

Enquiry No: ChE/AS/FEB-12/01
Last date: February 17, 2012

Date: February 6, 2012

Dear Sir/Madam:

We are interested to purchase **DIRECT LASER PATTERNING SYETM** for our lab. Technical and commercial bids should be sealed in two different envelopes. The offered system must have the following specifications.

Direct Laser Patterning System specifications:

- a) Minimum feature size that can be patterned should be 1 micron on the photoresist surface.
- b) Additional optics for patterning of different larger size features.
- c) System should have both **Vector and Raster** processing modes for writing 3 D structures without edge roughness and discontinuities.
- d) The system should be capable of patterning the area up to 100mm x 100mm in a single exposure.
- e) Fully integrated high precision automated XYZ linear drive stage.
- f) Vacuum chuck to support desired substrate size.
- g) System should have laser source either of **375 or 405 nm**. If system can accommodate both the laser sources quote them as an option. Lifetime of the laser source should not be less than 10000 hours.
- h) Ability to contour energy to specific levels through electric modulation of laser power.
- i) System should be compatible with commonly used photo resists such as **Shipley, SU8, AZ series**.
- j) System should be capable of grey scale imaging to fabricate 3-D structures in a single step.
- k) System should be capable fabrication of high **Aspect ratio structures in SU-8** photoresist up to ratio of **1:10** or Higher.
- l) Fully automatic operation including auto focusing feature, auto alignment with high resolution CCD camera imaging with video output.
- m) Single in line camera for both substrates viewing and focusing

- n) System should be equipped with Windows based PC with control software for ease of use.
- o) System should be having integrated isolation table.

Spares and Consumables:

- (a) A list of spares should be included with the equipment (such as laser source).
- (b) Sufficient number of rapidly wearing and consumable parts should be included to cover the guarantee period.
- (c) Vendor should guarantee the availability of spare/service support for a period of at least 6 years after installation.

Following details are also required with the offer.

1. Photograph of the equipment (also mention system size).
2. Power consumption.
3. Warranty period: Comprehensive warranty for three years inclusive of all spares after installation of the system required.
4. Annual Maintenance charges after warranty period-Comprehensive/Labor (Specify unlimited/fixed/breakdown visits)
5. List of Institutions/Laboratories (with name and contact details of the key person) where similar systems are installed in last five years. Kindly provide separate list for Indian and other country institutions.
6. Details of installation, training and after sales support arrangements (at least 3 days operational and maintenance training must be included in the quotation). It would be the responsibility of the supplier to install and demonstrate its quoted performance.
7. The supplier should also mention details of safety measures of the laser to avoid harm to the working personnel.
8. System software support for next 10 years after installation with up gradation.
9. List of (a) consumables and (b) items required for periodic replacement and their availability in stock in India. If needed whether these spares/accessories are available in India with your agents. If not, what is the minimum lead time required to supply them?
10. Delivery period.

11. Quotation should be submitted with compliance table.

12. Prices should be FOB to nearest airport.

Kindly send your offer in a sealed envelope marked “**Direct Laser Patterning System-February2012**” so as to reach us on or before **February 17, 2012** to the following address:

Dr. Prabhat Dwivedi
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For any technical query related to enquiry you may feel free to contact **Dr. Prabhat Dwivedi**, DST Unit on Nanosciences, Department of Chemical Engineering, Ph No. **(0512) 2596273 or 09450343059**; Email: [**prabhatd@iitk.ac.in**](mailto:prabhatd@iitk.ac.in)