

**DEPARTMENT OF SCIENCE AND TECHNOLOGY
NATIONAL SPATIAL DATA INFRASTRUCTURE
(NSDI)**

**REQUEST FOR PROPOSAL
FOR SETTING UP OF NATIONAL DATA REGISTRY FOR
NSDI**

**East Block 7, Level 5, Sector 1, R.K.Puram, New Delhi-110066
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Government of India
Ministry of Science and Technology
Department of Science and Technology
East Block 7, Level 5, Sector-1,
R.K.Puram, New Delhi- 110 066

Open Tender Enquiry No.3/7/1(15)/2012-NSDI

Date: 4th August, 2016.

To,

All eligible vendors/ firms/ system integrators

Sub: Request For Proposal (RFP) for setting up of National Data registry for National Spatial Data Infrastructure (NSDI), Department of Science and Technology (DST)

Dear Sirs,

For and on behalf of the President of India, sealed proposals are invited from all eligible vendors/ firms/ system integrators for setting up of National Data registry for National Spatial Data Infrastructure (NSDI), Department of Science and Technology (DST), Ministry of Science and Technology, Government of India and who have valid authorization, expertise and experience in carrying out such work. Bidders are requested to submit their proposals as per the Scope of Work mentioned in this RFP Document.

2. The RFP should be submitted in two-bid system – Technical Bid and Financial Bid. The complete RFP document containing Instructions to Bidders, Terms of Reference, Technical Bid and Financial Bid, Draft Contract Format etc. can be downloaded from the websites of Department of Science & Technology i.e. www.nsdiindia.gov.in or www.dst.gov.in.

3. An RFP Document Fee of Rs.1,000/- (Rupees One Thousand only) is required to be paid along with the submission of the bids, either in the form of a demand draft drawn in favour of the **Drawing & Disbursing Officer (Cash), Department of Science and Technology** (DDO, Cash, DST) payable at Delhi, or as a cash receipt of the deposit to be put in the envelope containing the technical bid document only.

4. The RFP, complete in all respects, should be submitted in the prescribed form along with the supporting documents in sealed envelopes addressed to the **Under Secretary, National Spatial Data Infrastructure, Department of Science and Technology, Ministry of Science and Technology, East Block 7, Level 5, Sector-1, R.K.Puram, New Delhi-110066 on or before 1500 hrs on 31.8.2016**. RFP may be dropped at the tender box at the above mentioned address or sent by Registered post/Speed post, so as to reach the aforementioned address on or before the said date and time. If sent by post, NSDI DST will not be responsible for any loss or delay in transit.

5. Bidders have to deposit the Earnest Money Deposit (EMD) of Rs.1,00,000/- (Rupees one lakh only) in the form of Demand Draft or Pay Order/ Banker's Cheque/ Bank Guarantee in the name of **'Drawing and Disbursing Officer, DST'** payable at New Delhi.

6. The technical bids will be opened on **31.8.2016 at 1600 hrs** and evaluated by the competent committee or authority. At the second stage, Financial Bids of technically qualified bidders only will be opened on a date and time to be intimated to technically qualified bidders for further evaluation and ranking before awarding the contract.

7. Eligibility of the bidder:-

The Bidder should be an authorized service provider or an authorized representative of reputed suitable service provider, who has on an earlier occasion gathered the experience of developing electronic geospatial registry and/ or providing registry services and have valid authorization/ competence in carrying out such work and has:

- a minimum of 5 (five) years of experience in providing services of a similar kind and should have served a Government Department/ organization before
- developed portals/Registry dealing with database driven dynamic content/ interactive content; and
- an IT team of at least 50 people positioned at suitable levels and having strong technical strength in latest IT tools and technologies.

Documents to be attached

- The authorized service provider or the authorized representative of the service provider should have an annual financial turnover of Rupees 5.0 Crores (Rupees Five Crores) for the last three financial years each and should continue to be in an increasing mode of the turnover. **Copies of the balance sheets of last three financial years** duly certified by a Chartered Accountant shall be submitted in support of the requisite financial turnover.
- **Copy of Service Tax/VAT Registration Certificate**
- **A Declaration** that the authorized Service provider or authorized representative of the reputed Service provider has not been blacklisted by any of the Government Departments/ Undertakings or PSUs during the current financial year or earlier. The Department has the right to terminate the contract (without any damage/liability) any time after award of the contract if the Service Provider is blacklisted by any Department of the Government of India during the tenure of the contract, or found to be black listed earlier.

8. This RFP document consists of (i) instructions to the Bidders including special terms and conditions of the RFP; (ii) Technical Bid Form; (iii) Financial Bid Form (iv) Draft Contract Document Form etc.. Bidders are requested to go through the instructions to the Bidders, terms and conditions contained in the bid document and the Contract Form, which are indicative and subject to change.

9. Bids sent by Fax or e-mail will not be entertained. The Bid should be submitted in a sealed cover super-scribing “RFP for setting up of a National Data Registry (NDR) for NSDI.”

10. In case, the bids are bulky and do not fit into the tender box, the same should be received by hand by NSDI Officials namely Shri Sushil Kumar, Surveyor/ Shri Tapan Kumar Sarkar, Under Secretary, NSDI or any other NSDI officer present in NSDI office premises. The RFP register maintained in NSDI must be signed by the person who brings the RFP document mentioning the date and time of Bid document submission.

11. Technical Evaluation Criteria for NDR

There will be a three-stage process in the evaluation of the proposals received from the vendors:

Stage 1:

The proposals will be evaluated by assigning marks to each of the items mentioned in the Table below:

SI No.	Item (s)	Marks
1	Technical proposal, consisting to tools, platforms, and basis of sizing	30
2	Understanding of the requirement	20
3	Experience in similar projects	30
4	Team proposed (with their experience)	20

A vendor needs to score a minimum of 60 marks at this stage to reach the next stage of evaluation subject to a maximum of 3 vendors getting selected in this process.

Stage 2

Pilot implementation will only be allowed to a maximum of three selected vendors from Stage 1. Pilot project duration will be for maximum period of 1 month and total of 100 marks. A vendor has to score a minimum of 60 marks out of 100 to qualify for the next stage of evaluation.

Stage 3

Commercial bid will be opened for the vendors qualifying in the previous stage. Further negotiation will be made with lowest offer only.

Note: The vendors must submit their un-priced commercial bids so that the same can be checked against completeness of the bids.

12. NSDI, DST reserves the right to amend or withdraw any of the terms and conditions contained in the RFP document or to reject any or all the RFPs as a whole or in part without giving any notice or assigning any reason. Further, Addendum/ Corrigendum if any will be uploaded on to the websites of NSDI/ DST only. The decision of NSDI, DST, in this regard, shall be final and binding on all.

Note:

Last date of RFP Submission: 31th August, 2016 by 1500 hours

Opening of Technical bids: 31st August 2016 at 1600 hours

Opening of Financial Bids: (To be intimated later to tech. qualified bidder)

(T. K. Sarkar)
Under Secretary to the Government of India
National Spatial Data Infrastructure (NSDI),
Department of Science and Technology
Phone: 011- 26182973, 011-26177249
Fax: 011- 26169135

CHAPTER I: GENERAL INSTRUCTIONS

1. The Contract concluded as a result of this RFP inquiry shall be governed by the 'Terms & Conditions' and other relevant instructions as contained in this RFP Document and Contract Form.
2. The prices/rates quoted should be indicated in words as well as in figures and in INR only.
3. Bidders are requested to quote their prices only on firm & fixed basis. RFPs received with prices quoted on variable basis shall be rejected straightaway.
4. RFPs are invited in two bid system - Technical bid and Financial bid.
5. RFP should be submitted in duplicate. Duplicate copy should contain the same set of documents as enclosed with the original tender.
6. Bids qualified by such vague and indefinite expressions such as "subject to prior confirmation", "subject to immediate acceptance" etc. will be treated as vague offers and rejected accordingly.
7. **Bid Documents:** Bidders are requested to enclose a copy of their (i) **valid certificate of PAN No.** (ii) **Valid sales tax/service tax certificate and** (iii) **VAT registration number** (iv) **a copy of each of balance sheet of last three financial years duly certified by a Chartered Accountant and** (v) **a declaration.**
8. Bids received without **EMD** amount of Rs.1,00,000/- (Rupees One Lakh only) by way of DD or Pay Order/Banker's Cheque/Bank Guarantee in the name of DDO, DST, New Delhi, will not be considered at all.
9. All documents attached with this invitation to RFPs are sacrosanct for considering any offer as a complete offer. Bidders are, therefore, requested to ensure that all documents **duly completed and signed** are returned with their offer, failing which, their tender is liable to be treated as incomplete and ignored.
10. The RFP documents can be obtained from Under Secretary (NSDI)/ Section Officer (NSDI)/ Surveyor (NSDI), R.K.Puram, New Delhi on any working day between 10.30 AM to 04:30 PM. before RFP closing time. RFP documents can also be downloaded from the NSDI's website www.nsdindia.gov.in or Department of Science & Technology website www.dst.gov.in and used for submitting the bids. All proposals received before the closing time, shall be read out publicly at Khosla Hall, NSDI, R.K. Puram, New Delhi on a given date and time.

11. Bidders may note that if the date of RFP opening given in this RFP Document is declared a closed holiday by the Central Government, the RFP shall be opened on the next working day at the same timing. In such an event the closing hours for receipt of tenders in DST will stand automatically extended up to 14:30 hours of the next working day in the Central Government Office.
12. RFPs received late/ delayed due to any reason whatsoever will not be accepted under any circumstances. In the event of any confusion, the time set in the clock in the room of Under Secretary (NSDI) will be taken as standard and final. The RFP register must be signed by the authorized person who submits the proposal/ bid document in response to the RFP mentioning date and time of submitting the proposal/ bid document.
13. The authorized service provider or authorized representative of the reputed service provider is at liberty to be present or authorize a representative to be present at the opening of the Bid Document at the time and date as specified in the Schedule. The name and address of the representative authorized to attend the opening of the Bid on behalf of a bidding firm should be indicated in the Technical Bid. The representative so deputed should also bring with him a letter of authority from the firm for having been authorized to be present at the time of opening of the Bid. The name and address of permanent representative of the firm, if any, should also be indicated in the Bid/ Proposal. Representatives of firms who have not submitted the proposal or representatives not possessing authority letter from the participating companies and outsiders shall not be allowed to attend the Bid opening.
14. The **sealed** Bid Document/ Proposal should be dropped in the Tender Box of NSDI Division situated near/ at the entrance of **National Spatial Data Infrastructure, East Block 7, Level 5, Sector-1, R.K. Puram, New Delhi-110066**. In case the sealed envelope is larger than the mouth of the Tender Box, and cannot be dropped in the Tender Box, the same may be submitted by hand to Under Secretary, (NSDI) or Surveyor (NSDI) before the tender closing time.

Period of validity of the Bid:

15. The Bid should remain valid for 90 days after the date of bid opening. If any bidder withdraws his proposal before the said period shall – without prejudice to any right or remedy, be at a liberty to get his EMD forfeited.

16. Submission of Bids:

- a) The **first envelope** shall be super-scribed with the name of work and the words “RFP- Technical Bid” in capital letters. The first envelope shall be opened on the date of opening of the Bid Document/ Proposal. The Bidder should specifically provide full technical details of the service offered and also shall provide full details of deviation they intend to make from the technical specifications and contract terms detailed in the Bid. No price details shall be given in this envelope. Violation of this condition would result in invalidation of the Bid/ Proposal. The **EMD** shall be enclosed with the envelope

marked “**NDR- Technical Bid**”. The scope of work for the technical bid is given in the **Annexure II**. Proforma for providing the technical details based on the Scope of Work is given in Annexure III.

- b) The **second envelope** shall be super scribed with the name of work and the words “**NDR- Price Bid(Financial)**” in capital letters. It shall contain full details of the price & commercial conditions. Any deviation from our standard conditions shall be specifically spelt out. Proforma for providing the financial details is given in **Annexure IV**.
- c) Any deviation of any sort e.g. technical or financial terms and conditions shall be specifically indicated in the Technical and Financial Bids.
- d) Silence or use of the word “Noted” against any of the Bid conditions shall mean that the bidder agrees to comply with that / those conditions of the Bids.
- e) All offers shall be made available in hard and soft copies as specified in the technical specifications and should be signed by the authorized signatory of the firm on all the pages of the hard copy.
- f) All prices and other information in this regard having a bearing on the price shall be written both in figures and words in the prescribed offer form.
- g) All columns of the bid form should be filled. Any additional information should be enclosed separately and referred to in the relevant column of the bid form. All relevant product literature must be enclosed with the bid.
- h) No bid may be modified subsequent to the deadline for submission.
- i) Bidders shall furnish clause by clause comment on all clauses of Bid Document including Technical specifications and must specify the reference page number.
- j) A firm will not be allowed to participate in the bid, if the firm is having any pending issue/dispute in the office, like pending work, technical or financial issues etc.

17. Opening of Bids:

- a) The NSDI will open the Technical bids on prescheduled time, date and venue in the presence of the bidders’ representatives who choose to attend.
- b) The bidders’ representatives who will be present shall sign in the designated register evidencing their attendance. In the event of the specific bid opening being declared a holiday for the NSDI, the bid shall be opened at the same time and location on the next working day.
- c) The bidders’ names, bid withdrawals, presence of bid security and such other details as the NSDI at his discretion may consider appropriate, will be announced at the bid opening.
- d) The firms who have submitted the bids and whose offers are found technically suitable shall be informed of the opening date of the second envelope i.e. “**NDR Price Bid (Financial)**”.

18. Clarification of Bids:

To assist the examination, evaluation and comparison of bids, the NSDI with the help of a consultant or committee, if any, may at its discretion, ask the bidder for clarification of its bid. The request for clarification and the response shall be in writing and no change in price or substance of the bid shall be sought, offered or permitted.

19. Evaluation of proposals-Bids:

- a) The NSDI will examine the bids to determine whether:
 - (i) They are complete,
 - (ii) Required EMDs etc have been furnished,
 - (iii) The documents have been properly signed; and
 - (iv) Documents in support of experience are available.

- b) Evaluation of bids shall be done based on the information furnished by the bidder. The conformity of the bids to the technical specifications and commercial terms and conditions shall be examined. Responsiveness of the bid shall be determined based on the technical and financial capability of the bidder to execute the contract.

- c) The NSDI will examine the bids to determine:
 - i) The correctness of the information furnished by the bidder in the bid. In case any information is found to be incorrect/false, the bid shall be considered as non-responsive.
 - ii) The substantial responsiveness of each bid to the bidding. For purposes of these clauses, a substantially responsive bid is one, which conforms to all technical specifications and terms and conditions of the bidding documents without material or commercial deviations.
 - iii) Arithmetic 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 the unit price with quantity, the unit price shall prevail and the total price shall be corrected unless it is a lower figure. If there is a discrepancy between words and figures, the amount whichever is lower will prevail.
 - iv) NSDI may contact and verify bidder's information, references and data submitted in the bid without further reference to bidders.
 - v) NSDI reserves the right to use and interpret the bids as it may, in its discretion, consider appropriate, when selecting bidders for granting of the Letter of Intent/ Notification of Award of Contract etc.

- vi) The NSDI in its discretion may waive off any minor infirmity or non-conformity or irregularity in a bid, which does not constitute a material deviation, provided such a waiving, does not prejudice or affect the relative ranking of any bidder.
 - vii) The NSDI may seek clarification in writing from bidder by fax. Bidder shall promptly reply by fax within the time limit specified in the clarification letter from the NSDI.
 - viii) The comparison shall be of total price of the services offered inclusive of all taxes.
- (d) The evaluation of proposals –Bids will be done as per criteria mentioned at Sr. 11 at page 3 of RFP.

20. NSDI's right to accept or reject any or all bids:

- a) The NSDI reserves the right to accept or reject any or all the bids and to annul the bidding process and reject all bids at any time prior to award of contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for the NSDI's action.
- b) The acceptance of RFP will rest with NSDI who does not bind itself to accept the lowest bid and reserves the right to reject any or all the tenders received without the assignment of any reason. All the bids in which any of the prescribed conditions are not fulfilled or are incomplete in any respect are liable to be rejected.
- c) The NSDI does not bind itself to accept the lowest or any bid/ proposal and the right of accepting the whole or any part of the bid/ proposal and bidder shall be bound to perform the same at the rate mentioned.
- d) Canvassing in connection with bid is illegal and strictly prohibited and the tender submitted by the bidders, who resort to canvassing, will be rejected.

21. Prices:

Price charged by the bidder for any goods and services under the contract shall not vary from the prices quoted by the supplier in its bid.

22. Termination by default:

- a) The NSDI may, without prejudice to any other remedy for breach of contract, by written notice of default sent to supplier, terminate the contract in whole or part.
 - (i) If the supplier fails to provide services within the time period specified in the Contract or any extension there of granted by the NSDI.

- (ii) If the supplier fails to perform any other obligation(s) under the Contract.
- b) In the event the NSDI terminates the contract in whole or in part, the NSDI may procure, upon such terms and in such manner, as it deems appropriate, goods similar to those undelivered for any excess costs for such similar goods/ services. However, the bidder/ supplier shall continue the performance of the contract to the extent not terminated.

23. Resolution of Disputes:

- a) The NSDI and the bidder/ supplier shall make every effort to resolve amicably by direct informal negotiation, any disagreement or dispute arising between them under or in connection with the contract.
- b) If, after thirty (30) days from the commencement of such informal negotiations, the NSDI and the bidder/ supplier have been unable to resolve amicably a contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms. These mechanisms may include, but are not limited to, conciliation mediated by CEO (NSDI).

24. Applicable Law:

The contract shall be interpreted in accordance with the laws of the Union of India & will be under the jurisdiction of Courts in Delhi.

25. Notice

- a) Any notices given by one party to the other pursuant to the contract shall be sent in writing or by fax/telex/cable and confirmed in writing to the address specified for that purpose in the special conditions of contract.
- b) A notice shall be effective when delivered or on the notice's effective date, whichever is later.

26. Penalty for delay

(a) In the event of failure of the bidder/supplier to complete the work within the stipulated time or the extended time allotted, the NSDI has the right to impose penalty of 0.5% per week or part thereof the contract price not exceeding 10 % of the total contract price.

(b) Penalty for non-performance/delay during service period: If the bidder/supplier fails to adhere to/ or delay the scope of contract during the support

and maintenance period, NSDI reserves the right to impose penalty at per day rate of contract (quarterly maintenance charge divided by 90) for the total period on non-performance/delay)

27. Taxes and Duties

Bidder/ supplier shall be entirely responsible for all taxes, duties; license fees, etc, incurred until delivery of the contracted Goods & Services to the NSDI. No tax or duty will be payable by the NSDI. If there is any enhancement in the taxes, duties, license fees etc, during the service period, the enhanced expenditure will be paid by the NSDI.

28. Warranty and liability:

- 1) The bidder warrants that the Data Registry will be free of programming errors and defects in workmanship and materials and that it will be in full conformity with the specifications in the Scope of Work. Any shortcoming noticed or identified by the NSDI in this regard will make the bidder liable to penalties and bidder will be required to rectify the defects.
- 2) The bidder further warrants that it owns and has complete rights to license, convey and without any encumbrance the Data Registry and deliverables covered in the contract.
- 3) The bidder further warrants that it has obtained all required registrations, permissions and consents from all third parties necessary to deliver the Data Registry, the background technologies and the deliverables.
- 4) The bidder expressly warrants that the Data Registry does not contain any protective feature designed to restrict or prevent its use by the NSDI's users, NSDI officials or any such agency authorized by NSDI to use it.
- 5) The bidder further warrants that the Data Registry or any associated portion of it does not contain any virus, worm, Trojan horse routines, or any other malicious codes or instructions that may be used to access, modify, damage or disable the web site or computer system including that of the customer and other users of the website.
- 6) The bidder warrants that all content forming part of the Data Registry is provided from or obtained only from NSDI, R.K.Puram, New Delhi. The intellectual property rights of Registry will be the propriety of NSDI and cannot be used by anyone else without the permission of NSDI.

29. Special Conditions pertaining to website:

- i) The design considerations for the Data Registry should result in an eye-catching website, with a pleasant and appealing color-codes portraying activities of the NSDI.

- ii) The Registry should be optimized for load time, response time, navigation and search.
- iii) The optimization should cover all the areas like HTML, CSS, GRAPHICS, PDF and would involve smaller page size and faster downloads.
- iv) The Data Registry should be supported by all current browsers.
- v) Appropriate test data according to various design considerations will be presented to the designated web administrator of this office every month in a suitable format.
- vi) Records of up-dation in web contents in both (English) and Hindi should be maintained to determine the performance of the site with respect to page load speed and these statistics will be stored and examined, on a monthly basis and analyzed.
- vii) Modification of the Data Registry as and when required.

30. Payment

The payment to the supplier under the Contract will **be as follows:**

Activity	Advance payment(1 st installment)	Next Installment
Setting up of National Data Registry	25% of Contract Value within 20 days of signing of agreement	75% of contract Value after operationalization of National Data Registry satisfactorily as par Government of India rules

31. Security Deposit/ Bank Guarantee:

The successful bidder will have to furnish a bank guarantee of 25% of the total amount of the contract in favour of DDO (Cash), Department of Science and Technology, New Delhi towards security deposit within 14 days from the date of acceptance of the RFP.

32. Service Warranty

The bidder should cover services provided including the quality of workmanship, under warranty.

33. Notices

For the purposes of all notices, the following shall be the address of the NSDI:

NSDI:

National Spatial Data Infrastructure, Department of Science and Technology,
Ministry of Science and Technology, East Block 7, Level 5, Sector-1, R.K.Puram, New
Delhi-110066

Supplier:

(To be filled at the time of contract signature)

Signatures of the Supplier*

(Signature of the **Supplier** is mandatory without which the RFP is liable to be
rejected)

Note: - Fax/Telex and incomplete offers will be rejected. The Office of National Spatial Data
Infrastructure (NSDI) will have the right to accept or reject any or all bids received at their
absolute discretion without assigning any reasons whatsoever.

CHAPTER II: SCOPE OF WORK

Background

Over the past years, efforts have been made by NSDI to compile and serve metadata of different partnering agencies and re-engineer the feature data sets for improving their use. The NSDI partnering agencies have large amounts of feature data sets/ images and are presently managed in file based systems largely through quadrangle sheets/ scenes without appropriate strategies for fully automated search, querying, and processing. This is evidenced in the present ways to store and manage metadata sets as per the indices of quadrangle sheets/ scenes of data providing organisations. Identification and maintenance of feature data sets, in particular, thus pose a major challenge to the stakeholders thereby inhibiting appropriate use of the geo-spatial data in real-life applications.

More effective management and use of the data/ images requires their registration, storage, and sharing so that those could be put to appropriate processes of governance in line with the provisions of NSDI Resolution, 2006. Registering spatial data sets involves capturing definition/ description of each data item, making each item persistently and uniquely identifiable by assigning them unique identifiers, organizing / maintaining the associated classification systems or the code lists for reference by all; and a suitable governance system along with procedures for managing the related registers.

Moreover, provision of geo-spatial resources like data, metadata, and catalogue are governed by various standards that evolve or change over time. For consistent processing and interpretation of the data and services, it is essential that these changes are kept track of and properly managed. Establishment of registers in the form of a registry with a suitable management structure is thus essential. These are required over and above the establishment and maintenance of data and service catalogues providing standardized catalogue services capable of getting consumed by end users or applications.

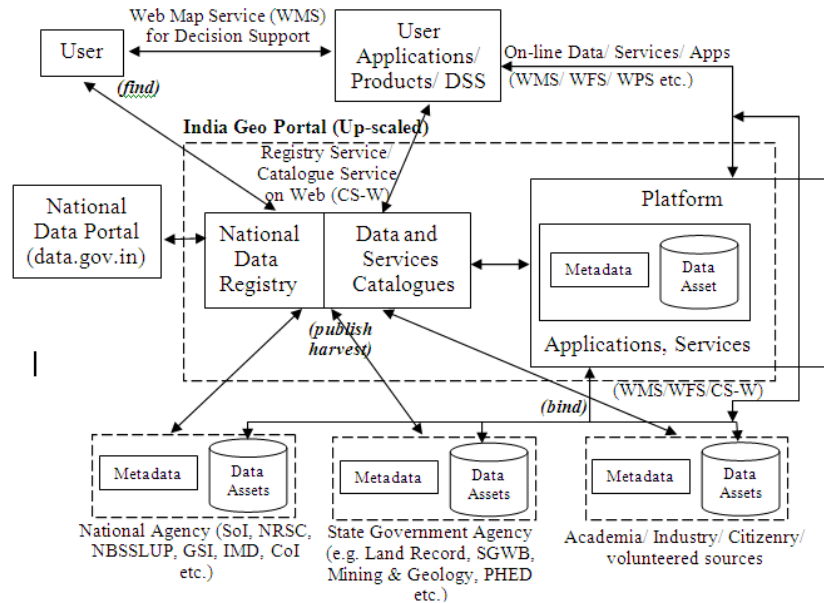
ISO 19135 prescribes standard specifications on procedures for registration of geographical information items and establishing a management structure. As per the terms and definitions in the document, register and registry are defined in the following way:

Register – a set of files containing identifiers assigned to items with descriptions of the associated items. An identifier is a linguistically independent sequence of characters capable of uniquely and permanently identifying that with which it is associated.

Registry – an information system on which a register is maintained. It is therefore essential to maintain registers of different geographical items and keep track of the item status for the benefit of the end user. The registers should be managed through proper governance procedures. ISO 19135 prescribes a common structure for the registers like identifier, name, definition, item class and status.

NDR Architecture

NSDI emphasizes on the use of a service-oriented architecture (SoA) for the management of the data sets and the services. Based on the above service oriented model, a detailed architecture is proposed for implementation of registry and other associated components:



(Overview of NGIS Technical Architecture shown with National Data Registry and Data/ Service Catalogue for prototype implementation)

It is important to note that this architecture primarily separates any content in one of two categories – spatial objects representing phenomena in the real-world (the “data”) and the other items of spatial information i.e. data description, referenced by or related to the spatial objects i.e. “metadata”, but in a wider sense than geographic information metadata as understood in ISO 19115.

Scope of work

The following is a detailed outline of the scope of the work to be undertaken by the selected bidder:

- i. Creation of use cases (GIS Applications) for NDR utility demonstration based on multi-source data using search, WFS, local computations, WMS, etc.

A set of ten to twenty standard potential GIS applications (sample use cases) should be identified for implementation at the end of the NDR development. Usual operations like search, Web Feature Service (WFS); local computations and Web Processing Services (WPS); Web Map Service (WMS); and APIs that several agencies already provide should be made use of in the implementation of the use cases at the end of developing and populating the complete NDR. These applications should be based on data sets served from multiple sources (e.g. data providing agencies). The GIS applications should be identified in consultation with end users from sectors like Urban

Development (e.g. smart cities), Rural Development (e.g. watershed monitoring), Railways (e.g. train route enquiry), Environment & Forests (e.g. CAMPA); Oil & Natural Gas (e.g. monitoring encroachment by human settlements on oil/ gas pipelines); Mines (e.g. Geo-Tourism); Disaster Recovery (e.g. demarcation of areas for evacuation of people during floods); NHAI/ Delhi-Mumbai Road-Rail Corridor (e.g. Periodic monitoring of road infrastructure development) and Water Resources (e.g. estimation of surface run-off following a rainfall event from small watershed to a river basin scale) etc.

Deliverable: Use Case Document with appropriate standards-based diagrams highlighting the data and process requirements

ii. **Creation of global object/ concept catalogue**

Concepts/ definitions of the feature data sets acquired by various data providing organisations are vital to correct interpretation and processing of geospatial data. Feature data sets fall into several domains like topography (SOI), geology (GSI), hydrology (CWC/ CGWB), soils (ICAR/ NBSSLUP), environment (FSI), demography (Census of India), land use/ cover (NBSSLUP, SOI, NRSC), transportation (NHAI/ Railways etc.), statistics (MoSPI) etc. Related content standards or domain models have been developed/ under development by various standards-making bodies like OGC, INSPIRE or BIS. There is a need for using these domain models to develop a standardised Global Catalogue that could be referred to by various application implementation processes on-line. The Global Catalogue is expected to facilitate development of agency-wise application schemas. The global object/ concept catalogue should be defined using industry-accepted ontology tools (such as RDF or XML schemas similar to OGC's domain core schemas along with UML object diagrams). Initially, it should cover the domains of the selected data suppliers.

Deliverable: Domain models and Global Catalogue (covering feature ontologies) using standards (e.g. OGC/ ISO, INSPIRE, BIS etc.)

iii. **Implementing CSW/ WFS/ WMS interfaces for a select group of NSDI participating organisations (data suppliers)**

This involves development and implementation of application schemas using UML (ISO 19103/ ISO 19109), implementation of databases using both proprietary and open source DBMS tools (e.g. Oracle Spatial/ Post GreSQL) at the NSDI Data Nodes and provision of WMS (version 1.1.1)/ WFS (2.0)/ GML 3.2.1 using ETL tools for on-line automated implementation of GIS applications on both desktop and mobile-based clients. Metadata upload and harvesting capabilities should also be provided.

Existing geo-portals of SOI, NRSC, GSI, FSI, CPCB, and Karnataka State SDI are required to be enabled for linkage with the NDR with

appropriate data and services for supporting implementation of the select set of use cases.

Deliverable: Organizational geo-portals accessible over the web for the select set of agencies at their respective identified premises for provision of CSW/ WFS/ WMS

iv. Designing the NDR architecture

The NDR should be appropriately designed for providing:

- comprehensive form and keyword based search facilities, both spatial and non-spatial, and cutting across multiple sources
- catalogue information
- application schema, code list details
- links to data sources for binding the client with the data sources and getting the data (WFS, WMS)
- harvesting capabilities
- data providing/ publishing agencies should be in a position to publish or register their feature or attribute data in the catalogue for access by all

Deliverable: (i) Four web-accessible registers, (ii) NSDI registry service as per the OGC CSW-ebRIM Registry Service (ebRIM 3.0) Profile usable by select group of Institutions/ Agencies for registering their data assets, (iii) Document on Operating Procedures

v. Development and implementation of a strategy for linking NSDI Catalogue/ Registry Service with the Open Government Data Portal (<http://data.gov.in>)

The Open Government Data (OGD) Portal (<http://data.gov.in>) has been developed to provide access to a series of catalogues of non-spatial or textual data acquired by various Central and State Government Ministries/ Departments under the Policy NDSAP 2012. In order to ensure that both systems of cataloguing are seamlessly integrated, a suitable hyperlink should be implemented between the NSDI Registry and the OGD Portal as indicated in the NDR architecture with the involvement of NIC on a pilot basis.

Deliverable: Two-way link between the implemented NSDI Registry Service / Registers (catalogues) with OGD Portal Catalogues on a pilot basis.

vi. Populate NDR and demonstrate the above selected set of use cases

The select set of GIS Applications/ Use Cases mentioned at Step 1 of this Scope of Work should be implemented as a demonstration of the successful working of the NSDI Registry. Required Products/ Application Services should be developed using the Registry for possible integration with End User Agency Workflows or on the browsers on both desktop and hand-held clients.

Deliverable: On-line demonstration of the identified GIS applications

vii. Training of officials/ staff from NSDI and Partnering Institutions on NDR maintenance and GIS application development

Two types of training are required to be conducted for five NSDI officials/ staff and twenty officials/ staff from partnering institutions - one on core technologies underlying the NDR and the other on updating the NDR Registers from the partnering institution/ agency data nodes, use of registry services/ procedures, and building GIS applications using NDR.

Deliverable: 25 Trained Staff on use and application of NDR, Operation Manuals

CHAPTER III: TECHNICAL BID

Technical proposal from the Bidder: That includes the details of activities that Bidder proposes to carry out in terms of TOR.

Technical Proposal Submission Form

(Location)

Date

To:
The CEO
National Spatial Data Infrastructure
East Block 7, Level 5,
Sector 1, R.K.Puram, New Delhi

Dear Sir

We, the undersigned, offer to provide the for setting up of national Data registry for National Spatial Data Infrastructure (NSDI), in accordance with your Request for Proposal dated [*Insert Date*] and our Proposal. We are hereby submitting our Proposal, which includes this Technical Proposal, and a Financial Proposal sealed under a separate envelope¹.

1. We are submitting our Proposal in association with: [*Insert a list with full name and address of each associated Bidder*]
2. We hereby declare that all the information and statements made in this Proposal are true and accept that any misinterpretation contained in it may lead to our disqualification.
4. If negotiations are held during the period of validity of the Proposal, i.e., before the date indicated in RFP, we undertake to negotiate on the basis of the proposed staff. Our Proposal is binding upon us and subject to the modifications resulting from Contract negotiations.
5. We undertake, if our Proposal is accepted, to initiate the services related to the assignment not later than the date indicated in Paragraph Reference 7.2 of the Data Sheet.
6. We understand you are not bound to accept any Proposal you receive.

Yours sincerely,

Authorized Signature [*In full and initials*]:

Name and Title of Signatory: .

Name of Firm:

Address

CHAPTER IV: FINANCIAL BID

Financial Details and the Commercial Conditions for Setting up of National Data Registry for National Spatial Data Infrastructure (NSDI)

FINANCIAL PROPOSAL SUBMISSION FORM

Date]

Location

[To:
The CEO
National Spatial Data Infrastructure
East Block 7, Level 5,
R.K.Puram, New Delhi

Dear Sir,

We, the undersigned, offer to provide our Proposal (Technical and Financial) for setting up of the National Data Registry for the National Spatial Data Infrastructure (NSDI), in accordance with your Request for Proposal dated [*Date*]. Our attached Financial Proposal is for the sum of [*Amount in words and figures*]. This amount is exclusive of the taxes, which we have estimated at [*Amount(s) in words and figures*].

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal, i.e., [...*Date*].

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature:
Name and Title of Signatory:
Name of Firm:
Address: