



INVITATION FOR DOCUMENTED QUOTE (DQ) – THIS IS NOT AN ORDER

Bid Number: EQ25004 Electron-Beam Lithography System DQ

Purchasing Agent: Elevate Quantum
E-Mail: RFQ@ElevateQuantum.org

BID DUE DATE AND TIME: 9 January 2025, 5:00 PM (Mountain Time)

SCHEDULE OF ACTIVITIES	DATE	TIME (MT)
DQ Publication	20 December 2024	
Written Inquiry Deadline	8 January 2025	3:00 PM
Publication of Responses to Written Inquiries	14 January 2025	
DQ Submission Deadline	17 January 2025	5:00 PM

SUBMISSION FORMAT:

Submit the following proposal information. Please name each file appropriately per the below.

1. **SIGNATURE** section, completed and signed
2. Completed Documented Quote Paperwork/Pricing filled out below
3. Signed W-9, W-8BEN, or W-8BEN-E (whichever applies)
4. Any addenda submitted via e-mail, signed
5. Warranty Literature
6. Product Literature
7. Any other documents or information requested
8. **DQ Bid # and name must be included in the subject line of your email for all communications (ex: "EQ25000 Equipment Spec DQ")**

DESCRIPTION:

Elevate Quantum (EQ) seeks bids for an electron-beam lithography system. This system will be used for lithographically patterning advanced photonic integrated circuits on 100-mm-diameter silicon wafers. In general, standard electron-beam resists (e.g. ZEP-520A, HSQ, MaN-2400) with thicknesses ranging from 300nm to 1300nm will be used to pattern features 50 nm and larger across the wafer. Typical nominal exposure dose is expected to be 250-300 $\mu\text{C}/\text{cm}^2$.

SPECIFICATIONS:

Required Features/Specifications:

Description	Requirement	Notes
Acceleration voltage	50 kV or higher	
Minimum feature size	50 nm or smaller	Spec must be uniform and maintained over entire write-field area
Write field size	1 mm square or larger	
Beam position resolution	1 nm or smaller	
Stage resolution	1 nm or better in XY	
Field stitching accuracy	±30 nm or better	Assuming 1 mm write field
Overlay accuracy	±30 nm or better	Assuming 1 mm write field
Automatic focus/stigmatism correction	Included	
Substrate size	100 mm diameter or larger	Must support exposure at any point on the wafer surface. Sample holder for 100 mm wafers must be included.
Substrate transfer	Single-cassette automatic loader	
Pattern conversion software	Included	Must accept GDSII input format

Desired Features/Specifications:

In general, the specifications and features listed below aim to improve either throughput, device performance, or future flexibility over the base specs listed above. If any items in this table are available as options beyond the base system, bidders should include them as priced add-ons in the submission. If a bidder is unable to meet these desired specifications, bidders should indicate the closest their system can get.

Description	Desired Spec/Feature	Notes
Clock speed	200 MHz or higher	
Write field size	1.5 mm square or larger	
Field stitching accuracy	±15 nm or better	Assuming 1 mm write field
Overlay accuracy	±15 nm or better	Assuming 1 mm write field
Substrate size	150 mm diameter or larger	Must support exposure at any point on wafer surface
Substrate transfer	Multi-wafer automatic loader	Handles 6 or more 100 mm wafers
Programming API	Included	Python or other scripting language for workflow automation
Proximity Effect Correction Software	Included	e.g. Beamer, Beamfox, or similar
Active vibration isolation	Included	Complete system will be installed directly on concrete slab, but nearby equipment/tools/activities may generate vibrations.
Electromagnetic isolation	Included	EMI field cancellation for both DC and AC ambient fields.

MANDATORY QUALIFICATIONS:

Below are mandatory qualifications. All Bidders must be able to satisfy these requirements in order for their bid to be considered.

- Contractor must carry the minimum insurance coverages set forth in Exhibit A **“INSURANCE”** during. A Certificate of Insurance (COI) will be requested upon award.

PERFORMANCE REQUIREMENTS:

Prior to shipment to the customer’s site, bidder must demonstrate system performance metrics using customer-supplied substrates. Any recipes used or developed for the customer’s pattern exposure must be provided to the customer at no additional charge.

Any services provided (including but not limited to installation) must be completed Monday through Friday, 7:00am – 5:00pm.

The Contractor shall furnish all labor, materials, and equipment needed in order to perform services.

If any services are being provided in association with the equipment/items, Contractor must obtain and maintain the minimum insurance coverages set forth in Exhibit A **“INSURANCE REQUIREMENTS”** during the duration of the contract.

While on site, all Contractor personnel shall wear identifiable uniforms or easily identifiable badges displaying the name of the company and the individual.

The contractor shall be solely responsible for any damages caused by its workforce while performing the services. If damage occurs, the contractor shall notify EQ as soon as reasonably possible and repair damages immediately at no cost to EQ. If immediate repairs are not possible, repairs shall be scheduled within 24hrs. The contractor shall provide labor and materials for the repair or replacement of these damages at no cost to EQ.

PRICING:

When possible, increased granularity in the price proposal listing out optional features, either those required to meet the requirements of this proposal (marked as required), or additional add-ons, is appreciated and helps to ensure fair comparisons between received submissions. Detailed documentation may be provided as an attachment, with summary information provided below.

Item 1: _____

Quantity: _____

Manufacturer: _____

Part #: _____

Item 1: \$ _____ Each

Item 1: \$ _____ Total

List any other notes related to Item 1:

Item 2: _____

Quantity: _____

Manufacturer: _____

Part #: _____

Item 2: \$ _____ Each

Item 2: \$ _____ Total

List any other notes related to Item 2:

Delivery:

Type of shipping method: _____

Number of shipments: _____

Estimated arrival date(s): _____

Shipping Cost: _____

Training (if applicable):

Do you provide training? Provide details:

Installation (if applicable):

Do you provide installation? Provide details:

Bidder to provide facilities guidelines identifying dimensions, environmental requirements, utility requirements, and a list of any required support equipment not provided by bidder.

Estimated Installation Cost(s): _____

Estimated Installation date (s): _____

WARRANTY:

Duration of Warranty: _____

Warranty Cost: _____ (if applicable)

(Please include warranty details in a separate file)

SERVICE CONTRACT:

Do you offer a post-warranty service contract option? If yes, please provide details.

OTHER:

Include details for any other applicable costs:

AVAILABLE DISCOUNTS:

Describe any available discounts available to Elevate quantum should an award be made. Please describe the parameters under which these discounts are available.

TOTAL BID PRICE:

We offer the above goods without exception or qualification, for the listed prices of:

Item Cost: \$ _____ (USD)

Training Cost: \$ _____ (USD)

Installation Cost: \$ _____ (USD)

Shipping Cost: \$ _____ (USD)

Warranty Cost: \$ _____ (USD)

Other Costs: \$ _____ (USD)

Total Cost of Items: \$ _____ (USD)

EXPORT CONTROL CLASSIFICATION NUMBER (ECCN):

If the product has an ECCN number, please provide the number: _____

BID SUBMITTAL AND CONDITIONS:

Bids must be submitted before the bid due date and time. Submission is via email to: RFQ@ElevateQuantum.org.

DQ Bid # and name must be included in the subject line of your email for all communications (ex: "EQ25000 Equipment Spec DQ")

Questions must be submitted via email to RFQ@ElevateQuantum.org prior to 8 January 2025 at 3:00 PM MT.

All bids must include this DQ form completed, answers to the required questions and any additional requested information.

All bids submitted must be signed by a duly authorized official of the company.

Fax or hardcopy bids will not be accepted.

EQ reserves the right to reject any or all submittals.

EQ will not accept a quote as a bid.

EQ *may* allow Bidders an opportunity to cure minor submissions errors.

Elevate Quantum encourages participation from all types of businesses including, but not limited to: Small, Minority-Owned, Women-Owned, Disabled Veteran-owned, Veteran-Owned, and Large. If your company can provide the goods and/or services as requested, we encourage you to respond to this solicitation.

COMMUNICATIONS:

All communications regarding this solicitation should be sent **via e-mail** to: RFQ@ElevateQuantum.org

This DQ and any written modifications, as posted on www.elevatequantum.org , represent the entire solicitation. Any information about this solicitation received by Bidders from sources other than from the documents posted on www.elevatequantum.org or via email from the EQ RFQ team shall have no effect on the solicitation.

Bidders finding fault in the specifications contained in this bid should notify the Purchasing Agent listed in this solicitation upon receipt of this DQ.

MODIFICATIONS / ADDENDUM:

In the event that it becomes necessary to revise or modify any part of this DQ, an addendum will be posted on www.elevatequantum.org. It shall be the responsibility of the Bidder to check the website periodically to see if any modifications have been issued. Failure to retrieve such modifications, and include their provisions in your bid response, may result in your bid being disqualified.

AWARD:

The factors to determine the award of this DQ shall be as follows in no order of precedence:

1. Pricing.
2. Delivery / service time or schedule.
3. Equipment's specifications.
4. Vendor qualifications
5. Vendor service and maintenance capabilities
6. The bid that is most advantageous for EQ.

EQ may evaluate the bids received to bid responsiveness, bidder responsibility, and, at the EQ opinion, other relevant factors.

The bid tab will be posted on www.elevatequantum.org.

PURCHASE ORDER TERMS:

After award, an EQ Purchase Order will be offered to the successful Bidder. Specifications, requirements, terms, and conditions of this solicitation shall be considered incorporated into the resulting Purchase Order, unless specified otherwise in the Purchase Order. The contents of the bidder's response will become contractual obligations of the Purchase Order. Failure of the selected Bidder to accept these obligations in a Purchase Order may result in cancellation of the order and award to another Bidder.

In the event that the Bidder's forms (or parts of forms) are included in the Bidder's response and subsequently included as attachments or exhibits to the final Purchase Order, the Bidder agrees that, where there are contradictions or inconsistencies, the terms of the Purchase Order shall always supersede and control those of any such attachment or exhibit.

SIGNATURE:

Bidder's Legal Name:	
Printed Name of Authorized Representative:	
Signature of Authorized Representative:	
Title:	
Telephone:	
Email:	
Date of Signature:	

EXHIBIT A – INSURANCE REQUIREMENTS

Summary of Requirements:

The COI should show the following:

Legal Name: Elevate Quantum

Address: 7100 N Broadway, STE #1Q, Denver, CO, 8022

- 1) **Worker's Compensation** – (a) Coverage A (workers' compensation) at statutory limit; and (b) Coverage B (employers liability) at \$100,000
- 2) **General Liability** – (a) \$1,000,000 each occurrence; (b) \$1,000,000 general aggregate; (c) \$1,000,000 products and completed operations aggregate; (d) \$1,000,000 personal/advertising; \$50,000 fire damage (any one fire); and \$5,000 medical payments (any one person)
- 3) **Automobile Liability** – (a) \$1,000,000 bodily injury/property damage (each accident); and (b) personal injury protection at the statutory limit
- 4) **Additional Insured** - Elevate Quantum shall be named as additional insured on all Commercial General Liability and Automobile Liability Insurance policies
- 5) **Cancellation** - policies shall include provisions preventing cancellation or non renewal without at least 30 days prior notice
- 6) **Subrogation Waiver** - shall include clauses stating that each carrier shall waive all rights of recovery, under subrogation or otherwise, against Contractor or Elevate Quantum, its agencies, institutions, organizations, officers, agents, employees, and volunteers

Any COIs not stating Elevate Quantum as an additional insurance, and showing 30 day notice of cancellation and waived subrogation will not be accepted.