



SURVEY OF PAKISTAN

Rawalpindi

INVITATION TO BID **(Procurement of GNSS RTK)**

Survey of Pakistan, a National Surveying & Mapping Agency invites sealed bids under the Project titled “Cadastral Mapping” under **Single Stage-Two Envelop procedure** from the Original manufacturers / authorized distributors registered with Income Tax & Sales Tax Departments for supply of following items:

Sr. #	Equipment	Qty	Closing Date
1.	GNSS RTK	05 Sets (Each Set 1 Base + 3 Rover)	23-08-2021

2). Bidding documents, containing detailed terms and conditions, technical specifications, method of procurement, procedure for submission of bids, bid security, bid validity, opening of bid, evaluation criteria, clarification/rejection of bids, performance guarantee etc., are available for the interested bidders at website of Public Procurement Regulatory Authority and Survey of Pakistan website www.sop.gov.pk which can be downloaded.

3). The bids, prepared in accordance with the instructions in the bidding documents, must reach at Survey of Pakistan Faizabad Rawalpindi duly addressed to the Chairman Purchase Committee on or before **23-08-2021 at 10:30 hrs.** Bids will be opened on the same day at 11:00 hrs.

(Muhammad Arshad Iqbal)
Director Chairman Purchase Committee
051-9290217

TERMS & CONDITIONS

1. Applications on prescribed form (attached) along with technical specifications (compliance sheet) and contract, which can be downloaded from the website of PPRA, should reach the Chairman Purchase Committee, Director Photogrammetry, Survey of Pakistan Faizabad, Rawalpindi by registered post/courier latest by 10:30 hours on 23-08-2021. These will be opened at 11:00 hours on the same day in the presence of bidders or their authorized representatives.
2. The method of procurement is **single stage – two envelopes** as per PPRA's Rule-36(b).
3. The Bidders will send their Proposals in two sealed envelopes, marked as "FINANCIAL PROPOSAL" & "TECHNICAL PROPOSAL" in bold and legible letters to avoid confusion. Initially, only envelopes marked as **Technical Proposal** shall be opened and envelopes marked as Financial Proposal shall be retained in the custody of Chairman Purchase Committee. After the **evaluation & recommendations by the concerned Technical Evaluation Committee**, Financial Proposals of only technically qualified bids will be opened. The Financial Proposals of bids found technically non-responsive shall be returned un-opened to the respective bidders.
4. 2% earnest money in shape of pay order/bank draft in the name of Chairman Purchase Committee, Director Photogrammetry, Survey of Pakistan Faizabad, Rawalpindi should be enclosed in the envelope containing Financial Bid. However, the certificate for attachment be indicated in technical bid, otherwise, the same will be rejected at the opening stage of technical bids.
5. Bidder will provide compliance sheet of each item of the equipment against specifications. Bidder response should be explicit for each component. Any ambiguous and implicit words in quotations (such as yes, ok, offered, available, provided, etc.) will be treated as 'non-responsive'.
6. Bidder shall not submit any document after due date except in response to any clarification sought by Project Director and in response to clarifications no change shall be made.
7. The firm/supplier interested in more than one item may furnish separate tender for each item.
8. Procuring agency may reject any or all bids subject to the relevant provisions of PPRA Rules-33.
9. **Quantity of items can be increased or decreased.**
10. Only registered suppliers who are on Active Tax Payers List (ATL) of FBR are eligible to supply goods. The supplier should attach a proof that he is on ATL of FBR Data Base.

11. In Financial Proposal, the prices should be inclusive of all leviable taxes. The bidders should also provide the detail price analysis of the items/accessories in their Financial Proposal along with net quoted unit rate with GST and without GST showing complete picture of their quoted prices. Prices should be mentioned both in words & figures. In case of difference the amount given in words will be accepted.
12. Bids will be valid for 120 days from the date of opening of bid.
13. Display of the items/equipment & Software must be in English Version.
14. The bidders have to give demo of their offered model during Technical Evaluation.
15. Successful bidder(s) will be required to execute agreement governing the terms & conditions of the contract.
16. The successful bidder shall be liable to give full/justifiable training of their approved model.
17. **Liquidation Damages:** The firm has to pay liquidation damages for the period of delays in supply of deliverables upto rate of 2% of the contract price per month or part of a month exceeding the original delivery period subject to the provision that total liquidation damages thus levied will not exceed 10% of the total contract price.
18. **Performance Guarantee:** The bidder shall provide to Survey of Pakistan (SoP), a Performance Guarantee issued by A-Plus Pakistani Scheduled Bank, having a value of 5% of the contract price and which is valid for 12 months beyond the expected date of delivery of the items/equipments. SoP shall confirm the authenticity / genuineness of the Bank Guarantee from the concerned Bank. Performance Guarantee shall be submitted just after successful submission of deliverables and after obtaining Acceptance letter from SoP. 5% performance guarantee will remain held with SoP and be released on expiry of Support Period.
 - a. Bank Guarantee furnished against this contract is un-conditional and en-cashable at the will of the firm. Firm will undertake not to hinder/restrain its encashment through court, extra judicial or any other way(including administrative process)
 - b. If the firm fails to produce the Bank Guarantee within specified period, SoP reserves the right of cancelling the contract at the risk and expense of the firm. In the event of un-satisfactory performance or of any breach of terms of the contract, the bank guarantee shall be forfeited to the govt at the discretion of the firm.
19. **Confidentiality:** The firm shall not, during the process of execution or after expiration of this contract, disclose any proprietary or data without the prior written consent of SoP.
20. **Force Majeure:** Both the parties shall not be held responsible for any delay occurring in the Project due to event of Force Majeure such as acts of God, War, Civil commotion, Strike, Lockouts, Act of Foreign Govt and its agencies and disturbance directly affecting the parties over the events or circumstances

where both the parties have no control. In such an event both parties will inform each other within 15 days of the happening and within the same timeframe about the discontinuation of such circumstances / happening in writing.

21. The bidder shall be responsible for provision of all accessories to make the items operational.
22. Every page of the original proposal documents should be signed and stamped by the bidder and proposal to be submitted in binded form otherwise bid will not be accepted.
23. Any firm, which furnishes wrong information, will be liable for legal proceeding. Any contract awarded in such case when find out, will be cancelled.
24. The bidder/lead should not be blacklisted by any of its clients. An affidavit to this affect must be submitted by the bidder.
25. The bidder/lead should not be blacklisted by any of its clients. An affidavit to this affect must be submitted by the bidder
26. **Litigation:** In case any dispute, only court of law at Rawalpindi have jurisdiction to decide the matter.
27. For more information, please contact Mr. Muhammad Asghar, at telephone No. 051-9290227.

EVALUATION CRITERIA

1. **Technical Evaluation:** Technical Evaluation Reports of the Technical Proposals will be made as per tender specifications without the reference to the price as per PPRA Rule 36 (b)(v). The Technical proposal evaluation committee will evaluate the technical proposals and qualifications.
 - Evaluation Criteria for Technical Evaluation of GNSS RTK 100% Compliance of each sub-item of Tender Specifications as mentioned in Form-A will be required.
 - If the firm qualifies 100% compliance on the basis of Form-A-1 (attached with tender document), the firm has to demonstrate the performance to evaluate the user interface, quality, OEM/ Authorized Agent Experience of the firm, Availability of after sale services/workshop and performance of the equipment.
 - On the basis of form-B-1 (attached), the bidder obtaining 75 or more marks will be technically qualified.

- i. Performa A-1 & B-1 for technical evaluation of each item are attached.***

2. Evaluation of Financial Proposals / Bids

- a. Only the Financial Proposals of those bidders will be opened publically who's Technical Proposals and qualifications have been recommended by the Technical Evaluation Committee of the department as per PPRA Rule. For financial evaluation, the total cost indicated in the Financial Proposal will be considered.
- b. The Purchase Committee will determine whether the Financial Proposals are complete. The cost indicated in the Financial Proposal shall be deemed as final and reflecting the total cost of the equipment. Omissions, if any, in costing any item shall not entitle the firm to be compensated and the liability to fulfill its obligations within the total quoted price shall be that of the Vendor. The lowest Financial Proposal will be considered as the most advantageous bid.
- c. According to PPRA Rule 38-A, the bidder may offer un-conditional discount, in percentage of their quoted price or bids, before opening of the financial proposal. The discount bid price shall be considered as original bid for evaluation being an integral part of the bid. No offer of discount shall be considered after the bids are opened. The bidder will offer discount in term of percentage of financial bid in writing on Firm letterhead. **The bidder may not forget to bring Firm letterhead on the day and time of opening of Financial Bid.**

RESPONSIBILITY AGAINST DAMAGES/OWNERSHIP OF EQUIPMENT

The bidder shall be responsible for whole/any damage caused to the item(s)/equipment by accident / improper handling / loading, un-loading, before handed over to / taking charge by SoP. The bidder shall replace the same.

PAYMENT:

- i. Payment shall not be made in advance and against partial deliveries.
- ii. The bidder shall provide necessary and supporting documents alongwith invoice.
- iii. The bidder shall submit an application for payment to the Project Director Survey of Pakistan Rawalpindi. The application shall be accompanied by such invoices, receipt or other documentary evidences as SoP require, state the amount claimed and particulars of items supplied/equipment up to the date of application for payment.
- iv. SoP shall get verified the details of items delivered. Payment shall be made on complete delivery of items/services after issuance of satisfactory certificate by concerned technical committee/Project Director.
- v. SoP shall make payment for items supplied/services provided to the bidder as per Govt. policy in Pak Rupees through crossed Cheque.

- vi. All payment shall be subject to any and all taxes, duties and levies applicable under the laws of Pakistan for the whole period starting from issuance of Supply Order till delivery of the items/services.

SUPPLY PERIOD:

- i. The firm will provide items within a period of two months of the tender.
- ii. The most advantageous bidding firm/vendor shall be responsible to deliver goods/services within due time as given in Supply Order/Tender document.

AGREEMENT DEED

After receiving work order/supply order the firm has to sign a formal agreement deed on a stamp paper of appropriate value as per attached sample.

CONTRACT AGREEMENT

GOVERNMENT OF PAKISTAN
(MINISTRY OF DEFENCE)
SURVEY OF PAKISTAN
RAWALPINDI

Contract No. /15-G-4/()/St, dated: - -2021
Refers Supplier's Tender No.

An agreement made the _____ day of ----- Two Thousand Twenty between the President of Pakistan (herein after called the "PURCHASER" on the one part and M/s. -----, "SUPPLIER" on the other part.

Whereby it is agreed that the Purchaser shall purchase and the Supplier shall sell the stores as described in the schedule given hereunder at the price mentioned therein already transmitted through letter of intent subject to the special conditions as follow:

SUPPLY SCHEDULE

Description of Stores	Qty/ (Units)	Bill in name of	Rate per unit (Rs.)	Total Cost (Rs.)	Delivery Date
		Project Director, Survey of Pakistan Rawalpindi			On or before
Total:					

WARNING: Any information about the sale/purchase of the stores under this contract shall not be communicated to any person, other than the manufacturer of the stores or to any press or agency not authorized by the Surveyor General of Pakistan/Ministry of Defence to receive it. The breach of the undertaking shall be punishable under the Official Secrets Act, 1923

CONTRACT CONDITIONS/CLAUSES:

- 1). **Name of consignee:** **Project Director, Survey of Pakistan Rawalpindi.**
- 2). **Cost Dubitable to Head:** **A0900-Physical Assets.**
- 3). **Supplier's Name an Address:** **M/s.**
- 4). **Supplier's NTN No.**
- 5). **Supplier's Sales Tax Reg. No:**
- 6). **Date of Delivery:**
- 7). **Maker's Name & Brand:**
- 8). **Dispatch Instructions:**

The stores will be dispatched to the consignee under firm's own arrangements. No part supply will be allowed in any case. Each item will be packed/marked as per relevant paper's particulars governing the supply of store/standard/trade marking worthy of transportation by Rail/Road/Air within Pakistan so as to ensure their safe arrival at ultimate destination without any loss or damaging.
- 9). **Packing & Marking Instructions:**
- 10). **Inspection:**
 - a) **Inspection Authority:** **Technical Evaluation Committees (TECs)**
 - b) **Inspection Officer:** **Chairman Technical Evaluation Committees**
 - c) **Place of Inspection:** **Consignee's Premises**
 - d) **The Inspecting Officer will be informed 02 working days in advance about the time for inspection**
- 11). **Checking of Stores at Consignee's End:** All stores will be checked at consignee's premises in the presence of supplier's representatives. If, for the reasons of economy or other the supplier decides not to nominate his representative for such checking, then advance written notice to this effect will be given by the supplier to the **Project Director, Survey of Pakistan Rawalpindi** under intimation to **CPC** prior to or immediately on delivering stores. In such an event, the supplier will clearly under take the decision of consignee with regard to quantities and description of a consignment, which will be taken as final and if any discrepancy found will according be made up

by the supplier.

12). **Terms of Payment:**

- a) 100% payment of value of the stores supplied will be paid to M/s. -----

-----, through Cheque by submission of bills
duly supported by the **NOC** from concerned **TEC**
- b) Bill will be furnished to the Project Director, SoP, Rawalpindi, which will
subsequently be submitted to AGPR, Islamabad by the consignee.

13). **Taxes & Duties:**

- a) **Duties & Taxes Applicable:** The prices quoted are inclusive of all kinds
of duties and taxes. The purchaser shall not be liable for reimbursement of
duties and taxes on the contracted goods other than those given in the
quoted rates. The payment of element of taxes and duties, which are
included in quoted rates, will be made to the supplier only after production
of duly authenticated documentary proof of its payment to the respective
department. In case fresh taxes and duties are levied by the government
after opening of the tender will signing of the contract and during the
currency of the contract 9i.e. within the original delivery period) or if the
existing rates of taxes are increased after opening of the tender and during
the currency of the contract, liability shall be of the purchaser and the same
shall be reimbursed by the AGPR, Islamabad to the supplier at actual, on
production of documentary proof of his payment duly authenticated. In
case of any subsequent decrease in existing or future duty or taxes by the
Govt. after opening of tender and during the currency of the contract the
liability shall be of the supplier and the supplier shall reimburse the same to
AGPR, Islamabad under intimation to purchaser.
- b) For release of payment, the supplier would be required to furnish the
following documents to **Project Director**.
- i Proof of registration with Sales Tax Department (Copy of
Registration Certificate).
 - ii Sales Tax Invoice in original showing description/quantity/value of
good and current amount of Sales Tax leviable thereon.

14). **Bank Guarantee Clause:**

- a) To ensure timely and correct supply of stores and smooth execution of
warrantee conditions the firm will furnish a bank guarantee/draft from a
schedule bank for an amount of 5% of the total value of the contracted
stores amounting to **Rs. -----** to **CPC**. After completion of warrantee
period i.e. 01 years from the date of signing of NOC by **PC** the supplier will
request the **CPC** through **Project Director** for the withdrawal of bank
guarantee/draft. The bank draft will be encased/deposited in SoP's bank
account. The bank draft shall be produced by the supplier within 07 days
from the date of issue of letter of intent/signing of contract deed and shall
remain in force till completion of the warrantee period beyond the date of
inspection.

- b) If the supplier fails to produce the bank guarantee/draft within the specified period, the Project Director reserves the right of canceling the contract at the risk and expense of the supplier. In the event of un-satisfactory performance or of any breach of terms of the contract, the bank guarantee/draft shall be forfeited to the government at the discretion of the purchaser. On satisfactory performance of the contract the bank guarantee/draft will be returned to the supplier by CPC, on receipt of clearance from the Consignee.
Bank guarantee/draft furnished against this contract is un-conditional and en-cashable at the will of purchaser. Supplier undertakes not to
- c) hinder/restrain its encashment through court, extra judicial or any other way (including administrative process).

15). **Supplier Warranty/Guarantee:**

- a) The supplier shall furnish warranty for the stores under supply against defects in material workmanship, and satisfactory performance for one year with parts and one year free service. The stores will be of the highest grade and consistent with general expectable standard for the stores of type ordered in full conformity with governing specifications and performance of stores with the liability of replacing defective/unacceptable part free of cost within **07 days** by the supplier on receiving the discrepancy report, failing which the purchaser shall have the right to purchase the stores (against the stores declared defective) at the suppliers risk and expense. The supplier also undertakes to make good the deficiency in supply, if any.
- b) Supplier's warranty shall be provided to the consignee along with the store.

16). **Inspection after Expiry of Delivery Period:** Unless informed and directed to the contrary during the currency of the contract, the Inspection Officer will continue the inspection of the stores at firm's risk even after expiry of delivery period. Such acceptance will not prejudice the purchaser's right to cancel the contract or to extend the delivery period with or without liquidated damages.

17). **Failure and Termination:** Should the supplier fail to deliver the stores within stipulated period of supply, on the expiry; the purchaser shall be entitled at his option to take either of the following actions:

- a) To cancel the contract or purchase from elsewhere the stores not delivered, at risk and expense of the supplier and without notice to him. The supplier shall also be liable to any loss which purchaser sustains on this account but shall not be entitled to any gain of repurchase.
- b) To make the supplier pay liquidation damages for the period of delays in supply up to the rate of **2%** of the contract value un-supplied stores per month or part of a month for the period exceeding the original delivery period subject to the provision that total liquidation damages thus levied will not exceed **10%** of the total contract value.

- c) If contract of the firm is cancelled at 'Risk and Expense' then the latest equivalent of their cancelled stores will be purchased at 'Risk and Expense' of the concerned firm if the cancelled type/category is not available in the market. Similarly an item of contract on FOR (indigenous) basis may be produced at risk and expenses of the firm on FOR (Imported) basis and vice-versa in the interest of the state.
- 18). **Force Majeure:** Force Majeure shall mean any event, act or other circumstances, not being an event, act or circumstance, under the control of the purchaser or of the supplier. Non-availability of raw material from the manufacturer of stores, or of export permit for the export of the contracted stores from the country of its origin, shall not constitute Force Majeure.
- 19). **Special Instructions:**
Warranty/Guarantee:
- a) The supplier has to provide warranty/guarantee of the stores supplied for a period of 01 year standard warrantee including repair, servicing and replacement of parts from the date of issuance of NOC by the **CPC** The supplier shall replace the defective stores free of cost. Warranty/Guarantee Certificate with regards to all items being supplied would be provided to the consignee along-with the stores.
- b) Trade mark of all items should be quoted clearly. On receipt, if any stores are found to be otherwise it will be changed/ replaced free of cost.
- c) The Supplier will be strictly bound to supply the contracted stores as per tendered specifications, and fulfill all responsibilities in this regard.
- 20). **Litigation:** In case of any dispute, only court of jurisdiction at Rawalpindi shall have the jurisdiction to decide the matter.

SIGNATURES

PURCHASER

Designation	Chairman Purchase Committee
Name	
Signature	
For and on behalf of the President of Islamic Republic of Pakistan.	

SUPPLIER

Name	
Designation	
Signature	

PRESCRIBED APPLICATION FORM FOR TENDERING OF PROCUREMENT OF EQUIPMENT

(To be printed on firm/supplier's letter head duly signed by the authorized representative)

The Chairman Purchase Committee,
Survey Training Institute,
Islamabad.

In response to press advertisement dated: - -2021 appeared in the daily
..... we M/s.
..... have downloaded Tender Documents
consisting of Contract Proforma for Tendering under Purchase of stores including the
detail and specifications from PPRA's website.

We have gone through all the terms and conditions contained in above
mentioned documents and those, which are the part of tender.

We fully agree to abide by the terms and conditions contained in the said
documents and therefore hereby submit Technical as well as Financial Proposals for
the following:

**AUTHORISED SIGNATURE
NAME & SEAL OF FIRM/SUPPLIER**

TECHNICAL SPECIFICATIONS FOR GNSS-RTK EQUIPMENT

GNSS Set (01 BASE & 03 ROVERS COMBINATION)

LIST OF ITEMS

1. Base receiver	01
2. Rovers receiver	03
3. Rugged Digital Tablet Controllers	04
4. Post Processing Software (Full package)	01
5. 35W external Radio + High Gain 5 DB Antenna	01
6. Tribrach with removable optical plummet	04
7. Imported heavy duty branded wooden/Fibre glass Tripods	04
8. Heavy duty branded receiver poles (2.0 m) with canvas cover / bags	04
9. Extension rods	04
10. Bipod / pole catcher	04
11. External Dry Battery	01
12. Spare Batteries for tablet	04
13. All other standard accessories with article number of same brand (i.e batteries, chargers, set of cables , measuring taps and carrying cases etc)	

Note: Each Base and Rover Receiver must be compatible to be used both as base and rover

SPECIFICATIONS OF BASE & ROVER RECEIVER

- Triple Frequency GNSS
- Fast Acquisition
- Strong Signal
- Low noise and excellent tracking to low satellite and in adverse conditions
- Fully Independent measurement
- L- Band
- Operation Mode : Each receiver must be capable to operate as base, rover & log static data
- Multi Constellation: Satellite Tracked: GPS, GLONASS, BEIDOU, GALILEO, QZSS, SBAS
- WEB UI Control
- Intelligent Batteries

- Rugged RTK
- Channels more than 440
- Internal Memory: 6GB-8GB
- Initialization Time: less than 10 sec
- **Accuracy**

Static and Fast Static mode

Horizontal: 3.0 mm +0.1 ppm

Vertical: 3.5 mm + 0.4 ppm

Real Time Kinematics

Horizontal: 8.0 mm+1.0 ppm

Vertical: 15.0 mm+1.0 ppm

- Data Update/ Output Rate >10 Hz (20 Hz will be preferred)
- Accuracy with TILT Compensation: RTK, TILT Compensated 15° or higher+ IMU
- **Advance communication**
- Cellular GSM (NTRIP CASTER), 4G PTA approved
- Communication: 7 pins and 5 pins interfaces, USB Interface
- Bluetooth Technology
- Wi-Fi
- GSM Network (PTA Approved)
- Internal UHF Radio
- Internal Radio: 1.0-2.0 watt, TX- RX Type
- Frequency Range: 410-470 Mhz
- Band: GSM/GPRS/EDGE/LETE/UMTS/WCDMA
- Battery :3400 mAh
- Operating Temperature -40 to +65 C
- Water Proof / Dust Proof
- Shock Resistance

ADDITIONAL ACCESSORIES FOR BASE

- a. One set of all cables of base Receiver.
- b. One Battery set of Base Receiver.
- c. One set of Base UHF Antenna.

ADDITIONAL ACCESSORIES FOR ROVER

- a. One set of all cables of rover receiver.
- b. One battery set of rover receiver.
- c. One set of rover UHF antenna.

SPECIFICATION OF CONTROLLER WITH FIELD SURVEY SOFTWARE (PTA APPROVED)

- Rugged Digital Tablet Controller
- Interactive CAD function which can do simple Draw, Edit, Manage field data without the needs to use office CAD software.
- Able to work with 4x different view mode: Classic 2D, 3D with Elevation, Map View (i.e Google Map as background), able to support Raster Image (Tiff, JPG, Bitmap).
- Can Import directly the following format into field controller : DXF/DWG file, ASCII file, ESRI Shapefile, LandXML format, Raster Image, Google KML/KMZ format export
- Can Export directly the following format to PC: DXF/DWG file, ASCII file, ESRI Shapefile, LandXML format, GSI format, Google KML/KMZ format
- Generate Stakeout report directly from the field software
- Online data sharing capability : WhatsApp, Dropbox, Google Drive, Email, Skype etc (no physical hard drive needed for data transfer)
- RTK Correction
- Gyroscope, Accelerometer, Electronic Bubble, GSM, Bluetooth, Wi-Fi
- Digital Compass
- Not less than 8 MP Embedded Camera
- Operating Software : Windows original
- Radio configuration : Add, Delete and Edit of Radio frequencies in field via Field controller
- Transformation Calculator: Field software capability to compute new transformation parameters, traverse and topo.
- Processor: Quad Core
- RAM: ≥ 8 GB
- ROM: ≥ 128 GB
- Interface: TF Slot, USB 3.0,GSM,

- Display: not less than 7" capacitive touch panel, sunlight-viewable, removable battery.

FEATURES OF SOFTWARE

- **Data processing software**

Latest version user friendly full module comprehensive software with permanent license.

- **Specifications**

- Having utility for post processing data.
- Import & export all GNSS data.
- Import and export RINEX, ASCII, CAD (DWG, DXF), GIS (.Shp File).
- Data error and accuracy reporting.
- Datum shift calculation.
- Downloading and processing adjustment
- Software must be capable of GNSS, Total Station and level data processing and adjustment and all functions should be operational with complete license.
- Specific drawing utilities such as the Solid Orthophoto view and the possibility to select the coordinates in the original photos, ensure to get the most out of the calculated results.

Processing GNSS	Multi frequency data processing of GNSS static and kinematic observation
Functionality	GNSS data analysis tools for viewing cycle slips, SNR, and residual plots with statistics Reference networks connectivity for direct RINEX download
Adjustments	Network adjustments – free or constrained network computations of all observations Full 3D, 2D and 1D computations and ability to combine GNSS, Total Station and Level data Compare / manage network runs before storing the best possible set of consistent coordinates
Reports	Automated generation of GNSS Observation Report, GNSS Interval report, Coordinate System Report, Data Quality Report, GNSS Field data reports, processing result Report, Adjustment Report, Loops and Misclosure Report

Data Formats	GNSS Raw Data, ASCII, XML, DWG, DXF, BIM ICF, Esri SHP, SP3, ION, GSI, LAS, PTS, PTX, XYZ, LAZ, PLY, e57, RINEX, SDB and Georeferenced Images (JPG, PNG)
Google Earth Support	Support for data export to Google earth with point, lines, polygon, with point observation quality info, time info and baseline diagram.
Data editing feature	Update of station setups / base setup support for auto correction of target / rover points
Data Import	ASCII, XML, RINEX, DXF/DWG, SHP, PTS/PTX, PLY, e57, LAS/LAZ, IFC, IFCZIP, ifcXML
Data Export	ASCII, XML, RINEX, DXF/DWG, SHP, KML/KMZ, PTS, e57, LAS/LAZ
Traverse Adjustment	Build or edit field generated results and automatically update connected measurements

- **Training**

Training for operation and preventive maintenance of equipment (Hardware and software) for 02 weeks free of charge.

- **Warranty**

One year after commission on site, defective parts/assemblies will be replaced by the bidder free of charge within warranty period

- **Terms & Conditions**

1. Authorization letter from the original manufacturer (OEM) of the GNSS RTK sets for this tender will be considered for technical evaluation.
2. Bidder must confirm for delivery of equipment in case of export approvals required, this will be responsibility of vendor to manage delivery within delivery period as per contract.
3. OEM (Original Equipment Manufacturer) and its representative must have reasonable experience of manufacturing GNSS instrument. Any sale contract / document to be provided as proof. Preference will be given on basis of more experience.
4. Workshop and after sale service in Pakistan must be present to ensure in time availability of spares and after sale technical support to Survey of Pakistan. E-mail, telephone, fax No. and address of workshop to be provided with technical bid for confirmation during technical evaluation. Evaluation team may inspect workshop.

5. The bidder must provide OEM certificate of main equipment, technical specifications, brochures and drawings of each item in schedule of requirement of quoted model in English.
6. All bidders are advised to comply strictly with the tender specifications and no deviation shall be allowed.
7. The system must be based on latest design (Hardware & Software), model and technology.
8. Before opening of financial tender, responsive bidder will be responsible for on ground practical demonstration of the quoted instruments along with all accessories in Survey of Pakistan headquarters Rawalpindi, Pakistan. The performance and quality will be technically evaluated by technical committee of Survey of Pakistan as per tender specifications.

Note:

Evaluation criteria is given in attached

- i. Proforma GNSS A-1.
- ii. Proforma B-1.
- iii. 100% compliance of each sub item of Tender Specifications as mentioned in Proforma - GNSS A-1 will be required.
- iv. If the firm qualifies 100% compliance on the basis of Proforma-GNSS A-1, the firm has to demonstrate the performance to evaluate the user interface, quality, only OEM/ Authorize Agent can participate, Availability of after sale services/workshop and performance of the equipment.
- v. On the basis of Evaluation Criteria Proforma B-1, the bidder obtaining 75 or more marks will be technically qualified.

TECHNICAL EVALUATION QUALIFICATION CRITERIA FOR SURVEYING INSTRUMENT (GNSS)

S. No.	TENDER SPECIFICATIONS	BIDDER	BIDDER	REMARKS
		BRAND	BRAND	
1	SPECIFICATIONS OF BASE & ROVER RECEIVER	Compliance	Compliance	
	<ul style="list-style-type: none"> a. Triple Frequency GNSS b. Fast Acquisition c. Strong Signal d. Low noise and excellent tracking to low satellite and in adverse conditions e. Fully Independent measurement f. L- Band g. Operation Mode : Each receiver must be capable to operate as base, rover & log static data h. WEB UI Control i. Intelligent Batteries j. Rugged RTK k. Data Update/ Output Rate >10 Hz (20 Hz will be preferred) l. Accuracy with TILT Compensation: RTK, TILT Compensated 15° or higher + IMU 	<ul style="list-style-type: none"> a. b. c. d. e. f. g. h. i. j. k. l. 	<ul style="list-style-type: none"> a. b. c. d. e. f. g. h. i. j. k. l. 	
	CHANNELS			
	<ul style="list-style-type: none"> a. Channels more than 440 b. Multi Constellation: Satellite Tracked: GPS, GLONASS, BEIDOU, GALILEO, QZSS, SBAS 	<ul style="list-style-type: none"> a. b. 	<ul style="list-style-type: none"> a. b. 	
	MEMORY			
	<ul style="list-style-type: none"> a. Internal Memory: 6GB-8GB b. Initialization Time: less than 10 sec 	<ul style="list-style-type: none"> a. b. 	<ul style="list-style-type: none"> a. b. 	
	ACCURACY			

<p>Accuracy Static and Fast Static mode Horizontal: 3.0 mm +0.1 ppm Vertical: 3.5 mm + 0.4 ppm Real Time Kinematics Horizontal: 8.0 mm+1.0 ppm Vertical: 15.0 mm+1.0 ppm</p>			
<p>ADVANCED COMMUNICATIONS</p>			
<p>a. Cellular GSM (NTRIP CASTER), 4G PTA approval b. Communication: 7 pins and 5 pins interfaces, USB Interface c. Bluetooth Technology d. Wi-Fi e. GSM Network (PTA Approved) f. Internal UHF Radio g. Internal Radio: 1.0-2.0 watt, TX- RX Type h. Battery :3400 mAh i. Operating Temperature -40 to +65 C j. Water Proof / Dust Proof k. Shock Resistance</p>	<p>a. b. c. d. e. f. g. h. i. j. k.</p>	<p>a. b. c. d. e. f. g. h. i. j. k.</p>	
<p>FREQUENCY RANGE</p>			
<p>a. Frequency Range: 410-470 Mhz b. Band: GSM/GPRS/EDGE/LETE/UMTS/WCDMA</p>	<p>a. b.</p>	<p>a. b.</p>	
<p>ADDITIONAL ACCESSORIES FOR BASE</p>			
<p>a. One set of all cables of base Receiver. b. One Battery set of Base Receiver. c. One set of Base UHF Antenna.</p>	<p>a. b. c.</p>	<p>a. b. c.</p>	
<p>ADDITIONAL ACCESSORIES FOR ROVER</p>			

	<ul style="list-style-type: none"> a. One set of all cables of rover receiver. b. One battery set of rover receiver. c. One set of rover UHF antenna. 	<ul style="list-style-type: none"> a. b. c. 	<ul style="list-style-type: none"> a. b. c. 	
2	<u>SPECIFICATION OF CONTROLLER</u>	Brand	Brand	
	<ul style="list-style-type: none"> a. Rugged Digital Tablet Controller. b. Interactive CAD function which can do simple Draw, Edit, Manage field data without the needs to use office CAD software. c. Able to work with 4x different view mode : Classic 2D, 3D with Elevation, Map View (i.e Google Map as background), able to support Raster Image (Tiff, JPG, Bitmap). d. Can Import directly the following format into field controller : DXF/DWG file, ASCII file, ESRI Shapefile, LandXML format, Raster Image, Google KML/KMZ format export. e. Can Export directly the following format to PC: DXF/DWG file, ASCII file, ESRI Shapefile, LandXML format, GSI format, Google KML/KMZ format. f. Generate Stakeout report directly from the field software. g. Online data sharing capability : WhatsApp, Dropbox, Google Drive, Email, Skype etc (no physical hard drive needed for data transfer). h. RTK Correction. i. Gyroscope, Accelerometer, Electronic Bubble, GSM, Bluetooth, Wi-Fi. j. Digital Compass. k. Not less than 8 MP Embedded Camera. l. Operating Software : Windows original m. Radio configuration : Add, Delete and Edit of Radio frequencies in field via Field controller. n. Transformation Calculator: Field software capability to compute new transformation parameters, traverse and topo. o. Processor: Quad Core. p. RAM: ≥ 8GB q. ROM: ≥ 128GB r. Interface: TF Slot, USB 3.0,GSM. s. Display: not less than 7" capacitive touch panel, sunlight-viewable, removable battery. 	<ul style="list-style-type: none"> a. b. c. d. e. f. g. h. i. j. k. l. m. n. o. p. q. r. s. 	<ul style="list-style-type: none"> a. b. c. d. e. f. g. h. i. j. k. l. m. n. o. p. q. r. s. 	
3	FEATURES OF SOFTWARE			
	<p>Data processing software Latest version user friendly full module comprehensive software with permanent license.</p>			

	<p>Specifications</p> <ul style="list-style-type: none"> a. Having utility for post processing data. b. Import & export all GPS data. c. Import and export RINEX, ASCII, CAD (DWG, DXF), GIS (Shp.File). d. Data error and accuracy reporting. e. Datum shift calculation. f. Downloading and processing adjustment g. Software must be capable of GNSS, Total Station and level data processing and adjustment and all functions should be operational with complete license. h. Specific drawing utilities such as the Solid Orthophoto view and the possibility to select the coordinates in the original photos, ensure to get the most out of the calculated results. 	<ul style="list-style-type: none"> a. b. c. d. e. f. g. h. 	<ul style="list-style-type: none"> a. b. c. d. e. f. g. h. 	
4	<p>Training</p> <p>Training for operation and preventive maintenance of equipment (Hardware and software) for 02 weeks free of charge.</p>			
5	<p>Warranty</p> <p>One year after commission on site, defective parts/assemblies will be replaced by the bidder free of charge within warranty period</p>			

PROFORMA FOR TECHNICAL EVALUATION OF GNSS AND FIELD CADASTRAL SURVEY & GIS SOLUTION ON PHYSICAL INSPECTION AND FIELD DEMONSTRATION
TECHNICAL BIDS OPEN ON _____-DEMONSTRATION ON _____

Bidder/ Equipment / Brand	General (25 Marks)				Authorized Agent Experience (Max 10 Marks)			After sale services/ Workshop (20 Marks)			Performance (45 Marks)						Total (100 Marks)
	Receiver Controller (10 Marks)		Build Quality & Specs of receiver/ Controller (Rugged/ Non- Rugged (10 Marks)	Quality Standar ds of Accesso ries (05 Marks)	< 5 years (2 Marks)	5-10 years (5 Marks)	10-15 years (10 Marks)	Within Pakistan (10 Marks) Outside Pakistan (05 Marks)	Qualified staff (5 Marks)	Repairing Lab (5 Marks)	H&V Accuracy Static DGNSS, IMU Tilt Test (5 Marks)	RTK DGSS (3 Marks)	Layout (2 Marks)	Radio Connectiv ity/Range / Coverage (05 Marks)	Software (Max 30 Marks)		Score
	User Interface (5 Marks)	Connectiv ity with Receiver (5 Marks)													GNSS Data Processing / Adjustment Performance (15 Marks)	Controller / Tablet Field survey software performanc e (15 Marks)	