

Notice Inviting Expression of Interest

For

“Near real time Detection of Forest Fire Using Artificial Intelligence (AI), Data Analytics and other front end Geo-Spatial Technologies in the States of Karnataka, Madhya Pradesh, Maharashtra, Odisha & Uttarakhand.”



**Forest Survey of India
Ministry Of Environment, Forest & Climate Change
Government of India
Kaulagarh Road, P.O. - IPE
Dehradun – 248 195**



Forest Survey of India
Ministry of Environment, Forest & Climate Change
Government of India
Kaulagarh Road, P.O. IPE
Dehradun – 248 195

Contents of Expression of Interest

S. No.	Description of Contents	Page No
PART- I		
1.	Notice Inviting Expression of Interest	2
2.	Instruction To Bidders (ITB)	7
3.	Terms And Conditions of Contract (T & C)	25
4.	Schedule Of Quantities & Prices	31
5.	Special Conditions Of Contract	33
PART- II		
6.	Background	36
7.	Scope of the work	36
8.	Deliverables	39
9.	Information Communication and Technology (ICT) standard for the above for Data Visualization and Integration with existing Systems	39

PART - I

SECTION – 1

NOTICE INVITING EXPRESSION OF INTEREST



Forest Survey of India
Ministry of Environment, Forest & Climate Change
Government of India Kaulagarh Road, P.O. IPE
Dehradun – 248 195

**SECTION-0: NOTICE INVITING EXPRESSION OF INTEREST
(Domestic Open Competitive Bidding)**

Director General, Forest Survey of India invites online electronic bids (e-tenders) under two bid systems on behalf of President of India from domestic bidders registered in India.

“Near real time Detection of Forest Fire Using Artificial Intelligence (AI), Data Analytics and other front end Geo-Spatial Technologies”

Tender Specification No.: 22-445/2020-FGD-7189

Dated: 17.12, 2020

Tender document can be viewed and downloaded from FSI website www.fsi.nic.in and <https://moefcc.euniwizarde.com>

The bid for all or any of the equipment's is to be submitted **online only** on <https://moefcc.euniwizarde.com> up to the last date and time of submission of bids. Sale of hard copy of tender document is not applicable.

The offers, in the prescribed format, shall be submitted online at <https://moefcc.euniwizarde.com> as per the tender document. No Quotations will be accepted in hard copy, fax, e-mail or any other such means. The intending bidders must be registered with e-tender website <https://moefcc.euniwizarde.com>. The tender document is also available on Ministry of Environment, Forest and Climate Change website: <http://envfor.nic.in/> for reference only but not for submission. However, for the purpose of submission, the website <https://moefcc.euniwizarde.com> should be referred to. NIT can also be seen on CPP Portal <https://eprocure.gov.in/epublish/app>.

1. Brief Details & Critical Dates of Tender:**1.1 Brief Details of Tender:**

S. No.	Item	Description	
(i)	Name of work	Near real time Detection of Forest Fire Using Artificial Intelligence (AI), Data Analytics and other front end Geo-Spatial Technologies	
(ii)	Tender specification no	22-445/2020-FGD-7189 Dated: 17.12.2020	
(iii)	Mode of tendering	e-Tendering system (Open Tender)	
(iv)	Tender ID	22-445/2020-FGD-7189	
(v)	Cost of bidding document	The interested bidders will have to deposit the amount of 1000/- (non-refundable) towards tender fee through bharat kosh (https://bharatkosh.gov.in)	
(vi)	EMD (Bid Security)	The scanned copy of the DD/ Bank Guarantee of Earnest Money Deposit (EMD) of ₹2,00,000/- (Rupees two lacs only) in the form of Demand Draft With Minimum three months Validity in favor of Assistant Director (Accounts), Forest Survey of India, Kaulagarh Road ,PO - IPE, Dehradun – 248 195. All Micro and Small Enterprises (MSEs) are exempted from EMD and tender fee.	
(vii)	Completion Period / Schedule	i) “Near real time Detection of Forest Fire Using Artificial Intelligence (AI), Data Analytics and other front end Geo-Spatial Technologies”	Twelve Weeks from the date of award of contract
		ii) Application Support/ Stabilization Period	Up to two months after application deployment
		iii) Annual Contract for Analytics	Up to five years from the end of the support period

S. No.	Item	Description
(viii)	Required validity of Bid	Six months from the date of award of contract.
(ix)	Tender Inviting Authority	Director General, Forest Survey of India, Kaulagarh Road, P.O. - IPE, Dehradun, Uttarakhand – 248195
(x)	Tender Processing Fee	Rs. 3360/- + GST (Non Refundable)
(xi)	Registration Charges	Rs.2360/-(Non Refundable)

1.2 Important Dates of Tender:

S. No.	Particulars	Date & Time
(i)	Publish date and time	17.12.2020
(ii)	Sale / Document Download Start Date & Time	18.12.2020
(iii)	Sale / Document Download End Date & Time	08.01.2021
(iv)	Pre bid conference (Venue: Forest Survey of India, Kaulagarh Road, PO-IPE, Dehradun-248195, Uttarakhand)	28.12.2021
(v)	Online Bid Submission Start Date & Time	30.12.2021
(vi)	Online Bid Submission Last Date & Time	08.01.2021
(vii)	Last date of submission of cost of bidding document, EMD and other offline supporting documents to Director General, Forest Survey of India, Kaulagarh Road, P.O-IPE, Dehradun, Uttarakhand- 248195	08.01.2021
(viii)	Date and time for opening online Technical bid	11.01.2021
(ix)	Date and time for opening online Financial bid	To be notified after technical evaluation.

1.3 Technical specifications and details

Given in Part- II

1.4 Eligibility Criteria for Bidders:

S No	Basic Requirement	Specific Requirements	Documents Required
1.	Legal Entity	<p>The Sole Bidder or Consortium</p> <ul style="list-style-type: none"> Maximum three members allowed in a consortium including the Lead Member. Lead Member should be registered in India under Companies Act 1956/2013/ LLP Act 2008/Society Act or as amended and should have been in operation for at least 5 years as on date of submission of the bid. Consortium member either should be registered in India under Companies Act 1956/2013/ LLP Act 2008 or Globally Registered Company and should have exclusive partnership with Lead Bidder for providing services in Geospatial domain for Forestry (or as amended). Should have at least 5 years of active engagement in Geospatial Analytics/AI for the Forestry sector from the date of submission of this bid. 	<ul style="list-style-type: none"> Copy of Certificate of Incorporation /Registration under Companies Act, 1956/2013. Consortium agreement clearly stating the roles and responsibilities of each member. Copy of PAN Card and IT return for last 3 financial year i.e., (FY 2018-19, 2017-18 and 2016-17) Copy of GST registration and latest return (GST R1 filed for January 2020 or later). Copy of PF registration Copy of EST registration Copy of work orders 7 years prior to date of submission.
2.	Turnover	<p>The Sole Bidder should have average annual Turnover of 10 Crore for last 3 audited financial years (2016-17, 2017-18 and 2018-19) from Geospatial AI firm.</p> <p>In case of consortium, the Lead bidder/ other consortium member should have minimum average annual turnover of 5 Crore from Geospatial AI firm for last 3 audited financial years (2016-17, 2017- 18 and 2018-19).</p>	<ul style="list-style-type: none"> Audited and Certified Balance Sheet and Profit/Loss Account for the last 3 (Three) Financial Years. Certificate from the Statutory Auditor/CA on turnover details from the "business areas" over the last 3 (Three) audited financial years (2016-17, 2017-18 and 2018-19).
3.	Net Worth	<p>The Sole Bidder or the Lead Member of consortium should have positive net worth as per the audited consolidated financial statements in each of the last 3 (Three) financial years (2016-17, 2017-18 and 2018-19).</p>	<p>Certificate from the Statutory Auditor on net worth.</p>
4.	Blacklisting	<p>As on date of submission of the proposal, the Sole Bidder or each members of the consortium member, in case of a Consortium, shall not be under a declaration of ineligibility for corrupt or fraudulent practices with any of the State government/ Central Government / semi government / PSU/Municipal agencies in India at the time of submission.</p>	<p>Undertaking by the authorized signatory as per the format given as Annexure - V</p>
5.	Certifications	<p>The Sole Bidder or the Lead Member of consortium should possess Certifications which are</p>	<p>Valid Copy of certificates on the name of the Sole Bidder or Lead Member</p>

		valid till bid validity:	in case of consortium
6.	Experience	The Sole Bidder or the Lead Member of consortium/other consortium member should have successfully completed at Forest Fire assessment with minimum area of 10,000 sq km and provide near real-time analytics with the contract value not less than 5 crores Value in the last 5 years as on the last date of bid submission.	Copy of work order + Completion Certificates from the client towards of forest monitoring Geospatial AI Based Analytics portal

2.1 Bids of those Bidders who have not submitted the requisite Cost of bidding document and EMD (as per Instructions to Bidders (ITB) Clause 3.0 & 4.0) shall not be considered for evaluation, except in case of exemption as per Clause No. 3.2 & Clause No. 4.1 of ITB.

2.2 The bidders must fulfill the following minimum Qualifying Criteria:-

2.2.1

1. Bidders should have an experience on Geospatial AI Based analytics for forest Monitoring of area a minimum of 10,000 sq. km Including Burnt Area Assessment and its maintenance. (Relevant documents to be submitted.)
2. Bidders must have ongoing national scale or state level forestry analytics project with internationally recognized national government agencies demonstrating the ability to map and identify forest fire and damage assessment.
3. Bidder must have at least one ongoing commercial disturbance monitoring project contracted by an internationally recognized national government or state level in excess of 100,000 sq km (only one project and one analytics counted at any given time).
4. Bidder must have international experience in delivering Geospatial AI solutions in Multiple continents for the purpose of experience in different climatic conditions.
5. Bidder must license the user the right to freely distribute product or information derived by the user from the data products provided by the bidder.
6. Bidders must have demonstrable ability to map and deliver satellite derived forest analytics at 10m resolution or better from the combination of Optical and SAR (including interferometric processing) data inputs.
7. Bidders must have references from at least two state agencies operating in the forestry sector.
8. Bidder should be able to provide data to forest department via interactive and interoperable web platform.
9. Bidders must be able to provide reference from its own government forestry ministry confirming capability.
10. Bidders must have an existing commercial product with subscribing users that combines satellite data with weather-driven plant growth modelling.
11. Bidders must have the ability to deliver soil moisture measurements at 100m spatial resolution derived from L-band, C-band and X-band observations

2.2.2 All Startups (whether Micro and Small Enterprises (MSEs) or otherwise), falling within the definition as per Gazette notification- G.S.R. 501(E) dt. 23.05.2017 or as amended from time to time are exempted from meeting the qualification criteria in respect of Prior Experience-Prior Turnover in public procurement subject to meeting the quality and technical specification for which necessary documents shall be submitted by such bidders.

2.2.3 The reference date for considering the period for eligibility / qualification requirements above shall be the last day of the month previous to the one in which tenders are invited.

3.0 The details/ information regarding online tendering i.e. Registration on <https://moefcc.euniwizarde.com> portal, Preparation of Bid and Submission of bid are available in the tender document and as well as on CPP Portal under

'Bidders Manual Kit'.

4.0 FSI reserves the right to reject any or all tenders and shall not be bound to assign any reason for such rejection.

**Joint Director (FGD),
Forest Survey of India,**

Phone No.: +91-135-2756139,2754507,2755037

E-mail: dgfsi@fsi.nic.in

SECTION – II

INSTRUCTIONS TO BIDDERS
(ITB)

SECTION-I: INSTRUCTIONS TO BIDDERS (ITB)

1.0 INTRODUCTION

1.1 Forest Survey of India (FSI) a premier national level organization under the Ministry of Environment, Forest & Climate Change, Government of India, hereinafter referred to as the '**Purchaser**' will receive bids for "**Near real time Detection of Forest Fire Using Artificial Intelligence (AI), Data Analytics and other front end Geo-Spatial Technologies**" as set-forth in the specifications. The bid will be received, opened and evaluated online in electronic form through Gol's E-tendering portal i.e. <https://moefcc.euniwizarde.com> Link to reach at site is also available at FSI website i.e., www.fsi.nic.in. Bid shall be prepared and submitted in accordance with instructions contained in this Section.

1.2 This section of the bidding document provides the information necessary for Bidders to prepare online responsive bids, in accordance with the requirements of the Purchaser. It also provides information on online bid submission, opening, evaluation and contract award.

1.3 INSTRUCTION FOR ONLINE BID SUBMISSION:

This tender document has been published on the E-wizard portal <https://moefcc.euniwizarde.com>. The bidders are required to submit soft copies of their bids electronically on the E-wizard Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the E-wizard Portal, prepare their bids in accordance with the requirements and submitting their bids online on the E-wizard Portal. More information useful for submitting online bids on the E-wizard Portal may be downloading from "Download" section available on home page on <https://moefcc.euniwizarde.com/>.

1.3.1 REGISTRATION:

- (i) The Bidder is requested to visit the link Bidders Manual Kit' at <https://moefcc.euniwizarde.com> and Central Public Procurement (CPP) Portal (URL: <http://eprocure.gov.in/eprocure/app>) .
- (ii) Bidders are required to enroll on the e-Procurement Portal (URL:<https://moefcc.euniwizarde.com>)with clicking on the link "Online bidder Registration" on the e-tender Portal by paying the Registration fee of Rs. 2360/- per year through online banking.
- (iii) As part of the enrolment process, the Bidder will be required to choose a unique username and assign a password for their accounts.
- (iv) During enrolment/ registration, the Bidder should **provide the correct/ true information** including valid email-id & mobile no. All the correspondence shall be made directly with the Contractors/ Bidders through email-id provided.
- (v) For e-tendering, possession of valid Digital **Signature Certificate** (Class III Certificates with Signing +Encryption key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.), with their profile.
- (vi) Upon enrolment on e-procurement portal (URL:<https://moefcc.euniwizarde.com>) for e-tendering, the Bidder has to register their valid Digital Signature Certificate with their profile.
- (vii) Only one valid DSC should be registered by a Bidder. Bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse and should ensure safety of the same.
- (viii) Bidder can then log into the site through the secured login by entering their user ID/ password and the password of the DSC/ e-Token.

1.3.2 SEARCHING FOR TENDER DOCUMENTS

1) Bidder can search any tender by clicking on “Live Tender” under search option on Home Page. Once the bidders have selected the tenders they are interested in, they may download the required documents after clicking on “Tender Document”.

2) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

3) The Bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification/ help from the Helpdesk.

1.3.3 PREPARATION OF BIDS:

(i) Bidder shall go through the tender document carefully to understand the documents required to be submitted as part of the bid. Bidders shall note the number of covers in which the bid documents have to be submitted, the number of documents – including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.

(ii) Any pre-bid clarifications if required, then same may be obtained online through the tender site, or through the contact details given in the tender document.

(iii) Bidders should get ready in advance the bid documents to be submitted as indicated in the tender document/schedule in pdf/xls/rar/zip/ jpg/ dwf formats. If there is more than one document, they can be clubbed together using zip format. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.

(iv) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such documents (e.g. GST registration copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use “My Document” available to them to upload such documents. These documents may be directly attached from the “My Document” library while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

1.3.4 SUBMISSION OF BIDS:

(i) Bidder should log into the site well in advance for bid submission so that he/ she upload the bid in time i.e. on or before the bid submission time.

(ii) Bidder should prepare the Cost of bidding document/ EMD as per the instructions specified in the tender document. The original Cost of bidding document/ EMD should be posted/ couriered/ given in person to the concerned official, latest by the last date of bid submission or as specified in the NIT/ tender documents. The details of the DD/ any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid shall be liable for rejection.

(iii) Bidders should select the payment option as “offline” to pay the Cost of bidding document/ EMD and enter details of the DD/BC/BG.

(iv) Bidder should digitally sign and upload the required bid documents one by one in respective “Tender Cover” as indicated in the tender document.

(v) Bidders should note that, the very act of using DSC for downloading the tender document and uploading their

offers is deemed to be a confirmation that they have read all sections and pages of the tender document without any exception and have understood the complete tender document and are clear about the requirements of the tender document.

(vi) Bidders are requested to note that each document to be uploaded for the tender should be less than 2 MB. If any document is more than 2 MB, it can be reduced through zip/rar and the same can be uploaded. For the file size of less than 1 MB, the transaction uploading time will be very fast.

(vii) Utmost care shall be taken for uploading 'Schedule of Quantities & Prices' and any change / modification of the price schedule shall render it unfit for bidding.

Bidder shall download the Schedule of Quantities & Prices i.e. BOQ_XXXX.xls, in XLS format and save it without changing the name of the file. Bidder shall fill their respective rates in figures (financial quotes) and other details (such as name of Bidder) in light blue background cells, thereafter save and upload the file online in financial/price bid (Finance) cover without changing the filename. No other cell should be changed.

Bidders are requested to note that they should necessarily submit their financial bids in the 'Finance' cover in the format provided and no other format is acceptable. **If the template of "Schedule of Quantities & Prices" file is found to be modified/ tampered by the Bidder, the bid shall be rejected and further dealt as per provision of clause no. 12.0 of ITB including forfeiture of EMD.**

The Bidders are cautioned that uploading of financial bid elsewhere i.e. other than in financial cover shall result in rejection of the tender.

(ix) Bidder should submit their bids through online e-tendering system to the Tender Inviting Authority (TIA) well before the bid submission end date & time (as per Server System Clock). The TIA will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the Bidder at the eleventh hour.

(x) After the bid submission (i.e. after clicking —Freeze Bid Submission in the portal), the Bidder should take print out of system generated acknowledgement number, and keep it as a record of evidence for online submission of bid, which will also act as an entry pass to participate in the bid opening.

(xi) Bidder should follow the server time being displayed on Bidder's dashboard at the top of the tender site, which shall be considered valid for all actions of requesting, bid submission, bid opening etc., in the e-tender system.

(xii) All the documents being submitted by the Bidder would be encrypted using PKI (Public Key Infrastructure) encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers / bid openers public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.

1.3.5 ASSISTANCE TO BIDDERS:

1) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to inviting authority of the tender.

2) Any queries relating to the process of online bid submission or queries relating to e-tendering Portal in general may be directed to the e-Wizard Helpdesk. The contact number for the helpdesk is **Mr. Amrendra Kumar: 09015535108, Email:ewizardhelpdesk@gmail.com, Ph: 011-49606060.**

Toll Free Number 1800-3070-2232. Mobile No. +91-7878007972 and +91-7878007973.

2.0 Eligibility Criteria for Bidders:

2.1 Bids of those Bidders who have not submitted the requisite Cost of bidding document and EMD (as per Instructions to Bidders (ITB) Clause 3.0 & 4.0) shall not be considered for evaluation, except in case of exemption as per Clause No. 3.2 & Clause No. 4.1 of ITB.

2.2 The bidders must fulfill the following minimum Qualifying Criteria:-

2.2.1

- (i) The bidder should have a team of experts working in different domains pertaining to Geospatial AI Analyst with experience in forest management system.
- (ii) The bidder should have minimum 03 years" experience in doing similar kind of work for any Central or State Government/Public Sector Organizations/Global Forest agency state or national government.
- (iii) The bidder should have an average annual turnover of Rs 10 Crore in the last three financial years. (Enclose the copy of Profit & Loss Account / balance Sheet & ITR).
- (iv) The bidder should also enclose copy of GST Registration
- (v) In case a bidder is participating in a tender on behalf of one vendor, he is not allowed to participate/ quote on behalf of another vendor in this tender or in a parallel tender for the same item. All such bids with same make/ manufacture will be rejected
- (vi) Bidder must produce with their Bid – PAN and Goods & Services Tax Identification No. (GSTIN).
- (vii) The individual(s) signing the Bid or other documents in connection with the Bid must attach the Power of Attorney in his/their name as a part of Pre-Qualification Bid. In case of non-submission of valid Power of Attorney, the Bid is liable to be rejected

2.2.2 The reference date for considering the period for eligibility / qualification requirements above shall be the last day of the month previous to the one in which tenders are invited.

2.3 Bids of only those Bidders who are meeting the Eligibility Criteria specified above will be considered for evaluation and award of the contract. Bidders will submit duly notarized requisite supporting documents [as per clause 2.2.2 & clause 2.2.3 of NIT] and testimonials with their Bids to prove their credentials and claim of meeting the Eligibility Criteria.

Note: Mere downloading of Bid document by prospective Bidder shall not be construed that such a bidder automatically fulfills the prescribed eligibility criteria. Whether the bidder meets the specific eligibility criteria or not, shall be checked or ascertained, on opening their bids by scrutinizing documentary evidences furnished by them along with their bid.

3.0 Cost of bidding document:

3.1 Complete bid document can be viewed and downloaded from FSI website www.fsi.nic.in or <https://moefcc.euniwizarde.com> and Central Public Procurement (CPP) Portal <https://eprocure.gov.in/eprocure/app>. The interested bidders will have to deposit the amount of Rs. 1000/- (non-refundable) towards tender fee through bharat kosh (<https://bharatkosh.gov.in>). The bidder shall fill the Cost of bidding document details online and submit DD to Tender Inviting Authority i.e. Director General, Forest Survey of India, Kaulagarh Rod, P.O IPE, Dehradun-248195 Phone No.: +91-135-2756139,2754507,2755037 E-mail: dgfsi@fsi.nic.in on or before the date as specified in NIT.

3.2 The Bidder shall bear all costs associated with the preparation and submission of his bid, and the Purchaser will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

4.0 Bid Security / Earnest Money Deposit (EMD)

4.1 Bidder shall submit along with the bids, the requisite Bid Security / EMD for an amount of ₹2,00,000/- (Rupees two lacs only) as given in NIT appended hereto. Bid security / EMD may be deposited in the form of Crossed Demand Draft/ Bank Guarantee in favour of 'Assistant director (Accounts)' FSI Kaulagarh Road, PO - IPE, Dehradun. Failure to do so may prevent a tender from being considered.

Micro and Small enterprises (MSEs) Units registered with NSIC under their Single Point Registration Scheme having Udyog Aadhar Memorandum for the goods / services are exempted from furnishing the Bid Security / EMD.

They should furnish with the Bid (**both online and offline**) a Notarized copy of the valid registration certificate / Entrepreneurs memorandum (EM-II) details / other relevant documents issued by above board / body in their favors, for the goods / services covered under this Tender document. No other bidders are exempted from furnishing Bid Security / EMD as mentioned above.

Startups as recognized by Department of Industrial Policy & Promotion (DIPP) are exempted from furnishing the bid Security/ EMD. They should furnish with the Bid a Notarized copy of the valid certificate of recognition issued by DIPP. No other bidders are exempted from furnishing Bid Security / EMD except as mentioned elsewhere in the document.

4.2 The bidders shall not be entitled, during the period of validity of their offers without the consent in writing of the Purchaser, to revoke or withdraw their bids or vary in any respect their offer or any terms and conditions thereof. In case of a bidder revoking or withdrawing his Bid or varying any terms and conditions in regard thereto, without the consent of the Purchaser in writing during the period of validity of his offer, the Purchaser shall forfeit the Bid Security / EMD furnished by the bidder along with his offer.

In addition to this the bidder may at the discretion of the Purchaser, be debarred from bidding for a period as may be considered fit by the Purchaser, against any Bid that might be invited by the Purchaser in future. The Purchaser will also be within its rights to circulate the information, at its discretion to other prospective purchasers about the bidder having withdrawn his offer within the validity period.

4.3 Bids received unaccompanied by either an acceptable Bid Security / EMD or a notarized photocopy of valid certificate of registration stated as above shall be rejected as being non-responsive.

4.4 Bid Security / EMD of the successful bidder will be returned when the bidder has furnished requisite Performance Guarantee as stipulated in Terms and Conditions of Contract (T&C). Bid Security / EMD of bidders who are not qualified for opening of price bid shall be returned within 15 days after such notification. The Bid security / EMD of all the unsuccessful bidders whose price bid has been opened will be returned within 15 days of notification of the award of Contract to the successful bidder. The Earnest Money of unsuccessful bidders shall be remitted by the Employer in the account mentioned in ECS Form (Annexure-IV) through ECS mode.

4.5 The Bid Security / EMD shall be forfeited:

(a) If the Bidder withdraws its bid or varies any terms & conditions, without the consent of the Purchaser, in regard thereto during the period of Bid validity specified by the bidder; or

(b) If the bidder indulges in Corrupt, Fraudulent, Collusive or Coercive practice(s) as mentioned in the clause 12.0 of ITB; or

(c) If the bidder does not accept the correction of its Bid Price pursuant to ITB Sub-Clause 10.7; or

(d) If the successful bidder having been notified of the acceptance of its Bid by the Purchaser during the period of Bid validity refuses to accept / execute the Order or fails to enter into Contract Agreement when required; or

(e) In the case of a successful Bidder, if the Bidder fails within the specified time limit to furnish the required

Performance Security in accordance with T&C.

5.0 The bidder shall prepare the bid and submit the bid online only on —**Electronic Tendering System**” in following manner:

5.1 ONLINE SUBMISSION:

A Pre-bid conference will be held at Dehradun on the 28th December 2020 from 11:30 a.m. onwards wherein the technical specifications of the Expression of Interest “Near real time Detection of Forest Fire Using Artificial Intelligence (AI), Data Analytics and other front end Geo-Spatial Technologies in the States of Karnataka, Madhya Pradesh, Maharashtra, Odisha & Uttarakhand.” Will be discussed to have clarity on the matter. Bidders are free to attend the conference.

5.1.1 Cover-1: Techno-commercial bid:

Online bids should be submitted containing scanned copy of following document in Cover-1:

- i) All Documents establishing conformity to the Eligibility Criteria as mentioned at Clause 2.0 of ITB.
- ii) Demand Draft/Banker's Cheque/Notarized copy of valid relevant MSEs Certificate towards Cost of bidding document.
- iii) Demand Draft/Banker's Cheque/Bank Guarantee/Notarized copy of valid relevant MSEs Certificate towards Bid Security / EMD.
- iv) Annexure – I: Bid Performa & Annexure – III (Self Declaration by the Bidder)
- v) Annexure – II: Electronic Clearance System (ECS) Form.
- vi) Copy of PAN and GSTIN
- vii) Scanned copy of Power of Attorney along with authority of executants.
- viii) Annexure – III: Declaration regarding applicability of Micro, Small & Medium Enterprise under MSMED Act, 2006 along with notarized copy of the certificate.
- ix) Annexure – IV: Declaration regarding applicability of Start-Ups under Start-Up India Initiative along with notarized copy of certificate.

5.1.2 Cover-2: FINANCIAL BID (PRICE-BID)

The Financial Bid (Price Bid) shall be submitted in electronic form in conformity with the tender specifications on the portal only by the time & date as specified in NIT. The financial cover shall contain price bid in the enclosed “**Schedule of Quantities & Prices**” i.e. **BOQ_XXXX.xls**. The quoted rates should be in Indian Rupee and shall be written in figures in **BOQ_XXXX.xls**.

Submission of the Financial Bid (Price Bid) by any other means shall not be accepted by the Purchaser in any circumstances.

Online submission of the bid will not be permitted on the portal after expiry of submission time and the Bidder shall not be permitted to submit the same by any other mode.

5.2 OFFLINE SUBMISSIONS:

Hard copy / Supporting documents:

The scanned copy(ies) of all the offline documents (hard copies) are to be uploaded online on the portal along with the Bid as provided in ITB clause 5.1.

- i) DD / Banker's Cheque / Notarized copy of valid relevant MSEs Certificate towards cost of bidding document.
- ii) DD / Banker's Cheque / Notarized copy of valid relevant MSEs Certificate towards Bid Security / EMD.
- iii) Power of Attorney alongwith authority of the executants.

Hard copy of online documents, if desired by the Purchaser, shall be submitted by the bidder in due course of time.

These envelope(s) shall not contain anything else. This part of bid should not contain any **"Price information"**.

If any discrepancy is found between the Hard Copies of the offline documents viz. DD towards Cost of bid document & DD towards Bid Security / EMD, Power of Attorney and scanned copy of same uploaded online then the online bid shall be liable for rejection.

5.3 The online bid (Techno-commercial Bid and Price Bid) shall be submitted upto the due date & time indicated in the NIT or any extension thereof. Offline documents (as specified at Clause No. 5.2 above) in Physical Form shall be received by the Purchaser at the address specified in Invitation for Bids (Notice Inviting e-Tender) not later than the time and date stated in the Invitation for Bids or any extension thereof. In the event of the specified date for submission of Offline documents being declared a holiday for the Purchaser, the same will be received upto the appointed time on next working day. However, the date and time for online submission of the Bids shall continue to be the date and time specified or amended, if any.

5.4 The Purchaser reserves the right to itself to postpone and/or extend the date of receipt or to withdraw the Bid notice, without assigning any reason thereof, entirely at its discretion. In such an event, bidders shall not be entitled to any compensation, in any form whatsoever.

6.0 Bid Proforma:

The bidder should fill in the Bid Proforma appended as Annexure-I herewith and submit the same online

7.0 ECS Form:

Bidders are required to submit duly filled in ECS Form appended as **Annexure-II** herewith and submit the same online.

8.0 Bidders can submit their bids for all or any of the equipment listed in 15.0 of Section-II.

9.0 Online opening of Bids by Purchaser:

9.1 The Purchaser will open the Bids online on the date as specified in NIT or any extension thereof. In the event of the specified date or amendment if any for the opening of bids/offline documents being declared a holiday for the Purchaser, the opening shall be carried out at the specified time on the next working day.

9.2 Initially, the 'Techno-Commercial Bid' shall be opened and the 'Price Bid' of only those bidders whose Techno-Commercial bid is acceptable to the Purchaser shall be opened online subsequently. The decision of the Purchaser is final and binding in this regard.

10.0 Evaluation of Bids:

10.1 Part bids i.e. bids for supply of part of the procurements will not be considered for evaluation. Bids for supply of all the three components of the procurement will only be considered. The Purchaser will examine the bids to determine whether they are complete, whether any computational errors have been made, whether the documents have been properly signed and whether the bids are generally in order and conforms to all the terms, conditions and specifications of the bid documents without any deviations.

The Purchaser will, thereafter check and ascertain whether the bidder fulfils the Eligibility criteria and other requirements specified under ITB Clause 2.0. The Bids submitted by the Bidders who meet the Eligibility Criteria set under ITB Clause 2.0 shall only qualify for consideration and further technical evaluation by the Purchaser.

The Purchaser's determination of a Bid's responsiveness is to be based on the contents of the Bid itself without recourse to extrinsic evidence. If a Bid is not substantially responsive, it will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the nonconformity.

10.2 Prior to the detailed evaluation, the Purchaser will determine whether each bid is of acceptable quality, is generally complete and is substantially responsive to the bidding documents. For purposes of this determination, a substantially responsive bid is one that conforms to all the terms, conditions and specifications of the bidding documents without material deviations, objections, conditionalities or reservations.

A material deviation, objection, conditionality or reservation is one:

- (i) that affects in any substantial way the scope, quality or performance of the Contract;
- (ii) that limits in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the successful Bidder's obligations under the Contract; or
- (iii) whose rectification would unfairly affect the competitive position of other Bidders who are presenting substantially responsive Bids.

The Purchaser may waive any minor informality, non-conformity or irregularity in a Bid that does not constitute a material deviation, and that does not prejudice or affect the relative ranking of any Bidder as a result of the technical and commercial evaluation, as per clause 10.1 of ITB.

Also, if any discrepancy is found between the Hard Copies of the offline documents viz. DD towards cost of bid document & DD towards Bid Security / EMD, Power of Attorney, and scanned copy of same uploaded online, then the online bid may be liable for rejection.

10.2.1: Scoring for Technical Evaluation:

The Technical evaluation committee appointed by DG, FSI will carry out its evaluation applying the evaluation criteria and point system. Each responsive proposal will be attributed a technical score (St.). The technical proposal should score at least **70 points out of 100** to be considered for financial evaluation.

{Refer Section-II point 15.0}

10.3 During bid evaluation, the Purchaser may ask the bidder for clarification of its bid. The request for clarification and the response shall be in writing, and no change in the price or substance of the bid shall be sought, offered or permitted.

10.4 The bidder shall quote for the individual items mentioned in the Price Bid. The evaluation of the bids shall be done based on the total price as per BOQ XXXX: Schedule of Quantities & Prices of Section-III but quotation of each item is necessary in the financial bid.

10.5 All applicable taxes, duties and levies as mentioned in BOQ XXXX i.e. Schedule of Quantities & Prices of

Section-III shall be considered for the purpose of evaluation of bids.

10.6 Any adjustments in price that result from the above procedures shall be added, for purposes of comparative evaluation only, to arrive at an 'Evaluated Bid Price'. Bid prices quoted by Bidder shall remain unaltered.

10.7 Arithmetical errors will be rectified on the following basis:

If there is a discrepancy between the unit price and the total price which is obtained by multiplying unit price and quantity, or between sub-total and the total price, the unit or sub-total price as the case may be shall prevail, and the total price shall be corrected. If there is a discrepancy between words and figure of the unit rates, the unit rates in words will prevail. If bidder does not accept the correction of errors, its bid will be rejected and the Bid Security / EMD will be forfeited in accordance with ITB sub-clause 4.5.

10.8 Scoring for Financial Evaluation:

The evaluation committee will determine if the financial proposals are complete and without computational errors. The lowest financial proposals (Fm) will be given a financial score (Sf) of 100 points. The financial scores of other proposals will be computed as follows $S_f = 100 \times F_m / F$ (Where F is amount of financial proposal).

10.9 Ranking of Bids:

Bids will finally be ranked according to their combined technical (St) and financial (Sf) scores using the formula $S = S_t \times T\% + S_f \times F\%$. The weight (T%) given to the Technical Proposal is 70%. The weight (F%) given to the Financial Proposal is 30%.

10.10 Technical and Financial evaluation will be done in a composite manner taking into consideration proposal in the bids for all the three components of the procurement.

11.0 Award Criteria & Purchaser's Right to accept any bid and to reject any or all Bids

11.1 The Purchaser reserves the right to accept or reject any bid, or cancel/ withdraw invitation to Bid for any reason including National Defense and security conditions, and annul the Bidding process and reject all bids at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or Bidders. However, the Bidder(s), who wish to seek reasons for such decision of cancellation/ rejection, shall be informed of the same by Purchaser unless its disclosure reasonably could be expected to affect the sovereignty and integrity of India, the security, strategic, scientific or economic interest of the State, relation with foreign state or lead to incitement of an offence.

11.2 The Purchaser shall not be bound to accept the lowest or any bid and reserves to itself the right of accepting whole or a portion of any of the bid as it may deem fit, without assigning any reason thereof.

11.3 Canvassing in any form or any approach, official or otherwise, by the Bidder to influence the consideration of his bid shall render the bid liable to summarily rejection.

11.4 Subject to ITB Clause 11.1 and 11.2, the Purchaser shall award the contract to the successful Bidder whose bid has been determined to be substantially responsive and to be the highest ranked bid, further provided that the Bidder is determined to be qualified to perform the contract.

11.5 The scoring arrived at in terms of clause 10.0 shall be considered for the comparison and evaluation of the bids. However, for the purpose of award of work, the combined ranking as per clause 10.0 of ITB shall be considered.

12.0 Corrupt, Fraudulent, Collusive or Coercive Practices

It is expected from the Bidders/ Suppliers/ Contractors that they will observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy:

(a) For the purpose of this provision, the terms set forth below shall mean as under:

(i) "**corrupt practice**" means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution; and

(ii) "**Fraudulent practice**" means a misrepresentation/ omission of facts in order to influence a procurement process or the execution of a contract.

(iii) "**Collusive practice**" means a scheme or arrangement between two or more Bidders, with or without the knowledge of the Purchaser, designed to establish bid prices at artificial, noncompetitive levels; and

(iv) "**Coercive practice**" means harming or threatening to harm, directly or indirectly, person or their property to influence their participation in a procurement process or affect the execution of a contract;

(b) A Bid may be rejected by the Purchaser if it is determined at any stage that the respective Bidder has engaged in corrupt, fraudulent, collusive and coercive practices as mentioned above in competing for the contract in question.

(c) The Purchaser may declare a bidder ineligible, either indefinitely or for a stated period of time, if it at any time determines that the firm has engaged in corrupt or fraudulent practices, Collusive and Coercive practices in competing for, or in executing, a contract.

(d) **Banning of Business Dealings:** It is not in the interest of FSI to deal with Agencies who commit deception, fraud or other misconduct in the tendering process and/or during execution of work undertaken. The grounds on which Banning of Business Dealings can be initiated are as follows:

(i) If the security consideration, including questions of loyalty of the Agency to FSI so warrants;

(ii) If the director/owner of the Agency, proprietor or partner of the firm, is convicted by a court of law for offences involving moral turpitude in relation to its business dealings with the Government or any other public sector enterprises, during last five years;

(iii) If the Agency has resorted to Corrupt, Fraudulent, Collusive, Coercive practices including misrepresentation of facts and violation of the any provisions provided in the Contract;

(iv) If the Agency uses intimidation / threatening or brings undue outside pressure on FSI or its official for acceptance / performances of the job under the contract;

(v) If the Agency misuses the premises or facilities of the FSI, forcefully occupies or damages the FSI's properties including land, water resources, forests / trees or tampers with documents/records etc.;

(vi) If the Agency does not fulfill the obligations as required under the Contract and Violates terms & conditions of the contract which has serious affect for continuation of the Contract.

(vii) If the work awarded to the agency has been terminated by FSI due to poor performance of the contract in the preceding 5 years.

(viii) If the Central Vigilance Commission, Central Bureau of Investigation or any other Central Government investigation Agency recommends such a course in respect of a case under investigation or improper conduct on agency's part in matters relating to the FSI or even otherwise;

(ix) On any other ground upon which business dealings with the Agency is not in the public interest.

(x) If business dealings with the Agency have been banned by the Ministry of Environment, Forest & Climate Change, Government of India OR any PSU/ any other authority under the MOEF&CC if intimated to FSI or

available on MOEF&CC Website, the business dealing with such agencies shall be banned with immediate effect for future business dealing without any further investigation.

(Note: The examples given above are only illustrative and not exhaustive. The Competent Authority may decide to ban business dealing for any good and sufficient reason).

13.0 Check List (This Check List duly tick marked shall be submitted online)

S. No.	Document Required	Action required	Submitted Please tick (✓)
1.	Notarized copies of Documentary evidences in Support of the qualification criteria as per ITB Clause No. 2.0.	To be uploaded online.	
2.	Cost of bidding document	To be submitted in hard copy and uploaded online.	
	(i) DD amounting to ₹_____ /-		(i)
	Or		Or
	(ii) Notarized copy of valid Certificate towards exemption of Cost of bidding document.		(ii)
3.	Bid Security / EMD	To be submitted in hard copy and uploaded online.	
	(i) DD Amounting to ₹_____ /-		(i)
	Or		Or
	(ii) Notarized copy of certificate towards exemption of Bid Security / EMD.		(ii)
4.	Power of Attorney along with authority of executants.	To be submitted in hard copy and uploaded online.	
5.	ECS Form	To be uploaded online duly filled in.	
6.	PAN - Copy of PAN card	To be uploaded online	
7.	GST - Copy of GST certificate	To be uploaded online	
8.	MSMED declaration as per Performa.	To be uploaded online duly filled in	
9.	Bid Proforma	To be uploaded online duly filled in	
10.	Schedule of Quantities & Prices i.e. Financial Bid (Price Bid) of Section-III	To be filled online	
11.	Copy of Authorized Dealer Certificate from OEM	To be uploaded online duly filled in	

Four Key Instructions For Bidders:

Note: The following **Four Key Instructions for Bidders** must be assiduously adhered to:

- i) Obtain individual Digital Signature Certificate (DSC or DC) well in advance of tender submission deadline.
- ii) Register your Organization on <https://moefcc.euniwizarde.com> portal well in advance of tender submission

deadline.

iii) Get your Organization's concerned executives trained on <https://moefcc.euniwizarde.com> portal well in advance of tender submission deadline.

iv) Submit your bids well in advance of tender submission deadline on portal (There could be last minute problems due to internet timeout, breakdown, etc.) While the first three instructions mentioned above are especially relevant to first-time users of portal, the fourth instruction is relevant at all times.

Note: Electronic procurement system will not allow any Bidder to place their bids after the expiry of scheduled date & time. FSI/ NIC-CPPP shall not be responsible for any delays/ problems related to bandwidth, connectivity etc., which are beyond the control of the FSI/ NIC-CPPP."

BID PROFORMA

S. No.	Description of information	Replies by the bidder					
1.	Name of the firm	:					
2.	Complete address of Regd./ Head Office	:					
	i) Postal	:					
	ii) Telephone/ Fax	:					
	iii) E-mail	:					
3.	Former name of the Firm (in any)	:					
4.	Type of the firm	:					
	(Proprietary/ Partnership/ Private Ltd. Co. / Public Ltd. Co.)	:					
5.	Whether MSE or Start-Up	:					
	(tick in the appropriate box)						
			<table border="1" style="width: 100%;"> <tr> <td style="width: 50%; text-align: center;">MSE</td> <td style="width: 50%; text-align: center;">Start-Up</td> </tr> <tr> <td style="height: 20px;"></td> <td style="height: 20px;"></td> </tr> </table>	MSE	Start-Up		
MSE	Start-Up						
6.	Year and place established	:					
7.	Are you registered with any Government/ (if yes, give details)for supply of similar items/ equipment's covered Under the Specifications	:					
8.	Have your company ever been declared Bankrupt (if yes, give details)	:					
9.	Validity period of tender, reckoned from the last date of online bid submission	:	120 days				
10.	Whether all technical particulars, drawings etc., furnished and filled in all schedules, appended to the tender documents.	:					
11.	Rate of Taxes & Duties	:	(Mention here only % rates as applicable)				
	1. Supply:						
	a) GST	:	(%)				
	b) Any other Tax, if any	:	(%)				
	2. Transportation & Insurance Charges:						
	a) GST	:	(%)				
	b) Any other taxes & duties etc.	:	(%)				
12.	Goods & Services Tax Identification No. (GSTIN)	:					

Place: _____

For & on behalf of

Date: _____

Signature : _____

Name : _____

Designation : _____

(of the authorized representative of the bidder)

Official seal of the Company:

ELECTRONIC CLEARING SERVICE (ECS) – Form

**ELECTRONIC CLEARING SERVICE (CREDIT CLEARING)
(PAYMENT TO PARTIES THROUGH CLEARING MECHANISM)**

No.:

- 1. Bidder's Name : _____
- a) Address : _____
- b) Phone/ Mobile No. : _____
- 2. Particulars of Bank Account : _____
- a) Bank Name : _____
- b) Branch Name : _____
- c) Address : _____
- Telephone No. : _____
- d) IFSC Code of the Bank : _____
- (for payment through RTGS)
- e) Account Type : _____
- (S.B. Account/ Current Account or/ Cash
- Credit with code 10/11/13)
- f) Account Number :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- (as appearing on the Cheque Book)

I hereby declare that the particulars given above are correct and complete. If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold the user company responsible.

(-----)

Date:
Bidder

Signature of the

Certificate that the particulars furnished above are correct as per our records. (Bank's Stamp)

(-----)

Date:
Bidder

Signature of the

Declaration regarding applicability of Micro, Small & Medium Enterprise under MSME Act, 2006

DECLARATION / UNDERTAKING:

A) I/We confirm that the provisions of Micro, Small & Medium Enterprise are applicable/not applicable to us and our organization falls under the definition of:

- a. - Micro Enterprise
- b. - Small Enterprise
- c. - Medium Enterprise

Please tick in the appropriate option box and attach documents/certificate, if any.

B) I/We also confirm that we are MSEs owned by SC/ST Entrepreneurs **(Strike out if not applicable)**

C) I/We also undertake to inform the change in this status as aforesaid during the currency of the contract, if any.

(Authorized Representative of Firm)

Declaration Regarding Applicability of Start Ups under Start-Up India Initiative

DECLARATION / UNDERTAKING

A) I/We confirm that the provisions of Start-Up India Initiatives are:

Applicable to us and our organization falls under the definition of Start-Ups.

Not applicable to us and our organization does not fall under the definition of Start-Ups.

Please (tick) the appropriate box [] and attach documents / certificates, if any.

B) I/We also undertake to inform the change in this status as aforesaid during the currency of the contract, if any.

(Authorized Representative of Firm)

Annexure-V

(to be filled and uploaded online)

DECLARATION

1. I,..... Son/ Daughter/ Wife of Shri.....
... , Proprietor/Director/authorized signatory of the Agency mentioned above, is competent to sign this declaration and execute this tender document.

2. I, have carefully read and understood all the terms and conditions of the tender and undertake to abide by them;

3. The information/documents furnished along with the above application are true and authentic to the best of my knowledge and belief. I/we, am/ are well aware of the fact that furnishing of any false information/fabricated document would lead to rejection of my tender at any stage besides liabilities towards prosecution under appropriate law.

4. Certified that(Name of the Agency) is a Authorized Dealer of(Name of OEM) for supply of
.....
.....

5. Certified that the agency has not been black listed /security deposit has not been forfeited in case of the agency during the last five years.

Signature of authorized person

Date:

Full Name:

Place:

Seal

SECTION – III

TERMS AND CONDITIONS OF CONTRACT (T&C)

Section–III: Terms and Conditions of Contract (T&C)

1.0 Scope of Supply: “Carrying out Burnt Area Mapping and Assessment Using Artificial Intelligence (AI), Data Analytics and other front end Geo-Spatial Technologies”

2.0 Prices, Taxes & Duties:

2.1 Prices shall be Firm and on F.O.R destination basis i.e FSI, Dehradun inclusive of charges for packing, handling, forwarding, transportation, insurance and all applicable taxes and duties.

2.2 Taxes, duties and levies, as applicable twenty eight (28) days prior to deadline for submission of bids, shall be mentioned separately in Price Bid i.e. Schedule of Quantities & Prices (Section-III).

2.3 All taxes & duties mentioned in the Price Bid as per clause 2.2 above shall be paid/ reimbursed against proper invoice as per rules/documentary evidence and restricted to the total amount of Taxes and Duties in Price Bid subject to clause 2.4 below. No other taxes and duties shall be payable / reimbursable by FSI.

2.4 Statutory variation, in Taxes and Duties or levy of any new Tax after 28 (Twenty Eight) days prior to deadline for submission of bid will be adjusted/reimbursed against production of documentary evidence.

3.0 Transit Insurance:

Transit Insurance shall be borne by the supplier.

4.0 Terms of Payment:

1. 80% of the payment against submission of report and upload to the portal
2. 20% upon acceptance of the report by FSI

Copies of Documents to be submitted for payment

3. Invoice in Triplicate
4. Inspection Report, Test Certificates Insurance Intimation/Cover (if any)
5. Training and Handholding manuals

In case of MSE:

All the payments for the supplies and/ or services *[as applicable]* rendered by MSEs (Micro & Small Enterprises) Supplier/ Contractor under the Contract shall be released within forty five (45) days from the day of acceptance*. In case, payment are not released as mentioned above, FSI shall pay the principal amount plus compound interest with monthly rests from the date of immediately following the date agreed upon @ three times of bank rates as notified by Reserve Bank of India from time to time.

* **Day of Acceptance means** - day of the actual delivery of goods or the rendering of services; where any objection is made in writing by the buyer regarding acceptance of goods or services within fifteen (15) days from the date of delivery of the goods or the rendering of services, the day on which such objection is removed by the Supplier.

In case of non-MSE:

All the payments for the supplies and/or services *[as applicable]* rendered by non-MSEs (non-Micro & Small Enterprises) Supplier/ Contractor under the Contract shall be released within forty five (45) days from the receipt of invoice/ bills from the Contractor/ Supplier complete in all respect. In case, payment are not released as mentioned above, FSI shall pay the principal amount plus simple interest from the date immediately following the date agreed upon @ 8% (eight percent) per annum.

5.0 Delivery Period:

The delivery schedule of equipments/ items from the date of issue of the Letter of Award / Supply order are stated as below:

S. No.	Description	
i)	Near real time Detection of Forest Fire Using Artificial Intelligence (AI), Data Analytics and other front end Geo-Spatial Technologies in the States of Karnataka, Madhya Pradesh, Maharashtra, Odisha & Uttarakhand.	Twelve Weeks
ii)	Application Support/ Stabilization Period	Up to two months after application deployment

6.0 Liquidated Damages:

If the Supplier fails to attain completion of the supply of the material or any part thereof within the prescribed time for completion under clause 5.0 or any extension thereof (due to delays not attributable to the Supplier), the Supplier shall pay to the Purchaser liquidated damages equal to the amount computed @ 1/2 (half) percent per week or part thereof of Contract Price. The aggregate amount of such Liquidated damages shall in no case exceed 5% of the Contract Price. However cost compensation for any time extension shall not be paid.

7.0 Performance Guarantee:

Within 28 days of receipt of Supply Order, the Supplier shall furnish to the Director General, FSI a Performance Guarantee in the form of Demand Draft/ Bank Guarantee from an Indian Nationalized Bank or any Scheduled Bank in India as per the format appended as **Annexure-A** herewith for an amount equal to (10) ten percent of the contract price by way of guarantee valid till three months beyond the warrantee period as mentioned in the Supply Order for the due and faithful performance of the contract alongwith the other terms and conditions agreed to.

The Performance Guarantee shall be released after successful completion of the warrantee period. The Performance Guarantee amount will not earn any interest for whatsoever period detained by FSI. Contractor shall communicate the following bank details to the issuing Bank for online confirmation of Bank Guarantee to be submitted in terms of this clause:

Name of the beneficiary: _____
Account No.: _____
IFSC Code: _____
Address of the Bank: _____

8.0 General:

The Purchaser reserves to itself the right to take over the part or full contract from the Supplier after the award of the Contract or during the execution of Contract without assigning any reason.

9.0 Officer-In-Charge:

Director General, Forest Survey of India shall be Officer-In-Charge of the aforesaid contract.

10.0 Consignee:

Director General, Forest Survey of India, Kaulagarh Road, P.O- IPE, Dehradun – 248 195.
Contact No: +91-135-2754507 Fax No: +91-135-2756139, Email: dgfsi@fsi.nic.in

11.0 Paying Authority:

Assistant Director (Accounts), Forest Survey of India, Kaulagarh Road, P.O IPE, Dehradun – 248 195.

12.0 Court of Competent Jurisdiction:

Any action taken or proceedings initiated on any of the terms of this Agreement shall be only in the court of competent jurisdiction under the Local competent Court of Dehradun.

13.0 Technical Specifications:

S. No.	Description	Max Score
1	Past Experience in “Application of AI, Data Analytics and other Front End Geo-spatial Technologies in Natural resource monitoring/ Natural Hazards 3 or more projects (30 marks), 2 to 3 projects (20 marks) 1 project (10 marks)	30
2	Qualification and Experience of Technical personnel in the field of AI , Data Analytics and other Front End Geo-spatial Technologies to be deployed for the project <ul style="list-style-type: none"> • Technical personnel having degree of M.Tech/ Ph.D <ul style="list-style-type: none"> ➤ Equal to or more than 2 15 Marks ➤ Less than 2 10 Marks • Technical personnel having degree of B.Tech/ M.Sc <ul style="list-style-type: none"> ➤ Equal to or more than 2 10 Marks ➤ Less than 2 7 Marks 	25
3	Any patents, computational models, academically reviewed and published work, accreditations, in India or Globally	10
4	Presentation of the Approach, Methodology & Technical Solution and live demonstration of the portal and similar to RFP technical requirements. 1. Live Demonstration (15 marks) 2. Approach & Methodology proposed (10 marks) 3. Technical Solution (10 marks)	35
	Total	100

BANK PERFORMANCE GUARANTEE

Bank Guarantee

(To be stamped in accordance with Stamp Act if any, of the Country of the issuing Bank)

Bank Guarantee No.

Date

To,
[Purchaser's Name & Address]

Dear Sirs,
In consideration of the ...[Purchaser's Name] (hereinafter referred to as the Purchaser which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators and assigns) having awarded to M/s [Supplier's Name] with its Registered/Head Office at... (hereinafter referred to as the 'Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors administrators, executors and assigns), a Contract by issue of Purchaser's Letter of Acceptance No. ... dated ... and the same having been acknowledged by the Supplier, for ... [Contract sum in figures and words] for ...[Name of the Supply] and the Supplier having agreed to provide a Contract Performance Guarantee for the faithful performance of the entire Contract equivalent to ...(*)... of the said value of the aforesaid supply under the Contract to the Purchaser.

We..... [Name & Address of the Bank] ... having its Head Office at (hereinafter referred to as the Bank, which expression shall, unless repugnant to the context of meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Purchaser, on demand any and all monies payable by the Supplier to the extent of (*) as aforesaid at any time upto (@) [days/month/year] without any demur, reservation, contest, recourse or protest and/or without any reference to the Supplier. Any such demand made by the Purchaser on the Bank shall be conclusive and binding notwithstanding any difference between the Purchaser and the Supplier or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the Purchaser and further agrees that the guarantees herein contained shall continue to be enforceable till the Purchaser discharges this guarantee or till[days/month/year] whichever is earlier.

The Purchaser shall have the fullest liberty, without affecting in any way the liability of the Bank under this guarantee, from time to time to extend the time for performance of the Contract by the Supplier. The Purchaser shall have the fullest liberty, without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Supplier, and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Purchaser and the Supplier or any other course or remedy or security available to the Purchaser. The Bank shall not be released of its obligations under these presents by any exercise by the Purchaser of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Purchaser or any other indulgence shown by the Purchaser or by any other matter or thing whatsoever which under law would, but for this provision have the effect of relieving the Bank.

The Bank declares that this Bank Guarantees issued by the Bank, utilizing the credit limit of M/S.....(Name of contractor) and also agrees that the Purchaser at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Supplier and notwithstanding any security or other guarantee the Purchaser may have in relation to the Supplier's liabilities.

- i) Our liability under this Bank Guarantee shall not exceed
- ii) This Bank Guarantee shall be valid up to
- iii) We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if Purchaser serve upon Bank a written claim or demand on or before @.....

Dated this day of 20..... at.....

WITNESS

1
(Signature)
(Name)
(Official Address)
2.
(Signature)

(Name)
(Official Address)

Signed for and on behalf of the Bank

(Signature)
(Name)
(Designation with Bank Stamp)

Attorney as per Power
of Attorney No.
Dated.....

Communication address of the Bank
Name of the contact person
Tel. No. Fax No.
Email:

- Notes: 1. (*) This sum shall be ten percent (10%) of the Contract Price denominated in the types and proportions of currencies. (@) This date will be Ninety (90) days beyond the warrantee period as specified in the Contract.
- 2. The stamp papers of appropriate value shall be purchased in the name of guarantee issuing Bank.
 - 3. Vendor's stamp with full details i.e. name of the Purchaser in whose favour this stamp paper has been purchased should invariably be mentioned on the back side of the stamp paper.
 - 4. Bank Guarantee is required to be submitted directly to the Purchaser by the issuing bank (on Behalf of the Supplier) under the registered post (A.D.). The Supplier can submit an advance copy of Bank Guarantee to the Purchaser. However, in case of exceptional circumstances where efficient postal services are not in force, the Bank Guarantee may be submitted by the Supplier directly to the Purchaser and the issuing Bank shall submit an unstamped duplicate copy of Bank Guarantee directly under the registered post (A.D.) to the Purchaser, with a forwarding letter.

SECTION – IV

SCHEDULE OF QUANTITIES & PRICES

SECTION-III: Schedule of Quantities & Prices

Tender Inviting Authority: Director General, Forest Survey of India, Kaulagarh Road, P.O IPE, Dehradun – 248 195

Description of the Supply: Near real time Detection of Forest Fire Using Artificial Intelligence (AI), Data Analytics and other front end Geo-Spatial Technologies in the States of Karnataka, Madhya Pradesh, Maharashtra, Odisha & Uttarakhand.

Tender Specification No: 22-445/2020-FGD-7189

Dated: 17/12/ 2020

Name of the Bidder/ Bidding Firm / Company :

PRICE SCHEDULE

(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

S. No.	Description	Total Amount (in Rs.)
1	2	3
1	Near real time Detection of Forest Fire Using Artificial Intelligence (AI), Data Analytics and other front end Geo-Spatial Technologies (including all deliverables) in the States of Karnataka, Madhya Pradesh, Maharashtra, Odisha & Uttarakhand.	
Total in Figures		
Quoted Rate in Words		

Note:

1. The total amount should be inclusive of all applicable taxes & duties including GST, other levies and charges etc.
2. It is hereby confirmed that, except as otherwise stipulated in the tender Specification and statutory variations permitted as per the contract, the above unit rates and other charges as mentioned in this schedule, will remain firm till the subject supplies are completed. Further, it is confirmed that no other charges would be payable by FSI, in connection with our execution of the resultant Purchase Order.
3. The "Contract Price" shall mean the total price mentioned in col. 3.

SECTION – IV

SPECIAL CONDITIONS OF CONTRACT
(SCC)

SPECIAL CONDITON OF CONTRACT:

As per the supply schedule, the firm shall at its own cost send its representative to Forest Survey of India, Kaulgarh Road, P.O IPE, Dehradun - 248195 for demonstration. The payment shall be processed only after successful demonstration of application.

PART - II

TECHNICAL SPECIFICATIONS AND DETAILS

“Near real time Detection of Forest Fire Using Artificial Intelligence (AI), Data Analytics and other front end Geo-Spatial Technologies in the States of Karnataka, Madhya Pradesh, Maharashtra, Odisha & Uttarakhand”

1.0 Background:

Forest fires are a recurrent phenomenon in India during fire season which is generally from January to June. FSI has been carrying out real time forest fire monitoring at national level since 2004 using Remote Sensing and GIS technology with the objective to detect and inform State Forest Departments about active forest fires on near real time basis. From the year 2012, the time duration between satellite pass and the time of dissemination of forest fire alerts by FSI has been reduced to nearly 2 hours, thus bringing the mechanism of signal reception, processing and dissemination on to a near real time mode.

In order to advise the State Forest Departments on vulnerable areas, which are prone to forest fires in the near future, a pre-warning alert system for forest fires has been developed and made operational from the year 2016. The pre-warning fire alerts valid for the ensuing week are generated based on certain parameters such as Forest Cover, Forest Type, Climatic Variables (Temperature and Rainfall) and past fire incidences over the area etc. The forest areas found vulnerable are communicated to the Nodal Officers of State Forest Departments, as pre-warning forest fire alerts in the form of KML files through email.

Forest fires are one of the major drivers of damage caused to forests in the country. Uncontrolled forest fires can lead to significant losses of forests and ecosystem services. Studies suggest that climate change influences forest fire frequency and intensity which results in forests becoming increasingly inflammable. The increasing duration of forest fire season, numbers of large fires, frequency of severe fire years may be related to climate change. Besides direct losses, foresters have to also deal with many side effects of fires such as increasing spread of weeds, soil erosion, loss of regeneration, landslides, habitat degradation, loss of forest produce etc. Mapping and assessment of the burnt area is required to assess the loss of forest biomass during the fire.

2.0 Scope of Work:

The system will have the following two components

- (i) Near real time detection of forest fire using satellite data with appropriate fire sensitive bands and high temporal resolution to provide at least two detections in a day.
- (ii) Early warning of likely forest fires, based on short term forecast of weather data, bio physical parameters of forest, fire proneness etc.
- (iii) The work will be carried out for the States of Karnataka, Madhya Pradesh, Maharashtra, Odisha & Uttarakhand.

Further details/ particulars about the Near Real Time/ Proposed System

2.1 Early Fire Detection and Fire Monitoring

- Continuous hotspot extraction from multi-spectral satellite imagery
- Continuous ingestion of third-party satellite fire/hotspot products
- Repeat detection of same fire should be minimized
- Automatic spatio-temporal correlation of hotspot data providing information about active and historical wildfires, including fire progression (intensity, spread rate), burned area and origin analysis
- A user-configurable notification system to notify users about activity in their monitored areas (either through direct communication like email, or programmatically).
- A web interface to visualize individual hotspots and other geospatial information related to wildfire detection and tracking
- An application programming interface (“**API**”) to be integrated into systems or for manual analysis in GIS software
- The platform should ingest and process data from the following satellites in Low Earth Orbit (“**LEO**”):
 - Sentinel-3A,

- Sentinel-3B,
- Aqua,
- Terra,
- Suomi-NPP,
- NOAA-20

and the following satellites in Geostationary orbit (“**GEO**”)

- GOES-16,
- GOES-17,
- Himawari-8,
- Meteosat-8,
- Meteosat-10,
- Meteosat-11.

Multi-Spectral Data Sources (satellite imagery)

- SLSTR Instrument aboard the ESA Sentinel-3A and Sentinel-3B satellites with a resolution of 1,000m/px
- VIIRS Instrument aboard the NASA Suomi NPP satellite with a resolution of 375m/px
- VIIRS Instrument aboard the NOAA NOAA-20 satellite with a resolution of 375m/px.

In addition, it should use multi-spectral visual data from the following satellite-based instruments for visualization purposes:

- OLCI Instrument aboard the ESA Sentinel-3A and Sentinel-3B satellites with a resolution of 300m/px
- MSI Instrument aboard the ESA Sentinel-2A and Sentinel-2B satellites with a resolution of 10m/px.

This data should be retrieved from the respective operator/data provider through different terrestrial and satellite-based links. Due to downlink and processing delays of the operators/data providers, the time between recording of the data and its availability should lie within 1-3 hours for LEO satellites and 10-30 minutes for GEO satellites.

The bidder should optimize their processing pipeline to achieve the lowest possible processing delay (usually <3min after product availability).

Hotspot Event Data Sources (Fire Products)

Hotspot events should extract data from multi-spectral satellite data. These points should be thermal anomalies detected in specific combinations of infrared spectral bands. Satellite data is processed with a specific algorithm that highlights areas with an unusually high temperature. This fire product should contain a list of thermal hotspots that were identified through the fire detection algorithm of the data provider.

The bidder must process fire products from the following satellite-based instruments:

- MODIS Instrument aboard the NASA Terra and Aqua satellites (“MCD14DL MODIS Collection 6 NRT Hotspot / Active Fire Detections”)
- VIIRS Instrument aboard the NASA Suomi NPP satellite (“VNP14IMG_NRT NRT VIIRS 375 m Active Fire product”)
- VIIRS Instrument aboard the NOAA NOAA-20 satellite (“VJ114IMG_NRT NRT VIIRS 375 m Active Fire product”)
- SLSTR Instrument aboard the ESA Sentinel-3A and Sentinel-3B satellites (“SL_2_FRP Sentinel-3 NRT FRP” provided by EUMETSAT)
- ABI Instrument aboard the geostationary NOAA GOES-16 and GOES-17 satellites (“ABI-L2-FDCF-M6 ABI Level 2 Fire/Hot Spot Characterization”)
 - SEVIRI Instrument aboard the geostationary EUMETSAT Meteosat-8, Meteosat-10 and Meteosat-11 satellites (“Active Fire Monitoring (FIR)” through EUMETCast)

Service Features

- Active Fires
- Spatial database of historical fires.
- Monitored Areas and Notifications - Individual Hotspots & Cluster Activity
- Base Map
- Detailed Information for Hotspots

Once a hotspot event has been identified from the main map, bidder should show different types of associated information:

- General hotspot information with browser-local detection and acquisition times,
- a scientific view with brightness temperatures and other non-trivial information,
- a “live” satellite image view, which shows the latest available visual-spectrum satellite image for the fire location,
- a list of past and future satellite overpasses (estimated).

Detailed Information for Hotspot Clusters

- General cluster information with browser-local acquisition time of the first and last hotspot,
- a list of forest department provided and automatic classifications of the cluster (e.g. wildfire, industrial site),
- FRP and estimated burned area plotted since the first detection in the cluster, and
- A list of hotspots associated with the cluster.

Selectable Time Range for Hotspot Detections

The time slider in the interface should allow to analyze both the progression of a current fire (short time spans moving both ends of the slider) and of historic fire events (large time spans).

Fire Risk Index

A Fire Weather Index (“**FWI**”) representing the risk of wildfires should be available as a layer in the interface and should be based on internationally accepted empirical model.

The FWI should be based on daily observations of temperature, relative humidity, wind speed, and 24-hour precipitation. The final value of the FWI should be based on a combination of the Initial Spread Index, describing the expected rate of fire spread, and the Buildup Index, describing the state and total amount of fuel available for combustion.

Fuel Map

A Fuel Map should be available as a layer in the interface.

The Fuel Map should use a classification of fuel based on the Fuel Characteristic Classification System. This system must be based on Earth observation products and fuel databases. The fuel types should be classified according to their dominant vegetation type and habitat.

Weather data

A wind layer should visualize the current wind speed and direction based on data from the GFS weather model. The weather model should be updated every fifteen minutes. Additionally various weather overlays (Temperature, Humidity, Cloud Cover, Precipitation) must be included

List of Past and Future Satellite Overpasses

When selecting an individual fire event or cluster, the past and future overpasses of available LEO satellites for the particular area are shown. Please note that GEO satellites do not show up in this list, as they provide continuous coverage in fixed intervals.

Data Format and Interface

Depending on the type of the source data, different protocols and container formats must be used:

- Fire hotspots, clusters, progression, burned area and other vector-based data should be supplied as **GeoJSON** over a REST interface.
- Raster data (Near-real-time visual imagery, composites, false-color representation of multispectral data) should be provided as **TileJSON** and **XYZ URLs** over https.

The API supports the **OpenAPI** scheme for easy integration into future applications.

Web Map Service (“**WMS**”), Web Map Tile Service (“**WMTS**”) and Web Feature Service (“**WFS**”) for both vector and raster data should be supplied upon FSI request.

Monitored Area

Upon request, bidder should import shapes of monitored areas based on department provided polygons.

The following data formats must be supported:

- GeoJSON
- Shapefile
- KML

Overlays

In addition to importing monitored areas, bidder must also support the integration of department provided map layers. These layers should be visible in the layer menu for the individual state forest department’s account in the section “User Data”.

The following data formats should be supported:

- Publicly available WMTS, WMS and XYZ tile server URLs
- Static GeoJSON, Shapefile or KML data

Soil Moisture data of 5-years historical data should have: -

- Soil Moisture on daily basis of AOI provided by FSI
- Soil Characteristics – Sand –Silt –Clay Composition
- Soil -PH Value on daily basis
- Soil Temperature on daily basis for the AOI provided by FSI
- Web Based portal to edit or filter all parameters
- Data Integration with FSI portal

3.0 Deliverables

- (i) Automated system for near real time detection of forest fire including generation of SMS and Email alerts.
- (ii) Automated system for early warnings of likely forest fires in next one week including generation of SMS and Email alerts.
- (iii) A mobile app based feedback system.
- (iv) Web GIS portal for the above two systems.
- (v) Manual for the above system.
- (vi) All related APIs of the two system.
- (vii) Training of FSI and SFD officials.
- (viii) Source code, if any
- (ix) Archiving of past fire data.

4.0 Information Communication and Technology (ICT) standard for the above Web Portal

Selection of the technologies for the above procurement should be robust, scalable, should fully support technological upgradation.

- I. The application should be Open Geospatial Consortium (OGC) compliant.
- II. Application development may be done using open source software. Technical support for the applications is necessary requirement at least for three years.
- III. Once the application has been made available online to FSI, concerned officials of FSI should be properly trained and at least for one-month hand holding should be ensured for smooth functioning of the new application into the FSI system.
- IV. Selection of the above technologies should be done in a manner that the existing infrastructure and functionality of the ongoing activities of FSI are not affected.
- V. The application should be fully compatible for data exchange with the existing software in use at FSI and should support all data formats.
- VI. The bidder should clearly describe his methodology; the tools/ software he is proposing to achieve the same.