



Capital Region Urban Transport

Bhubaneswar • Cuttack • Puri

Block-1, 2nd Floor, BMC Bhawani Mall
Saheed Nagar, Bhubaneswar,
Odisha - 751007

Short Tender Notice

Request for Proposal

**For Supply and Integration of 300 Electronic Ticketing Machines
with existing AFCS for the transit vehicles owned by CRUT,
Odisha with warranty of 5 years.**

Tender Reference Number: 405/CRUT/2021

Date of Issue: 17/03/2021

Capital Region Urban Transport

Block-1, 2nd Floor, BMC Bhawani Mall, Saheed Nagar

Bhubaneswar, Odisha (INDIA), Pin- 751007

Email: crutbbsr@gmail.com; Phone No.: 0674-2548625

Notice no: 405/CRUT/2021.

Date: 17-03-2021

Short Tender Notice

For Supply and Integration of 300 Electronic Ticketing Machines for the transit vehicles owned by CRUT, Odisha with warranty of 5 years

CRUT invites proposal from interested bidders for the above-mentioned purpose. Please refer Tender document for details.

The Tender Document shall be available from 20/03/2021 onwards in following Web portal: www.capitalregiontransport.in. Further, intimation i.e. (Corrigendum/Addendum/Clarifications) shall be uploaded in the above website only.

Applicants are required to submit the duly filled proposals as per the prescribed format on or before 08/04/2021, 3.00 PM, The proposals received shall be opened at 4.00 PM, on 08/04/2021

In case of any query/clarifications, please contact 0674-2548625 or email at crutbbsr@gmail.com

CRUT reserves the right to accept or reject bid process without assigning any reasons thereof.

Disclaimer

1. *Capital Region Urban Transport (herein after referred to as CRUT) has issued this for selection of vendor for supply and integration of 300 ETMs with E-ticketing system and vehicle tracking system for the transit vehicles owned by CRUT, Odisha such terms and Conditions as set out in this Tender document, including but not limited to the Technical Specifications set out in different parts of this Tender document.*
2. *This Tender has been prepared with an intention to invite prospective Applicants/Bidders and to assist them in making their decision of whether or not to submit a proposal. It is hereby clarified that this Tender is not an agreement and the purpose of this Tender is to provide the Bidder(s) with information to assist them in the formulation of their proposals. This Tender document does not purport to contain all the information Bidders may require. This Tender document may not be appropriate for all persons, and it is not possible for CRUT to consider the investment objectives, financial situation and particular needs of each Bidder.*
3. *CRUT has taken due care in preparation of information contained herein. However, this information is not intended to be exhaustive. Interested parties are required to make their own inquiries and respondents will be required to confirm in writing that they have done so and they do not solely rely on the information contained in this Tender in submitting their Proposal. This Tender includes statements, which reflect various assumptions and assessments arrived at by CRUT in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require.*
4. *This Tender is not an agreement by and between CRUT and the prospective Bidders or any other person. The information contained in this Tender is provided on the basis that it is non-binding on CRUT, any of its authorities or agencies, or any of their respective officers, employees, agents, or advisors. CRUT makes no representation or warranty and shall incur no liability under any law as to the accuracy, reliability or completeness of the information contained in the Tender document. Each Bidder is advised to consider the Tender document as per his understanding and capacity. The Bidders are also advised to do appropriate examination, enquiry and scrutiny of all aspects mentioned in the Tender document before bidding. Bidders are encouraged to take professional help of experts on financial, legal, technical, taxation, and any other matters / sectors appearing in the document or specified work. Bidders are also requested to go through the Tender document in detail and bring to notice of CRUT any kind of error, misprint, inaccuracies, or omission in the document. CRUT reserves the right not to proceed with the project, to alter the time table reflected in this document, or to change the process or procedure to be applied. CRUT also reserves the right to decline to discuss the Project further with any party submitting a proposal.*
5. *No reimbursement of cost of any type will be paid to persons, entities, submitting a Proposal. The Bidder shall bear all costs arising from, associated with or relating to the preparation and submission of its Bid including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by CRUT or any other costs incurred in connection with or relating to its Bid.*
6. *This issue of this Tender does not imply that CRUT is bound to select and pre-qualify Bids for Bid Stage or to appoint the selected Bidder for the project and CRUT reserves the right to*

reject all or any of the Bids without assigning any reasons whatsoever.

- 7. CRUT may, in its absolute discretion but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this Tender.*
- 8. CRUT, its employees and advisors make no representation or warranty and shall have no liability (for any cost, damage, loss or expense which may arise from or is incurred or suffered on account of anything contained in this Tender or otherwise, including but not limited to the accuracy, adequacy, correctness, completeness or reliability of the Tender and any assessment, assumption, statement or information contained therein or deemed to be part of this Tender or arising in any way with eligibility of Bidder for participation in the Bidding Process) towards any Applicant or Bidder or a third person, under any law, statute, rule, regulation or tort law, principles of restitution or unjust enrichment or otherwise.*
- 9. CRUT also accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Bidder upon the statement contained in this Tender.*
- 10. Interested parties, after careful review of all the clauses of this 'Request for Proposal', are encouraged to send their suggestions in writing to CRUT. Such suggestions, after review by CRUT, may be incorporated into this 'Request for Proposal' as a corrigendum which shall be uploaded onto website www.capitalregiontransport.in*

Instructions to Bidders

Background

Capital Region Urban Transport operates under the Housing and Urban Development Department (HUDD) of Govt. of Odisha. Bhubaneswar Puri Transport Services (BPTS) was a company which started its operation from 10th Oct, 2010. It was the sole public bus transport provider for Bhubaneswar city and has been mandated to manage and operate the Urban Bus Service on intra city and on intercity routes in and between Bhubaneswar and its surrounding areas. Through a Govt. notification dated 19.01.2018 issued by H&UD Department had changed the name of BPTS to Capital Region Urban Transport (CRUT) with a new Board structure and new jurisdiction for providing transport services.

CRUT is responsible for providing transport facilities within Bhubaneswar Development Authority (BDA), Cuttack Development Authority (CDA) and Puri-Konark Development Authority (PKDA) area. CRUT with the objective of improving public transport services in capital region of Odisha has engaged private operators for bus operations and managing its services on gross cost contract mode. CRUT retains full responsibility for bus operations and revenue collection and absorbs the associated revenue risks. CRUT has launched the Bus Service under the “Mo Bus” brand. Apart from bus transport, CRUT has also planned for launching E Vehicles such as E-Ride in near future. In the process of operating and managing public transport, CRUT is engaged with various technology service provider facilitating intelligent transport management system.

1. Purpose

With a vision to be the “The Preferred Nodal Public Road Transport Provider of the State with increased Revenue Contribution and Market Share in next 5 Years” CRUT envisages establishing and strengthening bus services in Bhubaneswar, Cuttack, Puri, Konark and Khurdha. For this purpose, CRUT is desirous of implementing a “**Smart Transit Project**” which includes comprehensive technology solutions for ticketing and digital payments. The key objectives of this program are:

- a) To increase the adoption and usage of public bus transport
- b) To migrate to cash-less, contactless, digital ticketing and payments in transit vehicles,
- c) To procure latest quality electronic ticketing machines for efficient bus operations

2. Cost of Tender Document

Prior to submitting the Bids, the Bidders shall pay Bid Document Fee in form of DD favoring CRUT as part of Physical submission. It is clarified that the Bid Document Fee is non-refundable

3. Change in Ownership

By submitting the Bid, the Bidder shall be deemed to have acknowledged and agreed

that in the event of a change in control of the Bidder itself or an Associate whose Technical Capacity or the Holding Company whose Financial Capacity was taken into consideration for the purposes of Short Listing and Qualification under and in accordance with this Tender, the Bidder shall be deemed to have knowledge of the same and shall be required to inform the CRUT along with all relevant particulars about the same. CRUT may, in its sole discretion, approve the same or disqualify the Bidder or withdraw the Purchase Order (PO) from the Selected Bidder, as the case may be. In the event such change in control occurs after signing of the Agreement but prior to financial close of the Project, it would, notwithstanding anything to the contrary contained in the Agreement, be deemed to be a breach of the Agreement, and the same shall be liable to be terminated without the CRUT being liable in any manner whatsoever to the Bidder. In such an event, notwithstanding anything to the contrary contained in the Agreement, the CRUT shall be entitled to forfeit and appropriate the Bid Security or Performance Security, as the case may be, as damages, without prejudice to any other right or remedy that may be available to the CRUT under the Bid Documents and/ or the Agreement or otherwise. CRUT shall keep the Hardware and Software so deployed by the Bidder.

4. Transfer of Tender

The Bidding Document is not transferable to any other Bidder. The Bidder who purchases the document and submits the Bid shall be the same.

5. Sub-Contracting Conditions

Bidder cannot be allowed to sub-contract the work.

6. Completeness of Response

Bidders are advised to study all instructions, forms, terms, requirements and other information in the Tender documents carefully. Submission of bid shall be deemed to have been done after careful study and examination of the Tender document with full understanding of its implications.

The response to this Tender should be full and complete in all respects. Failure to furnish all information required by the Tender document or submission of a proposal not substantially responsive to the Tender document in every respect will be at the Bidder's risk and may result in rejection of its Proposal.

7. Proposal Preparation Costs

The Bidder shall submit the bid at its cost and CRUT shall not be held responsible for any cost incurred by the Bidder. Submission of a bid does not entitle the Bidder to claim any cost and rights over CRUT and CRUT shall be at liberty to cancel any or all bids without giving any notice.

All materials submitted by the Bidder shall be the absolute property of CRUT and no copyright/patent etc. shall be entertained by CRUT.

8. Right to modification of technical requirements

CRUT reserves the right to modify the technical specifications and upgrade technical functionalities at any time during the bid process.

9. Bidder Inquiries

Bidder shall e-mail their queries at below mentioned e-mail address at crutbbsr@gmail.com. The response to the queries will be provided through email. No queries will be entertained after seven days of Tender publication. This response of CRUT shall become integral part of Tender document. CRUT shall endeavor to respond to the questions raised or clarifications sought by the Bidders. However, CRUT reserves the right not to respond to any question or provide any clarification, in its sole discretion and is not under any obligation to entertain/ respond to suggestions made or to incorporate modifications sought for.

10. Amendment of Tender Document

All the amendments made in the document would be published on the Portal and shall be part of Tender. The Bidders are advised to visit the aforementioned website/portal on regular basis to check for necessary updates. CRUT also reserves the right to amend the dates mentioned in this Tender.

11. Supplementary Information to the Bidder

If CRUT deems it appropriate to revise any part of this Tender or to issue additional data to clarify an interpretation of provisions of this Tender, it may issue supplements to this Tender. Any such corrigendum shall be deemed to be incorporated by this reference into this tender.

12. CRUT's right to terminate the process

CRUT may terminate the Tender process at any time and without assigning any reason. CRUT reserves the right to amend/edit/add/delete any clause of this Bid Document. This will be informed to all and will become part of the bid/Tender and information for the same would be published on the www.capitalregiontransport.in

13. CRUT's Right to accept any Bid and to reject any or All Bids

CRUT reserves the right to accept or reject any Bid, and to annul the bidding process and reject any or 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 CRUT's action.

14. Earnest Money Deposit (EMD)

Earnest Money deposit (EMD) submission shall be in the form of Demand Draft. Any Bid not accompanied with EMD shall be rejected.

The EMD shall be denominated in Indian Rupees only. No interest will be payable to the Bidder on the amount of the EMD.

Unsuccessful Bidder's EMD shall be returned within 60 days from the date of signing of contract with the successful Bidder.

EMD of Successful Bidder will be returned after the award of contract and submission of the bid Security in the form of Demand Draft (which is 5% of the Bid Value) within specified time.

EMD shall be non-transferable.

The EMD may be forfeited:

- In case of a successful Bidder, if the Bidder fails to deliver the product within the defined timeline.
- If during the bid process, abider indulges in any such deliberate act as would jeopardize or unnecessarily delay the process of bid evaluation and finalization.
- If, during the bid process, any information is found false/fraudulent/mala fide, then CRUT shall reject the bid and, if necessary, initiate action.

15. **Language of Bids**

This bid should be submitted in English language only. If any supporting documents submitted are in any language other than English, then the translation of the same in English language is to be duly attested by the Bidder and submitted with the bid, and English translation shall be validated at CRUT's discretion.

16. **Intellectual property rights**

CRUT shall be granted a perpetual, non-exclusive license for products and related solutions, fixes provided pursuant to this work order, any bespoke development done during the term of contract and for any material developed or otherwise obtained by the Bidder.

The ownership of all IP including all source code, trademarks, patents, products, fixes, related solutions and materials related to this work order lies with the bidder.

“Product” means any web- based services, or materials comprising commercially released, pre-release or beta products (whether licensed for a fee or no charge) and any derivatives of the foregoing which are made available to CRUT for license which is published by product owner or its affiliates, or a third party. “Fixes” means product fixes that are either released generally (such as commercial product service packs) or that are provided to you when performing services (such as workarounds, patches, bug fixes, beta fixes and beta builds) and any derivatives of the foregoing.

17. **Contact Details**

For any clarifications & communication with reference to the Tender documents, the Bidders are expected to communicate at the contact information provided in the data sheet.

18. Number of Bids

The Bidder is eligible to submit only one Bid for the Procurement. In case of multiple Bids by a Bidder all such Bids shall be rejected and their EMD shall stand forfeited.

19. Bid Submission Format

The entire proposal shall be submitted strictly as per the format specified in this tender document. Bids with deviation from this format are liable for rejection.

20. Bid Submission Instructions

	Documents Type	Document Format
Tender Fee, EMD Detail & Pre-Qualification		
1.	Tender Fee	DD/Banker's Cheque of amount Rs. 11,800.00 (Non-Refundable)
2.	EMD	DD/Banker's Cheque of amount Rs. 120,000.00 (Refundable)
3.	Bid Security	5% of Bid Value, Further the bid security will be considered as retention money till one year from issuance of Purchase Order.
4.	Pre-qualification	As per the format mentioned against the respective eligibility criteria clause.
Technical Qualification Documents and Demonstration		
5.	Technical Bid and Demonstration	As per the format mentioned against the respective eligibility criteria clause.
Financial Bid		
5.	Financial Bid	As per the format mentioned

The Bidder should ensure that all these documents, as mentioned in this Tender/ bidding document, are submitted along with the bid and in the prescribed format only. Non-submission of the required documents or submission of the documents in a different format/contents may lead to the rejection of the bid proposal submitted by the Bidder.
Signed copy of this Tender.

The Bid will have to be signed duly and submitted by the proper authorized person as appointed by the Bidder.

All the documents should have page number with indexing. The documents must be bound properly, CRUT will not be responsible for missing of any documents. Unbound bid will not be considered.

The bid can be submitted physically or can be send through post, no bid will be considered as soft copy.

Bid should be in the prescribed format along with Annexes and supporting documents;

The instruments of Earnest Money Deposit & Cost of Tender document are to be put in a separate envelope duly sealed and super scribed with the word “Earnest Money Deposit & Cost of Tender Document”.

All the envelopes containing Bid Documents, Earnest Money & Cost of Tender shall be put in a single envelope duly sealed, super scribed with Tender Notice No., Name of the work, date of opening of Technical Bid and addressed to GM (P& A) of Capital Region Urban Transport, Bhubaneswar.

21. **Disqualification**

The Proposal is liable to be disqualified in the following cases or in case the Bidder fails to meet the bidding requirements as indicated in this Tender:

- Proposal not submitted in accordance with the procedure and formats prescribed in this document or treated as non-conforming Proposal.
- During validity of the Proposal, or its extended period, if any, the Bidder increases their quoted prices.
- Proposal is received incomplete.
- Proposal is received after due date and time.
- Proposal is not accompanied by the EMD.
- Information submitted in Technical Proposal is found to be misrepresented, incorrect or false, accidentally, unwittingly or otherwise, at any time during the processing of the Contract (no matter at what stage)
- Bidder fails to deposit the bid security or fails to deliver the product within 21 Days of the date of issue of Purchase Order or within such extended period, as may be specified by the CRUT.
- The validity of the bids submitted before deadline shall betill180days from the date of opening of the Bids.

22. **Acknowledgement of Understanding of Terms**

By submitting a Proposal, each Bidder shall be deemed to acknowledge that he/she has

carefully read and accepts all sections of this Tender, including all forms, schedules, annexure, corrigendum and addendums (if any) hereto, and has fully informed itself as to all existing conditions and limitations.

Bid Evaluation Methodology

23. Overall Methodology

Evaluation of the proposals will be based on **Minimum Cost Method** mode with technical qualification, respectively.

a) In the first phase the check list (provided within this tender document) shall be evaluated on the basis of eligibility criteria as mentioned in this Tender.

c) Financial proposals of qualified bidder (who'll meet all the requirement specified with this tender document) shall be opened publicly on 08-04-2021, 16.00 Hrs., in the presence of firm's representatives who choose to attend. The financial offers of unsuccessful applicants will be returned without opening.

d) The lowest cost bid (L1) will be the successful bidder.

Award of Tender and Issue of Purchase Order

CRUT will issue the purchase order to the successful Bidder(L1) and the vendor must supply the products as per the defined timeline. If vendor fails to deliver the required product within the timeline then the purchase order shall be made to second qualified bidder (L2).

The security deposit will be forfeited if vendor has not fulfilled the terms and conditions as per bid document.

Security Deposit will be released after 1 month from the end of contract.

Supplementary Information/Corrigendum/Amendment to the Tender

- At any time prior to the deadline (or as extended by CRUT) for submission of bids, CRUT for any reason, whether at its own initiative or in response to clarifications requested by the Bidder may modify the Tender document by issuing amendment(s) or issue additional data to clarify an interpretation of the provisions of this Tender. Such supplements / corrigendum to the Tender issued by CRUT would be displayed on www.capitalregiontransport.in any such supplement / corrigendum / amendment shall be deemed to be incorporated by this reference into this Tender. Any such supplement / corrigendum / amendment will be binding on all the Bidders. CRUT will not be responsible for any misinterpretation of the provisions of this Tender document on account of the Bidders failure to update the Bid documents based on changes announced through the website.

Miscellaneous

The Bidding Process shall be governed by, and construed in accordance with, the laws of India and the Courts at Bhubaneswar shall have exclusive jurisdiction over all disputes arising under, pursuant to and/ or in connection with the Bidding Process.

The CRUT, in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to:

- suspend and/ or cancel the Bidding Process and/ or amend and/ or supplement the Bidding Process or modify the dates or other terms and conditions relating thereto;
- consult with any Bidder in order to receive clarification or further information;
- Qualify or disqualify any Bidder and/ or to consult with any Bidder in order to receive clarification or further information;
- retain any information and/ or evidence submitted to the CRUT by, on behalf of, and/ or in relation to any Bidder; and/or
- Independently verify, disqualify, reject and/ or accept any and all submissions or

other information and/ or evidence submitted by or on behalf of any Bidder.

- It shall be deemed that by submitting the Bid, the Bidder agrees and releases the CRUT, their employees, agents and advisers, irrevocably, unconditionally, fully and finally from any and all liability for claims, losses, damages, costs, expenses or liabilities in any way related to or arising from the exercise of any rights and/or performance of any obligations here under, pursuant here to and/ or in connection herewith and waives any and all rights and/ or claims it may have in this respect, whether actual or contingent, whether present or future.
- All the pages of documents, technical specifications, bids, supporting documents etc. shall be duly signed by the authorized signatory.

BIDDER'S ELIGIBILITY

To be filled by the bidder and submitted along with the Bid Proposal.

Sl. No	Terms & Conditions as per Bidding Document	Attached (Yes/No)	Page No.	Remarks
1	Status of Bidder: · Manufacturer or Authorized Agent of the Manufacturer · Whether Public Undertaking, Public Ltd., Private Ltd. Company or Proprietary/Partnership Firm			
2	Certificate for sole ownership / Vendorship /CertificateofIncorporation/Partnership Deed			
3	Documents Required to Submit: 1. Trade Licence 2. PAN copy 3. GSTIN Certificate 4. Average Turn Over Certificate (last three years) from Chartered Accountant & the average Turn Over must not be less than 1crore. 5. Audited Balance Sheet & Income Tax return copy of last three years(2019-20,2018-19 & 2017-18) 6. GST return copy showing the turnover of the respective financial year			
4	User/Experience List (List of Govt. / Semi Govt. /Govt. Undertaking) where quoted model of the items has been supplied and installed with counts.			
5	Performance certificate of the same supplied machine (of quoted make) issued by project authority.			
6	Prerequisite (if any) for installation of the			

	Machine, if any, to be provided by the Institute.			
7	Whether rates are quoted as per format mentioned in the Bidding Document or not.			
8	Enclose an affidavit duly certified by (enclosed/ Not enclosed) the notary at the location of the Agencies/Headquarters Bhubaneswar that the bidder has never been blacklisted or punished by any court for and criminal offence/breach of contract and that no police/vigilance enquiry/criminal case is pending against either bidder legal entity or against individual Directors of the company or Vendors etc. of the firm etc.			
9	Affidavit, to the effect that the bidder is not supplying the quoted item(s) to any other Govt. / Pvt. Organizations / Institutions at the rate lower than the rate quoted against this tender. The bidder should provide undertaking on own authorized letter head.			
10	Quality Assurance Certificate As per technical specification			
11	Bid Security amount deposited is enclosed or not. If yes, please mention the details.			
12	Original Technical Catalogue of the quoted model			
13	Certificate, to the effect that bidder will provide the quoted item(s) Warranty period of 5 (five) years including all spares, accessories, consumables etc.			
14	Bids of a firm/company that has been blacklisted by CRUT – Bhubaneswar or blacklisted/debarred by any other State / Central Government's organization shall not be entertained. Undertaking to be provided in bidder's letter head.			

15	Experience certificate for supply of at least 1000 Nos. of ETMs			
16	Integration of 1000 Nos. ETMs with at least 2 Automated Ticketing Systems			

Page number / serial number may be given to each and every page of Tender Documents and photocopies of the documents attached. Mention Page number, wherever the copy (ies) of the document(s) are kept. In case of non-fulfilment of any of the above information/document(s), the Tender will be summarily rejected without giving any notice.

Dated:

(Dated Signature of the Tenderer with stamp of firm)

Place:

About the Project:

CRUT envisages strengthening city bus service in Odisha. These actions seek to promote organized public transport, reduce the use of private vehicles and structure an integrated transport system which offers higher safety, quality, security and reliability for users of public transport corridors. CRUT has planned to implement a comprehensive ticketing and vehicle tracking system using IT applications to achieve the following key objectives:

- Provide ease and benefits to users by providing reliability of services leading to increase in ridership and adoption of public transit
- Enhance non-cash/ digital modes of ticketing
- Enable Authority to constantly benchmark operations and maintain service quality of bus operations

The successful bidder will be responsible for Supply of 300 Nos. of ETMs and required Integration of the same with existing ticketing system with an OEM warranty for 5 Years.

Overview of Scope of Work

Sn.	Particulars	Description
1.	In-bus Electronic Ticketing Machines (“ETM”s)	Supply of 300 Nos. ETM Handheld Devices with printer and reader for smartcard in the CRUT buses. CRUT may require additional ETMs with the quoted price. Hardware supply and Integration required device level software applications.

Delivery Timeline:

- Delivery of all ETMs should be done within 3 weeks after issuance of Letter of Intent/Award.
- Delay in delivery timeline will lead to cancellation of purchase order issued to the L1 bidder and the purchase order will be issued to L2 bidder with L1 price, which is agreed mutually by both the parties.

Automated Fare Collection System

Objective: The core objective of AFCS is to integrate fare collection mechanism using interoperable standards, hence the device and media thereby has to be complementary in nature. In order to meet diverse need of commuter and application, following media types shall be offered to users for payment of fare purposes:

- **Closed Loop smart card**
- **QR/ Bar code based paper tickets**
- **QR/ Bar code based mobile tickets**

Functional Details

- Integration with fare media i.e. ETM, Mobile Ticketing, CMC(optional and as mutually decided by CRUT and successful bidder)
 - Acquire and process all the transactions from all fare media at acceptance infrastructure
 - Hold and download the fare media parameters and fare table information to each ETM devices
 - Communicate with each device via network and process the data received to provide overall audit, statistical and operational information
 - Generate the necessary management reports from the fare media transaction information
 - Generate and update blacklists for all applicable fare media and download these to sales and validation equipment
 - Dynamically refresh Mobile Ticketing application for transit products, fares and other transit parameters
 - Generate QR code for mobile tickets
- Provide multiple means of transferring data from VTU/ETM to the cloud in case of lack of connectivity such that there is no loss of data.
- Inventory management:
 - Automatic stock management of fare media at central level including stock registration, distribution, return etc.
 - Track stock movements in the System covering the entire lifecycle commencing from the date of purchase until the time that the cards have been removed from the system
- Reconciliation

- Automatic generation of daily, monthly & yearly reports for revenue reconciliation using revenue data - transactions, audit register and cash amount. Reports shall be generated depot wise and shift wise
- Reconciliation report should be generated at EOD for each device
- Database management system:
 - Support data integration, data recovery, exception handling, validation and security
 - Parallel processing of transactions
 - Maintain historic data for 3 years
- Product configuration management:
 - Configure transit products with parameters such as product ID, name, expiry date /time, number of days in week, start and end time, route/stop, device type, fare, discounted fare, profile etc.
- Security management:
 - Restrict access to entire AFCS only to authorized users
 - Create different user groups and assign different access levels / privileges
- Ticketing and revenue reports:
 - Conductor sign-on/sign-off details as on required date & time with summary containing conductors not reported back as per schedule duty, imprest amount tally report.
 - Machine detail report indicating number of online ETMs, number of ETMs in depots and unmoved / idle ETMs in depot on at a date and time.
 - Daily cash collection report (conductor wise, route wise, depot wise, etc.)
 - Conductor-wise shortage / excess report
 - Passenger count by trip, route on a daily, weekly, monthly basis
- Others
 - Fare Collection and Validation Devices
 - Integration with CLOSE LOOP CARD management system and Central Clearing and settlement system of Financial Institution(Bank)

- Integrate with Common Transportation Control Centre by passing the data to the relevant party managing the control center

Handheld Ticketing Machines- ETMs

Functional Details

- The handheld ticketing machines should facilitate the following tasks:
 - Smart Card Validation
 - Smart Card Balance Check
 - QR Code
 - Access to ETM:
 - The conductor and driver should be able to login to the ETM via a combination of username + password (ID + PIN)
 - Other roles may be required to login to the device based on varying operational needs
 - Ticketing in offline mode
- Data should be stored on ETM:

The handheld machine shall store all required transaction data on-board, including:

- Date and time of transaction
- Device ID
- Employee ID of conductor and Driver
- Fare-tables
- Ticket serial number
- Ticket origin
- Ticket destination
- Transaction Value
- Action taken (e.g. ticket sold/adjusted/checked)
- Smart card serial number (if applicable)
- Transmission Status (i.e.success fully transmitted/not successfully transmitted)
- Vehicle number,crew duty number and crew duty details i.e. schedule time, departure time, bus service type, stage and fare table of routes operated, concession fare charging rules, other fare rules etc.
- The handheld machine shall have sufficient memory to store a minimum of one-week

worth of transaction records apart from mandatory software/ firmware etc.

- Only successfully transmitted transaction data records shall be overwritten by new transaction data records.
- The handheld machine shall provide a warning when the amount of on-board storage occupied by “not successfully transmitted” transaction data records exceeds CRUT specified threshold.
- The handheld machine shall store the current valid fare-set as well as a future “pending” fare set with activation date and time (if applicable), to allow downloads to the handheld machine to occur in advance.
- When the activation date and time passes, the revaluing unit shall automatically replace the existing fare table with the “pending” fare table.
- Initiate handheld machine operation, a conductor shall manually enter an employee ID and a PIN, or a proximity standard.
- Logins and logouts shall be transmitted to the central system, along with associated Date/ Time and employee ID.
- The handheld machine shall be used by mobile ticket conductors to sell tickets to customers.
- The tickets issued shall comply with all requirements laid out in the relevant sections.
- The conductor shall be able to manually adjust the current origin location
- The origin shall be set only once whenever it is changed so that the conductor needs to enter only the destination of people until the next origin is reached.
- To sell a ticket using the handheld machine the conductor shall, upon receiving payment, enter the destination using the interface (using the current origin which is periodically adjusted manually by the conductor).
- The handheld machine shall then print the ticket for issuance to the passenger.
- The system shall provide the ability to add a configurable fine (either optional or mandatory for use by the conductor) to a ticket by pressing the appropriate buttons on the handheld machine interface (for example, if a new ticket must be issued because a customer does not have a ticket or has an expired ticket)
- Ticketing functionality:
 - Provision to print conductor ID, depot name, issue date and time, fare, and sequential ticket number on each ticket. System to be flexible enough to incorporate other details at a later stage.
 - Provision to record and print various types of tickets – general ticket, group ticket (adult + child + concession), other concession tickets, differential fare ticket, various

schemes tickets, luggage ticket, package ticket etc.

- Types of fares and tickets should be able to be created centrally and updated to ETM devices via on-demand OTA updates
 - Provision to issue refunds of fare in case of change in service type or full / partial cancellation of service or face value revision
 - Provision to view any ticket issued by the conductor
 - Provision to record the details of passengers from whom fare is not collected by the conductor - M-Ticket holders, pre-paid smart card pass holders, monthly / quarterly pass holding passengers, employee duty pass holders, etc. with a view to provide detailed route-wise analysis of usage of services by such category of passengers. Such passes and other pre-paid tickets may be in the form of paper tickets, physical cards, M-tickets or smart cards.
 - Ticketing and passenger information should be relayed in real- time upon each transaction to the AFCS, and also available in batches for reconciliation and settlement as per operational cycles e.g. for each trip, for each shift, at the end of each day, etc.
 - In the case of loss of data connection, ticketing transactions must be stored locally and then transmitted to the AFCS immediately upon re-establishment of the data network.
 - All ticketing functions must work in offline mode in the case of loss of data connection and then be settled by batch mode in pure offline condition.
 - Tickets shall be available in both English and Hindi language for printing
 - The user interface shall allow an experienced conductor to issue a ticket in less than five (5) seconds.
- Ticket validation functionality:
 - The ETM must be able to validate all forms of pre-purchased tickets (M-tickets, smart card tickets, paper-based QR) in both online and offline mode and / or ticket number in online mode. These tickets could be single-journey, return and / or monthly passes or other multi-journey tickets.
- Security:
 - Security of private APN network with industry-standard encryption protocols
 - Read / write facility for smart cards, confirming to ISO 14443 specifications, including the ability to modify the software to read / write / validate any existing or proposed transport mobility smart cards confirmed by the State Government / Central Government / Metro etc.
 - Tamper-proof software and hardware, and alerts should be generated upon detection of tampering events
 - Connectivity
 - The ETM's shall be connected to the central system through mobile connection and

the Bidder shall bear all cost for such connection during the entire contract period.

- The handheld machine shall consist of but not limited to smart card reader, bar-coded ticket printer, integrated communication modem, user interface (e.g. touch screen or screen with keypad), on board data storage and battery power supply.
 - The handheld machine shall allow CRUT to transmit data to the central system in real-time or periodically as decided by CRUT using the integrated modem.
 - The handheld machine shall have an integrated display that can be easily read under all conditions of ambient light throughout the day and night
- **Smart Card Usage on the Handheld**
 - The handheld machine shall have a trip validation functionality whereby when a smart card is swiped at the reader, the ticket origin and date/time of the tap- in is displayed on the handheld device display.
 - Upon successful completion of the transaction the handheld machine shall transmit transaction data to the central system, including:
 - Date and Time of Transaction
 - Device Identification Number
 - Ticket Serial Number
 - Ticket Origin
 - Ticket Destination
 - Smart Card Serial Number
 - Upon successful completion of the transaction the handheld machine shall indicate successful completion via the interface, using both the display and a distinct audio message.
 - It shall be possible to upgrade the firmware/software from the central server, configuration list such as routes along with fare and other related details etc., data from and to the CCC Over-The- Air (OTA) using the wireless technology.
 - If for any reason the fare media cannot be read automatically using the readers on the handheld, there shall be an arrangement to manually enter the smart card ID and validate it.
 - The HHT device shall have balance check functionality whereby when a smart card is swiped at the reader, the smart card stored balance, any outstanding trip details, status of the smart card are displayed on the handheld machine display

Technical Specifications

Processor	: Application processor:ARM Cortex-A7 QuadCore Crypto processor:ARMCortex-M4 32-bit
Memory	: 1GBRAM+8GBFlash
OperatingSystem	: Android5.1withsecuritypaymentsystem
SIMandSAM	: 1xSIM 2xSAM
CardReaders	: Magnetic stripe:ISO1/2/3 Smartcard: EMVLevel 1 Contactless: EMVLevel 1&2compliant
Display	: 5.5 inchesIPSColour1280x720pixels Touch screen Capacitive (fingerandstylus)
Video	: Support1080pvideo
Audio	: 1speaker, 1headphonejack, 1microphone
Cameras	: Rear:5megapixelsautofocuscamerawith flash Front:0.3 megapixels Compatible with 1D/2Dcodereading
Keypad	: Onscreen virtual keyboard
Positioning	:GPS, GLONASS, BelDou
Thermal Printer	: Speed in lines / sec: Up to 18 lines / second Paper roll cage: 58 mm width x Ø 40 mm
Terminal connectivity	WAN: 4G Cat 4 / 3G / 2G LAN: WiFi b / g / n Bluetooth: 4.1 (BQB certified)
Terminal connections:	USB: Micro-USB OTG
Battery	: Li-ion 2600 mAh / 7.2V, equivalent to 18.7 Wh
Dimensions	: 185 × 86 × 64 mm (7.3x3.4x2.5’’)
Weight	: 470 g
Environment	: Operating temperature (DC unplugged): -10°C to +45°C Operating temperature (DC plugged): 0°C to +40°C Storage temperature: -20°C to +70°C
Security and Certifications:	Certified PCI PTS 5.x online & offline or equivalent

Compliance Sheet Format (Bidder needs to provide compliance sheet along with the proposal):

Module / Component	Description	Compliance (Yes/No)	Documentary Reference

Note: The technical specification mentioned above is bare minimum requirements.

Performance Requirements

- The System should be able to perform without any material degradation of performance over time
- The System should have an accuracy of 99% for every transaction, reports generated, MIS and accounting done through the ETM
- The time taken to print a ticket through the ETM after data entry should not exceed 5 seconds per transaction.
- ETMs should be rugged enough to withstand the harsh public transport environment and be dust and water resistant
- Provide multiple means of transferring data from ETM to the cloud in case of lack of connectivity such that there is no loss of data.

Application support including modification and integrations with future systems

It is the responsibility of the bidder

- Enhancement / modifications with respect to new / enhanced / enriched functionality
- Ensure the desired functioning of the Interface
- Modification of devices generated reports
- Provide technical support on system parameters and requirement for CRUT's Enterprise Applications Software
- Present relevant information and training if applicable and necessary regarding the use and functions of new products and services to a defined number of relevant Users designated by CRUT.
- Provide handholding support to end users in carrying out the business process transactions.

Annexure-A: Financial Bid Format

Sn.	Particulars	Description	Unit	Quantity	Unit Rate	Total without taxes	Taxes	Total with Taxes
1.	Electronic Ticketing Machines with 4G SIM Card	Supply & Integration of ETMs	Nos	300				
		SIM Cards	Nos	300				

Total price (in words) with taxes: _____

Annexure-B: Bidder's Declaration

1. That I/we have carefully studied all the terms & conditions of NIT and shall abide by it.
2. That I/We shall supply the items of requisite quality.
3. That I/We undertake that the information given in this tender are true and correct in all respect and I/We hold the responsibility for the same.
4. That I/We undertake that sample of items will be kept ready for inspections by the CRUT, Bhubaneswar. I/We shall be responsible for the cancellation of tender if samples are not up to mark.

Date: (Dated Signature of the Tenderer with stamp of firm)

Place: