

Tender No. Tender/PRSC/2018-19/0002

REQUEST FOR PROPOSAL (RFP)

FOR

EMPANELMENT OF FIRMS

FOR

GEOSPATIAL AND ALLIED SERVICES



PUNJAB REMOTE SENSING CENTRE (PRSC)

(A Punjab Government Enterprise)

PAU Campus, Ludhiana 141004

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EMPANELMENT OF FIRMS

Punjab Remote Sensing Centre (PRSC), an autonomous institution, Government of Punjab, is the apex body in the Punjab State for all Remote Sensing (RS), Geographic Information System (GIS) and Global Positioning System (GPS) related work. PRSC also acts as the centralized hub for creating, storing, analyzing, retrieving and supply of the spatial data to all the user departments of the State.

PRSC is looking forward for short listing of firms/institutions/NGOs/reliable and sound startups to execute some of the important time bound projects under following **five** categories:

- a) Geospatial database generation services**
- b) Environment related services**
- c) Field survey services**
- d) Drone based mapping for various applications**
- e) Web and mobile based application development and customization**

The work is to be carried out following the approved methodology and quality parameters set up by PRSC on accepted techno-commercial terms.

PRSC invites proposal from reputed firms/companies/institutions/incubators/NGOs/reliable and sound startups having necessary experience and proven track record in the above areas, on the formats provided in the enclosed document. The received proposals would be processed through strict and professionally competitive criteria by evaluating the technical competency of the firms before short listing. When need arises, PRSC will invite financial bids for the specified work from the short listed firms.

Interested firms and startups may apply for empanelment along with a crossed Demand Draft for Rs.10,000/- (Rupees Ten Thousand only) per category in favour of Director, Punjab Remote Sensing Centre, payable at Ludhiana towards Earnest Money Deposit. The prescribed application form along with the Request for Proposal (RFP) can be obtained from the office of the Director, Punjab Remote Sensing Centre, PAU Campus, Ludhiana on payment of Rs.1,000/- in cash or through Demand Draft (DD) on all working days from 15.05.2018 to 14.06.2018 between 9.30AM to 03:00 PM. These can also be obtained by post.

Duly filled in application form along with DD and necessary documents may be submitted in a sealed cover super scribing **“PROPOSAL FOR EMPANELMENT OF FIRMS”**. The last date for receipt of proposals at PRSC, Ludhiana is 15.06.2018 upto 03.00 PM.

The RFP and application form can also be downloaded from PRSC website and submitted alongwith fee for application form and Earnest Money Deposit.

1. INTRODUCTION

Punjab Remote Sensing Centre (PRSC), an autonomous institution, Government of Punjab, is the apex body in the Punjab State for all Remote Sensing (RS), Geographic Information System (GIS) and Global Positioning System (GPS) related work. PRSC also acts as the centralized hub for creating, storing, analyzing, retrieving and supply of the spatial data to all the user departments of the State.

1.1. Scope

The scope is divided into five categories:-

- i) Geospatial database generation services**
- ii) Environment related services**
- iii) Field survey services**
- iv) Drone based mapping for various applications**
- v) Web and mobile based application development and customization**

1.2. Purpose of the RFP

The purpose of the RFP is to facilitate the firms to participate in the empanelment process by providing the necessary information and submission of the application forms as per the guidelines. The details of the activities pertaining to **five categories** are given below :

Category 1 - Geospatial database generation services

- a) Creation of geospatial database in GIS, related to various themes on the scale ranging from 1:1000 to 1: 50,000 using optical satellite data, microwave data, hyper-spectral data, airborne digital camera / LiDAR data, terrestrial photographs, stereo - aerial photographs, high resolution DEMs and 2D feature extraction from digital ortho images including scanning, digitization, geo-referencing.
- b) Digitisation of cadastral data
- c) 3D feature extraction from latest contemporary techniques and technologies

Category 2 - Environment related services

- a) Field data collection and sampling relevant to soil, air and water pollution and their analysis
- b) Near real time monitoring of air polluting (large & medium) industries, brick kilns and other entities, enabling an SMS alert system for the concerned officials.
- c) Collecting information and creating data base for other polluting entities in the State of Punjab

Category 3 - Field survey services

- a) Collection of very accurate and precise Ground Control Points (GCPs) using survey grade Geodetic GPS / GLONASS / IRNSS receivers and Satellite Based Augmentation System (SBAS) GAGAN as per industry and work related standards
- b) Setting up of permanent GCP locations across the State.
- c) Soil survey, soil sample collection, analysis and fertility evaluation, collection of water samples from tube wells and overhead tanks/canal based schemes, their analysis and evaluate suitability for irrigation and potability.
- d) Door to door data collection pertaining to socioeconomic conditions, property etc.

Category 4 - Drone based services

- a) Data acquisition using drone technology, image processing, ortho rectification base map preparation with rectified data
- b) Providing drone data both 2D and 3D, as may be required.
- c) 3D mapping with accurate measurements of dimensions (length, width, height), area and volume statistics. This also include 3D fly through models.

Category 5 - Web and mobile based application development & customization

- a) Development of web applications, their customization and maintenance as per requirement.
- b) Development of mobile applications for Android, iOS and Windows or other smart phones, their customization and maintenance as per the requirement.
- c) Development of web portals, their customization and maintenance as per requirements.

2.0 TECHNICAL REQUIREMENT

Task Components

- a) Generation of geo-spatial database related to various themes like land use, soils, geology, geomorphology, hydrogeomorphology, slope, contours, groundwater quality, drainage, water bodies, habitations, linear feature extraction (e.g. roads, canals, railway lines), infrastructure at the scales ranging from 1:1000 to 1:50,000 using optical satellite data, microwave data, hyper-spectral data, airborne digital camera/LiDAR data, terrestrial photographs, stereo - aerial photographs, high resolution DEMs, 2D feature extraction from digital ortho-images.
- b) Digitisation of cadastral data and incorporation of attributes
- c) 3D feature extraction using latest contemporary techniques and technologies prevailing in industry
- d) Near real time monitoring of air polluting (large & medium) industries and brick kilns integrated with SMS alert system for the concerned officials.
- e) Collection of very accurate and precise Ground Control Points (GCPs) using survey grade Geodetic GPS / GLONASS / IRNSS receivers/SBAS GAGAN.
- f) Determination of height points using digital levels.
- g) Soil survey, soil sample collection and fertility evaluation, collection of water samples from tube wells and overhead tanks/canal based schemes, analysis and evaluate suitability for irrigation and potability.
- h) Door to door data collection pertaining to socio-economic conditions, property etc.
- i) Image acquisition using drone technology, image processing, ortho rectification, base map preparation with rectified image
- j) Providing drone data both 2D and 3D, as may be required.
- k) 3D mapping with accurate measurements of dimensions (length, width, height), area and volume statistics.
- l) Integration of the thematic maps and creation of derived maps in GIS.
- m) Scanning, digitization and geo-referencing of spatial data.
- n) Ortho-rectification of stereoscopic data and generation of Digital Elevation Model (DEM) and contours.
- o) Development of GIS/Query Shells/Decision Support System for various applications
- p) Software development and customization for specific applications related to developmental planning.

- q) Total Station surveys.
- r) GPS and DGP Survey operations
- s) Any other work involving remote sensing, GIS and GPS techniques.

The above-mentioned activities have to be carried out as per the time schedule, accuracy, methodologies, standards and guidelines specified from time to time by PRSC/end users for different type of work and other specifications mentioned in the work order.

Input Data:

Following inputs will be provided in house by PRSC in order to create geo-spatial database and conduct ground control surveys (as applicable to the task):

- Aerial/Satellite data from Indian or foreign satellites as may be procured/supplied, geo-spatial/vector data, if available, as required for the work.
- Distribution of plan of GCPs for GPS/DGPS surveys and sampling plan for collection of soil and water samples.
- List of thematic information to be collected from ground for incorporation onto the geo-spatial database.
- Proforma, datasheets, field maps etc required to be filled up during field survey.
- Soil, water sampling plan/grid.

3.0 QUALITY CONTROL

Quality Assurance Procedure

All the output data generated has to be certified for its quality and meet the accuracy standards mentioned in the work order. The executing firm/startup will form an internal quality team to carry out the accuracy assessment. A dedicated quality assurance Manager duly authorized by the firm should certify the quality of the data before submission to PRSC quality assurance team. All the thematic maps prepared should be edge matched between the already mapped data and maps prepared by different firms. The edge matching should be within the stipulated acceptable limits.

Quality Control Check by PRSC

A team from PRSC will carry out quality assessment. Team will follow the same steps as in the above mentioned quality assurance procedure to assess a minimum of 20% samples and will also go through the error budget tables prepared by the firm's quality assessment team.

The geospatial database will be evaluated based on the check list mentioned in the guidelines provided by PRSC/end users for different types of work. For any non-compliance with the requirement, the whole exercise of quality assurance by the firm (internal QAS) and quality control checks by PRSC (external QAS) will have to be repeated. If the work is not satisfactory and not meeting the PRSC standards & time schedule, then the entire work order will be cancelled.

4.0 ELIGIBILITY CRITERIA

Short listing of the firms will be based on technical and financial strength primarily assessed based on following parameters:

- Experience in carrying out similar works in the past
- Availability of infrastructure in terms of hardware and software
- Trained manpower and supervisory expertise
- Annual turnover and financials over the years, minimum three years

PRSC will award work related to the mentioned five categories to the firms on the basis of competitive bids received from the short listed firms. PRSC reserves the right to allot the work to one or more firms depending upon the volume of the work, time schedule & other operational needs at the rates quoted by the lowest bidder.

Intellectual Property Rights (IPR) for data (input, intermediate and outputs) in all the forms (hard & soft copies) will vest solely with PRSC.

It is the responsibility of the short listed firms to arrange to submit attested copies of character and antecedents verification reports issued by the concerned local police station of their employees who are to be deployed for doing the allotted work.

Payment, after completion of tasks, will be effected as per existing PRSC procedures. The firms should have extensive experience of carrying out the work mentioned under the five categories. Please enclose appropriate documents / work orders as a proof.

Firm should have necessary infrastructure, including Digital Image Processing and GIS related hardware and software, instruments for analyzing soil, air and water, whichever applicable to carry out the work. Please enclose appropriate documents for proof along with license & invoice details for the software and hardware.

Firm should have necessary equipments for ground control surveys like Geodetic/Survey grade dual frequency GPS receivers with standard post processing software and Digital/Auto levels & Total stations.

The firm should be a registered firm in the respective field. Documentary evidence in support of this should be enclosed with the application.

The firm should have a minimum annual turnover of Rs.2.0 crore for the last financial year in the respective field mentioned under five categories. However this condition is not applicable for startups, but they have to submit their balance sheet for the last financial year(s) and supporting documents for financial and technical soundness.

The firm should have on its roll sufficient number of skilled manpower with at least 3 years of relevant experience and 5 years for supervising category. The case of startups will be reviewed case to case basis based on their capabilities and commitments to fulfill the requirements.

(Note: PRSC may shortlist a firm/startup only for the type of works for which it has necessary infrastructure, expertise and experienced manpower).

Evaluation criteria for the selection of firms/startups

S.No.	Description	Points
I	Specific experience of the firm related to the field category in terms of number of similar projects taken up and the total cost of such projects.	30
II	Availability of hardware, software and other equipments/instruments required for the work	25
III	Qualification and competence of the Key staff for the assignment <ul style="list-style-type: none">• Qualifications, competence and hands-on experience of the supervisory and technical persons in execution and co-ordination of such projects.• Profile and Experience of the persons in man years on similar type of work	25
IV	Financial strength of the firm in terms of turnover for the last 3 years and income of startups for last available year(s)	20
	Total Points	100

5.0 TERMS AND CONDITIONS

The work is to be completed within the stipulated time frame as mentioned in the work order, failing which a penalty @ 1% per week (subject to a maximum of 10% of the total cost) shall be imposed, beyond which work may be cancelled/terminated at the sole decision of PRSC and no loss/damage will be payable to the concerned firm due to failure to deliver desired deliverables.

The interested firm/startup may apply for various categories independently or in consortium in specific causes with documentary proof.

The bidder will provide detailed work plan and weekly work progress. PRSC will monitor the work periodically to ascertain the quality and progress of work.

The successful bidder shall be required to furnish the Contract Performance Bank Guarantee (CPG) for an amount of 10% of total cost. CPG shall be valid for a period of 3 months beyond the expiry of last date for completion of contract.

All intermediate and final products (including full backup) will be handed over to PRSC in CD/DVD/External Hard Disk in appropriate file/data format.

All the data provided to the agency for this work and all intermediate and final products thereof will be treated as confidential and will not be used by the agency for any other purpose. The same shall neither be retained after completion of work nor should it be shared or transferred to someone else. Separate written guarantee will have to be given by the firm for this purpose on receiving the work order.

PRSC reserves the right to terminate the contract if the quality and pace of the work does not match the agreed terms and conditions. In such case, PRSC will not have any liability for any expenditure incurred by the agency/ firm on incomplete task, if any.

Preference will be given to those firms/startups which are registered/empanelled and active with Department of Space/SRSACs for similar services.

The terms and conditions may be modified as per the work requirement, at the sole discretion of PRSC.

DISCLAIMER

This RFP document is neither an agreement nor an offer by Punjab Remote Sensing Centre (PRSC) for geospatial and allied services to the prospective applicants or any other person.

The purpose of this RFP is to provide information to the interested parties that may be useful to them in the formulation of their proposal pursuant to this RFP. PRSC does not make any representation or warranty as to the accuracy, reliability or completeness of the information in this RFP document and it is not possible for PRSC to consider particular needs of each party who reads or uses this RFP document.

This RFP includes statements which reflect various assumptions and assessments arrived at by PRSC in relation to the statement of work. Each prospective applicant should conduct its own investigations and analyses and check the accuracy, reliability and completeness of the information provided in this RFP document.

PRSC will not have any liability to any prospective Applicant/Firm/or any other person under any laws (including without limitation the law of contract, tort), the principles of equity, restitution or unjust enrichment or otherwise for any loss, expense or damage which may arise from or be incurred or suffered in connection with anything contained in this RFP document, any matter deemed to form part of this RFP document, the award of the assignment, the information and any other information supplied by PRSC.

PRSC will also not be liable in any manner whether resulting from negligence or otherwise however caused arising from reliance of any applicant upon any statements contained in this RFP. PRSC will not be responsible for any postal delay in receiving the proposals.

The issue of this RFP does not imply that PRSC is bound to select an Applicant or to appoint the selected applicant, as the case may be, for the services. PRSC reserves the right to accept/reject any or all of proposals submitted in response to this RFP document at any stage without assigning any reasons whatsoever.

PRSC also reserves the right to withhold or withdraw the process at any stage with intimation to all who submitted the RFP application.

The information given is not exhaustive on account of statutory requirements and should not be regarded as a complete or authoritative statement of law. PRSC accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on the law expressed herein. PRSC reserves the right to change/ modify/ amend any or all provisions of this RFP document.

Check List for Relevant Documents to be submitted

S. No.	Document	Attached (Yes/No)
01	Firm/startup registration details with date of incorporation	
02	PAN/TAN/TIN/GST Registration No.	
03	Articles of Memorandum of Association/Partnership Deed/Proprietorship	
04	List of Technical employees who are on the rolls of the firm/startup.	
05	List of Supervisory employees who are on the rolls of the firm/startup.	
06	Experience of taking up projects in the field of RS, GIS, GPS/ Ground Surveys/UAV services and solutions	
07	Turnover in last three years, in case of startups preceding year(s)	
08	Hardware/ software and other equipments and facilities	
09	Survey equipment details	
10	Software packages names and license details along with number of licenses	
11	Whether the firm is an individual company/firm or a group of companies/firms	
12	Whether the firm/startup has Office in Chandigarh UT/Punjab state	
13	Whether the firm/startup has a valid ISO Certification and CMM level 3 or above or both	
14	Certificate or letter of communication of empanelment with DOS/ISRO/other SRSAC's Centres, if available/applicable.	
15	Other relevant information	

Signature of authorized representative
With Office Seal

Dated:-----

APPLICATION FORM FOR EMPANELMENT OF FIRMS FOR

- a) Geospatial database generation services
- b) Environment related services
- c) Field survey services
- d) Drone based mapping for various applications
- e) Web and mobile based application development and customization

(Attach separate sheets for any item where space is inadequate)

01	Name and Address of the Firm/startup with contact telephone / fax and e-mail	
02	Name of the proprietor or head of the firm or Chairman/MD of Board of Director, as applicable	
03	Registration details with date of incorporation along with PAN/TAN/TIN/GST Registration No. (Attach copy)	
04	Technical employees who are on the rolls. (Please attach additional sheets indicating information for each employee in the format indicated)	Name Qualification Experience Working in the firm since
05	Supervisory employees who are on the rolls. Please attach additional sheets indicating information for each employee in the format indicated	Name Qualification Experience Working in the firm since
06	Experience of taking up projects in the field of RS, GIS, GPS/ Ground Surveys and drone Services & Solutions (Please attach additional sheets as required)	User Name Work order reference (attach copy) Themes/ layers Area extent Scale Period of work Any other information
07	Turnover in last three years (please enclose IT returns/audited accounts statement). For startups atleast one year from date of establishment, provide necessary documentary proof as per Govt. norms for verification of being startup.	
	Company Total Turnover in Rs. Laacs	Year I (As Applicable)
	Year II (As Applicable)	Year III (As Applicable)
a)	Geospatial database generation services	
b)	Environment related services	
c)	Field survey services	
d)	Drone based mapping for various applications	

	e) Web and mobile based application development and customization			
08	Hardware/ software and other equipments and facilities			
	i). Digital Image Processing software package names, versions & no of licenses ii). GIS software package names, versions & no of licenses iii). Peripherals (Scanners, Plotters, Printers along with their sizes) iv). Geodetic Dual frequency GPS receiver configuration and number of such systems v). GPS data processing software package names and license details along with number of licenses vi). Survey equipment details vii). Details of Drone/UAV equipments with accuracy parameters	(please attach separate sheet)		
08	Any other related hardware/software/equipment	(please attach separate sheet)		
09	Survey equipment details	(please attach separate sheet)		
10	Software packages names and license details along with number of licenses	(please attach separate sheet)		
11	Other relevant information	(please attach company profile, brochure & any other material deemed fit)		

Signature of authorized representative
With Office Seal

Dated:-----