

Tender Notice No. 9036

Date: 28.12.18

**Tender Document for Procurement of 3D Laser Scanner System**

**DIRECTORATE OF MINES  
ODISHA, BHUBANESWAR**

**Bid Schedule**

#	Items	Date & Time
1	Availability of Bid Document in the website (www.orissaminerals.gov.in, www.odisha.gov.in)	28-12-2018
2	Last date & time of submission of Pre-bid queries	05-01-2019, 04:00 pm
3	Date & time of Pre-bid Conference	07-01-2019, 11:00 am
4	Issue of Corrigendum (if required)	09-01-2019
5	Last date and time for submission of Bid	19-01-2019, 12:30 pm
6	Date & time of opening of Pre-qualification cum Technical Bid	21-01-2019, 03:00 pm
7	Date & time of 3D Scanner Demonstration	22-01-2019, 11:30 am
8	Date & time of opening of Price Bid	25-01-2019, 11:30 am

  
DIRECTOR OF MINES  
ODISHA

NIT NO. 9036

Dt. 28.12.18

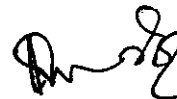
**NOTICE INVITING TENDER**

**FOR PROCUREMENT OF ONE No. 3D TERRESTRIAL LASER SCANNER SYSTEM BY DIRECTORATE OF MINES, ODISHA, BHUBANESHWAR**

Sealed tenders are invited from reputed OEMs or their authorized dealers/distributors for supply of one 3D Terrestrial Laser Scanner System along with comprehensive AMC of three years (post expiry of three years standard warranty period) to The Directorate of Mines, Bhubaneswar. The detail tender schedule, terms & conditions, cost of tender document, EMD etc. shall be available at our website [www.orissaminerals.gov.in](http://www.orissaminerals.gov.in) & [www.odisha.gov.in](http://www.odisha.gov.in). There will be no manual sale of tender document. Interested bidders are requested to download the tender schedule from the website. The last date for receipt of the bid is 19.01.2019 up to 12:30 PM, which shall be opened on 21.01.2019 at 03:00 PM.

A pre bid conference shall be held on 07.01.2019, 11:00 AM in the conference room of the Directorate of Mines. All prospective bidders/tenderers are requested to kindly attend the pre-bid conference. All prospective bidders/tenderers are requested to kindly submit their queries (With envelope bearing Tender No. and date on top and marked "Queries for Pre-Bid Conference" or by email with subject "Queries for Pre-Bid Conference") so as to reach The Directorate of Mines by 05.01.2019, 04:00 PM. Email Address for raising the queries is [itpmu@orissaminerals.gov.in](mailto:itpmu@orissaminerals.gov.in). The Directorate shall answer the queries during the pre-bid conference,

Director of Mines, Odisha reserves the right to accept/ reject all or a part of the tenders without assigning any reason thereof.



**Director of Mines  
Odisha**

## **TENDER SCHEDULE**

### **1. INSTRUCTIONS TO THE BIDDER**

**(A)** The tender shall be submitted in two parts in two separate sealed envelopes

**Part-I: Pre-qualification & Technical Bid (PQ-TB)**

**Part-11: Price Bid**

The above two envelopes shall be covered in a third envelope **super-scribing** Title of the tender, tender number, due date of opening of the bid and complete address of the bidder. The tender paper must be initialized & stamped on each page of the tender document by the bidder as a token of acceptance of all the tender conditions un-conditionally. The tender should be addressed to The Director of Mines, Directorate of Mines, Heads of Department Building, Unit- V, Bhubaneswar-751001, Odisha.

**(B) ELIGIBILITY CRITERIA:**

- I. The bidder must be OEM or their authorised dealer/ distributor of 3D Terrestrial Laser Scanner System. Proof of manufacturer / dealer-ship / distributorship certificate has to be submitted by the bidder. The proof of manufacturer / authorised dealer/ distributorship must be in the name of bidder only.
- II. The bidder must have valid GST registration and PAN. Authenticated copies of all the above documents must be submitted along with the Pre-qualification & Technical Bid (PQ-TB).
- III. The bidder preferably should have an established service facility & required technical manpower in the State of Odisha. The detail address of such service facility & technical manpower should be furnished by the bidder.
- IV. The bidder should submit relevant documents in support of successful installation of 3D Terrestrial Laser Scanner system & AMC at Govt. organizations/ PSUs/ reputed private organizations during the last

three years.

**(C) TENDER DOCUMENT COST & EMD:**

- I. **Cost of Tender document:** ₹ 500.00 (Rupees five hundred) only in form of Demand Draft (D.D), in favor of The Director of Mines, Bhubaneswar, payable in any Nationalized Bank at Bhubaneswar.
- II. Earnest Money Deposit: ₹ 100,000.00 (Rupees One Lakh) only, payable at any Nationalized Bank or Scheduled Bank in Bhubaneswar.

The D/D towards the cost of tender document and EMD should be submitted in the envelope for Pre-qualification & Technical Bid. No interest shall accrue on the earnest money. Earnest Money shall be refunded to the unsuccessful bidders within one month after finalization of the tender. If the bidder is disqualified in Pre-qualification & Technical Bid, his EMD along with the unopened price bid will be refunded. The EMD of the successful bidder shall be converted to Security Deposit & shall be released after successful completion of warranty period of the supplied materials and after obtaining necessary clearance certificates from the consignee.

**(D) PLACE, DATE & TIME FOR SUBMISSION OF BID:**

The bid should be submitted within the stipulated date and time in the tender box placed in the office of The Director of Mines, Bhubaneswar. The bids submitted through Regd. Post / Speed Post / Couriers/by hand should reach within the stipulated date and time.

The bids which are received after the due time and date of submission of bid due to postal/ Courier delay shall not be taken into consideration.

**(E) PLACE, DATE & TIME OF THE BID AND BID EVALUATION:**

The Pre-qualification & Technical Bid shall be opened in presence of the bidders or their authorized representative, if any, on dtd. 21.01.2019 at 03:00 pm in the office of The Director of Mines, Bhubaneswar, but his absence shall not bar for opening of the tender at the time fixed therefore.

Date of acceptance and opening of tenders can be extended on sole discretion of The Director of Mines, Odisha.

The Pre-qualification & Technical Bid shall be evaluated by a committee and

the price bid of the qualified bidders only shall be opened in presence of the bidders or their authorized representatives if any on a date which shall be intimated separately.

The technical evaluation committee may ask bidder to bring the offered system(s) for demonstration or give Power Point presentation on 3D Terrestrial Laser Scanner System at any suitable location.

The Pre-qualified & Technically qualified bidder, quoting the lowest price and of the composite contract value (i.e supply, installation & three years AMC cost post expiry of std. warranty Period) shall be awarded the work and will be treated as the preferred bidder.

**(PART-I) PRE-QUALIFICATION & TECHNICAL BID**  
**TERMS CONDITIONS**

1) **Scope of Supply & Delivery:**

The successful bidder shall supply, install and conduct training for the personnel of Directorate of Mines in operation, handling and troubleshooting of 3D Terrestrial Laser Scanner System at the Directorate of Mines, Bhubaneswar or at any such place as decided by the Director of Mines, along with comprehensive AMC of three years after expiry of the std. warranty period as per the technical specifications in **Annexure-A**. The materials should be new, defect free and of good workmanship.

**LOCATIONS OF 3D LASER SCANNER SYSTEM TO BE INSTALLED**

As may be decided by The Director of Mines, at any location within the State of Odisha.

**ANNEXURE-A**

**A. Technical Specifications for 3D Terrestrial Laser Scanner System:**

Sl. No.	Description of item	Specification Parameter
1	3D LASER SCANNER	<p>Terrestrial laser scanners ruggedized to withstand the tough mining environment along with 2X24VDC battery packs with charger, 1 X Data recorder tablet with data transferring software, cable, Rugged type carry case. Tribrach, wooden telescope tripod, Laser scanner with a fully integrated digital camera, enabling simultaneous capture of 3D laser point clouds with overlaid photo pixels. It should feature an integrated L1 GPS and digital compass.</p> <p><b>Technical Specification of 3D Laser Scanners :-</b></p> <p><b>Laser beam</b> must be class -1 with eye safety.</p> <p><b>Maximum range</b> not less than 2000m from natural Surface. At 10% reflectivity range should be 400m or higher.</p> <p><b>Minimum range</b> not less than 2000m from natural surface. At 20% reflectively, range should be 1000m or higher.</p> <p><b>Range accuracy</b> +/- 8 mm or better.</p> <p><b>Exit aperture</b> &lt;8 mm or better.</p> <p><b>Beam divergence</b> 0.25 mrad.</p> <p><b>Angular step selectable</b> 0.02° to 0.025°</p> <p><b>Angular scanning range</b> not less than 80° vertical, 360° Horizontal</p> <p><b>Battery</b> internal / external &amp; interchangeable, battery backup of 2.5 hours continuous hours operation or more.</p> <p><b>Fine levelling</b> 20" or better technology.</p> <p><b>Coarse levelling</b> 1° over any tilt or better technology.</p> <p><b>Constant operation temp.</b> 0 to 40 degree centigrade</p> <p><b>Storage temp</b> -10° + 50°c</p> <p><b>Ingress Protection</b> IP 64 &amp; above</p> <p><b>Measurement Accuracy</b> 10 mm at point of maximum measurement range</p> <p>Move, Rotate, Scale, Mirror &amp; copy object ,find boundaries, check surfaces, add facet and automatically fix holes in triangulation smart facet reduction tools, fragmentation of surfaces based on intersection</p> <p><b>MINING TOOLS</b></p> <p>Scan selected sections of a pit and integrate the new data in to the current pit model. Automatic toe and crest detection in open pits.</p> <p>Calculate volume between two surfaces. Two surfaces divide by bench level, with in a void ,between two solids etc.</p>

	Update of open pit models by integrating new selected scan data , automatically determined surface high/low points.
	Create major and minor contours .expert contour as DXF, DXB, or DWG strings.

	Software for mine survey, excavation, ore stack volume computation.
	3D view, planar view, quick view; distance, area & volume calculation
	Automatic & manual registration using reference targets and without target
	Fast, efficient and powerful 3D coordinate conversion capabilities
	Easy interoperability with existing industry standard GIS / DIP or any other open format software through seamless integration facility.
	<b>CAD TOOLS</b>
	Design points, line & polygons. Create text & shapes, move, delete & insert points.
	Work in visualization environment so geometric can be drawn on the scans & view can be changed interactively during the editing process.
	Smart line function to create poly lines of scan data ,on both scan points & surfaces.
	Extrude features such as circles, rectangles, & squares as well as arbitrary CAD lines.
	Create labelled contour & sections from surface, crop surface by extruded polygon
	Survey point creator, create gridded spot height from surfaces, automatically joins, separate line or close lines in to loops.
	Semi-automatically extracted toe & crest lines on open cut mine models.
	Annotate scenes with the signs ,scale bars & dimensions lines ,project points & lines to a 2D plane ,design points , lines & polygon, move, insert or delete points .
	compass $\pm 1^\circ$
	Internal GPS L1
	Data recorder unbound USB plus wireless ruggedized tablet controller.
	<b>FEATURES OF THE 3D LASER SCANNER</b>
	<b>Scanning Range:</b> Scan at 40 Khz or higher for ranges not less than 2000m,with 80° vertical & 360° horizontal fields of view.
	<b>Integrated digital camera :</b> 100 or higher mega pixel panoramic digital camera, with no calibration or alignment necessary .
	<b>Ergonomic Design :</b> It should be designed for 1 person operation & field portability
	<b>Alignment telescope :</b> Integrated motorized survey grade telescope for back sighting or any other advanced



		technology
		<b>Built-in-tools</b> : Internal digital compass & integrated GPS to further stream line in field survey.
		<b>Wireless controller:</b> Dedicated ruggedized controller for parameter definition scans management & viewing

2	<b>3D LASER SCANNER DATA PROCESSING SOFTWARE</b>	<b>For intuitive point cloud processing. Designing for Mining &amp; other surveying applications.</b>
		<b>Capabilities/features of the 3D Laser Scanner Data processing software:</b>
		<b>Data Modelling :</b>
		<b>Software for mine survey and excavation volume computation.</b>
		Quickly built & maintained accurate 3D models of stock piles ,voids etc.
		Create triangulated surfaces from single & multiple scans & point sets.
		Create topographic surfaces, solid triangulation from closes polygons. Surfaces facets take on rue passive colour of scan data.
		3D view, planar view, quick view; distance, area & volume calculation
		Adjust the shading & transparency of the surface. Interactively fit geometric, primitive shapes (planes/lines, circle) to scan data points .Edit & combined these objects to construct complex 3D CAD models.
		<b>Geological analysis:</b> Analysis mine geology & monitor high wall, slope & spoil bank stability using high resolution photograph accurately aligned over scan data.
		<b>Faster surveying reports:</b> Deliver better, faster end of months surveys & reconciliation repots.
		<b>Data managements :</b>
		* multiple documents interface style of operation
		* Windows style explorer to copy, paste, delete & move data, undo & redo on selected data
		* Independent 3D view windows.
		* Multi data transfer between projects, data engines & networks.
		* High resolution screen capture not limited by screen display
		* Drag & drop between browsers, views, dialog boxes.
		<b>Import/Export: in all suitable &amp; essential formats as</b>
		Scan file format: 3DP,3DR,PTX,PTG,IXF,ZFS,3DD,4DD,RSP.
CAD Formats: DXF,DXB,DWG,OBJ,3DV,ASCII		
IMAGE formats : PNG .JPG,PDF & 3D PDF		
GIS formats : .SHP, .GDB, .FDB, .KML or any open format.		
Free training for all above items: Initial training for a period of 10 days or a suitable for all the items. Subsequently		

		periodical training of 6(six) days in each quarter on all the items for a maximum of 1 year to solve operational problem/doubts of the application
<b>3</b>	<b>TRAINING</b>	Party is to ensure that the maximum life of the total instrument should be more than 10 years. During that period vendor is to provide spares of the instrument for any repairing.
<b>4</b>	<b>LIFE OF THE INSTRUMENT</b>	

The proposed 3D Laser Scanner System should have all the above features and should not be limited to the above features only.

**B. Delivery:**

The delivery & installation of the 3D Laser Scanner System at the described locations is one month (30 days) from the date of issue of purchase order. Director of Mines may negotiate a realistic delivery period with the vendor if the situation warrants supplier shall deliver the materials at Directorate of Mines, Bhubaneswar for necessary inspection & thereafter shall install the same as per scheduled locations. The supplier shall undertake free replacement of materials due to damage or loss in transit. In case any defect noticed during inspection, and is intimated by the consignee within 15 days of receipt of material, the vendor will be required to replace the defective items as per the technical specification in the purchase order within fifteen days from the date of such intimation. Any claim with the insurance company arising due to damage or loss in transit has to be borne by the supplier.

**2) Penalty:**

If the supplier fails to supply & install the materials within the original or extended delivery period, penalty will be imposed for an amount equivalent to 0.25% of the basic order value for each 1/10<sup>th</sup> delay of the original delivery period calculated in number of days. However penalty on this account will not exceed 5% of the basic order value. Besides this, any increase in Taxes, Duties after expiry of delivery Period will be to the supplier's account.

**3) Validity of Tender:**

The offer shall be valid for 90 days from the date of opening of the tender.

**4) Warranty:**

The supplier shall extend warranty for the items supplied for a period of thirty six (36) months from the date of installation in respect of proper design, quality and workmanship for which the same are ordered. The

supplier shall be liable to replace the defective materials within 15 days on free of cost basis. No extra charge for transportation shall be paid to the supplier against such replacement.

5) **Price:**

The price should be quoted as per the price bid format and should be type written. Overwriting/ hand written price bid shall be rejected.

**Payment Terms:**

- (A) 90% of the payment value will be released, after supply & successful installation of the 3D Terrestrial Laser Scanner System at the destinations, on submission of the bill in duplicate along with installation certificate by the authorized person of The Directorate of Mines. Balance 10% of bill value shall be released after completion of thirty-six month warranty period and execution of Agreement for comprehensive AMC for three years or else 10% of the balance bill along with the 90% of the payment value shall be released against an equivalent Bank Guarantee (BG) by the Vendor with validity equivalent to warranty period.

The agency shall submit BG in Directorate of Mines format from any Nationalized Bank for Comprehensive AMC value of three years valid for three years as BG with a grace period of three months. If the agency fails to make agreement for comprehensive AMC (three years), BG or balance 10% bill value as applicable will be forfeited.

- (B) 100% payment against AMC shall be made after completion of each year with the satisfactory performance certificate received from the user. Service Tax will be paid extra on the AMC as per Rules. TDS will be deducted on the AMC as per Rules.

6) **Freight & Insurance:**

Transportation and transit insurance charges, if any, shall be borne by the supplier.

7) **Packing & Forwarding:**

Shall be borne by the supplier.

8) **Price fall clause:**

In the event of the supplier found accepting lower prices or supplying at lower rates prior to and after finalization of rates to any other organization, the said lower rates shall be made applicable to us against the rate contract/PO.

9) **Lowest Price Undertaking:**

The vendor shall submit an undertaking that he has not supplied or will supply during the existing financial year, same product to any other party within the state, at a price lower than the quoted price.

**10) Inspection:**

Directorate of Mines reserves the right to inspect the material at site after delivery. If the material is found to be defective, the same should be replaced by the bidder immediately at free of cost. In case the agency fails to replace the defective materials within 15 (fifteen) days from the date of intimation, the Purchase Order shall be cancelled and the same party shall not be allowed to participate in any tender by Directorate of Mines.

**11) Test & Calibration Certificate:**

The supplier shall submit the test & calibration certificates wherever required by Directorate of Mines.

**12) Sub-letting of the order:**

The supplier shall not assign or sublet the order or any part thereof.

**13) Rejection of tender:**

Directorate of Mines reserves the right to accept or reject any or all tenders received without assigning any reason thereof. Further, conditional bids are not acceptable and liable for rejection.

**Legal Dispute:**

**14) Legal Dispute:**

In case of any dispute arises out of this tender it will be subject to the jurisdiction of the courts at Bhubaneswar only in the state of Odisha.

**15) Directorate of Mines right to quantities and location:**

The Directorate of Mines reserves the right at the time of award of work and during the tenure of the contract to add, decrease or increase the quantity of 3D Laser Scanner System. Directorate of Mines also reserve the right to change the location of the 3D Laser Scanner System.

**16) Annual Maintenance Contract:**

After expiry of three years warranty period, the bidder shall take up Comprehensive Annual Maintenance Contract (AMC) of the 3D Terrestrial Laser Scanner System including supply of all spares & calibrations for a period of three Years. The agency is required to enter in to an Agreement with Directorate of Mines for AMC. Detail terms and conditions of Annual Maintenance Contract shall be as follows.

**(A) Contract Period:**

Three years immediately after expiry of std. warranty period.

**(B) Visiting Engineer:**

The bidder will depute their technical personnel to carry out periodical maintenance on a half yearly basis and or as per the Maintenance schedule. They should also make themselves available at the location in case of

emergency.

**(C) Maintenance Support:**

- a. 3D Terrestrial Laser Scanner System have to be maintained during the entire period of contract in working condition with periodic / quarterly and or as per the std. schedule for servicing and calibration of the 3D Terrestrial Laser Scanner System.
- b. The bidder shall maintain a log book in which separate pages should be allotted to each 3D Laser Scanner System. The bidder shall record the service requests attended and regular services rendered and get the signature of the user along with User's name, designation, stamp, telephone and location. Copies of such records shall be attached along with the bills for payment.
- c. The bidder during the course of Comprehensive maintenance service, on noticing requirement of any spare parts shall replace such parts and clear the fault at the site of equipment. Replacement of parts should be done with the approval of authorized personnel from Directorate of Mines and a record is to be maintained. Necessary and sufficient spares have to be kept ready with them for immediate replacement.
- d. Comprehensive maintenance & Calibration of various parts of the 3D Laser Scanner System will be carried out during each quarter and or as per the schedule in consultation with the representatives of The Directorate of Mines. Scheduled maintenance will include inspection of each equipment, and obtain a satisfactory working certificate from the user after maintaining the System. Before taking up scheduled maintenance, the bidder will submit a schedule of preventive maintenance.
- e. Scheduled maintenance shall be carried out every half yearly basis with check for proper operation. Non-performance of scheduled maintenance of 3D Terrestrial Laser Scanner System shall attract penalties. All necessary records shall be maintained by respective site.
- f. Maintenance engineer of the 3D Laser Scanner System bidder will submit a service slip to the officer in-charge of Directorate of Mines after each replacement of parts showing the parts removed and parts installed with full details of the part name, type, model No, sl. no. etc.
- g. The bidder shall make available adequate number of qualified and well trained maintenance Engineers for warranty and maintenance support purpose.
- h. A half yearly report of maintenance activities shall be furnished to the respective in-charge of the 3D Laser Scanner System by the 10th of the following month both in the form of hard copy and soft copy. The bills/claims for comprehensive

AMC shall not be entertained in case this is not followed strictly.

- i. Working hours: For all maintenance activities, prior permission of the concerned authorities of Directorate of Mines must be obtained. Prior arrangements through proper communication should be worked out in all cases by the servicing agencies.
- j. The bidder shall be responsible for any defects that may develop under the conditions provided by the contract and under proper use, arising from faulty materials, design or workmanship such as corrosion of the equipment, inadequate quantity of materials to meet equipment requirements, inadequate contract protection, deficiencies in circuit design and/or otherwise and shall remedy such defects at his own cost when called upon to do so by the officer I/C.
- k. If it becomes necessary for the bidder to replace or renew any defective portion/ portions of the equipment under this clause, the provisions of the clause shall apply to the portion/ portions equipment so replaced or renewed or until the end of the contract period. If any defect is not remedied within a reasonable time, The Directorate of Mines may proceed to do the work at the bidder's risk and expenses, but without prejudice to any other rights, which the Directorate of Mines may have against the bidder in respect of such defects.
- l. Replacement under warranty/ AMC clause shall be made by the bidder free of all charges on site including freight, insurance and other incidental charge.
- m. Maximum resolution time of the problem raised by Directorate of Mines is 24 hours, failing which penalty ₹ 1000.00 (Rupees one thousand) only per day may be imposed. If at any time during the contract, the agency encounters the conditions impeding timely performance of the service the agency shall promptly notify to The Directorate of Mines in writing the facts of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the agency's notice, the Directorate of Mines shall evaluate the situation & may at its discretion waive the penalty.

#### **CHECK LIST FOR PRE-QUALIFICATION & TECHNICAL BID (PQ-TB)**

The PQ-TB [Part-1) shall be accompanied with the following documents:

- i) Registration Certificate of the firm under Commercial & Establishment Act.
- ii) Status of the bidder –Manufacturer i.e. OEM or Authorized dealer/ distributor Stockiest/DGS&D/EPM Rate Contract Holder. (The copies of valid of valid documents are to be attached.)
- iii) GST Registration Certificate and PAN.
- iv) Cost of tender paper

- a) Demand Draft No.-
- b) Date
- c) Amount
- v) Earnest Money (EMD) if any
  - a) Draft
  - b) Date
  - c) Amount
- vi) Lowest Price Undertaking
- vii) Proof of sales & AMC to other parties within the last three years
- viii) Above documents are to be enclosed in Pre-qualification & Technical Bid.

**SIGNATURE OF THE BIDDER**

Sl. No.	Description	Qty	Basic Price per Unit	Total Basic Price	Taxes / Duties & or any other levies	Total Amount value
		(a)	(b)	(1)=(a x b)	(2)	(3)=(1+2)
1	SUPPLY & INSTALLATION OF 3D LASER SCANNER SYSTEM	1 no.				
2	AMC charges / year after warrantee period including Service Tax. 1st Year = ₹----- 2nd Year = ₹----- 3rd Year = ₹----- Total= ₹-----	3 yrs				
3	Total rate per 3D Terrestrial Laser Scanner System (Sl.No-1+2)	(Blank)				
4	Man days charges if any					

**Grand Total Composite Value in Rs. \_\_\_\_\_ (figures) \_\_\_\_\_ i.e Rupees \_\_\_\_\_ (Words) \_\_\_\_\_ ) only**

**Notes:**

- i. Only type written price bid will be accepted.
- ii. In case of disagreement between price in figure and word, price in words will prevail over price in figure.
- iii. L<sub>1</sub> price will be selected on the basis of grand total Composite Contract Value.
- iv. In case of disagreement between rate & total of each items then rate will prevail over total of same item.

**SIGNATURE WITH SEAL OF BIDDER**