



## **EXPRESSION OF INTEREST (EOI)**

**FOR**

**Engagement of Agency for Aerial Data Collection and  
Monitoring of NHIDCL works using Drone technology**

**NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD  
(MINISTRY OF ROAD TRANSPORT & HIGHWAYS, GOVT. OF INDIA)**

**EOI NOTIFICATION NO.: NHIDCL/SURVEY/DATA ANALYSIS/2020-21**

**SEPTEMBER, 2020**

**NHIDCL, 3RD FLOOR, PRESS TRUST OF INDIA BUILDING, 4, PARLIAMENT STREET,  
NEW DELHI – 110001**

**National Highways & Infrastructure Development Corporation Limited**  
(A Ministry of Road Transport & Highways undertaking)  
Regd. Office: 3<sup>rd</sup> Floor, PTI Building, 4-Parliament Street, New Delhi-110001

**Notice Inviting Expression of Interest (EOI) for Engagement of Agency for Aerial Data Collection and Monitoring of NHIDCL Works Using Drone Technology**

1. EOI is invited from all service providers with experience in drone technology (Quadcopter) for engagement of agency for aerial data collection and monitoring of ongoing works of National Highways & Infrastructure Development Corporation Limited (NHIDCL) in the States of Assam, Arunachal Pradesh, Manipur, Mizoram, Tripura, Andaman & Nicobar, Jammu & Kashmir, Meghalaya, Nagaland, Sikkim and West Bengal. NHIDCL intends to shortlist eligible firms/companies who have proven experience in monitoring the works through drone technology.

NHIDCL is a premier CPSU for construction of National highways and infrastructures. At present NHIDCL is carrying out works on about 2000 km stretches of National Highways in the states mentioned above.

2. Brief details of EOI in nut shell:-

Sr. No.	Information	Details
(i)	Project Name	Engagement of Agency for “Aerial Data Collection and Monitoring of Ongoing Works of NHIDCL Through Drone Technology”.
(ii)	EOI Notification No.	NHIDCL/ Survey/Data Analysis/2020-01
(iii)	EOI Publishing Date	08.09.2020
(iv)	Website to Download EOI	<a href="http://www.nhidcl.com">http://www.nhidcl.com</a> . & <a href="https://eprocure.gov.in">https://eprocure.gov.in</a>
(v)	EOI Fee	NIL
(vi)	Last Date for Submission of EOI Application	06.10.2020 till (17:00 Hrs) at 2 <sup>nd</sup> floor Conference room, NHIDCL,HQ
(vii)	Date for Presentation	To be intimated
(viii)	Place of Submission of EOI Application	General Manager (LA & Coord.), National Highways & Infrastructure Development Corporation Limited, 3 <sup>rd</sup> Floor, PTI Building, 4- Parliament Street, New Delhi- 110001
(ix)	Email-ID for Submission of Soft Copy EOI Application	<a href="mailto:ac.sekhar65@gov.in">ac.sekhar65@gov.in</a>

3. The interested firms may submit the EOI proposals for the projects based on the eligibility criteria mentioned in the EOI Document. The details are available in the Letter of Invitation (LoI). Letter of Invitation is available for downloading at CPP Portal: <https://eprocure.gov.in> as well as at NHIDCL Website: <http://www.nhidcl.com>.

4. Expression of Interest proposals should be uploaded online on CPP Portal: <https://eprocure.gov.in>. A copy of the same is also to be submitted in hard bound form in sealed cover clearly marking as “*Expression of Interest for Engagement of Agency for “Aerial Data Collection and Monitoring of NHIDCL Ongoing Works Through Drone Technology”*”. The proposal is to be uploaded online as above and delivered in hard copy at the address given below latest by 1700 hrs on 06.10.2020.

5. Interested agencies/ companies may obtain further information at the following address.

**Address for Communication:**

A.Chandrasekhar  
General Manager (Toll, Coord., LA & IT)  
National Highways & Infrastructure Development Corporation Limited (NHIDCL)  
3<sup>rd</sup> Floor, PTI Building, 4-Parliament Street,  
New Delhi - 110001  
Tel. no.: +91-11-23461620; Mob. No.: +91-7577007999  
email: [ac.sekhar65@gov.in](mailto:ac.sekhar65@gov.in)

## **Letter of Invitation (LOI)**

NHIDCL/ Survey/Data Analysis/2020-01

Dated: 08.09.2020

**Sub: EXPRESSION OF INTEREST (EOI) for Engagement of Agency for “Aerial Data Collection and Monitoring of ongoing works of NHIDCL through drone technology”.**

Dear Sir,

National Highways & Infrastructure Development Corporation Limited (NHIDCL) has the mandate of building infrastructure that involves roads, highways and tunnels for interstate and international connectivity mainly in the States of Assam, Arunachal Pradesh, Manipur, Mizoram, Tripura, Andaman & Nicobar, Jammu & Kashmir, Meghalaya, Nagaland, Sikkim and West Bengal. NHIDCL now intends to short-list eligible service providers / bidders who have proven experience for Aerial Data Collection and Monitoring of ongoing works of NHIDCL through drone technology. In order to carry out the implementation of above projects, NHIDCL will engage eligible service providers.

2. As per the terms and conditions of the Contract Agreement, the Agency shall be required, on behalf of NHIDCL, to carry out aerial videography of the project to ensure compliance of requirements for the Scope of Work.

3. Services are to be provided by an integrated multi-disciplinary team consisting of Drone operator, supporting staff, vehicles and other requirements used in aerial data collection.

#### **4. Scope of work**

As a part of the scope of work, the service provider shall set up a Control & Monitoring Centre (CMC) by arranging required drones, machines, vehicles, manpower such as manager/drone operator/driver, data analyzer, assistant and any other staff as per requirement for use of drones combined with 3-D modeling software for monitoring of works, Building Information Modeling (BIM) to improve the post-construction, operation and maintenance, asset inventory, online incident management system that will incorporate live data feeds from drones directly into the CMC. On a notice of one day, shall collect the required data and show the required information of the required road stretch through video to NHIDCL authorities, on a real-time basis through drone technology by capturing the required details including incident management, Condition of road, encroachments and other parameters and the data so obtained to be edited and saved/kept in safe custody for future use/requirements of NHIDCL.

The applicants shall carry out aerial videography (using 4k resolution), Ortho-imaging, Land Audit, Structural Inspections, Contour Lines & Terrain Profile using Drones on National Highways for monitoring of projects and operation on NHs and submit to NHIDCL output in shape / kml / vector files which can be viewed/ analyzed/used on any software platform/ applications.

**Note-** The vendor/ drone operating agency has to submit the 4k resolution aerial video for the 100 % length of the National Highway and Geo-tagged Ortho-image for the area of 10% equivalent length of the National Highway (decided by the Field Officer of NHIDCL i.e. ROs/ PMUs) as given in the work order. The report submitted by the vendor/drone operating agency should clearly indicate contour line, Geo- reference, timestamp, road asset

inventory like structures, road signages, culverts, potholes, cracks etc. with locational reference along with 4k resolution aerial video and orthoimages. The accuracy Geo Tag Should be in order of 10cm +/- 1cm. The proof of Geo Tag accuracy needs to be demonstrated by the participating vendors either through Technical documentation or experiment. If the Geo tag accuracy is not as per NHIDCL requirement, service will be treated invalid.

**Example:** If the highway length awarded is 100 Kms, the area of videography coverage will be around 100 x 0.1 Sq kms and area of ortho-image will be 10 x 0.1 Sq kms. (considering width of the Highway Survey as 100 mtrs.)

- (i) The aerial vehicle -rotor type Drone shall be used for data acquisition and subsequently processing.
- (ii) The drone shall have on-board mounted payload consisting of processor board, GPS antenna, wireless camera.
- (iii) The drone flight shall be controlled through Ground Control Station (GCS). The mission parameter required for flight control shall be provided by GCS to the flight controller.
- (iv) On board mounted GPS transmitter/receiver should provide the current location to the processor board for flight control as well as it should be communicated to GCS to monitor flight trajectory on the display.
- (v) The agency shall be fully responsible to provide security to their persons deputed on site including their insurance, wherever required under the law or considered prudent.
- (vi) Time-stamp and display of longitude, latitude shall be overlaid on the video/ Orthoimage. Special annotations or texts should be provided for Points of Interests like bridge, culvert, road signs, landslides, major pothole/ damage of roads, encroachments etc.
- (vii) The Video/ orthoimage should be Geo-tagged/ aligned with the survey roads with latitude and longitude coordinates.
- (viii) The agency shall be fully responsible for obtaining the required permission/ license/ security clearances from the State Govt. / Local bodies and DGCA etc, wherever it is required.

## **5. ELIGIBILITY CRITERIA:-**

**The Applicant should be:**

- (i) A Company incorporated and registered in India under the Companies Act, 1956 or a partnership firm or LLP formed under LLP act 2008.

*Documents in support of above shall be submitted as part of the EOI.*

- (ii) A company declared ineligible by NHIDCL, NHAI and Ministry of Road Transport & Highways, Government of India or Railways or any other government departments for indulging in corrupt or fraudulent practices in last three years from the last date of receipt of bids, shall be ineligible for this EOI. In case if any information is found false or containing incorrect information at any point of time, the empanelment will be terminated. The agency will be banned for three years for doing business in NHIDCL/NHAI/ MoRTH.

- A. Technical:** The agency should have experience of minimum 200 km of linear Aerial Video/ Ortho-imaging/ Aerial Mapping on Highways/Railways/Gas-pipelines/Power-lines/smart city development project assignments etc. using Drones during the last three (3) years from the last date of receipt of bids. The 200 km minimum length given above can be single work or total of not more than 10 smaller assignments. The companies who do not have such experience can accept to demonstrate Proof of Concept for 10 Kilometers without any cost and if NHIDCL wishes such firms may be declared fit for execution of orders.

*The documentary proof in support of the experience (in the form of copy of work order/ completion certificate from its clients along with a self-declaration in prescribed form (T-6) indicating the names of projects undertaken, scope of work of each project, name of client, start date, date of completion, System used, value of the project etc.) shall be submitted as part of the eligibility documents.*

- (a) Applicant should submit relevant details of each project and should enclose Work Order / Purchase order / Copy of contract / Letter of Empanelment highlighting detailed scope of project implemented within the last 3 years from the last date of receipt of bids as proof for the same.
- (b) An applicant determined non-performing or having been terminated from any project during last three years by Ministry of Road Transport & Highways, Government of India or its executing agencies like NHAI, NHIDCL etc. will not be eligible to participate in the empanelment process.

**B. Financial:** Average annual turnover of Applicant during last three (3) consecutive financial years (FY 2017-2018, 2018-19 and FY 2019-2020) should be  $\geq$  Rs.1Cr. and have positive net-worth of minimum Rs. 20 Lakhs during last audited financial year.

For the purposes of this EOI, net-worth (the “Net Worth”) shall mean the aggregate value of the paid-up share capital and all reserves created out of the profits and securities premium account, after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, but does not include reserves created out of revaluation of assets, write back of depreciation and amalgamation.

#### **6. Contract Period:**

The total contract period shall be for 12 Months w.e.f. the effective date.

**7.** The agencies shall be required to make a presentation incorporating business proposal, before last date of submission of EOI, demonstrating their capabilities. Presentation should include following parameters: -

- i) Firm overview.
- ii) Experience of the firm in handling Aerial data analytics, Control centre management.
- iii) Key requirement for the proposed approach and equipment held.
- iv) Proof of Concept involving deploying drones for 10 Km and showcasing results.

8. Instructions for submission of the expression of interest are enclosed at **Annexure-I** and guidelines for preparing the expression of interest are enclosed at **Annexure-II**. Eligible bidders interested in short-listing for Aerial Data collection, should fill up the enclosed expression of interest form (**Annexure-III**).

9. Joint Venture (JV) is not eligible in this EOI.

10. Only those agencies who satisfy minimum eligibility criteria need to apply. Client certificates shall be required for experience in aerial videography.

11. The Authority shall evaluate the EOI proposals based on relevant experience of project monitoring, aerial videography in hill terrain etc., in accordance with pre-determined criteria as detailed in LOI and thereupon shortlist 05 (five) qualified firms. The Short listing shall be done based on the marks obtained by the firm after evaluation of firm's experience, credential etc. The process for evaluation criteria has been given in **Annexure-IV**.

12. The Authority shall invite the aforesaid shortlisted service providing firms through Request of Proposal (RFP) to submit their respective technical and financial bids, on e-tendering mode. All the technical bids so received shall be opened and pursuant to the evaluation thereof, the Authority shall declare the technically qualified firms on the basis of their technical scores. The financial bids in respect of such technically qualified firms shall be opened and the order of priority as among these firms shall be determined on the basis of their financial scores.

13. The Authority shall endeavor to adhere to the following schedule:

EOI/ NIT Publishing date	08.09.2020
EOI Document Download	08.09.2020
Pre-Proposal conference	23.09.2020 at 11:00 at 2 <sup>nd</sup> floor Conference room, NHIDCL HQ
Last date of receiving queries	23.09.2020
Reply to queries	28.09.2020
Last date of uploading/ submission of completed EOI Proposal	6.10.2020 at 17:00 hrs
EOI Proposal Opening date and time	8.10.2020 at 17:30 hrs

14. Before the deadline for submission of Eoi, the Eoi document may be modified by the Authority by issue of Addendum/ Corrigendum. Any Addendum/ Corrigendum issued shall be part of the Eoi Document and it will be published at CPP Portal: <https://eprocure.gov.in> as well as at NHIDCL Website: <http://www.nhidcl.com>.

15. The applicant firms/ companies/ agencies should upload/ submit the completed EOI Proposal together with the Letter of Intent (LoI) so as to reach this office not later than due date and time as above.

Yours sincerely,

(A.Chandrasekhar)  
General Manager (T)

**Encl.: As above**

**NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT  
CORPORATION LIMITED ( NHIDCL)**

**INSTRUCTIONS FOR SUBMISSION OF EOI PROPOSAL**

1. The EOI document shall be the basis of drawing up a shortlist of Agencies who will submit proposals for the services required. The short listing of the Agencies shall be done separately for the work mentioned in the Letter of Invitation.
2. All applications shall be submitted in English.
3. Power of Attorney (on stamp paper and duly notarized) of the person submitting the Expression of Interest on behalf of the agency /company shall be attached.
4. Hard copy of the completed Expression of Interest along with enclosures should be hard bound, page numbered and initialed on each page. Loose/Spiral bounded Expressions of Interest shall not be accepted.
5. Submission must be addressed to the following:

**A.Chandrasekhar**

**General Manager (Toll, Coord., LA & IT)**

**National Highways & Infrastructure Development Corporation Limited (NHIDCL)**

**3<sup>rd</sup> Floor, PTI Building, 4-Parliament Street,**

**New Delhi - 110001**

**Tel. no.: +91-11-23461620; Mob. No.: +91-7577007999**

**email: [ac.sekhar65@gov.in](mailto:ac.sekhar65@gov.in)**



**NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION  
LIMITED  
GUIDELINES FOR PREPARATION OF EXPRESSION OF INTEREST**

**The agencies / companies, interested to be considered for the services contemplated, shall fill up the enclosed Expression of Interest proposal form (Annex-III) in single copy. The numbers mentioned below correspond to the numbers contained in the enclosed form ( Annex -III):**

1. Indicate the name of work for which the application for EOI proposal is to be considered.
2. Complete name of firm, date of establishment and type of organization whether individual, proprietorship, partnership, private limited company, limited company, Company Registration No., PAN No. & GST No. etc.
3. Exact and complete home and office address, business address, telephone number, Fax number and E- mail address.
4. If present firm is the successor to or outgrowth of one or more predecessor firms, fresh name(s) of former entity (ies) and the year(s) of their original establishment are to be furnished by the sole applicant.
5. Information containing brief narrative description of the firms is to be furnished by the sole applicant.
6. List not more than two (2) authorized representatives who may be contacted by this Office. These listed authorized representatives must be empowered to speak for the firm on policy and contractual matters. Information is to be furnished by the sole applicant.
7. Under this item, indicate the financial figures from agency's business for last three (3) financial years. Gross fees received as Sole Agency for Aerial data collection through drone technology.
8. This item represents the completed Aerial data collection & monitoring through drone technology and those handled during last Three (3) years from the last date of receipt of bids. The experience of videography using drone technology is required to be furnished in two different tables i.e table 8 (A) & 8 (B). Experience of all the videography works shall be filled in table 8 (A) and that in the works which make the service provider eligible for the present work be furnished in Table8(B).

**EXPRESSION OF INTEREST FORM**

1. Name of Work for which this application is to be considered:-

2.

Name of Agency	Year Established	Country	Company Registration No	PAN No	GST No	Type of organization			
						Individual	Partnership	Corporation	Other

3. Home and Office address/ Business address/ telephone number, Fax number and E- mail address.

4. Agency's former name and year of establishment

5. Narrative description of agency (use other sheet, if necessary)

6. Name of, not more than two (2), authorized representatives who may be contacted with title and telephone number/fax number

7. Financial statement of the last three financial years

Sl. No	Particulars	2017-18	2018-19	2019-20
I.	Annual turnover from agency's business			
II.	Total Assets			
III	Current Assets			
IV	Total Liabilities			
V	Current Liabilities			
VI	Net Worth			
VII	Working Capital			
VIII	Net Profit			

**Note: The amount shall be stated in INR only.**

- a) The currency conversion rate for the respective years shall be taken as per 31<sup>st</sup> March of every financial year.
  - b) The application with amount stated in currencies other than INR shall be treated as non responsive.
8. Projects handled by the service provider during last three years (Only those projects be included, which are supported by the certificate of the clients mentioning that the videography work using drone technology work has been completed or substantially completed satisfactorily (substantial completion means 90% work in financial value having been executed).

8 (A)						
S.No	Name of the Project	Type of the Project (Such as road work, Bridge work, terrain study etc)	Location	Mention whether Govt. / Govt. Undertaking / Private sector	Value of Work	Role of Agency
1	2	3	4	5	6	7

  

8 (B)							
S No	Name of the Eligible Projects executed by the Agency through drone technology	Services details		Type of Partnership (Sole, JV, Associates etc showing its percentage of share)	Type of Technology used ( Drone etc)	Client (With complete address, contact person, telephone Nos. and Fax Nos.)	Value of Work
		Commencement Date of Services	Completion Date of Services				
1	2	3		4	5	6	7

9. Supporting Statements to Clients' certificates may be furnished giving full details of the projects carried out as below along:

Name of Overall Project : \_\_\_\_\_

Location of Overall Project : \_\_\_\_\_

Owner's Name and Address : \_\_\_\_\_

Completion (Actual/ Estimated) : \_\_\_\_\_

Description of Project : \_\_\_\_\_

Description of Services Provided by the Firm: \_\_\_\_\_

**I certify that the information in the above Expression of Interest form is true to the best of my knowledge.**

**PRESIDENT / MANAGING DIRECTOR OR  
AUTHORIZED SIGNATORY<sup>#</sup>**

**<sup>#</sup> Please attach Power of Attorney as described or valid authorization.** \_\_\_\_\_

**Annexure – IV****1. POINTS ALLOCATED FOR EVALUATION CRITERIA**

<b>S. No.</b>	<b>Description</b>	<b>Maximum Marks</b>	
1.	Year of Establishment of firm each year contains 2 marks	20	
2.	Average annual turnover (last three years)	30	
3.	Experience of the firm in Aerial data collection using drone technology for Highways projects in plain area during the last 5 years.	20	
4.	Experience of the firm in Aerial data collection using drone technology for Highways projects in hill area during the last 5 years.  Points need to be allotted for technical merit as well as mentioned in Annexure-V. Geo Tag Accuracy Efficiency of Work Flow Drone Capabilities Linear Scan Efficiency BIM capabilities GIS capabilities Command center software capabilities	30	
<b>TOTAL</b>		<b>100</b>	

**\*The firms should score at least 75 marks for qualifying to the next stage.**

**Technical Features of Proposed Solution**

<b>S.No</b>	<b>System</b>	<b>Features/Accuracy/Description</b>
1	Drone	
2	Camera Payload	
3	GIS Software	
4	BIM Software	
5	Software for central command and Control center	
6	GNSS	
7	Geo Tagging Scheme Details	
8	RTK/PPK Scheme Details with accuracy	
9	Methodology for ensuring GNSS Accuracy in linear surveys	