uninterrupted Power Supply (UPS).

- **Vacuum System:** Must include necessary vacuum pumps to achieve both high (0.1 Pa or better) and low (up to 100 Pa) vacuum environments, requiring minimal user maintenance.

3.2 Electron Optics and Imaging

- **Electron Source:** Tungsten or Cerium Hexaboride (CeB6) source. The source must be user-exchangeable (minimum expected lifetime of >3,000 hours for CeB6). (Other sources considered if they meet all other requirements).
- **Accelerating Voltage:** Capable of a minimum accelerating voltage range of 1.0 kV to 20.0 kV (or wider).
- **Magnification:** Live magnification of 150,000x minimum, with a capability of reaching a maximum magnification of at least 350,000x.
- **Detectors:** Must include simultaneous High-performance Backscattered Electron (BSE/BSD) and Secondary Electron (SE/SED) detectors.
- **Resolution Minimums:** BSE detector: 8 nm minimum. SE detector: 6 nm minimum.
- **Automation:** Auto-focus, auto-stigmator, auto-brightness, and auto-gun alignment must be included as standard features.
- **Optical Navigation:** Integrated color microscope camera (e.g., 20–135x zoom) correlated with the electron image for interactive, point-of-view navigation.

3.3 Sample Manipulation

- **Stage:** Motorized X-Y-Z stage.
- **Capacity:** Must accommodate a minimum of three (3) standard 12.7 mm SEM stubs simultaneously.
- **Sample Holders:** Standard removable sample holder and charge reduction sample holder. Must include a standard sample preparation starter kit.

3.4 Elemental Analysis (EDS) Capabilities

- **Detector Type:** Fully integrated Silicon Drift Detector (SDD).
- **Mapping Range:** Capable of elemental mapping from Boron (B, 5) to Uranium (U, 92).
- **Functionality:** Capable of real-time, live-image elemental mapping (pixel-by-pixel analysis) supporting qualitative and quantitative analysis (point, line-scan, regional mapping).
- **Software:** Software must provide background quantification of signals to accurately differentiate elemental phases.

3.5 Software and Computing Hardware

- **Computer Workstation:** Included PC workstation and monitor (minimum 24-inch) running a standard operating system with pre-installed SEM/EDS imaging and analysis software.
- **Peripherals:** Must include keyboard and mouse.
- **Advanced Imaging Software:** Must include software capable of advanced image mapping and image stitching.

3.6 Services and Warranty

- **Installation & Training:** On-site system installation and comprehensive user training must be included.
- **Warranty:** Minimum 1-year (or better) standard warranty.

4.0 SECTION L – INSTRUCTIONS TO OFFERORS

1. **Submission of Quotes:** All quotes must be submitted electronically via email to the Contracting Officer, Ronald Wilson at ronald.wilson.26@us.af.mil, and the Contract Specialist, Mikayla Brandt at mikayla.brandt@us.af.mil.
2. **Deadline:** Quotes must be received no later than **18 August 2026 at 10:00 AM MDT**.
3. **Questions:** Any questions regarding this solicitation must be submitted in writing to the email addresses above no later than **13 August 2026 at 10:00 AM MDT**.
4. **Quote Validity:** All quotes must remain valid through **30 September 2026**.
5. Offerors must complete Attachment 02 - FAR 52.225-2, Buy American Certificate.
6. **Quote Preparation:** Offerors shall submit a quote consisting of three (3) distinct parts as detailed below:

Volume	Title	Requirements & Description
Volume I	**Technical Acceptability**	A capability statement, product data sheet(s), or brochure demonstrating that the proposed equipment meets or exceeds all minimum salient characteristics listed in Section 3.0. The offeror must explicitly state the make and model being quoted.
Volume II	**Past Performance**	A list of up to three (3) recent (within the last 3 years) and relevant contracts for the same or similar equipment provided to Government or commercial entities. Include the contract number, customer point of contact, email, and phone number.
Volume III	**Price**	A completed price quote including the unit price for the SEM-EDX system, any required auxiliary components (e.g., UPS, sample starter kit), shipping/freight costs, installation, and training.

5.0 SECTION M – EVALUATION CRITERIA

The Government will award a firm-fixed-price contract resulting from this solicitation to the responsible offeror whose quote represents the **Best Value** to the Government, utilizing a Trade-Off process. The Government will evaluate quotes based on three factors:

Factor	Evaluation Criteria
Factor 1: Technical Acceptability	The Government will evaluate the technical volume on an "Acceptable" or "Unacceptable" basis. To be rated "Acceptable," the proposed SEM-EDX system must strictly meet or exceed all salient characteristics (including the 200 lbs weight limit and 110VAC requirement). Quotes rated "Unacceptable" will not be considered further for award.
Factor 2: Past Performance	The Government will evaluate the offeror's past performance to assess the degree of confidence in the offeror's ability to successfully deliver the required supply. The Government may use data provided by the offeror and data obtained from other sources (e.g., CPARS, SPRS).
Factor 3: Price	The Government will evaluate the total proposed price for reasonableness.

Trade-Off Determination: Among those offers determined to be Technically Acceptable, a trade-off will be made between Past Performance and Price. Past Performance is considered **approximately equal to price**. The Government reserves the right to award to other than the lowest-priced offeror if a higher-priced offer provides a superior past performance record that warrants the price premium.

6.0 OMBUDSMAN

(a) An ombudsman has been appointed to hear and facilitate the resolution of concerns from offerors, potential offerors, and others for this acquisition. When requested, the ombudsman will maintain strict confidentiality as to the source of the concern. The existence of the ombudsman does not affect the authority of the program manager, contracting officer, or source selection official. Further, the ombudsman does not participate in the evaluation of proposals, the source selection process, or the adjudication of protests or formal contract disputes. The ombudsman may refer the interested party to another official who can resolve the concern.

(b) Before consulting with an ombudsman, interested parties must first address their concerns, issues, disagreements, and/or recommendations to the contracting officer for resolution. Consulting an ombudsman does not alter or postpone the timelines for any other processes (e.g., agency level bid protests, GAO bid protests, requests for debriefings, employee-employer actions, contests of OMB Circular A-76 competition performance decisions).

(c) If resolution cannot be made by the contracting officer, the interested party may contact the ombudsman, Mr. James Anderson, 8110 Industrial Drive, STE 103, USAFA, CO 80840, Telephone number 719-333-2074, FAX 719-333-9018, Email: james.anderson.72@us.af.mil. Concerns, issues, disagreements, and recommendations that cannot be resolved at the Center/MAJCOM/DRU/SMC ombudsman level, may be brought by the interested party for further consideration to the Air Force ombudsman, Associate Deputy Assistant Secretary (ADAS) (Contracting), SAF/AQC, 1060 Air Force Pentagon, Washington DC 20330-1060, phone number (571) 256-2395, facsimile number (571) 256-2431.

(d) The ombudsman has no authority to render a decision that binds the agency.

(e) Do not contact the ombudsman to request copies of the solicitation, verify offer due date, or clarify technical requirements. Such inquiries shall be directed to the contracting officer.

(End of clause)

7.0 ATTACHMENTS

- **Attachment 01 – Provisions and Clauses**
- **Attachment 02 - FAR 52.225-2, Buy American Certificate**