

**DEPARTMENT OF OCEAN ENGINEERING  
INDIAN INSTITUTE OF TECHNOLOGY MADRAS  
CHENNAI 600 036,INDIA**

Ref: OED/2016/003 / Project / VISUN

Date: 23<sup>rd</sup> January 2017

**FIELD INSTRUMENT FOR SURVEYING**

**Due date:**

\* Submission of technical and commercial proposal: **3 pm 15<sup>th</sup> February 2017**

\* Bid opening: **3.30 pm 15<sup>th</sup> February 2017**

1. Quotations are invited in duplicate for the item shown in enclosed list as Annexure 1.
2. The quotations must be submitted under two bid system indicating clearly technical bid and financial bid on the envelope. Both the bids should be enclosed in the single envelop in a sealed cover.
3. The Quotations duly sealed and super scribed on the envelope with the reference No. and due date, should be addressed to the undersigned so as to reach him on or before the due date stipulated above.
4. The Quotations shall be valid for 180 days from the due date and the period of delivery, warranty terms etc. should also be clearly indicated. A minimum of one year warranty is required.
5. Brochure detailing technical specifications and performance, list of industrial and educational establishments where the items enquired have been supplied must be provided.
6. Compliancy certificate is to be provided indicating conformity to the technical specifications.
7. If the item is under DGS&D Rate contract No. and the price must be mentioned. It may also please be indicated whether the supply can be made direct to us at the Rate contract price (Please note that we are not Direct Demanding Officers). If so please send copy of the RC.
8. Relevant literature pertaining to the items quoted with full specifications (and drawing, if any) should be sent along with the Quotations, wherever applicable. Samples / machine/ equipment if called for should be submitted / demonstrated at free of charges, and collected back at the supplier's expenses.
9. Packing and delivery charges must be clearly indicated.
10. The rate of sales / General Taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for Sales / General Taxes will be admitted at any stage and on any ground whatsoever. The taxes leviable should take into consideration that we are entitled to have concessional Sales Tax applicable to non Government Educational Institutions run with no profit motive for which a concessional Sales Tax Certificate will be issued at the time of final settlement of the bill.
11. IIT Madras is exempt from payment of Excise Duty and is eligible for concessional rate of custom duty. Necessary certificate will be issued on demand. IIT Madras will make necessary arrangements for the clearance of imported goods at the Airport/Seaport. Hence the price should not include the above charges.
12. Goods should be supplied carriage paid and insured.
13. Goods shall not be supplied without an official supply order.
14. Payment: Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later.
15. Acceptance and Rejection:- I.I.T. Madras has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.

Yours faithfully,

**Dr.V.SUNDAR**  
PROFESSOR  
DEPT. OF OCEAN ENGINEERING  
INDIAN INSTITUTE OF TECHNOLOGY MADRAS  
CHENNAI - 600 036, INDIA.

## Annexure-1

### DEPARTMENT OF OCEAN ENGINEERING

Ref.: OED/2016/003/ Project /VSUN

### CALL FOR PROPOSALS FOR THE FIELD INSTRUMENT FOR "TOTAL STATION"

#### 1.Total Station with build-in GPS

#### 1.Specification

Technical Specifications : Description	Specifications
<b>ANGLE MEASUREMENT</b>	
Angle Display (Least Count)	<b>0.5" or better</b>
Angle Accuracy	<b>1"</b>
Telescopic Magnification	30X or better
Field in view	1° 30" (2.7 m at 100m)
Minimum Focusing Distance	1.7 m or better
<b>DISTANCE MEASUREMENT MODE</b>	With Prism and Non-Prism measurement
Using Long Range EDM	Minimum 4.0 Km with single prism
Accuracy	1 mm + 2ppm
Least Count	0.1 mm
Without prism range ( Reflector less)	Minimum 800 m
Accuracy Reflector less	+/-2mm+2ppm
Measuring Interval	0.5 sec
<b>ANGLE MEASUREMENT Method</b>	Absolute Encoders
Motorized	Should have motorized movements to stake out points.
Rotation Speed	Should be more than 40 Degree Per Second
Automatic Target Aiming	Should have Auto Target Recognition for a distance of 1000 m or better
Target Lock	Should have facility to lock to targets for Robotic Survey for a range of 800 meters
Prism Search	Should have facility to automatically search the prism
<b>Imaging and Robotic Survey</b>	
Robotic Controllers	The controllers with full VGA display and internal Radio, having processing speed of 500 Mhz, 512 MB RAM and 1 GB of flash should be supplied for Robotic Survey from prism position with functionality to controller entire system over a radio link
Robotic Camera	The controllers should have inbuilt camera.
Robotic accessories	Complete accessories for Robotic survey like 360 Degree passive prisms and pole holders should be offered. Should have facility to mount the GNSS Antenna directly on 360 Degree Prism and TPS.
Measurement time – Fine Mode	1.5 Sec or better
Instrument Memory	Internal Memory of 1 GB , External SD Card with total memory storage capacity of 4 GB or better
Internal Battery	Rechargeable batteries with minimum working time 9.0 hrs battery.
Dust & water Protection	IP55
<b>Data Downloading</b>	From suitable data storage device to computer. Facility to connect

	USB drive (pen drive)
Onboard Software	Software should be at least able to support data collection, feature coding, and traverse adjustment
Data downloading Survey Software in original	Software capable of generating at least- Area & line Support for DXF files/text files/xml
Mounting	Prism with GPS - rover mount
Measurement mode	Provision for Auto measurement (for continuous monitoring)
<b>OGC Compliance</b>	<b>Certification required</b>
Any auxiliary components and spare parts should be given as optional item	
Annual Maintenance Requirements, if any to be mentioned for 5 years (optional)	
NB:1.You should indicate the authorized service centre in India if the item is 'imported'.	

## 2. Prerequisite

The vendor has to submit proof of documents for similar studies. In addition, the proof of documents for successful completion of at least two projects of similar nature should be submitted.

## 3. Payment terms

Please specify the payment terms. IIT Madras reserve the right to negotiate the terms of payment as acceptable to the purchase procedures prevalent from time to time.

## 4. Terms and conditions

Please quote the rate with the following details.

1. Quotation validity minimum 180 days.
2. Submission of Methodology, Delivery and commissioning periods.  
Tax details.
3. Please note IIT Madras is exempted from Excise Duty.

## 5. Force Majeure

Neither the Agency nor the owner shall be considered in default in performance of its obligations hereunder if such performance is prevented or delayed for any causes beyond the reasonable control of the party affected, such as war, hostilities, revolution, riots, civil commotion, epidemic, major fires, explosions, floods, earthquakes or because of any law, order, proclamatory regulations or ordinance of Government, provided notice in writing of such cause with necessary evidence that the obligation under the Contract is thereby affected or prevented or delayed, is given within 14 days from the happening of the event and in any case it is not possible to serve the notice within the said 14 days period, then within the shortest possible period without delay.

As soon as the cause of Force Majeure has been removed, the party whose ability to perform its obligation has been affected shall notify the other party the actual delay occurred on account of such activities.

Although the time for completion of work shall be suitably extended (not exceeding the period during which the work was stopped on account of Force Majeure clause), such extension shall not result in any financial claim by the Agency against the Owner on any account of such a delay for any other reason whatsoever.

- **Pre-bid meeting will be held on 3<sup>rd</sup> February 2017 at 4.00 pm – Venue 2<sup>nd</sup> Floor Seminar Hall, Department of Ocean Engineering, IIT Madras.**