



TSRTC

TENDER FOR IMPLEMENTATION OF DRIVER MONITORING SYSTEM(DMS) & ADVANCED DRIVER ASSISTANCE SYSTEM(ADAS) IN TSRTC BUSES

Tender No: SM-III(IT)/DMS(01)/2023-IT

Bid Submission Date: 27-02-2024

Technical Bid Opening Date: 27-02-2024

Financial Bid Opening Date: 15-03-2024

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TABLE OF CONTENTS

Sl. No.	Description	Page No.
1	About Telangana State Road Transport Corporation (TSRTC)	7
2	Objective for Implementation of Driver Monitoring System (DMS) & Advanced Driver Assistance System (ADAS) in TSRTC	7
3	Tender for Implementation of Driver Monitoring System (DMS) & Advanced Driver Assistance System (ADAS) for a period of Five years	8
4	Scope of work	9
5	Key events & dates	12
6	Pre-bid meeting	12
7	Eligibility criteria for bidders	13
8	Cost of Tender Document	15
9	Earnest Money Deposit	16
10	Security Deposit	16
11	Bid submission and correspondence	17
12	Bid evaluation process	19
13	Functional/technical requirements of project and responsibilities of successful bidder	22
14	Payment Terms	29
15	Service level metrics/service level agreement (SLA)	30
16	General terms and conditions	32
17	Use of documents and information	37
18	Signing of contract	38
19	Project implementation schedule	38
20	Patent rights	39
21	Bidder's integrity and obligation	40
22	Penalties	40
23	Termination/Withdrawal	41
24	Notices	42
25	Resolution of disputes	42
ANNEXURES		
1	Annexure - 1 (Covering letter and proposal)	43
2	Annexure - 2: Bidder's Authorization Certificate	46
3	Annexure - 3: Tender form and technical bid compliance	47
4	Annexure - 4: Format for providing information pertaining to Driver Monitoring System (DMS) & Advanced Driver Assistance System (ADAS) projects implemented	53
5	Annexure - 5: Format for providing information pertaining to web-based IT projects implemented	54
6	Annexure - 6: Undertaking regarding opening office in Hyderabad	55
7	Annexure - 7: Notarized affidavit regarding not being blacklisted and not asking for employment in TSRTC	56
8	Annexure - 8: Financial bid	57
9	Annexure - 9: Technical Specifications Compliance Statement	59

Invitation To Bid

Tender No:

Technical Bid Opening Due Date: 27-02-2024

Financial Bid Opening Due Date: 15-03-2024

From:

Telangana State Road Transport Corporation (TSRTC),

Bus Bhavan,

B-Block,

RTC X Road, Musheerabad, Hyderabad-500020. Telangana State.

To: All Prospective Bidders

Telangana State Road Transport Corporation (TSRTC), invites proposals ('Bids') in response to this Request for Proposal ('Tender') documents from eligible reputed, competent, and professional Information Technology companies, who meet the minimum eligibility criteria, as specified in this Tender for implementation of an Enterprise Solution for Automatic Fare Collection and Online passenger reservation for the TSRTC.

The complete Tender document shall be published on 10-02-2024, for the purpose of downloading.

A bidder will be selected ('Selected Bidder') based on the 'Bid Evaluation Methodology' described in this Tender.

Bidders are advised to study this tender document carefully before submitting their Bids in response to this Tender notice. Submission of a Bid in response to this notice shall be deemed to have been done after careful study and examination of this Tender document with a full understanding of its terms, conditions and implications.

The time, date, and venue details related to the pre-bid conference and Bid submission are mentioned in the Data Sheet. Bids that are received after the Bid Submission Deadline shall not be considered.

To obtain first-hand information on the assignment, bidders are encouraged to attend the pre-bid meeting. However, attending the pre-bid meeting is optional.

Thanks, and regards,

Chief Engineer (IT) TSRTC

Data sheet

Information	Details
1. Tender issuing authority	Telangana State Road Transport Corporation (TSRTC)
2. Purpose of Tender	Selection of Service Provider for implementation of Advanced Driver Assistance System (ADAS) and Driver Monitoring System (DMS)
3. Tender Issue Date	10-02-2024
4. Availability of tender documents	The tender is available and downloadable on website www.tsrtc.telangana.gov.in . All subsequent changes to the Tender shall be published on the above-mentioned website
5. Earnest Money Deposit ('EMD')	₹2,00,000 (Rupees two lakhs only), in the form of a DD, drawn in favor of "Telangana State Road Transport Corporation (TSRTC)", payable at Hyderabad, valid for 210 (Two hundred and ten) days from the Bid Submission Deadline date.
6. Visit to TSRTC	Refer to website www.tsrtc.telangana.gov.in
7. Clarification Submission Deadline	All the queries/clarification requests should be received on or before 15-02-2024 by 15:00hrs, through e-mail only, as per the format and instructions prescribed in Clause-6. Email addresses: tsrtctelematics1@gmail.com Subject line: Pre-Bid Clarifications - <Bidder's Name>
8. Date, time, and venue of pre-bid meeting	Time and date: 17-02-2024 at 15:00 hrs Location: Main Conference Hall, B-Block, I-Floor, Bus Bhavan, RTC X Road, Musheerabad, Hyderabad-500020.
9. Bid Submission Deadline	27-02-2024 by 14:00 hrs
10. EMD Submission Deadline	27-02-2024 by 14:00 hrs
11. Date, time, and venue for Bid Submission	27-02-2024 from 11:00 to 14:00 hrs at Main Conference Hall, B-Block, I-Floor, Bus Bhavan, RTC X Road, Musheerabad, Hyderabad-500020.

12. Date, time, and venue of opening of Technical Bids	Date and time: 27-02-2024 by 15:00 Hrs Location: Main Conference Hall, B-Block, I-Floor, Bus Bhavan, RTC X Road, Musheerabad, Hyderabad-500020.
13. Date, time, and venue of opening of qualifying Financial Bids	Date and time: 15-03-2024 at 15:00 hrs. Location: Mini Conference Hall, B-Block, I-Floor, Bus Bhavan, RTC X Road, Musheerabad, Hyderabad-500020.
14. Language	Bids should be submitted in English only.
Information	Details
15. Bid Validity Period	210 (Two hundred and ten) days from the Bid Submission Deadline.

1. ABOUT TELANGANA STATE ROAD TRANSPORT CORPORATION (TSRTC)

Public Transport is one of the most common modes of transport especially in a developing country like India. TSRTC is currently operating bus services within Telangana State and to the neighboring States (Andhra Pradesh, Karnataka, Maharashtra, Goa, Tamil Nadu and Chhattisgarh).

Some of the key factors about TSRTC are:

➤ Number of Vehicles	9,072
➤ Regions	11
➤ Depots	97
➤ Bus Stations	364
➤ Zonal Workshops	2
➤ Body Building Workshop	1
➤ Man power	48,616

Various branded services offered by TSRTC include:

- Regular Services operated daily with various levels of comfort, such as Garuda Plus A/c, Rajadhani A/c, Metro luxury A/c, Pushpak A/c, Super Luxury, Deluxe, Express, Pallevelugu, City Metro Deluxe, City Metro Express and City Ordinary.
- Contract Carriage Services and Advance Reservation Services.

2. OBJECTIVES for the implementation of Advanced Driver Assistance System (ADAS) and Driver Monitoring System (DMS)

TSRTC is embarking on a critical project to enhance the safety, efficiency and overall quality of bus transportation services. TSRTC decided to Implement the Driver Monitoring System (DMS) & Advanced Driver Assistance System (ADAS) in about 400 AC long distance buses in a phased manner.

The number of buses is only indicative, it may be reduced or increased based on the operations.

The objectives for the implementation of Advanced Driver Assistance Systems (ADAS) and Driver Monitoring Systems (DMS) in buses are as follows:

- 2.1. Monitoring and Enhancing Driver Behavior:** Aim to monitor and enhance driver behavior while driving. DMS will be used to detect drowsiness, distraction, and fatigue among the drivers. Alerts will be sent to Central command real time,

upon detection of an incident. System based interventions and a voice-based communication mechanism will be set up in Bus for immediate corrections where required. By doing so, we intend to reduce the risk of accidents resulting from driver-related issues and ensure that our drivers are operating our vehicles in a safe and responsible manner.

- 2.2. Enhancing Passenger and Road Safety:** The primary objective of this RFP is to improve passenger and road safety within our bus fleet. The installation of ADAS will identify poor driving with features such as lane departure warnings, collision avoidance, and pedestrian detection to reduce the risk of accidents and enhance the safety of our passengers and other road users.
- 2.3. Data and Analytics and AI for Informed Decision-Making:** The implementation of these systems will generate valuable insights that can be used to make informed decisions both real time as well as offline. Analytics and AI can be utilized to alert central commands to intervene only when the risk is high such that the CC and driver are not distracted unnecessarily. AI can be utilized to identify high risk drivers and take preventive actions such as driver training or reassignment. This capability will allow us to take timely action to prevent accidents.
- 2.4 Enhancing Passenger Experience:** Passengers' safety and comfort are of utmost importance. ADAS & DMS installations will result in a smoother and safer ride, minimizing abrupt stops and enhancing overall passenger satisfaction.
- 2.5 Reducing Operating Costs:** By preventing accidents and reducing vehicle wear and tear, we aim to lower maintenance costs and extend the lifespan of our buses. The videos collected from ADAS and DMS will better enable Root Cause Analysis in case of an event, thus reducing unwarranted claims.
- 2.6. Market Competitiveness:** We recognize that public awareness of safety and environmental concerns is growing, and offering a safer and more sustainable transportation service can enhance our competitiveness and reputation in the market.
- 2.7 Improved Reputation:** A commitment to safety and environmental responsibility can enhance our reputation and brand image, fostering trust among passengers

Hence this tender.

3. Tender for Implementation of Advanced Driver Assistance System (ADAS) & Driver Monitoring System (DMS) For a Period of five Years

- 3.1. Sealed tenders** are invited from interested bidders who meet the eligibility criteria prescribed in this Request for Proposal (RFP), for implementation of

Advanced Driver Assistance System (ADAS) and Driver Monitoring System (DMS), as per the terms and conditions set out in this RFP.

- 3.2. The period of contract is Five years from the date of entering into agreement.
- 3.3. The contract can be extended for a further period, at the discretion of TSRTC.
- 3.4 TSRTC invites bids for implementation of the project in the following model mentioned hereunder

CAPEX and OPEX model:

Cost of all the IP Based Full HD Cameras and software/customization of readily available software, maintenance charges for all the hardware, software & peripheral equipment supplied and installed under the project for contract period of five years, annual licenses, constitute CAPEX.

Cost of Hosting charges and SIM charges constitutes OPEX.

Cost of application hosting charges and SIM charges constitute OPEX. Quotes shall be submitted on per month basis

4. Scope of the Work

The scope of the Project includes

Supply and installation of IP Based Full HD Cameras for DMS & ADAS for 400 buses.

Installation of AI based ADAS cameras to provide features such as collision avoidance, lane departure warnings and pedestrian detection.

Installation of DMS cameras to monitor driver behavior, including detecting signs of fatigue, distraction, smoking and drowsiness.

The required DMS & ADAS camera should be installed on the dashboard (without obstructing drivers' vision) of identified vehicles for providing real-time driving safety & surveillance that tracks driver alertness and assists drivers. The item is intended to deliver driving safety, real-time driving assistance, driver behavior monitoring to improve Road Safety. The DMS must generate alerts by monitoring the Driver's Facial Positions and Eye movements. The Roadside conditions must also be considered when a DMS alert is generated.

The live DMS& ADAS recordings shall be transmitted to the Cloud based storage without any interruption using Internet over SIM cards. The Solution should have

an inbuilt algorithm to analyze the DMS/ADAS data feed and issue predefined alerts/raise alarm as per set parameters. The alerts/alarm response time should be less than 4 seconds.

The solution should be compatible with future integrations if any required by the Dept.

a. DMS Data Storage:

- 60 Days of Entire Video Footage (Inclusive of alerts footages) stored in Cloud Server (charges to be borne by the Service Provider) and available for Download.
- Storage of Event Based Videos for a period of one year.
- Storage of events for a service involving an accident for a period of one year.
- Ability to download all alerts or a set of alerts based on depot, service, driver etc., in the form of text for CSV/XLS Export

b. Type of Alerts required

The Device must be able to Detect and Provide the following Voice Alerts both during Day Time & Night time:

- Driver Distraction (on the Phone, Looking Outside, Head Down, etc.)
- Unauthorized driver detection based on facial recognition
- Drowsiness & Sleep Detection
- Smoking Detection
- Camera Obstruction
- Video Telematics/ Recording

Also, ADAS alerts such as:

- Lane Departure
- Forward Collision Warning
- Headway monitoring warning
- Pedestrian collision warning
- vulnerable road users
- traffic sign recognition
- traffic lights recognition

All Alerts must be transmitted to the Central Command Center (and possibly a depot command center) along with a video clip of the event, with the option for CCC to intervene.

For the CCC intervention, the CCC will require continuous live video streaming from the DMS and ADAS, hence the ability for continuous live streaming on demand should be provided

Further, a mechanism to have voice-based communication with the driver is required in the bus. Cell phone calls are not an acceptable solution as they cause a distraction. When the CCC intervenes, the action and possibly the audio interaction must be recorded against the incident. CCC should have ability to make comments against the incident for future reference

DMS should have an automated alarm/signal to warn drivers of incidents. Visual alerts such as a blinking light or Audio Alerts in English, Telugu & Hindi are required

A manual or AI based algorithm is required for escalation. For e.g., CCC must intervene after 3 incidents, if CCC has not intervened within 10 minutes or within 6 incidents then the next level escalation must kick

In Addition, the Driver Monitoring System (DMS) should support the following:

- Live Video Streaming
- Automated Driver Face Recognition Mapping with Trips.
- Customization of threshold limitations for all type of alerts (this includes the sensitivity, stages, algorithm, language, Volume)

c. Analytics & Dashboards

Dashboard must have the Overview tabs of all the alerts generated, Driver Safety Index, Route Safety Index, Fleet Safety Index, Summary and detailed listing of Alerts Daily/weekly/monthly or other period Reports by driver, trip, service, depot, region etc.; ability to drill down to the videos of the alerts

- Real time assessment of criticality of interventions. Where intervention is critical, automatic escalation mechanism
- The Dashboard must analyze and predict the top safest drivers and top riskiest drivers with the overview of each sub heads.
- Fleet Safety Index, Personalized Driver Insights
- Events & Alerts (Overview, Monthly, Custom, daily, Live)
- Video Playback/Video Telematics History/ Live view
- Driver Master data Management (Adding/Deleting/Changing names/Groups, etc. related to Driver Demographics)
- Daily/weekly/monthly/custom Reports (View/Download)
- Vehicle Master data Management (Grouping Vehicles by Model)
- Regular Notification of any OTA updates/ Critical Events/ etc.
- Email/SMS/WhatsApp Notifications

d. User Interface and Access to Dashboard & Reports

- CCC and required depot Personnel will have a user interface to view, prioritize, escalate and comment on incidents
- A user-friendly interface is required to consume data and insights and take timely action
- Granting Access to Multiple Users (final list shall be shared with identified Service Provider)
- Admin/ Guest/Manager/Fleet Owner User Customization
- Access to Reports only for Specific Users/ Access Permissions

e. Integrations

- APIs to pull Master data from other systems or for these systems to push data
- APIs to push data to other systems such as Analytics, ERP etc or allow them to consume data as needed

5. KEY EVENTS & DATES

Sl. No.	Event	Date
1	Publishing tender notice	10-02-2024
2	Last date for receipt of queries through email	15.02.2024
3	Pre-bid meeting (15.00 hrs.)	17.02.2024
4	Receiving of bids and opening of technical bids	27.02.2024
6	Commencing of POC by installing of devices in to 2 buses	04.03.2024
7	Opening of financial bids	15-03-2024

6. PRE-BID MEETING

- 6.1. TSRTC will conduct a pre-bid meeting to clarify the objectives/scope of the tender in Main Conference Hall, Bus Bhavan, Musheerabad, Hyderabad at 15.00 hrs., on the date mentioned in “Key Events & dates” clause.
- 6.2. Only two representatives from each firm/company will be allowed to participate in the pre-bid meeting.
- 6.3. All related queries should be sent through email on or before the last date for receipt of queries as indicated in “Key Events & dates” clause.

6.4. The queries shall be sent to the mail id: srmanagerit@tsrtc.telangana.gov.in and tsrtctelematics1@gmail.com shall be in the format given hereunder.

Name of the bidding entity with full address			
Sl. No.	RFP Reference Section/Page	Content of RFP requiring clarification	Point of clarification required
1			
2			
3			
4			
5			

7. ELIGIBILITY CRITERIA FOR BIDDERS

The following are the conditions, which are to be necessarily fulfilled by the intending bidders, to be eligible for consideration. Only those interested bidders who satisfy the following eligibility criteria should respond to this Tender:

- a) The Bidder should be an Indian Company, firm and/or any other legal entity registered under Indian Law.
- b) Consortiums will not be permitted.
- c) The bidder must have a legal entity certificate, for example: **In case of Company** - Certificate of Incorporation by Registrar of Companies and **In case of registered partnership firm** - Registered deed of Partnership with the Registrar of Firms.
- d) **Legal Entity:** Bidder should be a Registered Company under Company Act 1956/2013 with experience in execution of DMS & ADAS solution to submit their proposals along with Statutory documents viz- Copy of RoC Registration, PAN card and copy of GST to be submitted.
- e) **Manufacturer Authorization:** Submit Manufacturer Authorization Form (MAF) from camera OEM along with product related certifications. Original Manufacturer's Authorization Form (in the format prescribed & specific to this tender) from OEM should be submitted.
The OEM should submit a declaration on the availability of cameras stock for supply with-in four-week time period.
- f) **Financial Turnover:** The bidder should have a minimum average turnover of Rs. 5 crores in the last three financial years. Audited Financial Statements along with IT Returns have to be submitted for the last three financial years (2020-21, 2021-22 & 2022-23) along with the tender (technical bid).
- g) **Past Experience:** Should have experience in execution of similar AI based solutions such as implementation of Video management and Analytics solution, alerts generation - minimum 2 Projects with 100+ AI based telematic units to any Central Govt./ State Govt. Departments/PSUs/Reputed Private Transport Organizations/ Fleet Management Organizations in the last 3 Financial years i.e.,

2020-21, 2021-22,2022-23 as on bid calling date. The total work executed value should be of Rs.1.00 crore or above.

Copy of Purchase Orders/ Work Orders to be submitted along with completion/ Performance letters.

- h) Copies of work orders, agreements and satisfactory implementation certificates from the Clients clearly indicating the scope of the project (in brief), duration of the project implemented, date on which the project was made live, number of vehicles covered under the project, current status of the project etc. shall be submitted as proof in this regard.
- i) The bidder should not have been blacklisted, independently or as a part of any consortium, by any PUC/Corporation/Board or State/Central Government as on bid date in India/TSRTC/APSRTC or any other RTC. In this regard an affidavit must be submitted by the bidder duly attested by a notary. (Annexure - 7)
- j) Bidders who were earlier awarded project(s) by TSRTC/APSRTC (independently or as a part of any consortium) and could not implement and / or maintain the project(s)/whose award of contracts were canceled / terminated, though not blacklisted, are not eligible to participate in the tender.
- k) Bidders, independently or as a part of any consortium, who failed to satisfactorily execute contracts entered with TSRTC/APSRTC, failed to deliver the project within the agreed timelines or within reasonable extra period of time will not be eligible for consideration/participating in the tender.
- l) Bidders who have earlier implemented projects in TSRTC/APSRTC (independently or as a part of any consortium or as an agency to the contractor) and have abruptly left the project without completing the exit management process/required closure formalities are not eligible to participate in the tender.
- m) Documentary evidence in support of meeting the eligibility criteria shall be submitted along with the technical bid, duly self-attested with an undertaking to the fairness of the documents submitted. The Bids received without documentary evidence and/or without undertaking will be rejected outright.***

7.1 To sum up, all the following documents have to be submitted.

Bids should be submitted in two parts namely, “PQ + Technical bid” and “Financial bid

- i. Legal entity certificate, **In case of Company** - Certificate of Incorporation by Registrar of Companies and **in case of registered partnership firm** - Registered deed of Partnership with the Registrar of Firms.
- ii. Copy of PAN Card of bidding entity.
- iii. Copy of GST registration certificate of bidding entity.
- iv. Copies of supporting document(s) with regard to the bidder being an Information Technology Company/ Corporation and being in existence for more than 5 years

- and having implemented Information Technology Projects (including at least three Web based IT Projects) during the last five years.
- v. Copies of supporting document(s) with regard to having experience in execution of similar AI based video telematic solutions such as implementation of Video management solution, alerts generation.
 - vi. Audited Financial Statements (Balance Sheets, P&L and IT Returns) for the last three financial years (2020-21, 2021-22 & 2022-23) as proof of having an average turnover of Rupees twenty-five crores per annum, during the said financial years.
 - vii. Details of number of technical personnel on rolls.
 - viii. Affidavit duly attested by a notary, with regard to not having been Blacklisted by any PUC/Corporation/Board or State/Central Government as on 30.11.2023 (or later) in India (Annexure - 7).
 - ix. In case the bidder has a local development center at Hyderabad - Supporting documents (Rental/lease agreement in case of rented premises; Sale agreement, Electricity bills for last three months in case the office is in premises owned by the bidding entity).
 - x. If the bidder does not have any local development center / support office in Hyderabad at the time of bidding - Undertaking on letterhead that if selected then he shall open a local support office at Hyderabad within one month from the date of award of contract. (Annexure - 6)
 - xi. Tender Document/RFP duly signed on all pages.
 - xii. Amendments & clarifications to this RFP published by TSRTC, signed on all pages.
 - xiii. Detailed project proposal and project plan along with hardware/software/manpower proposed.
 - xiv. All Annexures duly filled in.
 - xv. Financial bid (in a separate sealed cover, to be put in the outer cover).
 - xvi. An affidavit duly attested by a notary stating that the bidder or employees shall not ask for employment in Corporation. (Annexure - 7)

8. COST OF TENDER DOCUMENT

- 8.1 Cost of the Tender Document is Rs. 11,800/- (including GST) and has to be paid in the form of a Demand Draft (DD) drawn in favor of “FA & CAO, TSRTC, Hyderabad” drawn on a Nationalized / Scheduled Bank other than a Cooperative Bank. Cost of Tender Document will not be accepted in any form other than DD and is non-refundable.
- 8.2 Bidders attending the pre-bid meeting shall submit the DD towards the cost of Tender Document, when they attend the pre-bid meeting, without fail. Only bidders who submit DD towards the cost of the tender document will be allowed

to participate in the pre-bid meeting. The name and address of the bidder has to be furnished on the reverse side of the DD.

8.3. Bidders who do not attend the pre-bid meeting have to submit the DD towards the cost of Tender Document, along with the technical bids.

8.4 The Tender Document (RFP) has to be downloaded from TSRTC website www.tsrtc.telangana.gov.in.

9. EARNEST MONEY DEPOSIT

9.1 A sum of Rs. 2,00,000/- (Rupees Two lakhs only) shall be paid towards Earnest Money Deposit in the form of Demand Draft from any Nationalized Bank or Scheduled Bank other than a Cooperative Bank, drawn in favor of “FA & CAO”, Hyderabad.”

9.2 The DD should be submitted along with the technical bid. The Name and Address of the firm submitting the bid has to be furnished on the reverse side of the DD.

9.3 EMD in any form other than DD shall not be accepted.

9.4 The EMD amount will not carry any interest.

9.5 The EMD of bidders who are not qualified in the technical evaluation will be returned after opening of the financial bids.

9.6 The EMD of the technically qualified but unsuccessful bidders in the financial bid will be refunded only after finalization of Tenders in all respects and issue of Letter of Award to the successful bidder.

9.7 The EMD of successful bidders will be converted as part of Security Deposit.

9.8 No exemption of EMD is allowed for any bidder including Government Organizations / undertakings or Small-Scale Industries.

10. SECURITY DEPOSIT

10.1 The Security Deposit for the project is Rs. 10,00,000/- (Rupees Ten lakhs only).

10.2 The Earnest Money Deposit of Rs. 2,00,000/- (Rupees Two lakhs only) of the successful bidder will be converted as Security Deposit.

10.3 The successful bidder shall enter into agreement with TSRTC duly depositing an amount of Rs. 8,00,000/- (Rupees Eight lakhs only) towards balance Security Deposit, in the form of Demand Draft from any Nationalized Bank or Scheduled Bank other than a Cooperative Bank, drawn in favor of “FA & CAO, TSRTC, Hyderabad.”

10.4 DD towards balance security deposit shall be submitted within 14 days from the date of receipt of Letter of Award (LoA).

- 10.5 Any delay in submission of the Demand Draft towards balance Security Deposit and entering into Agreement, within 14 days of LoA, would result in cancellation of LoA and forfeiture of EMD, without any notice.
- 10.6 The Security Deposit shall not carry any interest.
- 10.7 The Security Deposit will be returned only after completion of all transactions under the Agreement to be entered into and successful handing over of the Project Assets and the concerned knowledge transfer to the Corporation.

11. BID SUBMISSION AND CORRESPONDENCE

Address for Bid Submission & Correspondence

The Chief Engineer (IT),
Telangana State Road Transport Corporation,
Bus Bhavan, Musheerabad,
Hyderabad - 500 020, Telangana
Tel No – 040-27684242
Website: www.tsrtc.telangana.gov.in

Contact Person

The Senior Manager (IT)-3
Telangana State Road Transport Corporation,
Bus Bhavan, Musheerabad,
Hyderabad - 500 020, Telangana
Tel No – +919100033790
Website: www.tsrtc.telangana.gov.in
E-mail: srmanagerit@tsrtc.telangana.gov.in

The Chief Engineer (IT),
Telangana State Road Transport Corporation,
Bus Bhavan, Musheerabad,
Hyderabad - 500 020, Telangana
Tel No – 040-27684242
Website: www.tsrtc.telangana.gov.in
E-mail: ceit@tsrtc.telangana.gov.in

- 11.1 The Security Deposit will be returned only after completion of all transactions under the Agreement to be entered into and successful handing over of the Project Assets and the concerned knowledge transfer to the Corporation.
- 11.2 Any clarifications required regarding the Terms & Conditions shall be obtained from the Chief Engineer (IT), TSRTC, before submission of the tenders. No clarifications will be entertained later.
- 11.3 The bidders will have to submit their bids/offers in two parts namely, “Technical Bid” and “Financial Bid”, in separate sealed covers. The two

separate sealed covers containing the “Technical Bid” and “Financial Bid” shall be enclosed in an outer sealed cover.

- 11.4 The outer envelope/cover shall indicate the name and address of the bidder. Both inner and outer envelopes/covers shall be addressed to TSRTC at the address indicated above.
- 11.5 The contents of the covers i.e., “Technical Bid” / “Financial Bid”, and the name and address of the bidder shall be indicated clearly on the respective covers.
- 11.6 The financial bid consists of only the duly filled in “Annexure - 8”. Rate (excluding taxes) shall be clearly indicated in figures and words, in Indian Rupees. In case of any discrepancy, the rates quoted in words shall be considered. The taxes applicable along with the existing rate of tax shall be clearly indicated.
Only one annexure viz. Annexure - 8 shall be submitted in the financial bid cover.
- 11.7 DDs towards EMD and cost of Tender Document (in case of bidders who have not attended the pre-bid meeting) shall be enclosed along with the Technical bid, in the relevant cover i.e., Technical Bid cover.
- 11.8 Tender document, amendments & clarifications published in TSRTC website, duly signed on all pages; all supporting and other documents; and other annexures shall be submitted in the technical bid cover. Detailed project proposal and project plan along with hardware/software/manpower proposed and all other documents shall also be submitted in the technical bid cover.
- 11.9 Rates/prices should not be indicated anywhere in the Technical Bids.
- 11.10 All the forms and formats shall be duly, properly and exhaustively filled in.
- 11.11 Hard copy of TENDER/BID shall be submitted in person. Any other form of submission of hard copy shall be summarily rejected.
- 11.12 The bids should be submitted in the designated tender box that will be provided in Mini-Conference Hall, TSRTC, Bus Bhavan, 1st floor “B” block, Musheerabad, Hyderabad on the date mentioned in “Key Events & dates” clause from 10.30 hrs. to 14.00 hrs.
- 11.13 Only the technical bids will be opened on the same day, at 15.00 hrs. in the Main Conference Hall, TSRTC, Bus Bhavan, 1st floor “B” block, Musheerabad, Hyderabad.
- 11.14 Bidders or their Authorized Representatives (not more than two persons) may be present at the time of opening of Tenders (Technical bids).
- 11.15 Financial bids of only the bidders who are found eligible as per eligibility criteria as mentioned above and found to be technically qualified in the technical bid evaluation will be opened. Technical Evaluation will be carried out in respect of the Bids which are found eligible as per eligibility criteria mentioned in section 7 above.

- 11.16 The date, time and venue of opening the financial bids will be intimated to the technically qualified bidders at an appropriate time. Representatives (not more than two persons) of the technically qualified bidders will be permitted to be present at the time of opening of the financial bids.
- 11.17 Tenders received after the due date and time, bids submitted without DDs towards EMD and cost of Tender Document (if applicable), incomplete tenders, bidders not fulfilling the eligibility criteria etc., shall be summarily rejected.
- 11.18 The Tender has to be submitted in accordance with the terms and conditions prescribed.
- 11.19 Conditional bids are liable for rejection.
- 11.20 TSRTC reserves the right to accept or reject any bid without assigning any reason, and to annul the bidding process and reject all proposals at any time prior to award of contract. The tenders are liable to be canceled at any stage without assigning any reason(s). TSRTC will not be responsible for any liability to the affected bidder or bidders. TSRTC doesn't have any obligation to inform the affected bidder or bidders the grounds for TSRTC's action.
- 11.21 The bids shall be valid for a period of 9 (nine) months from the date of opening of the technical bids.

12. BID EVALUATION PROCESS

12.1 Tender Committee

- 12.1.1 The Tender Committee constituted by TSRTC shall evaluate the tenders.
- 12.1.2 The decision of the Tender Evaluation Committee in finalizing the eligibility for the tender, the evaluation of the Technical and Financial bids shall be final. No correspondence will be entertained outside the process of negotiation/discussion with the Committee.
- 12.1.3 During the bid evaluation, the Committee will ask the bidders to showcase technical presentation/ demonstration/ PoC of the proposed material to understand the features & functionality.

12.2 Bids Opening

- 12.2.1 The Tender Committee will open the technical bids on the specified date and time as mentioned in KEY EVENTS & DATES clause, in the presence of bidders / their authorized representatives who choose to attend the same.
- 12.2.2 The Bids received without required Earnest money and cost of tender document (wherever applicable) will be rejected.

12.3 Preliminary Examination of Bids

- 12.3.1 TSRTC will examine the bids to determine whether they are complete, whether all the required documents have been submitted and properly signed, and whether the bids are generally in order.
- 12.3.2 Bids submitted by agents shall have proper authorization from the bidder.
- 12.3.3 TSRTC may waive any minor nonconformity or irregularity in a bid that does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder. The decision of TSRTC will be final and binding.

12.4 Evaluation Process

- 12.4.1 TSRTC will evaluate and compare the bids determined to be substantially responsive. It is TSRTC's intent to select the bid that is most advantageous to TSRTC and each bid will be evaluated using the criteria and process outlined in this section. In order to reach such a determination, TSRTC will examine the information supplied by the Bidders, review their demonstration of services offered and shall evaluate the same as per the evaluation criteria specified in this TENDER.
- 12.4.2 Evaluation of the Technical Part of Bid will be carried out in 2 stages - eligibility criteria and Technical Evaluation.
- 12.4.3 Only bidders who satisfy the eligibility criteria will be qualified for Technical Evaluation. The criteria for this are provided in the 'Technical Bid Evaluation' section.
- 12.4.4 Financial bids of only those bidders who are qualified in the Technical Evaluation will be opened and evaluated further. The date of opening of the financial bids would be intimated later after completing the technical evaluation process.

12.5 Technical Bid Evaluation

- 12.5.1 TSRTC will evaluate and compare the technical aspects of the proposals on the basis of the information supplied by the bidders, taking into account overall completeness and compliance with the requirements specified.
- 12.5.2 The Technical Bid evaluation consists of two stages; (a) Eligibility evaluation (b) Technical Evaluation including Demo of prototype. Only bidders who satisfy the eligibility criteria will be qualified for Technical Evaluation.
- 12.5.3 The shortlisted eligible bidders shall have to give a Demo of the prototype of the solution proposed to be provided, on the date that would be communicated. The eligible bidders will be asked to install their device in two of TSRTC buses and at least two weeks' time will be given to the bidders for giving a Demo on functionality of the solution including the alerts generated and communication to the central server.
- 12.5.4 The technical evaluation will be based on the following factors

TECHNICAL EVALUATION PARAMETERS

- a. Past project criteria
- b. Project implementation and Maintenance methodology
- c. Features proposed in the solution
- d. Alerts generation mechanism
- e. Dashboard & MIS reports proposed
- f. Technical Proof of concept (POC) by deployment of 02 no's of offered cameras in any two buses and showcasing the solution

12.6 Financial Bid Opening

12.6.1 The date of opening of the financial bids would be intimated later after completing the technical evaluation process.

12.6.2 The Financial bid evaluation will take into account the information supplied by the Bidders in the Financial Bid, and TSRTC shall evaluate the same as per the evaluation criteria specified in this TENDER.

12.6.3 The Financial bids of all the technically qualified bidders would be opened and arranged in ascending order of quoted value (in INR). TSRTC reserves the right to reject any or all bids.

12.6.4 The prices once offered must remain fixed and must not be subject to escalation for any reason whatsoever during the entire period of contract. The rate indicated in the agreement shall hold good for the entire contract period and will not be increased under any circumstances whatsoever.

12.6.5 The rate indicated in the agreement shall hold good for the entire contract period even if there is any increase/decrease in the number of buses to be covered under the project before or after commencement of the contract period.

12.6.6 A proposal submitted with an adjustable price quotation or conditional proposal may be rejected as nonresponsive.

12.6.7 total project cost is including the CAPEX and OPEX will be considered for evaluation of L1 bidder.

12.7 Negotiations, Contract Finalization and Award

12.7.1 The L1 bidder (bidder quoting the lowest rate from among the technically qualified bidders) may be called for negotiations, for awarding the contract.

12.7.2 TSRTC may conduct a Reverse auction among the eligible bidders.

12.7.3 TSRTC shall however reserve the right to reject all the offers of L1 bidder and cancel the tender, after negotiations, if none of the negotiated offers are found to be financially viable.

12.7.4 TSRTC will award the Contract to the successful bidder whose proposal has been determined to be substantially responsive and has been determined as

the best value proposal. All decisions taken by TSRTC regarding processing of TENDER and award of contract shall be final and binding on all the bidders.

12.7.5 TSRTC will notify the successful bidder in writing or by fax or e-mail, to be confirmed in writing by letter, that its proposal has been accepted. The notification of award will constitute the formation of the contract.

12.7.6 The successful bidder has to enter into an agreement with TSRTC on Rs. 100/- Non-Judicial Stamp Paper, as per the terms and conditions, duly submitting Bank Guarantee towards balance Security Deposit. If the bidder fails to enter into agreement within 14 days from the date of receipt of Letter of Award, the offer of award of contract through LoA issued will be canceled and TSRTC will forfeit his EMD without any notice and proceed further to award the contract to another bidder as the corporation deems fit.

13 Functional / Technical Requirements of Project and Responsibilities of Successful Bidder

- The successful bidder shall execute the project and provide the entire solution, duly bearing all the costs (capital cost for hardware procurement, application development, hosting, maintenance, operational and all other costs).
- TSRTC will only make payment on a per bus per month basis, for the buses which are covered under the project, in case of OPEX model.
- Details of Depots, Regions, Bus stations, platforms, places and other units of TSRTC with details of contact telephone numbers and contact names of TSRTC officials shall be maintained.
- AI based cameras, application software (including appropriate licenses, Map engine and APIs etc.), computer hardware, network connectivity & its equipment etc., required internet bandwidth etc., form the core of the proposed ADAS & DMS solution.

13.1 IP based full HD Camera

13.1.1 Supply, Installation, Testing and Commissioning of **IP based full HD camera** along with all required fittings & fixtures, SOS Button, Wiring Harness, etc.

13.1.2 Supply & Installation of all required ancillary items for installation of cameras with 24 V DC power (Only power source would be provided by TSRTC).

13.1.3 The installation of Cameras shall be taken up as per the directions of the TSRTC officials.

13.1.4 The solution shall not only operate outdoors but also be able to transmit signals in an environment which may not have a clear view of the sky.

13.1.5 The solution shall be configured so as to transmit the geo-coordinates and related data to the back end at time intervals (which could be as low as once in every 10 seconds) prescribed by TSRTC.

- 13.1.6 Shifting of the cameras from one vehicle to the other, without any additional charges, based on the requirement from time to time.
- 13.1.7 TSRTC's Vehicle Maintenance activities including cleaning the buses with water will regularly be carried out. The cameras' enclosure should be watertight. Any damages due to water ingress shall be attended by the successful bidder at his cost.
- 13.1.8 The wiring shall be carried out such that it does not get damaged during regular maintenance activity. Any damages to the wiring shall be attended by the successful bidder at his cost.
- 13.1.9 Any damages to the cameras shall be attended by the successful bidder at his own cost.

13.2 COMMUNICATION

- 13.2.1 The successful bidder shall provide the required communication subsystem which includes procurement & installation of SIM cards in Vehicle fitted Units duly bearing all costs and payment of monthly charges for the required bandwidth of GPRS/GSM communication, during the entire contract period.
- 13.2.2 The successful bidder has to provide a private APN Network (MPLS cloud) for all the SIMs.

13.3 HARDWARE, SOFTWARE & HOSTING

- 13.3.1 The successful bidder has to provide a private APN Network (MPLS cloud) for all the SIMs.
- 13.3.2 Supply, installation, testing and commissioning of all the required Server Hardware, Firewalls, Load Balancers, Software (operating system software, GIS software, RDBMS, Web Server Software, Application Server software, Digital maps/customized maps/Google map licenses etc.), Database, Data Storage, all required Connectivity, Networking Equipment, Internet Bandwidth etc., required for successful implementation of the project, with scalability and meeting all the SLAs, and hosting the same in a Data Center (Tier-3 or above) duly bearing all the costs and the hosting charges.
- 13.3.3 Alternatively, the entire application can be hosted on a reputed Cloud Services Platform equivalent to Tier-3 or above Data Center, with required hardware & software resources, internet bandwidth etc., duly bearing all the costs, with scalability and meeting all the SLAs. All services including data shall however be guaranteed to reside in India.
- 13.3.4 It would be the responsibility of the successful bidder to provide high end, high-capacity hardware/hardware resources, software etc., and provide required bandwidth connectivity etc., to provide the quality of service desired/required by TSRTC.

- 13.3.5 The hardware and software should be able to meet the current requirements and should be scalable up according to needs in future.
- 13.3.6 Since all the vehicle mounted units transmit data to the back end, at intervals which could be as low as once in every 10 seconds, the database shall be sized to hold all the data received.
- 13.3.7 The solution shall have capability to store 1 year data online and 6 year data on archive media.
- 13.3.8 The system shall support multiple concurrent user queries/transactions (about 1,000 concurrent users). However, the system shall be scalable with additional hardware included as required at a later point.

13.4 APPLICATION SOFTWARE

- 13.4.1 Development, testing, installation and implementation of the application software, as per the requirements of TSRTC.
- 13.4.2 Information elements that need to be captured at the minimum shall include longitude, latitude, physical location enroute with date and time stamps, bus number, contact number and crew ID and overlay this on a map.
- 13.4.3 The solution shall provide the above data on a real time basis at predetermined and configurable intervals over wireless networks and shall support both the time mode (periodic updates based on time interval) and Distance Mode (periodic updates based on distance interval).
- 13.4.4 The application shall be able to receive emergency messages from the vehicles by generating alarms at the control center to attract the operator's attention. The system shall fire SMS messages to the officials concerned.
- 13.4.5 Required integration shall be carried out with other Software modules of TSRTC.
- 13.4.6 Proposed system should increase the efficiency & effectiveness of public transport.
- 13.4.7 **Alerts:** The solution shall have the ability to raise alerts associated with simple business rules in the context of the operations and Monitoring and shall have the ability to highlight exceptions through Alerts by monitoring deviations and exceptions. Following are some of the specific cases:
 - a. Alerts shall be displayed on the monitoring console and an extract of the same shall be available on the user's dashboard for the user with their jurisdiction of operation.
 - b. The Control Room operator/ Operating Managers shall be able to drill down to the exact location of the event by clicking on the alert and see the position of the event drawn over the map along with driver, vehicle and standard description of event details related to the business rule.

- c. SMS notification/emails/WhatsApp or other media shall be sent to officials concerned for specified schedules/vehicles regarding certain parameters like regularities, etc.

13.4.8 The detailed technical requirements are mentioned in the annexure -9

13.5 MOBILE APPs for TSRTC users

- a. The TSRTC officials should have secure authentication with username and password.
- b. There should be a way to ask for OTPs for the authentication upon enabling the option.
- c. The TSRTC users should be able to track any vehicle live on Google map/customized map using the vehicle number.

13.6 WEB PORTALS

13.6.1 Web Portal for TSRTC users

- a. The web portal should have secure authentication with username and password.
- b. There should be a way to ask for OTPs for the authentication upon enabling the option.
- c. Role based access controls shall be provided.
- d. The dashboards need to be with depot/region/zone level filters to display the summary of the entire fleet.

13.7 SMS & MAILS

13.7.1 SMS Gateway Integration

- a. SMS Gateway Integration shall be carried out to send SMS alerts to the TSRTC staff and officials on various events like accidents and other special events as specified by TSRTC
- b. Integration shall be carried out with the SMS Gateways identified by TSRTC from time to time.
- c. TSRTC will bear the SMS charges.

13.7.2 Mail Server

- a. Mail Server shall be configured and maintained as part of the project, duly bearing the costs.
- b. Mail alerts shall be sent to the TSRTC staff and officials concerned on various events like driver distraction, fatigue, drowsiness, cell phone driving, smoking, forward collision alerts, pedestrian detection alerts etc.

13.8 INTEGRATION WITH TSRTC PROJECTS

13.8.1 CIS / Waybill Integration

- a. TSRTC currently has an ERP solution viz. Centralized Integrated System or CIS. Waybills for services will be issued through CIS. A waybill contains information such as service assignment including vehicle number, crew details, route details, number of trips etc.
- b. The successful bidder should provide an API for CIS to transmit the data once a waybill is generated or alternatively configure an FTP Server for CIS to transfer the data; as decided by TSRTC.
- c. Tracking shall be based on the above data.

13.9 SECURITY

13.9.1 Security

- a. The applications that will be web enabled and Apps shall provide for appropriate user access and security controls.
- b. All the access should be role based.
- c. The elements/ options that can be seen by the users should be customizable.
- d. The admin web application and Admin Mobile App should be configurable to generate OTPs.
- e. Firewall should be provided to block the secured ports that are not to be exposed to the public networks
- f. Load balancers should be in place before any component that gets exposed to the public network.
- g. Databases/Application Servers should never be exposed to the outside network. All the communication to the application should go through the Load balancers in the DMZ.
- h. All the critical changes to the master data should be audited and concerned log reports shall be accessible by operational higher management.
- i. All the components in the network should be firewall protected and DoS (Denial of Service) and distributed denial of service (DDoS) protected.
- j. Multi-level user authorization and authentication with appropriate User Profiles, Rules and Roles etc. shall be provided.
- k. Comprehensive audit trail, logging and reporting log on important events in the application and other reports etc. and on critical parameters shall be available. High watermarks for concurrent application users, module of application, page of application etc.

- l. The System should provide log reports of login and logout of various users at the specified intervals of time.
- m. The security solution must be capable of comprehensive logging of the traffic through the network and applications under its control. It should be capable of logging unauthorized access attempts into the network and the System internal resources, and attempts to login that fail. It should also be capable of notifying appropriate parties including the Corporation's users/ System Security Administrators etc., of suspicious activity.
- n. The solution must enhance the overall management of security, by providing Authorization to Officers/Identified personnel of TSRTC in an easy way to manage users and their corresponding profile information; while also maintaining the ability to manage at the application level. The centralized control should allow for the web-based maintenance of organizational level control such as user management, role management and overall administration control.
- o. The system shall provide user management services and service enrolment features to enable the user to register with the portal. It should also provide a secure mechanism for user identification, transaction integrity, security and non-repudiation.
- p. The Solution shall cater to high security levels. Access to the system is to be strictly on the basis of securely administered lists of users. Security permissions have to be taken both at the levels of application and the database.
- q. Entire set of applications and their features shall provide for various levels of secure access based on defined roles and responsibilities within TSRTC based on units (Bus station/Depot/Region/Zone/H.O.) with attached roles and privileges.

For e.g., certain information shall be created / modified by users attached to specific units only but the information can be seen by all, such as information related to a jurisdiction can be created/modified only by users attached to the jurisdiction and others can only see the information and copy if applicable unless otherwise specified. Application Access shall support multiple roles for a single user and also support delegation as per operational norms/requirements of TSRTC.

13.10 MAINTENANCE AND SUPPORT

- 13.10.1 The successful bidder shall be responsible for Maintenance of the total infrastructure during the entire contract period.
- 13.10.2 Maintenance of the cameras including replacement which are beyond repair, shall be done by the successful bidder during the entire contract period.
- 13.10.3 Maintenance of the application software during the entire contract period.

- 13.10.4 Changes shall be carried out in the application software from time to time, based on the requirements of TSRTC, at no additional cost.
- 13.10.5 The successful bidder shall provide full maintenance support for smooth functioning of the project for the entire contract period.
- 13.10.6 Sufficient software development team should be made available at Hyderabad to attend to software problems.
- 13.10.7 Successful bidders should provide adequate manpower at Regional office level to maintain, manage and attend to the problems of the equipment and SIMs in all the depots of the Region. The deployment plan and deployed details should be submitted to TSRTC.

13.11 COMPLAINT REGISTERING & MONITORING

- 13.11.1 A provision shall be given in the web application and Admin App for registering complaints regarding non-functioning of cameras by the TSRTC personnel and updating the rectification details.
- 13.11.2 The successful bidder shall monitor the complaints registered and get the issues addressed.
- 13.11.3 Report(s) pertaining to non-functioning of the cameras, date and time of registering the complaint by TSRTC, date and time of rectifying the issue, total downtime should be available in the system. This shall form the basis for penalties for non-functioning cameras.

13.12 TRAINING

- 13.12.1 Successful bidder shall provide adequate training to the various users at different levels (Depot/Regional/Head Office) and with different roles to carry out the required activities for successful implementation of the project.
- 13.12.2 Training needs to be provided to personnel at Regional/Depot and Head Office level designated by TSRTC during the contract period.
- 13.12.3 Training material shall be prepared in English and Telugu.
- 13.12.4 The successful bidder shall organize periodical training programs about the complete functioning of the DMS & ADAS i.e., all operations, reporting, monitoring etc., to designated officials of TSRTC as and when required by TSRTC during the complete contract period.
- 13.12.5 Successful bidder shall provide adequate user guidelines for passengers on how to use the App and web portal on this system including providing a video and set of snapshots.

13.13 INSURANCE

13.13.1 It will be the responsibility of the successful bidder to get all the equipment mounted in the Buses insured, for security purposes. TSRTC will not take any responsibility in this regard.

13.14 OTHER RESPONSIBILITIES

13.14.1 Successful bidder shall capture the data from the Vehicle mounted cameras installed in the buses and immediately store it in the central server. It will be the responsibility of the successful bidder to ensure consolidated monthly data backup of the data of all buses & depots at the Data Center and the same should also be kept safe with themselves. The storage media in the form of SAN/External Hard Disk/DVD/Pen Drive shall be provided by the successful bidder.

13.14.2 Successful Bidder should provide adequate technical manpower for successful working of DMS & ADAS. The salaries, perquisites, allowances etc., for the employees should be borne by the successful Bidder. Such manpower employed by the Bidder should not be considered as employees of TSRTC and they should not claim any Job benefits in TSRTC in future.

13.14.3 The persons engaged by the successful bidder, to carry out the project related activities shall be paid minimum wages as fixed by the Commissioner of Labour, PF, ESI etc., as per statutory provisions from time to time.

13.14.4 All project related Data such as input, output and design data such as masters, procedures and functions etc. would be the property of TSRTC and transferable to TSRTC at the end of the contract period.

13.14.5 It will be the full Responsibility of the Successful Bidder to Provide Complete backup of the whole Database of the complete contract/project period.

13.14.6 It will be the responsibility of the successful bidder to provide Data backup of complete project/contract period in two copies at Head Office Level on external HDD at the end of the project. The data backup media has to be provided by the successful bidder.

13.14.7 The service level requirements of the system including data availability and accuracy must meet the requirements.

14. Payment terms

14.1 50% of CAPEX will be paid after Pilot implementation, observation for a period of one month and delivery of all devices. 30% of CAPEX will be paid after installation of all the equipment and declaration of Go-Live. The balance 20% will be paid after completion of the total project period or against submission of Bank Guarantee for this value, valid for 84 months, in the format prescribed by TSRTC. Payment of the said 10% amount, against Bank Guarantee will be made only after completion of full implementation.

- 14.2 The OPEX payments will be made by Head Office, Hyderabad for all locations to the bidder on a Quarterly basis. The Quarterly bill will be submitted by the bidder to the authority decided by the Corporation at Head Office, Hyderabad who will in turn release the payment after receiving verification/certification from the concerned depots. If there is dispute in any bill of that particular depot/bus station and/or period, the payment would be withheld only for that depot/bus station and/or period. Any dispute may be settled within a month otherwise 70% payment for that particular bill will be released and remaining 30% would be released after settlement of the dispute.
- 14.3 Payments will be made on a quarterly basis, after completion of the calendar month.
- 14.4 The successful bidder shall raise GST invoice duly giving breakup of charges and GST separately and indicating HSN/SAC, for payment of monthly charges, after the end of the month. The invoices shall be submitted in the offices of the respective Regional Managers along with certification from the Depot Managers concerned regarding the satisfactory functioning of the VTUs during the month and their breakdown details.
- 14.5 Proof of having uploaded the previous month's GST invoice shall be submitted along with the invoice.
- 14.6 Payment will be arranged after pre-audit.
- 14.7 Tax Deduction at Source (Income Tax) as per the provisions of Income Tax Act would be made from the transaction charges payable.
- 14.8 GST as applicable will be paid extra.
- 14.9 All penalty amounts as on date will be recovered from the monthly payable amounts.
- 14.10 Genuine Customer claims and Court awards, if any, due to the lapses/bugs/Errors in the software solution provided will be deducted appropriately from the monthly payable amounts.

15. SERVICE LEVEL METRICS / SERVICE LEVEL AGREEMENT (SLA)

- 15.1 The offered Solution has to meet the requirement to comply with Service Level Metrics.
- 15.2 To ensure that all the stakeholders discharge their roles and responsibilities in an agreed manner to achieve the common goals, a set of Service Level Metrics are defined for the project. In case of an ambiguity or conflict in the process of performance monitoring, the relevant component of the Service Level Metrics will be used as the touchstone and will prevail.
- 15.3 The successful bidder would get an initial period of SLA holiday, i.e., a time period for which SLAs will not be applicable. This time should be utilized by the successful bidder to stabilize the system and to ensure adherence to the

performance standards laid down by the SLAs. The SLA holiday period is one month after successful completion of project for all the buses covered under the project.

- 15.4 Any SLA related penalty will be applicable after the completion of the SLA Holiday period.
- 15.5 The successful bidder shall ensure that the services are always up and functional 24x7 both in terms of hardware as well as application software. For the purpose of service level assurance, the downtime hours shall be calculated on a monthly basis.
- 15.6 The overall up time of the service should be maintained at a minimum of 99% or more on a monthly basis. The table below shows the calculation for the down time in hours and applicable penalty in terms of percentage (%) on total monthly payable amount for all buses.

Sl. No.	Uptime of Services	Downtime in hours per month	Penalty in % on total monthly payable amount
1.	99% or more	Up to 7.2 hours	NIL
2.	>=98% to < 99%	> 7.2 to < 14.4 hours	1%
3.	>=97% to < 98%	> 14.4 to < 21.6 hours	2%
4.	>=96% to < 97%	> 21.6 to < 28.8 hours	3%
5.	>=95% to < 96%	> 28.8 to < 36 hours	4%
6.	>=94% to < 95%	> 36 to < 43.2 hours	5 %
7	<94%	>43.2 hours	10%

- 15.7 The consolidated maximum penalty amount should not exceed 20% of the total project cost at any time during the complete contract period otherwise the contract may be terminated, duly forfeiting the security deposit.
- 15.8 Service Metrics for the Solution

The successful bidder shall ensure the following service metrics for the Solution.

SLA TO BE DELIVERED

DMS & ADAS Applications	Bench marks
Application Availability	> 99.00%
Computing accuracy	100%
Hosting Centre	
Minimum concurrent connects	1000
Resumption of online services	<1 hr
Data availability	100%

Data accuracy	100%
Capacity of the database server	Suitable to handle data from all the buses
Capacity of the Application Server	Suitable to handle data from all the buses
Average Time to generate alert to the driver after the incident (Shall be measured in the application only)	Less than 4 sec
Average Time for transmission of alert to central command center after the incident	Less than 10 sec
Availability of agreed services over the internet	100%
Client Access	
Grievance and Complaints settlement	<7 days
Application Response Time	< 10 Sec
Average time for service at the customer premises	< 24 hrs

16. General Terms and Conditions

- 16.1 The bidders who have a development center in Hyderabad will be given weightage in the technical evaluation of the Bids.
- 16.2 Data sheet with detailed specifications for the cameras proposed to be used in the project shall be submitted along with the technical bid.
- 16.3 Commitment from the OEM regarding providing support for the devices for the entire contract period shall be submitted along with the technical bid.
- 16.4 Bidders shall fill up the required information as prescribed in the tender forms. Incomplete bids/bids without full information are liable for rejection.
- 16.5 Bids received after the specified time for receipt of the same will not be considered under any circumstances.
- 16.6 Bids once submitted are not permitted to be withdrawn at any stage of process and the Corporation will not be responsible for any delays in finalizing the tenders for reasons beyond its control.
- 16.7 The proposals shall be valid for a period of nine (9) months from the date of opening of the technical bids. A proposal valid for a shorter period may be rejected as non-responsive. On completion of the validity period, unless the bidder withdraws his proposal in writing, it will be deemed to be valid until such time that the bidder formally (in writing) withdraws his proposal. In exceptional circumstances, at its discretion, TSRTC may solicit the bidders'

consent for an extension of the validity period. The request and the responses thereto shall be made in writing (or by fax or email).

- 16.8 The bidders shall enclose with the bids a document giving the details of main features of the Software, Hardware, Networking etc., proposed.
- 16.9 The specifications/requirements are subject to revision as and when required.
- 16.10 Price variation clauses will not be allowed for any reasons whatsoever.
- 16.11 The Bidder should have a local support office at Hyderabad and provide the supporting documents in technical bid. If the bidder does not have any local support office at the time of bidding, then he must submit an undertaking on his letterhead that if selected then he shall open a local support office at Hyderabad within one month from the date of award of contract.
- 16.12 The successful bidder shall deploy the required technical team in Hyderabad, preferably in Bus Bhavan, during development, testing & implementation phase, for regular interaction.
- 16.13 The successful bidder shall carry out business only in the name of the entity on which the agreement is entered into. During the course of contract, the successful bidder shall not be allowed to change the name or to transfer to another entity.
- 16.14 TSRTC reserves the right to modify any condition/conditions of the agreement, and add any other condition/conditions during the contract period. The successful bidder will have to abide by the conditions modified/incorporated and has to enter into a supplementary agreement with the Corporation at his/her/its cost.
- 16.15 **non-Confirming proposals**: Any proposal may be construed as a non-conforming proposal and ineligible for consideration if it does not comply with the requirements of this RFP. Failure to comply with the technical requirements, are common causes for holding proposals nonconforming.
- 16.16 **Amendment of RFP**: At any time prior to the deadline for submission of proposals, TSRTC, for any reason, may modify the RFP by amendments notified by publishing in its official website and such amendments shall be binding on the bidders and shall be a part of the RFP along with clarifications to the queries of bidders published by TSRTC. TSRTC, at its discretion, may extend the deadline for the submission of proposals subsequent to issue of Amendment and or Supplemental Information.
- 16.17 **Language of proposals**: The proposal and all correspondence and documents shall be written in English. All proposals and accompanying documentation will become the property of TSRTC and will not be returned. The hard copy version will be considered as the official proposal.
- 16.18 **Bid Currency**: The rates should be quoted in Indian Rupees only.
- 16.19 **Correction of errors**: Bidders are advised to exercise adequate care in quoting the prices. No excuse for corrections in the quoted rate will be entertained

after the bids are opened. All corrections, if any, should be initiated by the person signing the proposal form before submission, failing which the figures for such items may not be considered.

16.20 Disqualification: The proposal is liable to be disqualified in the following cases:

- a) Proposal not submitted in accordance with the RFP.
 - b) During validity of the proposal, or its extended period, if any, the bidder increases his quoted prices.
 - c) The bidder qualifies (express or implied) the proposal with his own conditions.
 - d) Proposal is received in incomplete form.
 - e) Proposal is received after the due date and time.
 - f) **Proposal is not accompanied by all requisite documents in full support of eligibility criteria as claimed by the bidder.**
 - g) Information submitted in technical proposals 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) or during the tenure of the contract including the extension period if any.
 - h) **Commercial proposal is enclosed in the same envelope as technical proposal.**
 - i) In case any bidder submits multiple proposals or if common interests are found in bids submitted by two or more bidders, the bidders are likely to be disqualified, unless additional proposals/bids are withdrawn immediately upon notice.
 - j) The successful bidder fails to enter into a contract within prescribed time after receiving notice of award of contract or within such extended period, as fixed by TSRTC.
 - k) Awardee of the contract has given the letter of acceptance of the contract with his conditions.
 - l) Non-fulfilling of any condition(s)/term(s) by bidder.
- 16.21 Bidders may specifically note that while evaluating the proposals, if it comes to TSRTC's knowledge expressly or implied, that some bidders may have compounded in any manner whatsoever or otherwise joined to form an alliance resulting in delaying the processing of proposal, then the bidders so involved are liable to be disqualified for this contract as well as for a further period of two years from participation in any of the bids floated by TSRTC. It is also clarified that if need arises TSRTC would go in for appointment of outside party(s) to undertake the work under the captioned bid.

- 16.22 Modification and Withdrawal of Proposals: No proposal shall be withdrawn in the interval between the deadline for submission of proposals and the expiration of the validity period. Modification or Withdrawal of proposal during validity may lead to forfeiture of EMD amount paid against this TENDER.
- 16.23 Conflict of Interest: Bidder shall furnish an affirmative statement as to the existence of, absence of, or potential for conflict of interest on the part of the bidder or any prospective subcontractor due to prior, current contracts, engagements, or affiliations with TSRTC. Additionally, such disclosure shall address any and all potential elements (time frame for service delivery, resource, financial or other) that would adversely impact the ability of the bidder to complete the requirements as given in the RFP.
- 16.24 Acknowledgement of Understanding of Terms: By submitting a proposal, each bidder shall be deemed to acknowledge that it has carefully read all parts of this RFP, including all forms, schedules and annexures hereto, and has fully informed itself as to all existing conditions and limitations and is fully agreeable to it.
- 16.25 The following conditions are applicable to this RFP and the bidder's proposal:
- a) This RFP does not commit TSRTC to enter into a service agreement or similar undertaking with the bidder or any other organization and TSRTC shall have the right to reject or accept any proposal or offer, or any part thereof (e.g., any component of any proposed solution) for any reason whatsoever. TSRTC reserves the right to enter into relationships with more than one bidder; can choose not to proceed with any bidder with respect to one or more categories of services/requirements outlined in this RFP; and can choose to suspend the Project tender or to issue a new RFP for this Project that would supersede and replace this one.
 - b) Each bidder shall make the following undertakings and warranty in its proposal letter (Annexure - 1), the falsity of which might result in rejection of its proposal: "The information contained in this proposal or any part thereof, including its exhibits, schedules, and other documents and instruments delivered or to be delivered to TSRTC, is true, accurate, and complete. This proposal includes all information necessary to ensure that the statements therein do not in whole or in part mislead TSRTC as to any material fact."
 - c) TSRTC is not restricted in its rights to use or disclose any or all of the information contained in the proposal, and can do so without compensation to the bidder. TSRTC shall not be bound by any language in the proposal indicating the confidentiality of the proposal or any other restriction on its use or disclosure.
 - d) Timing and sequence of events resulting from this RFP shall ultimately be determined by TSRTC.
 - e) No oral conversations or agreements with any official, agent, or employee of TSRTC shall affect or modify any terms of this TENDER, and any alleged

oral agreement or arrangement made by a bidder with any department, agency, official or employee of TSRTC shall be superseded by the definitive service agreement that results from this TENDER process. Oral communications by TSRTC to bidders shall not be considered binding on TSRTC, nor shall any written materials have provided by any person other than TSRTC.

- f) Proposals are subject to rejection if the bidder limits or modifies any of the terms and conditions or specifications of this TENDER.
- 16.26 Legal disputes, if any, should be settled only within the Jurisdiction of Hyderabad and Secunderabad courts.
- 16.27 The Managing Director of TSRTC, Hyderabad, reserves the right to cancel the tenders at any stage and can invite fresh tenders without assigning any reason(s).
- 16.28 The decision of TSRTC is final in allotment of the contract.
- 16.29 Any interpretation of clauses shall be obtained from the Managing Director, TSRTC through the Executive Director in charge of the IT Department.
- 16.30 In case of any disputes regarding interpretation of Terms and Conditions, the decision of the Managing Director, TSRTC, Hyderabad is final.
- 16.31 In case of any ambiguity in the interpretation of any of the clauses in the RFP or contract document, TSRTC's interpretation of the clauses shall be final and binding on all the parties.
- 16.32 All the applicable statutory levies, Taxes imposed by State and Central Govt. / GST etc., if any for implementation of the project shall be paid by the successful bidder.
- 16.33 Tax Deduction at Source as per the provisions of Income Tax Act would be made from the amount payable.
- 16.34 Upon completion of the contract period or upon termination of the contract by TSRTC or upon withdrawal of the successful bidder from the contract, the successful bidder shall handover the entire project design and data (Master data, transaction data, all related data including source code) in the formats as desired by TSRTC, failing which security deposit will be forfeited. All project knowledge shall be transferred to the TSRTC and shall fruitfully cooperate and assist in smooth transfer of the system in live condition so as to be maintained by TSRTC on its own or any other agency nominated by the TSRTC.
- 16.35 The successful bidder shall not retain any data pertaining to TSRTC and shall give an undertaking accordingly.
- 16.36 All statutory encumbrances for employing the manpower have to be borne by the successful vendor. TSRTC is not responsible for the same.
- 16.37 No conveyance/bus pass shall be provided to any employee engaged by the successful bidder nor any sort of compensation be paid by the Corporation. The Corporation is not liable to pay any compensation in case of death or injury

(simple or grievous) caused to any personnel engaged by the successful bidder while he/she is carrying out any activities related to the project or otherwise.

16.38 The successful bidder shall be responsible for all statutory liabilities in respect of claims for personal injury to or death of any person employed by the partner or subcontractors and arising out of such employment.

16.39 Corrupt or fraudulent or unethical practices

a) TSRTC requires that the bidder under this TENDER, observes the highest standards of ethics during the Tender process and execution of such contract. In pursuance to this policy, TSRTC defines for the purposes of this provision, the terms set forth as follows:

“**Corrupt practice**” means the offering, giving, receiving or soliciting of anything of value to influence the public officials in the Tender process or in contract execution;

“**Fraudulent Practice**” means a misrepresentation of facts in order to influence the Tender process or execution of contract to the detriment of TSRTC, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial noncompetitive levels and to deprive TSRTC of the benefits of free and open competition;

“**Unethical practice**” means any activity on the part of the bidder, which tries to circumvent the tender process in any way. Unsolicited offering of discounts, reduction in financial bid amount, upward revision of quality of goods etc., after opening of first bid will be treated as unethical practice.

b) TSRTC will reject a proposal for award if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.

c) TSRTC will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has engaged in corrupt and fraudulent practices in competing for, or executing a contract.

d) The past performance of the bidder will be cross checked if necessary. If the facts are proven to be dubious the bidders TENDER will be ineligible for further processing.

17. USE OF DOCUMENTS AND INFORMATION

17.1 The bidder shall not, without prior written consent from TSRTC, disclose/ share/use the bid document, contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of TSRTC in connection therewith, to any person other than a person employed by the bidder in the performance of the contract. Disclosure to any

such employed person shall be made in confidence and shall extend only as far as may be necessary for purposes of such performance.

- 17.2 The Successful Bidder shall not, without prior written consent of TSRTC, make use of any document or information made available for the project, except for purposes of performing the Contract.
- 17.3 All project related documents (including this bid document) issued by TSRTC, other than the contract itself, shall remain the property of TSRTC and shall be returned (in all copies) to TSRTC on completion of the Vendor's performance under the contract if so required by TSRTC.
- 17.4 The successful bidder shall not disclose to any other party about the knowledge of the system or pass on the possession of material and information given to the successful vendor under this agreed contract or any information which has been generated during the running of the project. The successful bidder should hold such material and information in strict confidence, not to make use of them other than for the performance of this contract, except release it only to designated employees requiring such information for operation, maintenance and control and inspection of the systems. During execution of the contract and thereafter the above information should not be released to any other parties.
- 17.5 The firm shall ensure secrecy of the software, source and object code. The information shall not be disclosed to others except TSRTC.

18. Signing of Contract

- 18.1 The successful bidder will have to execute the agreement within prescribed time, after receipt of order i.e., Letter of Award (LoA).
- 18.2 TSRTC reserves the right to add, delete or / and modify any terms & conditions while entering into an agreement with the successful bidder.
- 18.3 The agreement entered by the successful vendor shall not be supplemented, amended or modified in any manner except by an instrument in writing signed by a duly authorized officer or representative of each of the parties hereto.

19. PROJECT IMPLEMENTATION SCHEDULE

- 19.1 The successful Bidder shall complete the implementation of the Project as per the RFP within 6 months from the date of entering into agreement as per the timetable provided below:

Sl. No.	Activity	Timeline
1	Date of entering into agreement	T1

2	<ul style="list-style-type: none"> • Application Development and Testing • Pilot implementation in 10 vehicles 	T1 + 1 months(T2)
3	<ul style="list-style-type: none"> • Installation of cameras in all the buses covered under the project and hosting the application in Meity approved Cloud Data Centre. • Simultaneous preparation of training material and submission of training documents 	T2 + 2 months(T3)
4	<ul style="list-style-type: none"> • Preparation and submission of user manuals for Admin users and end users • User acceptance Testing 	T2 + 2 months(T3)
5	<ul style="list-style-type: none"> • Go-Live for all the buses covered under the project 	T3 + 1months

19.2 The timeline to complete the project is 4 months from the date of entering into agreement. However, the successful bidder may complete the project before the above stated timeline and project may be given ‘Go-Live’ status.

19.3 If the successful bidder fails to commence or complete all the project related activities and make the project Live and Operational in all aspects (“Go-Live”) within four months from the date of entering into agreement (as per Project Implementation Schedule of the contract), TSRTC at its discretion can grant additional time for making the project Live duly levying a penalty of Rs. 10,000/- per month or part thereof, for the additional time granted. The additional time that would be given to the successful bidder will under no circumstances be more than 8 weeks. If the successful bidder fails to make the project live & operational in all aspects even within the additional time granted, the contract awarded would be liable for termination without any notice duly forfeiting the security deposit and confiscating all the equipment already installed in the buses.

19.4 The successful bidder shall ensure availability of sufficient manpower with appropriate qualifications for successful design, development, maintenance, attending to software modifications, rectification of issues/bugs, software and hardware maintenance etc.

19.5 In case of loss that would occur to TSRTC due to non-providing Technical and Development team, TSRTC reserves the right to recover the estimated value of loss from the successful bidder. Such repeated occurrences will attract forfeiture of Security Deposit in favor of TSRTC and cancellation of award/contract.

19.6 Unfinished or partially completed software shall not be accepted and the contract will be terminated, besides forfeiture of Security Deposit.

20. Patent rights

- 20.1 Unfinished or partially completed software shall not be accepted and the contract will be terminated, besides forfeiture of Security Deposit.
- 20.2 In the event of any claim asserted by a third party of infringement of copyright, patent, trademark or industrial design rights arising from the use of the software / hardware / database / peripherals or any part thereof, the Bidder shall expeditiously extinguish such claim.
- 20.3 If the Bidder fails to comply and TSRTC is required to pay compensation to a third party resulting from such infringement, the Bidder shall be responsible for the compensation including all expenses, court costs and lawyer fees. TSRTC will give notice to the Bidder of such a claim, if it is made, without delay.

21. Bidder's integrity and obligation

- 21.1 The bidder is responsible to oblige to conduct all contracted activities as defined in the scope of work in accordance with the contract.
- 21.2 The bidder is obliged to work closely with TSRTC's staff, act within its own authority and abide by directives issued by TSRTC.
- 21.3 The bidder shall abide by the job safety measures prevalent in India and will free TSRTC from all demands or responsibilities arising from accidents or loss of life the calls of which is the bidder's negligence. The bidder will pay all indemnities arising from such incidents and will not hold TSRTC responsible or obligated.
- 21.4 The bidder is responsible for managing the activities of its personnel and will hold itself responsible for any misdemeanor.
- 21.5 The bidder will treat as confidential all data and information about TSRTC, obtained in the execution of his responsibilities in strict confidence and will not reveal such information to any other party without the prior written approval of TSRTC.

22. Penalties

- 22.1 If the successful bidder fails to complete the project within the time as agreed or show the progress at any point of time during the project development period as well as entire project tenure, TSRTC reserves the right to cancel the project assigned to the vendor (duly forfeiting the security deposit and confiscating the equipment already installed in the buses), for unsatisfactory progress of the project, and allot the same to any firm.
- 22.2 As a measure of penalty TSRTC reserves the right to forfeit the Security deposit and confiscate the equipment installed in the buses, in case of indulgence in malpractices such as tampering or misuse of Software, Hardware and network

equipment etc., by the successful bidder and in case of violation of terms and conditions of the agreement.

- 22.3 Penalty @ Rs. 25/- per day/part of day would be levied for each nonfunctioning cameras (Device not functioning for any reason, device not transmitting data to the back end for any reason, etc.), for the total number of calendar days (including part of day) the device does not function, if the issue remains unattended and unrepaired within 72 hours from registering of complaint by TSRTC. No penalty will be levied if the problem is rectified within 72 hours.

23. Termination/Withdrawal

- a. If the successful bidder does not fulfill the terms and conditions specified by TSRTC, the contract shall be terminated/canceled by TSRTC duly giving one-month advance notice and duly forfeiting the Security Deposit and confiscating the equipment installed in the buses.
- b. Malpractices in implementation of the project such as manipulation of data results in termination of the contract and forfeiture of the Security Deposit and confiscation of the equipment installed in the buses.
- c. The successful bidder has to execute the contract for a minimum period of three years. After completion of three-year contract period, the successful bidder can withdraw from the project duly giving six months advance notice to the Chief Engineer (IT), TSRTC.
- d. If the successful bidder withdraws from the contract before completion of three years, his/her security deposit will be forfeited and the equipment installed in the buses will be confiscated.
- e. The Corporation can resort to termination/cancellation of agreement after completion of 3 years, by giving 6 month's advance notice. In case of such premature termination of Contract for no fault on the part of the successful bidder, TSRTC will settle all the pending bills, refund the EMD/Security Deposit, after settling all the transactions under the contract. TSRTC will also permit the successful bidder to take back the equipment installed by them in the buses.
- f. In case the successful bidder is unable to implement the project within the timelines prescribed, TSRTC reserves the right to terminate the contract duly forfeiting the security deposit and confiscating the equipment installed in the buses.

23.1 Termination for Default

- 23.1.1 TSRTC may, without prejudice to any other remedy for breach of contract by written notice of default sent to the bidder, terminate the contract in whole or in part, in any of the following conditions, duly forfeiting the Security Deposit and confiscating the equipment installed in the buses. TSRTC also reserves the right to withhold all the pending payments:

- a) If the bidder is unable to complete implementation of the project successfully in all aspects, within the prescribed timelines i.e., within 6 months from the date of signing the agreement.
- b) If the bidder fails to provide satisfactory services at the desired level of contract within the time period(s) specified in the contract, or any extension thereof granted by TSRTC. In such cases TSRTC shall provide reasonable opportunity to the successful bidder to address any unsatisfactory or defective services by giving 7 days written notice in this behalf to cure all defects. If the successful bidder fails to address the issues, TSRTC will resort to terminating the contract, under this clause, by giving one-month advance notice.
- c) If the bidder fails to perform any other obligation(s) under the contract.
- d) If the bidder, in the judgment of TSRTC, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

23.2 Termination for Insolvency

TSRTC may at any time terminate the contract by giving written notice to the bidder, if the bidder becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to TSRTC.

24. NOTICES

- 24.1 Any notice given by one party to the other pursuant to this contract shall be sent to the other party in writing through RPAD or by telex, e-mail, cable or facsimile to the other party's address, and confirmed in writing by the other party.
- 24.2 A notice shall be effective when delivered or tendered to another party whichever is earlier.

25. RESOLUTION OF DISPUTES

- 25.1 TSRTC and the Successful Bidder shall make every effort to resolve amicably by direct informal negotiation on any disagreement or dispute arising between them under or in connection with the contract and settle them at the level of **Executive Director of TSRTC who is in charge of the IT Wing.**
- 25.2 If, after thirty (30) days from the commencement of such informal negotiations, TSRTC and the Successful Bidder have been unable to resolve amicably then the decision of MD of TSRTC will be final.

Annexure - 1 (Covering letter and Proposal)

PLACE:

DATE:

To
The Chief Engineer (IT),
T.S.R.T.C, Bus Bhavan,
HYDERABAD - 500 020.

Sir,

Sub: **Driver Monitoring and Advanced Driver Assistance System (DMS&ADAS)** - Submission of Tender for Implementation of Driver monitoring and Advanced driver assistance system in TSRTC - Submission of bid - Reg.

Ref: Your Notification No....., dt. 07.10.2021, in News Paper dated 10.10.2021

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With reference to the Notification cited, I/we hereby submit the Tender for Implementation of Driver monitoring and Advanced driver assistance system in TSRTC for a period of five years. It is to submit that I/we have gone through the terms and conditions and requirements given in the RFP and the subsequent amendments & clarifications. It is to further submit that I/we will abide by the terms and conditions stipulated by TSRTC as indicated in the RFP (including amendments and clarifications, if any).

Having examined the RFP, the receipt of which is hereby duly acknowledged, we, the undersigned, offer the proposal for Implementation of Driver monitoring and Advanced driver assistance system in TSRTC **for a period of five years, as per the terms and conditions stipulated in the RFP** as an “End to End solution services” as required and outlined in the RFP.

We attach hereto the bid response (Technical and Financial) as required by the RFP, which constitutes our proposal.

We submit that we have the required resources and capability to successfully complete the project.

If our proposal is accepted, we undertake to adhere to the implementation plan put forward in the RFP or such adjusted plan as may subsequently be mutually agreed between us and TSRTC or its appointed representatives.

If our proposal is accepted, we undertake that we will be fully responsible for successful completion of the project as per the terms and conditions and timelines prescribed in the RFP, failing which we fully understand that our contract will be terminated, EMD/Security Deposit will be forfeited and equipment installed in the buses will be confiscated.

We agree for unconditional acceptance of all the terms and conditions set out in the RFP and also agree to abide by this bid response for a period of 9 (nine) months from the date fixed for bid (technical bid) opening and it shall remain binding upon us with full force and virtue, within this period. Until a formal contract is prepared and executed, this bid response, together with your written acceptance thereof in your notification of award, shall constitute a binding contract between us and TSRTC.

We confirm that the information contained in this proposal or any part thereof, including its exhibits, schedules, and other documents and instruments delivered or to be delivered to TSRTC is true, accurate, and complete. This proposal includes all information necessary to ensure that the statements therein do not in whole or in part mislead TSRTC as to any material fact. We further declare that we are fully aware that any information/documents submitted by us, if found to be incorrect, wrong or misleading will result in our bid being rejected and action being taken against us, by TSRTC, as it deems fit.

We agree that TSRTC is not bound to accept the lowest or any bid response it may receive. We also agree that TSRTC reserves the right in absolute sense to reject all or any of the products/ services specified in the bid response without assigning any reason whatsoever.

It is hereby confirmed that I/We are entitled to act on behalf of our Corporation/Company/ firm/organization and empowered to sign this document as well as such other documents, which may be required in this connection.

Dated this Day of 2021.

(Signature) (In the capacity of)

Duly authorized to sign the Bid Response for and on behalf of:

(Name and Address of Company)

Seal/Stamp of bidder

Witness Signature:

Witness Name:

Witness Address:

- Encl: 1) Demand Draft towards cost of tender document (if applicable)
2) Demand Draft towards EMD
3) All documents as indicated in clause 7.1 of the RFP
4) Other Documents (specify)
5) **Financial bid in separate sealed cover (Annexure 8)**

Annexure - 2: Bidder's Authorization Certificate

To,
The Chief Engineer (IT),
T.S.R.T.C, Bus Bhavan,
HYDERABAD - 500 020.

<Bidder's Name>, < Designation>, is hereby authorized to sign relevant documents on behalf of the Company in dealing with Tender pertaining to “Implementation of Driver Monitoring System (DMS) & Advanced Driver Assistance System (ADAS) in TSRTC for a period of five years”. He/she is also authorized to attend meetings and submit information as may be required by you in the course of processing above said Tender.

Thanking you,

Authorized Signatory (Name)
Name & Signature of Authorized Person

Company's Seal.

Annexure - 3 (Tender Form and Technical Bid Compliance)

Tender for Implementation of Driver Monitoring System (DMS) & Advanced Driver Assistance System (ADAS) in TSRTC for a period of five years, as per the terms and conditions stipulated in the RFP

A. BIDDER INFORMATION

1.	Name of the Firm/ Agency/ Company etc. along with registration number	
2	Date & Country of Incorporation of the firm	
3.	Full Name and designation of the authorized person submitting the Tender	
4	Address for correspondence of the authorized person submitting the Tender, with phone numbers and e-mail IDs	
5.	Particulars of the firm:	
a)	Whether it is a company or a registered partnership Firm, (Legal entity certificate to be submitted, <u>In case of Company</u> - Certificate of Incorporation by Registrar of Companies and <u>In case of registered partnership firm</u> - Registered deed of Partnership with the Registrar of Firms)	
b)	Does the firm have GST registration? If Yes, submit a valid registration certificate.	
c)	PAN details (Copy of PAN card to be enclosed)	
d)	Nature of business currently being carried out by the bidding entity (copies of supporting document(s) to be submitted).	
e)	Previous experience in similar projects (Enclose documentary evidence as proof)	
6.	Financial Status of the Firm (enclose audited profit & loss	

	account, balance sheet and IT returns for the years 2020-21, 2021-22 & 2022-23)	
a)	Annual turnover in 2020-21	
b)	Annual turnover in 2021-22	
c)	Annual turnover in 2022-23	
7.	No. of employees on rolls	
8.	Whether the Firm/ Agency/ Company has Branches carrying out business in TELANGANA - if so, mention the Addresses of the Branches.	
9 a)	Name of the whole time Managing Director/CEO (Head of the firm)	
b)	Relationship/Designation of authorized signatory signing on behalf of the Firm.	
10	Address for correspondence & Phone Nos. (FAX, Website, email) (All correspondence will be made with local office only)	
a)	Local Office	
b)	Head Office	
11	Address for correspondence of the Head of the Firm with phone numbers and e-mail IDs	
13	Earnest Money Deposit particulars (drawn in favour of FA & CAO, TSRTC, Hyderabad)	
a)	Demand Draft number and date	
b)	Amount (Rs.)	
c)	Drawn on Bank	
14	Particulars of DD towards cost of Tender Document, if applicable (drawn in favour of FA & CAO, TSRTC, Hyderabad)	
a)	Demand Draft number and date	
b)	Amount (Rs.)	
c)	Drawn on Bank	
15	Details of court litigations, including (but not limited to) – Have you filed any claim against any Company / Institution for similar type of project? If so, give	

	<p>details like case no., court dispute involved and present status.</p> <p>Has any Company/Institution filed any claim/case against you, if so, furnish full details.</p> <p>Has any of your customer or clients filed any case against you in a court? If so, furnish details.</p>	
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B. TECHNICAL BID COMPLIANCE

Bidder Should Mark Page No. on Enclosures Submitted in Evidence of Eligibility Criteria

(Bidder should ensure that all documents enclosed here should be neat & clean and easily readable):

#	Criteria (Document submitted)	Mention Enclosure Page No.	Fill Compliance (Yes/No)
1	Bid Authorization Letter (The letter of authorization shall be indicated by written Power of attorney accompanying the bid).		
2	Bidder shall provide an attested copy of -		
	a) PAN card		
	b) Company Registration Certificate		
	c) Valid GST registration Certificate		
3	Documentary proof regarding the bidder being in business of Information Technology for a minimum period of 5 years.		
4	Documentary evidence (Work orders/Letters of Award etc.) as having developed and implemented Information Technology projects in the last five years along with satisfactory implementation certificates from the clients.		
5	Documentary evidence (Work orders/Letters of Award etc.) as having developed and implemented at least three		

	Web based IT Projects during the last five years along with satisfactory implementation certificates from the clients.		
6	<p>Documentary evidence (Work orders/Letters of Award etc.) as having experience in developing & implementing DMS & ADAS with 100+ devices to any Central Govt./ State Govt. Departments/PSUs/Reputed Private Transport Organizations/ Fleet Management Organizations in the last 3 Financial years i.e., 2020-21, 2021-22,2022-23 as on bid calling date. The total work executed value should be of Rs.1.00 crore or above. The following documents & details shall be submitted for each project</p> <p>a) Copy of award of the project (Work order/Letter of Award) b) Details of Client along with address and contact numbers of authorized personnel of the client with their designations c) Type of vehicles d) Number of vehicles covered under the project e) Project cost f) Satisfactory implementation certificate</p>		
7	Documentary proofs from bidder regarding having minimum average turnover of Rs. 25 Crores in last three financial years		
	a) Audited Balance Sheets for 2020-21		
	b) Audited Balance Sheets for 2021-22		
	c) Audited Balance Sheets for 2022-23		
	d) Audited P&L for 2020-21		
	e) Audited P&L for 2021-22		
	f) Audited P&L for 2022-23		
	g) IT returns for 2020-21		
	h) IT returns for 2021-22		
	i) IT returns for 2022-23		

8	In case the bidder has a development centre in Hyderabad, the following documents have to be submitted as proof a) Rental/lease agreement in case the development center is in rented premises. b) Sale agreement c) Electricity bills for last three months, in case the development center is in a premises owned by the bidding entity d) Details of number of personnel on rolls and equipment available.		
9	An affidavit duly attested by the notary that the Bidder has not been Black listed by any PUC/Corporation/Board or State/Central Government in India		
10	The Bidder should submit an affidavit duly attested by a notary stating that the bidder or employees shall not ask for employment in Corporation.		
11	If the bidder does not have any local support office at the time of bidding, then he must submit an undertaking on his letterhead that if tender is awarded, he shall open a local support office at Hyderabad within one month from the date of award of contract.		
12	Detailed project proposal and project plan along with hardware/software/manpower proposed		
13	Team Deployment Details		

I / We agree to abide by the terms and conditions laid down in the RFP. The information furnished above is true to the best of my/our knowledge. I/we fully understand that in the event of the Company's/Firm's/Agency's failure to abide by any of the terms & conditions or if the information furnished is found to be false, the EMD amount paid stands forfeited in favor of TSRTC.

Signature of the Tenderer
AUTHORISED PERSON WITH SEAL

Name :

Place :

Date :

Annexure - 4

**FORMAT FOR PROVIDING INFORMATION PERTAINING TO
Implementation of Driver Monitoring System (DMS) & Advanced Driver Assistance
System (ADAS) in TSRTC**

(FOLLOWING ASPECTS SHALL BE COVERED)

(Separate sheet for each project)

Project Title:

Name of the Client:

Date of Letter of Award (copy of LoA to be submitted):

Type of vehicles covered under the project:

Number of vehicles covered under the project:

Date of commencement of the project activities:

Date of “Go-Live”:

Period of contract (from date and to date):

Contract value:

Project scope:

Brief description of the project:

Number of concurrent users:

Annexure - 5

FORMAT FOR PROVIDING INFORMATION PERTAINING TO
WEB BASED IT PROJECTS IMPLEMENTED
(FOLLOWING ASPECTS SHALL BE COVERED)
(Separate sheet for each project)

Project Title:

Name of the Client:

Date of Letter of Award (copy of LoA to be submitted):

Date of commencement of the project activities:

Date of “Go-Live”:

Period of contract (from date and to date):

Contract value:

Project scope:

Brief description of the project:

Number of concurrent users:

Annexure - 6 (Undertaking regarding opening office in Hyderabad)

To
The Chief Engineer (IT),
T.S.R.T.C, Bus Bhavan,
HYDERABAD - 500 020.

UNDERTAKING

We, _____, having our registered office at
_____ submit that we currently do not have any office in Hyderabad.

We do hereby undertake to open a local office in Hyderabad, within one month after receiving the award of contract for “Implementation of Driver Monitoring System (DMS) & Advanced Driver Assistance System (ADAS) in TSRTC.”

Authorized Signatory (Name)
Name & Signature of Authorized Person

Company's Seal.

**Annexure - 7 (Notarized affidavit regarding not being blacklisted
and not asking for employment in TSRTC)**

AFFIDAVIT

I/We, _____, having registered office at _____, have carefully gone through the Terms & Conditions contained in the RFP of the Tender for “Implementation of Driver Monitoring System (DMS) & Advanced Driver Assistance System (ADAS) in TSRTC” dt. _____, published by Telangana State Road Transport Corporation.

I/We hereby declare that our company/organization has not been debarred/blacklisted/banned/declared ineligible, by any State/Central Government/Semi-Government Organizations/Corporations/Boards/Undertakings in India, either indefinitely or for a particular period of time, for corrupt or fraudulent practices or non-delivery or non-performance or for any other reasons, till date.

We further do hereby undertake and confirm that none of the employees deployed by us on the contract for “Implementation of Driver Monitoring System (DMS) & Advanced Driver Assistance System (ADAS) in TSRTC” or any other of our employees will seek or ask for employment in TSRTC.

Authorized Signatory (Name)
Name & Signature of Authorized Person

Company’s Seal.

Annexure - 8 (Financial proposal)

FINANCIAL BID (To be submitted in the financial bid cover)

Financial bid for Implementation of Driver Monitoring System (DMS) & Advanced Driver Assistance System (ADAS) in TSRTC for a period of five years, as per the terms and conditions stipulated in the RFP

Indicative project cost with component wise breakup

s.n o	item	Make & Model Proposed	UoM	Qty	Unit Cost (Rs.)	Tax %	Total Cost incl. taxes (Rs.)
A	B	C	D	E	F	G	H = (E x F+G)
1	IP Based Full HD Camera		Nos				
2	5G/4G SIM Cards (cost per year)		Nos				
3	Cost of the DMS & ADAS Solution including deployment, customization & maintenance		Lump sum				
4	4. Cloud Services Cost per year		Lump sum				
5	Any other item required for scope of work: a. b.						
	Grand Total						

OPTION -1 CAPEX and OPEX model

Description	Rate in Rs. (Excluding taxes) in figures and words
IP based Full HD cameras (Cost per device) including installation, connected spare parts and software for DMS and ADAS	
OPEX- Monthly hosting charges	

Details of taxes applicable along with existing rate of tax:

Signature:

Name:

Designation:

Name of firm:

Seal:

**Date
&Stamp**

Signature of Bidder

**Annexure - 9: Technical Specifications Compliance Statement
(Relevant Data Sheets to be submitted)**

(To be submitted in TQ bid)

(To be filled accurately, as any gaps in the sheet will lead to disqualification)

The specifications mentioned are minimum requirements. The bidders may offer better/equivalent/ higher models.

Form T1:

The following are the technical parameters for the Mobile MDVR (to be fixed inside the bus):		
SL NO	Parameter	Minimum Requirement or Better
1	Operating System	Embedded Linux
2	Operation Interface	WEB, VGA
3	Analog Camera Input	4-ch, Max. 1080P
4	Encoding Capacity	Mainstream: 1080p/720p/WD1/4CIF Sub-stream: 720P/WD1/4CIF/2CIF/CIF
5	Streaming Capability	2 Streams Supported (up to 4CIF encoding for sub stream)
6	Video Frame Rate	PAL, NTSC
7	Video Output	1 VGA output
8	Display Split	1,4
9	Video Compression	H.265 and H.264
10	Audio Compression	G.711a/G.711u/G.722.1/G.726
11	Stream Type	Video, video & audio
12	Mobile Phone Access	iOS, Android
13	Wi-Fi	Pluggable 5.8 G Wi-Fi module
14	Browser	Google, IE9 or newer, Firefox
15	Device Update	WEB, USB, remote platform, upgrade tool
16	Recording Playback	1, 4
17	Backup	HDD, USB flash drive and network backup
18	Playback Mode	Normal playback

19	HDD	2 No's 2.5-inch HDDs (SATA) up to 2 TB HDD each
20	SD card	1 (256GB Max)
21	G-sensor	Built in
22	GPS & GLONASS	Precisely positioning the vehicle via the satellite and recording the location information in the video stream
23	Audio Output	1
24	Two-way Audio	1
25	Alarm Input	4 high/low level signal inputs, 1 pulse signal input, 1 BUTTON input
26	Alarm Output	2 relay signal outputs
27	Interfaces	RS-232, RS-422
28	USB	Front panel: 1 × USB 2.0 Rear panel: 1 × USB 2.0 (5-pin aviation connector)
29	Network Port	Front panel :1 ×10M/100M RJ45 Rear panel: 1 × 10M/100M M12 6-pin aviation connector
30	Firewall	Software based should support
31	Network Connectivity	4G Support
	AI Function	Distraction prompt detection, fatigue driving (eyes closed), seatbelt unbuckled detection, smoking detection, phone calling detection, driver out of seat detection, camera covered detection for Driving status monitoring Forward collision Warning, Pedestrian Collision Warning, Lane departure warning, headway monitoring warning for driving assistance
32	Power Supply	DC 9V-36V Should support Build-in super-capacitor prevents the mobile NVR from damage caused by sudden power outage.
33	Power Consumption	20W maximum (Without peripheral and storage media)
34	Certifications	CE/FCC/Emark/EN50155/CB/EN45545/ROHS2.0/ISO-7637-2
35	Accessories	Mounting kit, cables and connectors shall be supplied
37	Working Temperature and Humidity	-10 °C to +60 °C with 10% to 95% Humidity

The following are the technical parameters for the Vehicle-Mounted Camera for Driver :

SL NO	Parameter	Minimum Requirement or Better
1	Image sensor	Progressive Scan CMOS
2	Shutter time	1/30 s to 1/50,000 s
3	Lens & Mount	6 mm, M12
4	Angle adjustment	Tilt: 0 to 50°, Pan: 0 to 5°, Rotate: 0 to 360°
5	Day & Night	IR
6	Frame rate	720 at 25fps
7	S/N ratio	42 dB
8	FOV	Horizontal: 52° ; Vertical: 28° ; Diagonal: 60° .
9	Video output	1
10	Audio output	1, 4-pin Din Connector
11	Working temperature	-40 °C to 75 °C (-31 °F to 95 °F
12	Working humidity	90%
13	Power supply	DC 9V to 16 V
14	Power consumption	Max. 2.5 W
15	Shock proof design	Yes
16	IR range	3 m

The following are the technical parameters for the Vehicle-Mounted Camera for Front view:

SL NO	Parameter	Minimum Requirement or Better
1	Image sensor	Progressive Scan CMOS
2	Min. illumination	0.1 Lux at F1.2
3	Shutter time	1/30 s to 1/7500 s

4	Lens & Mount	6 mm, M12
5	FOV	Horizontal: 52°, Vertical: 30°, Diagonal: 69°
6	Angle adjustment	Tilt: 60°
7	Day & Night	Fix on color
8	Frame rate	<u>720P@30fps</u>
9	WDR	96 dB
10	Auto Gain Control	Support
11	S/N ratio	42 dB
12	Video output	1 Vpp Composite Output (aviation plug) 1: video, 2: Audio, 3: power, 4: ground
13	Working temperature	-40°C~75°C (-40 ° F to 158 ° F)
14	Working humidity	90% or less (no condensation)
15	Power supply	9 VDC to 16 VDC
16	Power consumption	Max. 1.5 W

Form T2:

Video: Management Software	
Vehicle Operation	
1	Support displaying the area that the vehicle belongs to, vehicle list, related channels. Support searching vehicles and areas.
2	Support displaying the total number of vehicles, number of online vehicles, and number of located vehicles. Support displaying online/located vehicle list.
3	Support adding vehicles to the Favorites list. Support viewing all the vehicles in the Favorites list.
4	Support displaying alarm status of the mobile devices.
5	Support selecting multiple vehicles to locate them on the map.
6	Support two-way audio with the driver of the selected vehicle.
7	Support getting the real-time location of the selected vehicle and displaying its real-time route on the map.
8	Support playing back the route of the selected vehicle. Support playing back the route on the map and the recorded video simultaneously.
9	Support setting the duration for playback (latest 1 hour, latest 6 hours, today, yesterday, custom duration).

10	Support selecting the vehicle-mounted cameras.
11	Support setting the playback speed (1/8X, 1/4X, 1/2X, 1X, 2X, 4X, 8X).
12	Support placing the vehicle in the center of the map.
13	Support skipping the period without recorded video.
14	Support stopping/starting playing back the route.
15	Support controlling the vehicle's alarm outputs. Support enabling/disabling specific alarm outputs.
Map Operation	
1	Supports displaying the map in full-screen mode or on the auxiliary screen.
2	Supports displaying the configured fence rule and deviation rule on the Google Map.
3	Supports drawing a round area on the map. The vehicles in the area will be displayed and supports selecting a specific vehicle.
a.	Supports viewing vehicle details including GPS information and driving speed.
b.	Supports two-way audio with the driver.
c.	Supports tracking vehicles at real time.
d.	Supports playing back the routes vehicles have traveled along.
e.	Support alarm output control.
4	Supports specifying the start point and end point on the map to measure the actual distance between them. Supports displaying multiple lines for measuring distances on the map.
5	Supports displaying alarm status of the vehicle which has been located on the map and view alarm details.
In-Vehicle camera Monitoring	
1	Supports displaying the video module in full-screen mode or on the auxiliary screen.
2	Supports live view or playback of 16 vehicle-mounted cameras at most, presetting and customizing window division.
3	Supports live view or playback of single or all vehicle-mounted cameras in the vehicle.

4	Supports the following functions for single channel: capturing, two-way audio, digital zooming, audio control, main/sub-stream switch, alarm output control, adding tags, recording manually (only for live view), video clipping (only for playback), image enhancement, PTZ control (only for live view), switching to instant playback, printing, zooming the selected areas, and exporting videos.
5	Supports PTZ control for PTZ cameras (only for live view): controlling priority configuration, lock time, multiple/single wiper, 3D positioning, preset (getting, setting, and calling presets of devices), pattern, patrol, focus, focal distance, iris, one-touch focus, light, lens initialization, manual tracking, capturing face picture manually, user priority configuration, and park.
6	Supports displaying camera status: including frame rate, stream information, video standard, number of connections, network status, signal status, recording status, access mode, channel type, device name, address, protocol type, storage information (main storage and auxiliary storage), and area.
7	Supports marking out days on which videos are recorded on the calendar. Supports playing videos in specific day and time. Supports dragging the timeline forward or backward to position the desired video segment.
8	Supports searching video files by setting conditions including recording type (time-based recording schedule, event-based schedule, manual recording, and ANR recording), tag type (event type, manually added tag, and other tags), and storage location.
9	Supports fast playing by 1, 2, 4, and 8 times, slow playing by 1/2, 1/4, and 1/8 times.
10	Supports synchronous playback and asynchronous playback.
11	Supports playback of thumbnails: displaying thumbnails when hovering the cursor over the time line and clicking the thumbnail to play the corresponding video.
12	Supports playing and pausing videos, and single frame backward and forward.
Driving Event Monitoring	
1	Supports detecting driving events in Mobile Monitoring module without any configuration.

2	Supports displaying details of real-time event monitoring: area, driver, number of event (supports clustering by mobile device), time, event type, GPS info (click to view the location), driving direction, and alarm status (triggered or not triggered).
3	Supports displaying details and real-time location of vehicles: area, time, GPS information, driving direction
4	Supports going to the driving event search page from the event list page.
1.1.3	Statistics and Report
1	Support the overview of mobile monitoring statistics and report, including the six report types: GPS information, driving distance, driving duration, driving events, and device online rate.
2	Support generating the report on GPS-related information of specific vehicles in a specific period.
3	Support displaying simultaneously or separately the GPS report times of all vehicles or selected vehicles.
4	Support viewing the GPS details.
5	Support generating the report on the online rate of the mobile devices mounted on the selected vehicles in a specific period.
6	Support displaying simultaneously or separately the online rate of all vehicles or selected vehicles in a specific period.
7	Support viewing the online rate details.
8	Support generating the report on the driving distance of specific vehicles in a specific period.
9	Support displaying simultaneously or separately the driving distance of all vehicles or selected vehicles in a specific period.
10	Support viewing the driving distance details.
12	Support displaying simultaneously or separately the driving distance of all vehicles or selected vehicles in a specific period.
16	Support viewing the driving duration details.
17	Support generating the report on driving events of specific vehicles in a specific period.
18	Support displaying simultaneously or separately the number of driving events of specific vehicles in a specific period.

19	Support viewing driving event details.
20	Support generating the report on the passenger counting of specific vehicles in a specific period.
21	Support displaying simultaneously or separately the number of passengers who got on or (and) off specific vehicles in a specific period.
22	Support three types of view mode: enter, exit, and enter/exit.
23	Support the following report types for the above reports: daily report, weekly report, monthly report, custom time interval.
24	Support exporting the report.
1.1.4	Historical Record Search and Exporting
1	Support searching vehicle routes by the following conditions: time, vehicle and event type.
2	Support recording vehicle route details: time, triggered event.
3	Support searching driving events by the following conditions: time, vehicle, event type, and specified area on map.
4	Support recording driving event details: license plate No., area, time, event type, GPS information, and driving direction.
5	Support searching and exporting the routes that historical vehicles have traveled along or the routes of driving event.
6	Support exporting the route record file (in the format of Excel or CSV) and video file (in the format of MP4, or AVI).
1.1.5	Event and Alarm
2	Support receiving the events triggered by mobile device maintenance: online, offline.
3	Support receiving the events triggered by the alarm input of mobile device.
4	Support receiving the events triggered by the mobile camera (the supported event type is subject to the mobile camera).
5	Support all functions of Event & Alarm module: linkage actions configuration for the detected events and alarms, alarm monitoring, historical alarm information search, alarm & event operation analysis, etc.

6	Support batch exporting the route record files (in the format of Excel or CSV) and video file (in the format of MP4, or AVI).
1.1.6	Device Maintenance
1	Support viewing the real-time status of all devices: MVR (mobile video recorder)/DVR (digital video recorder), mobile camera, and alarm input.
2	Support the historical online rate statistics of mobile devices.
3	Support the online rate statistics of mobile cameras.
4	Support the recording integrity rate statistics of mobile cameras.

***** END*****