

**OFFICE OF THE DIVISIONAL MANAGER CTU & DIRECTOR TRANSPORT,
UNION TERRITORY; CHANDIGARH.**

No.SPA/CTU/2018/7080

Dated 23.07.18

e—TENDER NOTICE

E-tenders (Online tenders) are invited for **Providing Smart Gate Control and Automation System for Entry/Exit of Buses with Electro Mechanical Boom Barrier at ISBT, Sector 43, Chandigarh** in two bid system i.e. Technical bid and Financial bid which are to be submitted separately. The prospective bidders can also be visit in the office of CTU during office hours on any working day by contacting General Manager, CTU-I (Mobile No. 07015765795), Asstt. Controller (F&A) (Mobile No. 09815552432), CTU-II/Works Manager-I (Mob7889090848)/Store Purchase Assistant (Mobile No. 09417524603), or mail Id ctu-chd@nic.in CTU Administrative Block, Plot No. 701, Industrial Area, Phase I, Chandigarh for any kind of information or clarification. The bidders are required to quote their rates including installation/freight charges, civil work and IT Equipments required for the installation along with Comprehensive Maintenance Charges (CMC) excluding taxes (complete job). The taxes shall be as applicable from time to time as per BOQ to the tender documents on the website. The detailed terms and conditions of the tender can be downloaded from the website of Chandigarh Administration i.e., <http://chandigarh.gov.in>. Or website <http://etenders.chd.nic.in/nicgep/app>.

The important dates for submission of e-tender is as under:-

1. Date and time of receiving the tender : **16-08-2018 upto 2.00 P.M**
2. Date and time of opening the tender (technical) : **16-08-2018 at 3.00 P.M.**
3. Earnest Money Deposit (EMD) : **Rs.2,00,000/-** in the shape of Bank Demand Draft/FDR/Bank Guarantee from any scheduled Bank in favour of Director Transport, UT, Chandigarh.

The undersigned reserves every right to (a) cancel/withdraw/amend the advertisement or extend the due date at his sole discretion or (b) accept or reject any tender without assigning any reason.

-Sd/-

Divisional Manager CTU &
Director Transport,
U.T., Chandigarh.



CHANDIGARH TRANSPORT UNDERTAKING

**O/o Director Transport UT, Chandigarh,
Plot No. 701, Industrial Area Phase-1, Chandigarh.**

**REQUEST FOR PROPOSAL FOR PROVIDING SMART
GATE CONTROL AND AUTOMATION SYSTEM FOR
ENTRY/EXIT OF BUSES WITH ELECTRO MECHANICAL
BOOM BARRIER AT ISBT, SECTOR-43, CHANDIGARH
INCLUDING COMPREHENSIVE WARRANTY OF 5 YEARS**

23.07.2018

**Director,
Chandigarh Transport Undertaking,
O/o Director Transport UT, Chandigarh
Plot No. 701, Industrial Area Phase-1,
Chandigarh
Tel No: 0172-2679002
E-mail: ctu-chd@nic.in**

CHANDIGARH TRANSPORT UNDERTAKING

**O/o Director Transport UT, Chandigarh, Plot No. 701, Industrial Area
Phase-1, Chandigarh**

Tel No: 0172-2679002

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**REQUEST FOR PROPOSAL FOR PROVIDING SMART GATE CONTROL AND
AUTOMATION SYSTEM FOR ENTRY/EXIT OF BUSES WITH ELECTRO MECHANICAL
BOOM BARRIER AT ISBT, SECTOR-43, CHANDIGARH INCLUDING COMPREHENSIVE
WARRANTY OF 5 YEARS**

E-PROCUREMENT SYSTEM

Time Schedule for the bids:

Bid Reference	:	SPA/CTU/2018/ 7080 Dated: 23-07-2018
Date of commencement of downloading of bid document	:	26-07-2018 at 11:00 am onwards
Pre-bid meeting	:	02-08-2018 at 11:30 am at the Office of General Manager-I, CTU, Chandigarh
Last date and time for bid submission/uploading of bid in e-procurement platform http://etenders.chd.nic.in	:	16-08-2018 Up to 14:00 P.M.
Date and time of opening of technical bids	:	The bids will be opened online by the Authorized Officers on 16-08-2018 at 15:00 P.M.
Date and time of opening of Financial Bids	:	Will be intimated to technically responsive bidders
Place of opening of bids and address for communication	:	Chandigarh Transport Undertaking O/o Director Transport UT, Chandigarh Plot No. 701, Industrial Area Phase-1, Chandigarh

Note:

- (1) In the event of the specified date of opening of bids being declared a holiday for the Purchaser, the bids shall be opened on the next working day at the same time and venue.
- (2) Completed bids shall be uploaded on the e-procurement platform by the Bidders using their user ID and addressed to the **Director, CTU** in the manner described under Instructions to Bidders Section II of Bid Documents on or before the stipulated date & time.

SECTION -1

DISCLAIMER

This RFP is being issued by Divisional Manager, CTU & Director Transport, Union Territory, Chandigarh for inviting tenders for Providing Smart Gate Control and Automation System for Entry/Exit of buses with Electro Mechanical Boom Barrier at ISBT, Sector 43, Chandigarh including comprehensive warranty of 5 years.

It is hereby clarified that this RFP is not an agreement and is not an offer or invitation by Chandigarh Transport undertaking to any party hereunder. The purpose of this RFP is to provide the bidder(s) with information to assist in the formulation of their proposal submission. This RFP document does not purport to contain all the information bidder may require. This RFP document may not be appropriate for all the persons, and it is not possible for Chandigarh Transport Undertaking to consider particular needs of each bidder. Each bidder should conduct its own investigation and analysis, and should check the accuracy, reliability and completeness of the information in this RFP document and obtain independent advice from appropriate sources. Chandigarh Transport Undertaking and their advisors make no representation or warranty and shall incur no liability financial or otherwise under any law, statute, rules or regulations or otherwise as to the accuracy, reliability or completeness of the RFP document.

Chandigarh Transport Undertaking may in their absolute discretion, but without being under any obligation to do so, update, amend or supplement in information in this RFP document.

1. About the Project

CTU desires to have Smart Parking Management at ISBT, Sector-43, Chandigarh by Automating Entry and Exit of the buses by Installing Electromechanical boom barriers and giving complete solution of Automated Gate/Access control System. There are close to 2000 buses of STUs which enter and exit at ISBT-43. CTU has computerised various services like duty roster, providing SMS services to crew, Installed Boom Barrier in other Depots. As such Integration will be required with above software for generating MIS reports as per requirement. CTU will share data base and API's required for such integration. To have the System in place it shall entail:-

- Supply and Installation of Electro Mechanical Boom Barrier, Ticket Dispenser/Acceptor, ANPR Camera, Fast Tag (UHF) based Technology.
- Supply and Installation of Welcome Display, Light Signals and Incident Cameras.
- Parking Management Software consisting of time stamping of entry /exit of buses, automatic amount calculation based on duration of bus haltage at ISBT through software, reorganization of pre-cash loaded RFID tags/number plates reading through ANPR Camera etc., entire software Parking Management System will be as per requirement/customization of CTU.
- Developing MIS as per requirement of CTU for intelligent use of information.
- The successful Bidder shall have to integrate with existing software like Duty Roaster of this undertaking and generation of MIS reports based on Driver No., Bus No. etc.
- Civil Infrastructure including dismantling of RCC,CC or any other associated work thereto for installation of complete equipments.
- Comprehensive maintenance for 5 years from date of commissioning subject to approval of CTU committee.

2. **Scope of Project:-**

CTU has implemented computerization to a certain extent, however, CTU is inclined to hire the services of Technical Partner for Supplying Installing and Commissioning of Automation of Smart Parking Management with Electro Mechanical Barrier with parking Management Software.

The Technical partner shall be responsible for the following (complete supply, Installation, Testing and Commissioning):-

- Automatic Boom Barrier
- Automatic Ticket Dispenser and Acceptor Machine
- Bar coding ticketing through Automatic ticket dispenser machine functionality for daily pass or return journey through registration number of the bus.
- Pre-paid smart RFID Tags for monthly payment and other periodic payments.
- GUI Parking Management Software Application having computerized cash collection functionality with automatic boom barrier operation, Image capture of bus through ANPR Camera, Bus images review and Integration.
- Developing MIS reports as per requirement of CTU.
- Comprehensive maintenance of complete equipments for 5 years.

3. **Term of Project:-**

The term of the project shall be five years including Comprehensive Maintenance period (excluding period of supply, Installation, Testing, Commissioning) depending upon satisfactory performance and subject to fulfilment of terms and conditions specified in RFP.

4. **BID SECURITY / EARNEST MONEY DEPOSIT (EMD) –**

- 4.1 The Bidder shall furnish separate Bid security (hereinafter also referred to as Earnest Money Deposit” (EMD) of Rs.2.00 lakh (Rs. Two Lakh only) as a part of this Bid. The bid security shall be sealed in a separate sealed envelope super scribed “Earnest Money Deposit” for Bid due on **16-08-2018 upto 14.00 hours** for

PROVIDING SMART GATE CONTROL AND AUTOMATION SYSTEM FOR ENTRY/EXIT OF BUSES WITH ELECTRO MECHANICAL BOOM BARRIER AT ISBT, SECTOR 43, CHANDIGARH INCLUDING COMPREHENSIVE WARRANTY

OF 5 YEARS to be deposited. The Earnest Money Deposit (EMD) with validity period of at least 180 days beyond the financial bids validity period should be in the form of “Bank Guarantee/Demand Draft/FDR” payable in favour of Divisional Manager, CTU, & Director Transport, Union Territory, Chandigarh payable /en-cashable at Chandigarh of any nationalized / Scheduled Commercial Bank, operating in India.

- 4.2 Any Bid not accompanied with valid and required as per RFP Bid Security / EMD in the acceptable form will be rejected by the Purchaser considering it as non-responsive.

5. Bidding Criteria:-

- (i) Bidders are required to quote their rates including installation/freight charges, civil work and IT Equipments required for the installation (complete job) along with Comprehensive Maintenance Charges (CMC) for a period of five years excluding taxes (complete job). The taxes shall be as applicable from time to time. The contract will be awarded to the bidder whose rates are lowest.
- (ii) The prospective bidders shall quote the rates as per the detail of infrastructure given in Annexure “A”.

6. Eligibility Criteria:

i) Technical Qualification

- Experience of Similar nature of minimum one Project:- Minimum one Project of same nature should have been completed/executed by the prospective bidders. A copy of Performance certificate and Agreement to be uploaded as a part of technical bid.

ii). **Financial Qualification** (supporting documents to be uploaded with technical bid)

- Financial average annual turn of minimum 10 lacs for last three financial years ending on 31.03.2018. C.A. certificate to be attached.
- ITR for last three financial years ending on 3.03.2018 along with PAN card and GST no. to be attached.

7. Submission of Bid

Technical Bid and Financial Bid are to be uploaded separately online at <http://etenders.chd.nic.in/> using digital signature certificate and EMD in physical form should reach in CTU office before due date and time of tender as mentioned under clause 8 below.

8. Important Dates of Bidding:-

Last date for uploading technical bid:- **16-08-2018 up to 2.00 pm**

Date of Pre-bid meeting:- **02-08-2018 up to 11.30 am**

Date of opening of Financial Bid:- Will be separately intimated.

9. Payment Terms:-

- 1) No upfront charges will be paid to the successful bidder.
- 2) Payment Schedule shall be as under:-
 - (i) After satisfactory supply and installation of the complete hardware Equipments :- 60%
 - (ii) After successful functioning of the Project complete in all respects at ISBT-43, Chandigarh :- 10%
 - (iii) In the first month of each year (starting from 2nd year of commencement of the project) :- 6%

10. DISCHARGE OF BID SECURITY OF UNSUCCESSFUL BIDDERS(S)

10.1 The Bid Security of unsuccessful Bidders will be discharged / returned as promptly as possible after the expiry of Bid validity period and / or within 15 days from the date of signing the agreement/Issue of Letter of Award with the successful bidder.

11. DISCHARGE OF BID SECURITY OF SUCCESSFUL BIDDER(S)

- 11.1 The bid security of the Successful Bidder(s) shall be discharged only after the Successful Bidder(s) furnishes the Contract Performance Security as required.
- 11.2 If the successful Bidder(s) fails to furnish the Contract Performance Security within the requisite period then the Bid Security shall be liable to be forfeited by the Purchaser.

12. BID VALIDITY

- 12.1 The bid shall remain valid and open for acceptance for a period of 180 days from the date of opening.
- 12.2 In exceptional circumstances prior to expiry of the original bid validity period, the Purchaser may request the Bidder for extension in the period of validity. A Bidder may refuse the request without becoming liable for forfeiture of EMD. However this bid may be rejected by the Purchaser on such refusal. Moreover, the bidder agreeing to the request will not be permitted to modify his Bid.

13. Time Limit

The time limit for supply, installation and commissioning of the project will be three months from the date of issue of LOI.

14. PERFORMANCE SECURITY:

Within 30 days of dispatch of the '**Letter of Acceptance**' from the Purchaser, the successful Bidder shall furnish to the Purchaser a Performance Security in the shape of Bank Guarantee for an amount equivalent to 10% of the total Contract value for entire CMC period with 03 (Three) months extra period from the date of final acceptance.

15. System Design:-

Design and Architecture of the complete solution is to be got approved from the Director Transport, Chandigarh and Divisional

Manager, Chandigarh Transport Undertaking before execution of the work.

16. General Terms and Conditions:-

- 16.1 The successful bidder (firms/Companies) is liable to install the complete system as per BOQ/Schedule of requirements i.e. Providing Smart Gate Control And Automation System For Entry/Exit Of Buses With Electro Mechanical Boom Barrier At ISBT, Sector 43, Chandigarh including Comprehensive Warranty Of 5 Years within three(3) months from the date of issue of letter of award. In case, the successful bidder backs out, the Earnest Money Deposited shall be forfeited and the bidder shall be blacklisted for any future contract as per Chandigarh Administration, Finance Department Notification No. 1927- F&PO(3)-2009/1170 dated 27.2.2009.
- 16.2 The work shall start immediately from the date of issuance of letter of award. Installation/Successful implementation to be done within time period mentioned in this RFP from the date of issue of LOA, failing which penalty of 1% of the total contract value per week will be imposed up to 30 days and after that EMD/performance security so deposited is liable to be forfeited.
- 16.3 The successful bidder will give training to operate the system to the CTU employees without any additional cost for at least three months.
- 16.4 The successful bidder (firms/ Companies) is liable to maintain the complete system in functioning condition at all time i.e. 24 hrs x 7 days round the clock till completion of CMC period and attend the call of the department immediately for any type of repair/ defect/ malfunctioning during CMC period without any charges in this regard. All the spare parts or any other part (for functioning of the system) and for the reasons whatsoever is in the scope of the bidder. The successful bidder is liable to rectify the defects as per schedule given below:-

A) MINOR REPAIR:

The successful bidder will rectify the minor defect within 24 hours from the time of complaint, failing which, the penalty @ Rs.500/- per hour till the defect is rectified will be imposed up to 05 days. Thereafter, CTU

will be at liberty to cancel the contract and forfeit the performance security of the bidder alongwith interest thereupon.

B) MAJOR REPAIR (which involves replacement of parts):

The successful bidder will rectify the defect within 3 (Three) days from the date and time of complaint, failing which, the penalty @ Rs.5000/- per day till the defect is rectified will be imposed up to 05 days and after 05 days up to 10 days, the penalty will be imposed @ 10,000/- per day. Thereafter, CTU will be at liberty to cancel the contract and forfeit the performance security of the bidder alongwith interest thereupon

C) If repetition of same defects will occur more than three times in a month for reasons whatsoever then CTU will be at liberty to cancel the contract and forfeit performance security of the bidder alongwith interest thereupon.

16.5 In case the successful bidder failed to complete the work within the stipulated period , the performance security/EMD shall be forfeited and the firm/bidder will liable to be blacklisted as per Chandigarh Administration, Finance Department Notification No. 1927-F&PO (3)-2009/1170, dated 27.02.2009 on the following types of situations:-

- i) Dishonest/fraudulent/sharp practices are indulged in by the party.
- ii) Advancing a claim on the basis of forged documents.
- iii) Sale or supply of spurious items and compromising public safety.
- iv) Material concealment/suppression of facts or gross misrepresentation of facts.
- v) Any other case or situation involving national security.
- vi) On breach of any of the terms and conditions of this tender.

17. SETTLEMENT OF DISPUTE AND ARBITRATION-

17.1 Amicable Resolution

(a) Save where expressly stated otherwise in this Contract, any dispute, difference or controversy of whatever nature howsoever arising under, out of or in relation to this Contract between the Parties and so notified in writing by either Party to the other (the "Dispute") in the first instance shall be attempted to be resolved amicably by the Parties and failing such the same shall be

resolved in accordance with the procedure set forth in **sub-clause (b)** below.

- (b)** Either Party may require the Dispute to be referred to Transport Secretary, Union Territory, Chandigarh for amicable settlement. Upon such reference, both the Parties and the Transport Secretary or his nominee (who can be an employee of Chandigarh UT dealing with the Contract or otherwise) shall meet at the earliest mutual convenient and in any event within 15 (fifteen) days of such meeting, either Party may refer the Dispute to arbitration in accordance with the provisions given below.

17.2 Arbitration-

- (a)** Any Dispute which is not resolved amicably, as provided, shall be finally settled by binding arbitration under the Arbitration and Conciliation Act, 1996. The arbitration shall be by a committee of 3 (three) arbitrators chosen from a panel of arbitrators on the list of arbitrators available with or furnished by Union Territory, Chandigarh, 1 (One) arbitrator is to be chosen by each Party and the third, who shall be the Chairman will be the Transport Secretary, Chandigarh Administration, Chandigarh. If either Party fails to choose its arbitrator, the other Party shall take steps in accordance with Arbitration and Conciliation Act, 1996.
- (b) Place of Arbitration**

The place of arbitration shall be Chandigarh only.
- (c) Language**

The request for arbitration, the answer to the request, the terms of reference, any written submissions, any orders and rulings shall be in English and, if oral hearings take place, English shall be the language to be used in the hearings.
- (d) Procedure**

The procedure to be followed in the arbitration by the Arbitral Tribunal shall be in accordance with the Arbitration & Conciliation Act, 1996 and as may be decided by the Arbitral Tribunal.
- (e) Enforcement of Award**

Any decision or award resulting from arbitration shall be final and binding upon the Parties. The parties hereto hereby waive, to the extent permitted by Law, any rights to appeal or to review of such award by any Court or Tribunal. The Parties here to agree that the arbitral award may be enforced against the Parties to the arbitration proceedings or their assets wherever they may be found and that a judgment upon the arbitral award may be entered in any Court having jurisdiction thereof.

(f) Fees and Expenses

The fees and expenses of the arbitrators and all other expenses of the arbitration shall be initially borne and paid by respective parties equally subject to determination by the arbitrators. The arbitrators may provide in the arbitral award for the reimbursement to the prevailing party of its costs and expenses in bringing or defending the arbitration claim, including legal fees and expenses incurred by the said party.

(g) Performance during Arbitration

Pending the submission of and/ or decision on a dispute difference or claim or until the arbitral award is published the parties shall continue to perform all of their obligations under this Contract without prejudice to a final adjustment in accordance with such award.

18. JURISDICTION

Any dispute or difference or claim etc, shall be subject to the exclusive jurisdiction of the courts situated at Chandigarh only. No other court shall have the jurisdiction to entertain or try any matter concerning this supply/tender.

Divisional Manager, CTU &
Director Transport, UT,
Chandigarh.

Note:- Any conditional terms and conditions mentioned by the firm in their covering letter or in the tender documents will not be considered.

UNDERTAKING BY THE BIDDER ON THE STAMP PAPERS OF RS.15/-.

1. I, Shri _____ S/o Shri _____
_____ working as _____ of the firm namely
M/s. _____ are duly authorized to apply for this
Tender.
2. I, the undersigned, have read and understood the above detailed terms and
conditions as well as Tender Notice and undertake to abide by them.
3. I under that the I/my firm/company has not been
blacklisted/debarred/prosecuted by the Department of Govt. of India or any
State Govt. or any Union Territory or any Public undertaking or any court of
law.

Signature of the Tenderer/bidder
Name of the Tenderer/bidder _____

Address _____

Tel No./Mob _____

Email I.D. _____

PAN/TAN No. _____

GST No. _____

Annexure – ‘A’

Detail of Components required for Boom Barrier for ISBT Sector 43.

There will be two Gates/Lanes at Entry and two Gates/Lanes at Exit. One Lane will be Fast Tag Lane and other will be ordinary lane. There will be one Pay booth near to the exit Gate.

BOQ		
S.No.	Item Description	Qty.
(A)	PARKING ENTRY/EXIT STATIONS	
1	Supply Installation Testing Commissioning of Automatic Boom Barrier 5 to 6 Meter length and to be integrated with other equipments for smart parking management as per Technical Specifications defined.	4
2	Supply Installation Testing Commissioning of Vehicle Loop Detectors & Coils (Presence and exit) for Vehicle Detection and Safety Loop for Barrier with the technical specification enclosed:- i) Two Loop Detectors shall be supplied with Boom Barrier to enable connection with induction loops. ii) One of the loop is triggering loops which first detects the presence of vehicles and then alert the system and keeps its ready for entry/exit. iii) The other loop is closing/safety loops which activates the barrier to close when there is no vehicle over the loop.	8
3	Supply Installation Testing Commissioning of Long Distance UHF Reader (with read range from 06 to 10 Meters) & 2 way controller complete in all respects as per site requirement and technical Specifications enclosed.	4
4	UHF Vehicle Fast Tags with read range from 06 to 10 Meter with operating Frequency as per technical specifications enclosed.	1000 nos
5	Supply Installation Testing Commissioning of Incident Camera (D/N) Vision HD 12 mm F/2.0 Mega pixel complete in all respects. IP based Cameras: - 2MP High resolution - HD Resolution 1920 X 1280@ 60fps recording -Video Compression H.264, MTPEG, MPEG4. - 2.8-12mm Varifocal lens - with on board SD card of 128GB - - Alarm alert such as tampering/ network disconnect/ vehicle count. - tamper proof IP67/ IK 10 - Power input-12V DC, POE	6
6	Supply Installation Testing Commissioning of Entrance camera (D/N) Vision HD 12 mm F/2.0 Lens for ANPR/ LPR for parking system. IP based Cameras certification: FCC,CE,UL • HD resolution • Full HD1080p video, up to 60fps. • Power input: 12V DC, POE • More than 100dB WDR	4

	<ul style="list-style-type: none"> • 2.8~12mm Motorized VF lens Smart Auto Focus • IP66 and Vandal-proof protection • with on board SD card of 128 GB • On-board ANPR Analytics, B/W list filtering • Audio/Alarm IO connectors (-S) • Support Barrier linkage via RS485. • Video recording: H.265, MTPEG, MPEG4, H.265 	
7	UPS BR 2000 G- IN 2 KVA, Inbuilt Battery	4
8	Feeder Panel for AC power supply complete in all respects as per site Requirement and Specifications enclosed with the following specifications NVR which has POE Enabled port. - Support 12MP Resolution Recording Video compression H.265/ H.264+MTPEG, MPEG4	2
9	Supply Installation of Camera Poles for mounting above said cameras	6 or as per requirement
10	Supply Installation of Traffic Signal Light (Red + Green) at entrance/exit gate	4
11	Supply Installation of weather proof and rugged Welcome Display complete including mounting poles etc as per Specification enclosed	4
12	Supply Installation of Speed Bumps & Breakers [250 x 350 x 50mm] PVC Coated fitted with reflector for night vision for capacity up to 15 Tons.	50 Mtr.
13	Supply Installation Testing Commissioning PVC coated Safety Bollard x 36" Length of High Quality	120 Nos
14	Network Switch with 8 ports 10/100Mbps	As per Requirement
15	Automatic Parking Ticket Dispenser with Cabinet and making weather proof arrangement having an arrangement for keyboard to enter Registration Number by the driver before entering the bus stand and dispensing the ticket.	2
16	The amount of Parking to be paid by the Driver will automatically be calculated by the Parking Management Software and collection will be made by the CTU employee trained by successful bidder for operation of the system.	
18	VFD (vacuum Fluorescent Display 20x2 Characters)	2
(B)	PARKING PAY STATION	
1	Supply Installation Testing Commissioning of Parking POS PC with following components and as per software features enclosed:- i) Intel Core 2 Duo Processor with Processor speed 3.33 GHz ii) 4GB RAM iii) 500 GB HDD iv) DVD Writer v) LAN interface vi) 19"LCD Color Screen vii) Keyboard & Mouse viii) 2 serial, 1 parallel & 4 USB ports ix) Licensed Window 8.1 OS x) Laser Printer	1
2	UPS 2 KVA, Inbuilt Battery Make:- Microtek/Luminous	1
3	Ticket Validator Machine for Validation	1
4	Barcode scanner	1

5	Programmable Cashier Keyboard	1
6	POS System PC Display LED / TFT 19 Inch	1
7	Cashier Cash Tray	1
8	User Fare Display 20x2 Character	1
9	Customer Receipt Printer with POS 58mm paper width	1
10	Network Router (4G LTE WiFi Router) 4 Ports,10/100 lan & DTS 300 Mbps	1
11	Network Switch [TP-Link TLSF1008D 8-Port 10/100 Mbps]	3
12	Cat 6 Network Cable	As per Requirement
13	Power Cable ISI Marked	As per Requirement
14	PVC Conduit ISI Marked Heavy Duty	As per Requirement
(C) PARKING SERVER STATION		
1	Supply Installation Testing Commissioning of Parking Server Station with following components and as per software features enclosed:- i) Intel Core i5 Processor with Processor speed 3.1 GHz ii) 4GB RAM iii) 1 TB HDD iv) DVD Writer v) LAN interface vi) 19"LCD Color Screen vii) Keyboard & Mouse viii) 1 serial, 1 parallel & 4 USB ports ix) Licensed Window 8.1 OS	1
2	Network Router (4G LTE WiFi Router) 4 Ports,10/100 lan & DTS 300 Mbps	1
3	Network Switch with 8 ports 10/100Mbps	1
4	UPS BR 2000G-IN 2 KVA Built in Battery	1
5	Server System Display LED / TFT 19 Inch	1
6	Dome Camera With 2 Megapixel 1080P	1
7	Network Video Recorder with 16 Channels with 4 TB Hard Drive	1
(D) CIVIL WORK & INSTALLATION OF EQUIPMENTS		
1	Concrete Flooring for Fixing of Above Components (Including Dismantling of Existing Concrete If Required) Complete in All Respects As per Requirements/Conditions or any other Associated work.	1 job

Note:- The Rates are to be quoted for complete Smart Gate Automation System consisting above components on Per Job basis (excluding taxes) as per BOQ.

Technical Description/Specification of Items

Sr. No.	Item Description	Technical Specifications																																		
1.	Vehicle Loop Detector	Supply voltage: 230V AC , 115V AC, 24V DC/AC, 12V DC/AC Voltage tolerance AC: +10% / -15% Voltage tolerance DC: ±15% Power Consumption: 4.5VA Output relays: 240V/5A Operating temperature: -20°C to +65°C Storage temperature: -40°C to +85°C Frequency range: 20 kHz to 170 kHz Reaction time: 10ms Signal holding time: Unlimited / limited when loop is permanently covered 10 minutes Sensitivity: Adjustable in 4 increments Loop inductance: Total loop plus connection wiring: 50µH to 1000µH. Ideal is 100µH to 300µH Size of Housing : 78 x 40 x 108 mm Loop Connection wiring Maximum Length 20 Meters twisted at least 20 times per meter																																		
2.	Software Features (should be able to see remotely Internet connection will be provided by CTU)	(i) Interactive GUI (ii) Capable with Image Capturing of License Number Plate of incoming bus at Entry/Exit Point (iv) All entry/exit data of the buses will be saved in Database (v) Customize reports generation by number of vehicle inside the parking lot in any given time (vi) To search the report by Vehicle No., Entry/Exit Date & Time (vii) Integration with Boom Barrier Loop Detector. (viii) Integration of S/W with existing S/W of Duty Roaster of CTU (ix) Any other requirement as per CTU.																																		
3.	Loop Detector Coil Loop Cable	100% copper tin coating feeder cable for vehicle presence 1.8mm in diameter 200 meters Totally 1. 600V for voltage; 2. Conductor: copper coating with tin; 3. Teflon material for insulation; 4. Diameter: 1.8mm 5. total length: 50 meters;																																		
4.	Welcome Display (VMS)	<table border="0" style="width: 100%;"> <tr> <td colspan="2">P10 outdoor led display module</td> </tr> <tr> <td style="width: 50%;">Item</td> <td>Specification</td> </tr> <tr> <td>Pixel Pitch (mm)</td> <td>10</td> </tr> <tr> <td>Pixel LED</td> <td>DIP546</td> </tr> <tr> <td>Pixel Density (dot/m²)</td> <td>10000</td> </tr> <tr> <td>Pixel Configuration</td> <td>1R</td> </tr> <tr> <td>Module Size (Lmm*Hmm)</td> <td>5.0 mtr x 0.32 mtr</td> </tr> <tr> <td>Brightness(CD/m²)</td> <td>5000</td> </tr> <tr> <td>Best Viewing Angle</td> <td>45°H/100°V</td> </tr> <tr> <td>Drive Mode</td> <td>Constant Current drive 1/4 scan</td> </tr> <tr> <td>Drive IC</td> <td>74HC595</td> </tr> <tr> <td>Working Voltage</td> <td>DC 5V</td> </tr> <tr> <td>Environment Temperature</td> <td>Storage: -40°C~90°C Operation: -30°C ~+ 50°C</td> </tr> <tr> <td>Blind Spot Rate</td> <td>Less than.0003(LED display industry standard)</td> </tr> </table> <table border="1" style="width: 100%; margin-top: 5px;"> <tr> <td style="width: 50%;">Working Humidity</td> <td>5%-85%</td> </tr> <tr> <td>MTBF</td> <td>≥10000hours</td> </tr> <tr> <td>Lifespan</td> <td>≥100000hours</td> </tr> </table>	P10 outdoor led display module		Item	Specification	Pixel Pitch (mm)	10	Pixel LED	DIP546	Pixel Density (dot/m ²)	10000	Pixel Configuration	1R	Module Size (Lmm*Hmm)	5.0 mtr x 0.32 mtr	Brightness(CD/m ²)	5000	Best Viewing Angle	45°H/100°V	Drive Mode	Constant Current drive 1/4 scan	Drive IC	74HC595	Working Voltage	DC 5V	Environment Temperature	Storage: -40°C~90°C Operation: -30°C ~+ 50°C	Blind Spot Rate	Less than.0003(LED display industry standard)	Working Humidity	5%-85%	MTBF	≥10000hours	Lifespan	≥100000hours
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5	Boom Barrier	Tech Specs – Boom Length – 5.0 to 6.0 mtr Type – Electromechanical only Closing / Opening Time – 04 sec to 10 sec configurable Operating Voltage – 100 V to 240 V, Freq. 50 Hz – 60 Hz Operating Temperature– Degree of protection /enclosure rating- IP 54/55/44 Temp. Range 0 – 50 degree <u>Boom Arm</u> i) Types of material for boom arm= Aluminium power coated																																		

		ii) Thickness= 1.58 mm (16 Gauge) iii) Outer dimension= 32 mm x 90 mm (1.25 inch x 3.5 inch)						
6	VHF Reader	i) Range-865-867 Mhz ii) Built in antenna/RFID inlay iii) Reading Range – upto 7 mtr to 12 mtr, Software adjustable iv) Protection rating IP 64 v) Operating Temp- 0 to 50 C vi) Interface – Rs.485, Rs.232 vii) Max Power – Max 1 watt (configurable)						
7	Feeder Panel	Powder Coated MS Sheet of box size 3'-0x2'-0x1'-3" and 16Gauge sheet.						
8	NVR	<p>All in one recording solution for network surveillance systems of up to 16 channels. An intelligent IP storage device that provides both, a professional video recording solution and ease of operation.</p> <ul style="list-style-type: none"> Fully featured video recording solution for up to 16 channels. Robust, secure operation – instant real time access to video Remote viewing via Video Security App and Video Client Integrates to full line of IP camera's Supports for Real Time streaming protocols (RSTP), NVIF profile, PSIA Pre installed with software having following features:- <p>Main Window:</p> <p>Screen: A multi-channel display area containing up to 16 connected cameras and microphones and all necessary controls to operate and setup the system.</p> <p>Quick Playback: Start video playback of live camera with a few clicks.</p> <p>Navigator Window: A graphical display of recorded video. It contains a set of function buttons used to access the video on-screen.</p> <p>Control Dialog:</p> <p>Toolbar: An area providing access to all major functionality of the system.</p> <p>Display Mode:</p> <p>Control Area: A palette of buttons to set the picture quality (resolution) and refresh mode of the live video display.</p> <p>System:</p> <p>Configuration: A main Settings Menu used for setup of devices, authorization and all other system functions.</p> <p>Function Control:</p> <p>Area: A palette of controls used to enable or disable any currently running macros in the system.</p> <p>Network and Sites:</p> <p>Configuration: The network portion of this feature allows setup of all IP address information and a system Nucleus and Backup Nucleus.</p> <p>Installation / configuration notes:</p> <table border="0"> <tr> <td>Gross Capacity</td> <td>Bandwidth (read/write)</td> <td>Cameras</td> </tr> <tr> <td>2 x 2 TB</td> <td>100 Mbit/s</td> <td>16</td> </tr> </table> <p>A Maximum of overall 16 channels and replay clients. The storage capacity can be increased by mounting additional hard drives.</p> <p>Parts included:</p> <p>Processor, Chipset, Storage type: 4 trays- 3.5 inch SATA, Graphics memory controller, 1 x 1 GBE RJ45 port,</p> <p>Motherboard</p> <p>Operating System: Genuine Window XP professional or Window Server 2003 RAM memory: 2GB DDR-SDRAM DIMM LAN card: Onboard VGA adapter: Onboard Cooling: Internal Fan Electrical</p>	Gross Capacity	Bandwidth (read/write)	Cameras	2 x 2 TB	100 Mbit/s	16
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		Electrical: Input Voltage: 115-240 VAC ± 10%, 50/60 Hz Environmental: Operating Temp. Range: 32 to 104 F (10 degree to 40 degree C) Humidity Range: 0 to 95% relative,

LIST OF MAKES

	Make
A) Parking Entry Station / Exit Station	
1) Parking Ticket Dispenser Machine	CUSTOM / EPSON / ELTRA / ZEBRA
2) Electro Mechanical Boom Barrier with 5-6 Mtr. Boom Arm	As per specification mentioned in the list of technical specification at Sr. No.5
3) Loop Detectors (Presence and Exit)	NORTECH / RIB / HID
4) Entrance Camera (D/N Vision) HD 12mm f/2.0 lens	BOSCH / HONEYWELL / AXIS/PELCO/PANASONIC
5) Incident Camera (D/N Vision) HD 12mm f/2.0 Lens	BOSCH / HONEYWELL / AXIS PELCO/PANASONIC
6) UPS BR 1000G-IN 2KVA Built in Battery	MICROTEK / LUMINOUS / SUKAM
7) UHF Reader	IDCUBE/SKIDATA/STAR
8) PVC Conduit Heavy Class	DIPLAST / KISAN / POLYPLAST
9) Network Switch	CISCO / TP-LINK / D-LINK / NETGEAR
10) Vaccum Flurocent Display(VFD) 20x2 characters	CUSTOM / EPSON / E-POS/ ZEBRA
B) Parking Pay Station	
1) Payment Validation System Machine	CUSTOM / EPSON / ELTRA / ZEBRA
2) Keyboard + Mouse	SAMSUNG / DELL / MICROSOFT
3) Cashier Display TFT 17"	SAMSUNG / LG / DELL
4) Incident Camera (D/N Vision) HD 12mm f/2.0 lens	AXIS / HONEYWELL / BOSCH PELCO/PANASONIC
5) UPS BR1000G-IN-2 KVA Built in Battery	MICROTEK / LUMINOUS / SUKAM
6) Customer Receipt Printer	CUSTOM / EPSON / ELTRA / ZEBRA
7) User Fair Display 20X2 Character	ZEBRA / CUSTOM
8) Network Switch	CISCO / TP-LINK / D-LINK / NETGEAR
C) Parking Server Station	
1) i3 Processor Server System / 2 TB HDD / 4 GB RAM	DELL / IBM / HP
2) Network Router	D-LINK / NETGEAR
3) UPS BR1000G-IN-2 KVA Built in Battery	MICROTEK / LUMINOUS / SUKAM
4) Network Switch	CISCO / TP-LINK / D-LINK / NETGEAR
5) Keyboard + Mouse	SAMSUNG / DELL / MICROSOFT
6) Display TFT 17"	SAMSUNG / LG / DELL
7) NVR 16 Channel	PANASONIC /SAMSUNG/HONEYWELL /AXIS/BOSCH