

Indian Academy of Highway Engineers (IAHE)
A-5, Institutional Area, Sector-62, Noida-201309
(MINISTRY OF ROAD TRANSPORT & HIGHWAYS, GOVT. OF INDIA)



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Request for Expression of Interest (REOI)
for
Supply of one Network Survey Vehicle (NSV) at IAHE

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No. IAHE/Admin./10/NSV-IAHE/2020-21

Date: 07.08.2020

1. Ministry of Road Transport & Highways has provided funds to Indian Academy of Highway Engineers (IAHE), a society under administrative control of Ministry of Road Transport & Highways to procure one Network Survey Vehicle for use on National Highways and other centrally sponsored road works.
2. IAHE now invites reputed manufacturers/suppliers, having proven track record in supply of Network Survey Vehicle (NSV) to submit their expression of interest for the supply of 1 (one) NSV to IAHE meeting the requirements stated in **Annexure-I** of this REOI, including testing, commissioning and field training to IAHE officers and other technical personnel.
3. The purpose of this document is **NOT** to provide detailed specifications for bidding, but to provide the interested manufactures/suppliers, an overview of the scope and requirements of the NSV to be supplied and commissioned in the IAHE so as to solicit their expression of interest.

4. Schedule and Duration of Work:

The scope of work explained in this REOI, will be supplied in more details in the bidding documents. The expected period for delivery of the NSV is 1 (One) month from the date of placing purchase order and one month thereafter for completing the testing, commissioning and training in all respect.

5. Eligibility Criteria:

- 5.1 The manufacturer/supplier should have proven track record of supplying **at least 2 NSVs** to reputed institutions/consultants/contractors in the past three years preceding due date of submission of EoI.
- 5.2 The manufacturer/supplier shall have a minimum average annual turnover (defined as billing for supply of NSV and other equipment only) of Rs. 5.5 Crore for the last 3 (three) financial years i.e. 2017-18, 2018-19, 2019-20. The Bidder shall provide a Statutory Auditor's Certificate specifying the annual turnover.
- 5.3 The manufacturer/supplier shall have in-house or full access to equipment facilities similar to that is to be supplied and should be able to arrange for site visit of a committee

that may be constituted by IAHE for the purpose to carry out requisite testing to verify the functional capabilities and performance standards of the NSV.

- 5.4 The manufacturer/supplier should have adequate trained and skilled manpower to carry out the testing, commissioning, training and application support with regard to the equipment supplied.
- 5.5 The manufacturer/supplier should have trained and skilled manpower for periodic maintenance and prompt service support for breakdown calls in India.

6. Standard conditions

- 6.1 Annexure – II, Annexure-III and Annexure-IV should be filled, duly signed and submitted along with all the valid supporting documents while submitting the EOI duly signed by authorized personnel of the interested manufacturers/suppliers. EOI submitted without valid documents as mentioned in para 8 of this REOI will be summarily rejected.
- 6.2 Those who do not meet with the eligibility criteria need not submit EOI.
- 6.3 IAHE reserves the right to accept or reject any EOI without assigning any reason thereof.
- 6.4 Further details and technical specification will be included in bidding document which will be supplied only to the manufacturers and suppliers shortlisted based on this EOI.
- 6.5 The integrity requirements mentioned in General Financial Rules, 2017 and Manual for Procurement of Goods, 2019 (<https://doe.gov.in/sites/default/files/Manual%20for%20Procurement%20of%20works%202019.pdf>) shall be strictly followed by all intending manufacturers/suppliers during the process of submission and evaluation of this REOI.

7. Roadmap to finalize the manufacturer/supplier for Supply of NSV to IAHE

- 7.1 This notice is for invitation of EOI proposal for supply, testing, commissioning and field training of NSV at IAHE and this is **NOT** the tender.
- 7.2 Manufacturer/Supplier will submit EOI proposal with all necessary supporting documents as mentioned in para 8 of this REOI.
- 7.3 The EOI proposals submitted by manufacturers/suppliers shall be evaluated by IAHE against the eligibility criteria given in para 5 of this REOI.
- 7.4 IAHE may seek clarifications from the manufacturers/suppliers on any issue regarding their EOI and give them a time period of 7 days to submit their clarifications. Whether or not the concerned manufacturer/supplier submits its clarifications, IAHE will proceed with evaluation of EOI after the period specified herein.
- 7.5 Shortlisted suppliers/manufacturers shall only be allowed to participate in the tender.

- 7.6 The shortlisted manufactures/suppliers will be invited to make a presentation of the features, technical specifications & standards, operational guidelines of the NSV they intend to supply meeting requirements of Annexure-I of this REoI and information furnished by the manufacturer/supplier in Annexure-IV. The exact date and venue for the presentation will be intimated to the shortlisted manufacturers/suppliers.
- 7.7 IAHE reserves the right to incorporate the features, technical specifications & standards, suggestions, feedback given by the manufactures/suppliers in their EoI proposal and during their presentations at its sole discretion in final bidding documents.
- 7.8 Following the presentation by the shortlisted manufacturers/suppliers, IAHE will prepare bidding documents and invite bids from shortlisted manufacturers/suppliers.
8. Interested manufacturers/suppliers may provide following information along with supporting details as part of expression of interest:
- (a) Covering letter on the letterhead of the manufacturer/supplier showing the expression of interest of the firm.
 - (b) Name, address, telephone number, e-mail id of the manufacturer/supplier.
 - (c) The structure and organization of the firm.
 - (d) Annual Turnover of the firm during last three years from supply of NSV and other equipment duly audited by Statutory Auditor
 - (e) List of the similar completed supplies in the format given in **Annexure-II**.
 - (f) Work order, Supply certificate from Contractor/consultant/Institutions supporting the completed supplies mentioned at Annexure-II.
 - (g) Certificate of payment received from Statutory Auditor for supplies mentioned at Annexure-II.
 - (h) Information in respect of technical experts/personnel employed/available with the firm.
 - (i) Undertaking enclosed at **Annexure-III**.
 - (j) Specifications of NSV intended to be supplied at IAHE in the format enclosed at **Annexure-IV**.
 - (k) Power of Attorney in favour of signatory to EoI.
9. The manufacturer/supplier having the capability and past experience of supplying NSV meeting the requirements stated in Annexure-I and manpower/technical support for training shall be shortlisted for supply of NSV to IAHE.
10. The EoI shall be submitted through CPPP only on or before 28.08.2020 (upto 11.00 hrs. IST). Expression of interest submitted through any other mode or after the last date and time of submission will not be entertained.

(Devender Kumar)
Deputy Director-3
For Director, IAHE
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Requirements of NSV

Sl. No.	Road Feature/Pavement Distress to be measured by NSV	Output Requirement/Accuracy
Road Inventory		
1	Pavement Type	All inventory items shall be recorded both sides of road and geo-tagged with images
2	Pavement Width	
3	Terrain	
4	Land use	
5	Shoulder type and width	
6	Drain Type and Width	
7	Median Type and Width	
8	Wayside Amenities	
9	Crash barrier	
10	Signages	
Condition of Pavement (Distress shall be recorded for each lane and geo-tagged)		
	Cracking of Pavement	Length, Width, Depth
	Potholes	Area, Depth
	Ravelling	Area
	Bleeding	Area
	Rutting	Depth, Width (Transverse Profile including rut depth measurement of pavement surface widths of both carriageway and shoulders. The rut depth data must be convertible to different straightedge lengths (1.8m to 3.5m) and meet industry standards (ASTM E1703 / E1703M))
	Surface failure	Area
	Concrete Joint/ Faulting	Length
	Roughness	IRI in both wheel paths (Roughness measurement with outputs of both raw longitudinal profiles and International Roughness Index (IRI) calculation with reporting capability of at least 100m referenced to the preceding Location Reference Post (LRP). The roughness must

Sl. No.	Road Feature/Pavement Distress to be measured by NSV	Output Requirement/Accuracy
		meet ASTM-E950 (equivalent to Class I road profiler)

- NSV shall have ability to operate (collect data) at different speeds with a minimum speed of 40km/h.
- NSV shall have 3D road profile measurement capability using such technologies as laser scanning or other proven technologies
- Image recording shall be done at user defined interval (e.g. every 5, 10m, etc.) with minimum Image resolution 1600x1200 pixel and 360 degree imagery (JPEG). NSV should have capability to automatically identify and rate distresses. Outputs must include Standard JPEG image or similar industry standard.
- Distance resolution shall be <1mm and distance accuracy shall be minimum 0.1 %.
- Profile depth accuracy shall be minimum 0.5mm.
- NSV shall have capability for lane tracking to control driver wander' and ensure high repeatability of data between surveys
- All data outputs shall be in a non-proprietary format (e.g. .CSV, .MDB, Excel) and not require specialist software in order to view or format data.
- Data should also be capable of being easily formatted into data compatible with HDM-4.

**List of NSVs meeting the stipulated requirement supplied by the manufacturer/supplier
during past 3 years**

Sr. No	Name of manufacturer/s upplier	Name of Consultant/Contractor/I nstitution to which the NSV supplied in past three years*	Configuration of NSV supplied@	Date of Supply	Supply Price

* Copy of Work order and certificate of successful supply of NSV from the consultant/Contractor/Institutions shall be submitted

@ Please furnish the configuration of NSV that may comprise of the ROW Camera make including technical specifications thereof, LCMS system including technical specifications thereof, Surface Imaging system including technical specifications thereof, integration software names and capabilities thereof etc.

UNDERTAKING

I, (Name & designation.....), the undersigned do hereby undertake that our firm M/s have supplied nos. of NSV in past three years meeting all the requirement stipulated at Annexure-I the details of which have been enclosed in Annexure-II of our EOI proposal.

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(Signed by an Authorized Officer of the Firm)

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Title of Officer

.....

Name of Firm

.....

DATE

Name of System	Technical Specifications Description	Specifications (To be filled by Manufacturer/Supplier)	Functions/ requirement to be met as mentioned at Annexure-I(To be filled by Manufacturer/Supplier)
Digital Laser Profiler	Maximum Sensor Capacity		
	Profile Sampling Interval		
	Survey Speed		
	Laser Types		
	Longitudinal Profile Accuracy		
	Transverse Profile Accuracy		
	Longitudinal Profile wavelengths		
	Measurement Width		
	Beam Dimensions		
	Beam Material		
	Beam Weight		
	Data Outputs		
	Compliance with Standards		
Mounting Location			

Name of System	Technical Specifications Description	Specifications (To be filled by Manufacturer/Supplier)	Functions/ requirement to be met as mentioned at Annexure-I(To be filled by Manufacturer/Supplier)
	Any Other		
Automatic Crack Detection System	Cell Size (m)		
	Number of Zones		
	Minimum Crack Width (mm)		
	Minimum Crack Length (mm)		
	Lane Width:		
	Line Marking Offset (mm)		
	Crack Report: Transverse (Yes or NO)		
	Crack Report: Longitudinal(Yes or NO)		
	Crack Report: Crocodile (Yes or NO)		
	Crack Report: Straight- cracks (Yes or NO)		

Name of System	Technical Specifications Description	Specifications (To be filled by Manufacturer/Supplier)	Functions/ requirement to be met as mentioned at Annexure-I(To be filled by Manufacturer/Supplier)
	Crack Percentage (Yes or NO)		
	Crack Width over cell (Yes or NO)		
	Crack Ratio(Yes or NO)		
	Predominant Crack Type (Yes or NO)		
	Crack Intensity(Yes or NO)		
	Wheel Path Cracked (Yes or NO)		
	Total Number of cracked cells (Yes or NO)		
	Any other		
	Number of profiles		
	Sampling Interval		
	Minimum Process Intervals		
	Profile Spacing		
	Survey Speed		

Name of System	Technical Specifications Description	Specifications (To be filled by Manufacturer/Supplier)	Functions/ requirement to be met as mentioned at Annexure-I(To be filled by Manufacturer/Supplier)
	Transverse Profile Depth Accuracy		
	Transverse Profile Resolution		
	Depth range of operation		
	Operating temperature		
	Measurement Width		
	Beam Material		
	Weight		
	Dimensions		
	Mounting Location		
Digital Imaging Systems	Image position accuracy		
	Typical sensor type		
	Camera format		
	Picture size		
	Colours		
	Survey speed		

Name of System	Technical Specifications Description	Specifications (To be filled by Manufacturer/Supplier)	Functions/ requirement to be met as mentioned at Annexure-I(To be filled by Manufacturer/Supplier)
	Sampling Interval		
	Frame rate configuration		
	Compression		
	Typical Field of View		
	Typical resolution		
	Typical coverage		
	Lens type		
	Storage format		
	Camera housing dimensions		
	Mounting Location		
	Any other		
Navigation System	Output Data Rate		
	Operating speed		
	Data Outputs		
	Accuracy		
	Unit Dimensions		
	Mounting Location		

Name of System	Technical Specifications Description	Specifications (To be filled by Manufacturer/Supplier)	Functions/ requirement to be met as mentioned at Annexure-I(To be filled by Manufacturer/Supplier)
	GNSS Specifications - Parameter Value		
	Any other		
LiDAR Asset Detection	Typical laser wavelength		
	Laser class		
	Scan range		
	Angular resolution per scan		
	Sampling Interval		
	Minimum Process Interval		
	Operating temperature		
	Distance measuring range		
	Survey speed		
	Data Output		
	Weight		
	Dimensions		
	Mounting Location		

Name of System	Technical Specifications Description	Specifications (To be filled by Manufacturer/Supplier)	Functions/ requirement to be met as mentioned at Annexure-I(To be filled by Manufacturer/Supplier)
	Any other		
Safety scanning laser	Protective field range		
	Scan Angle		
	Configuration method		
	Display elements		
	Safety Type		
	Safety Integrity Level		
	Safety Category		
	Performance Level		
	Dimensions (W x H x D)		
	Weight		
	Housing material		
	Housing Colour		
	Optics cover material		
	Optics cover surface finish		
	Enclosure rating		

Name of System	Technical Specifications Description	Specifications (To be filled by Manufacturer/Supplier)	Functions/ requirement to be met as mentioned at Annexure-I(To be filled by Manufacturer/Supplier)
	Ambient operating temperature		
	Storage temperature		
	Type of light		
	Wavelength		
	Detectable remission		
	Laser class		
	Any Other		
Interlock module	Sampling Rate		
	Speed of Operation		
	Operation modes		
	Sensors		
	Failsafe		
	Components		
	Any other		
Data Acquisition System Software			
Data Analysis System Software			

Name of System	Technical Specifications Description	Specifications (To be filled by Manufacturer/Supplier)	Functions/ requirement to be met as mentioned at Annexure-I(To be filled by Manufacturer/Supplier)
Geometry Measurement System (GMS): Geometry details using systems which are equipped with inertial sensors such as inclinometer, gyroscope etc. to measure the geometric details like gradient, rise and fall, cross slope and horizontal curvature of the road network.			
Any other			
