

Vehicle Tracking & Monitoring System (VTMS) & Passenger Information System (PIS)



Karnataka State Road Transport Corporation

ಕರ್ನಾಟಕ ರಾಜ್ಯ ರಸ್ತೆ ಸಾರಿಗೆ ನಿಗಮ

Pre-bid meeting – 5th July 2011
**Queries / clarifications raised and
consolidated Response from KSRTC**



2011

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1. AMENDMENTS TO RFP THROUGH THE ISSUAL OF ADDENDUM

Tender No. KST/CO/P/G-29-11 DT: 09-06-2011 DUE ON: 19-07-2011

In response to the queries received during the pre-bid meeting, following amendments to the RFP document issued earlier under reference no. **Tender No G-29/11 Dt. 09.06.2011 due on 19.07.2011** is incorporated to the RFP document. The Bidders are requested to note the same while preparing the bids.

Sl.	RFP Earlier	RFP Amendment
1	Part 2: General Instructions & Commercial Specifications Page No: 3 Notice Inviting BIDS: SI No. (c) Date up to which and place from where the bid documents can be obtained Details: http://eproc.karnataka.gov.in Date: 19-07-2011, 17-00 hrs.	Part 2: General Instructions & Commercial Specifications Page No: 3 Notice Inviting BIDS: SI No. (c) Date up to which and place from where the bid documents can be obtained Details: http://eproc.karnataka.gov.in Date: 05-08-2011, 17-00 hrs.
2	Part 2: General Instructions & Commercial Specifications Page No: 3 Notice Inviting BIDS: SI No. (e) a) Due time and date for receipt of the bid Details: a) 22-07-2011 at 11:00 hours	Part 2: General Instructions & Commercial Specifications Page No: 3 Notice Inviting BIDS: SI No. (e) a) Due time and date for receipt of the bid through e-portal Details: a) 05-08-2011 at 17:00 hours
3	Part 2: General Instructions & Commercial Specifications Page No: 3 Notice Inviting BIDS: SI No. (e) b) Last date and time for submission of hard copies of tender documents Details: b) 22-07-2011 at 11:00 hours	Part 2: General Instructions & Commercial Specifications Page No: 3 Notice Inviting BIDS: SI No. (e) b) Last date and time for submission of hard copies of tender documents Details: b) 09-08-2011 at 11:00 hours
4	Part 2: General Instructions & Commercial Specifications Page No: 3 Notice Inviting BIDS: SI No. (d) Earnest Money Deposit payable at the time of submitting the Bid response documents Details: Rs. 1,00,000/- [One Lakhs only]	Part 2: General Instructions & Commercial Specifications Page No: 3 Notice Inviting BIDS: SI No. (d) Earnest Money Deposit payable at the time of submitting the Bid response documents Details: Total Rs. 1,00,000/- [One Lakhs only] a) Rs. 500/- through e-portal by e-payment

		b) Rs. 99,500/- through DD in favour of CAO-FA KSRTC Bangalore-27 (to be submitted along with the original document)
5	<p>Part 2: General Instructions & Commercial Specifications Page No: 3 Notice Inviting BIDS: SI No. (f) Time, Date, and Place of opening the Bid document</p> <p>Details: Pre-qualification bid on 22-07-2011 at 11.30 hours Commercial Bid on 08-08-2011 at 11.00 hours Place: Purchase Branch, KSRTC, Central Office, K.H. Road Bangalore-27</p>	<p>Part 2: General Instructions & Commercial Specifications Page No: 3 Notice Inviting BIDS: SI No. (f) Time, Date, and Place of opening the Bid document</p> <p>Details: Pre-qualification bid on 09-08-2011 at 11.30 hours Commercial Bid on 25-08-2011 at 11.00 hours Place: Purchase Branch, KSRTC, Central Office, K.H. Road Bangalore-27</p>
6	--	<p>Part 2: General Instructions & Commercial Specifications Page No: 3 Notice Inviting BIDS: SI No. (h) Tender processing fee through e-portal Details: Rs. 550/- through e-portal by e-payment</p>
7	<p>Part 2: General Instructions & Commercial Specifications Page No: 8 1.5 Pre-qualification criteria for Bidders (1) The Prime Bidder should have been an IT solution provider for a period of at least 5 years as of 31-3-2011 as evidenced by the Certificate of Commencement of Business issued by the Registrar of Companies. The prime bidder or the sub-contractor should have satisfactorily implemented vehicle tracking and monitoring solution and passenger information system in one transport organizations with at least 100 buses within the last three years. Letters of completion of such projects from the customer is required to be submitted as evidence of satisfactorily completing the project.</p>	<p>Part 2: General Instructions & Commercial Specifications Page No: 8 1.5 Pre-qualification criteria for Bidders (1) The Prime Bidder and all the partners of JV/consortium should have been IT solution provider for a period of at least 5 years as of 31-3-2011 as evidenced by the Certificate of Commencement of Business issued by the Registrar of Companies. The prime bidder or the sub-contractor or Consortium/ JV partner should have satisfactorily implemented vehicle tracking and monitoring solution and passenger information system in minimum of two Transport organizations with at least 100 buses in public or private sector environment in India or outside the country. Letters of completion of such projects from the customer is required to be submitted as evidence of satisfactorily completing the project.</p>

8	Part 2: General Instructions & Commercial Specifications Page No: 8 1.5 Pre-qualification criteria for Bidders (3) The prime bidder must hold certifications in CMM level 3 or equivalent.	Part 2: General Instructions & Commercial Specifications Page No: 8 1.5 Pre-qualification criteria for Bidders (3) The prime bidder must hold certifications in CMM level 3/4/5 or ISO 9001
9	Part 2: General Instructions & Commercial Specifications Page No: 10 (2) Copies of Purchase Order and Completion Certificate for having implemented vehicle tracking and monitoring solution and passenger information system in one transport organizations with at least 100 Buses within the last three years	Part 2: General Instructions & Commercial Specifications Page No: 10 (2) Copies of Purchase Order and Completion Certificate for having implemented vehicle tracking and monitoring solution and passenger information system in minimum of two Transport organizations with at least 100 buses in public or private sector environment in India or outside the country.
10	Part 2: General Instructions & Commercial Specifications Page No: 10 (3)Certifications in CMM level 3 or equivalent	Part 2: General Instructions & Commercial Specifications Page No: 10 (3)Certifications in CMM level 3/4/5 or ISO 9001
11	Annexure A: 3. Pre Qualification Information: c. The prime bidder must hold certifications in CMM level 3 or equivalent	Annexure A: 3. Pre Qualification Information: c. The prime bidder must hold certifications in CMM level 3/4/5 or ISO 9001
12	Annexure A: 5. DOCUMENTS ATTACHED ELECTRONIC MODE(SCANNED) FOR PRE-QUALIFICATION c. Certifications in CMM level 3 or equivalent	Annexure A: 5. DOCUMENTS ATTACHED ELECTRONIC MODE(SCANNED) FOR PRE-QUALIFICATION c. Certifications in CMM level 3/4/5 or ISO 9001
13	Part 1: Functional & Technical Specifications Page No: 16 T-Req 20. The accuracy of the prediction of vehicle location should not vary more than +/- 3 meters.	Part 1: Functional & Technical Specifications Page No: 16 T-Req 20. The accuracy of the prediction of vehicle location should not vary more than +/- 10 meters.
14	Part 3: Operational & Legal Requirements Page No. 7: 1.5.3: The Project Manager of SIPM will nominate a suitable neutral and technically competent agency or agencies for conducting acceptance testing and certification, simultaneous with the	Part 3: Operational & Legal Requirements Page No. 7: 1.5.3: KSRTC will nominate a suitable neutral and technically competent agency or agencies for conducting acceptance testing and certification, simultaneous with the award of the project to the SI.

	award of the project to the SI.	
15	Part 3: Operational & Legal Requirements Page No. 13: Service Level Metrics & Penalties in non-compliance for the VTMS & PIS: Client Access: Average time for completing any query regarding vehicle status < 45 seconds	Part 3: Operational & Legal Requirements Page No. 13: Service Level Metrics & Penalties in non-compliance for the VTMS & PIS: Client Access: Average time for completing any query regarding vehicle status < 30 seconds
16	Part 3: Operational & Legal Requirements Page No. 13: Service Level Metrics & Penalties in non-compliance for the VTMS & PIS: Client Access: Average time for service at the customer premises (VMU or Display units): < 12 hrs	Part 3: Operational & Legal Requirements Page No. 13: Service Level Metrics & Penalties in non-compliance for the VTMS & PIS: Client Access: Average time for service (VMU or Display units): < 24 hrs
17	Part 3: Operational & Legal Requirements Page No. 14: Penalties for non-compliance: Rate of Vehicle Mountable Units failure/non-operation The VMU is non-operational when the unit is not able to provide necessary data at predefined intervals : Penalty to be deducted from quarterly payments (in Rs): 100	Part 3: Operational & Legal Requirements Page No. 14: Penalties for non-compliance: Rate of Vehicle Mountable Units failure/non-operation The VMU is non-operational when the unit is not able to provide necessary data at predefined intervals due to technical problem : Penalty to be deducted from quarterly payments (in Rs): 50
18	--	SLAs will be enforced after the system stabilizes or 60 days whichever is earlier. Any changes to SLA will be discussed mutually between KSRTC and Vendor based on practical experience of 2 months.
19	Part 1: Page 7: T-Req 30: Table 7 Environmental Specifications: 1 : Temperature: Operating -20°C to +70°C"	Part 1: Page 7: T-Req 30: Table 7 Environmental Specifications: 1 : Temperature: Operating -5°C to +55°C"
20	Part 3: pg no 33: DISPUTE RESOLUTION: Any dispute or difference whatsoever arising between the parties to this Contract out of or relating to the construction, meaning, scope, operation or effect of this Contract or the validity of the breach thereof, which cannot be resolved through the application of the provisions of the Governance Schedule, shall be referred to a sole Arbitrator to be appointed by mutual consent of both the parties herein. If the parties cannot agree	Part 3: pg no 33: DISPUTE RESOLUTION: Any dispute or difference whatsoever arising between the parties to this Contract out of or relating to the construction, meaning, scope, operation or effect of this Contract or the validity of the breach thereof, which cannot be resolved through the application of the provisions of the Governance Schedule, shall be referred to a sole Arbitrator to be appointed by mutual consent of both the parties herein. If the parties cannot agree on the appointment of the Arbitrator within a

	<p>on the appointment of the Arbitrator within a period of one month from the notification by one party to the other of existence of such dispute, then the Arbitrator shall be nominated by KSRTC. The provisions of the Arbitration and Conciliation Act, 1996 will be applicable and the award made there under shall be final and binding upon the parties hereto, subject to legal remedies available under the law. Such differences shall be deemed to be a submission to arbitration under the Indian Arbitration and Conciliation Act, 1996, or of any modifications, Rules or re-enactments thereof. The Arbitration proceedings will be held at Delhi</p>	<p>period of one month from the notification by one party to the other of existence of such dispute, then the Arbitrator shall be nominated by KSRTC. The provisions of the Arbitration and Conciliation Act, 1996 will be applicable and the award made there under shall be final and binding upon the parties hereto, subject to legal remedies available under the law. Such differences shall be deemed to be a submission to arbitration under the Indian Arbitration and Conciliation Act, 1996, or of any modifications, Rules or re-enactments thereof. The Arbitration proceedings will be held at Bangalore</p>
	<p>Part 2: General Instructions & Commercial Specifications Page No: 7 1.5.2 (4)The technical and experience qualifications of Subcontractors can count for the provision of the following key components:</p> <ul style="list-style-type: none"> • Vehicle Tracking and Monitoring System • Passenger Information system • Data center including the network systems • GSM/GPRS connectivity 	<p>Part 2: General Instructions & Commercial Specifications Page No: 7 1.5.2 (4)The technical and experience qualifications of Subcontractors or Consortium/ JV partner can count for the provision of the following key components:</p> <ul style="list-style-type: none"> • Vehicle Tracking and Monitoring System • Passenger Information system • Data center including the network systems • GSM/GPRS connectivity

All The Prospective bidders are requested to offer their competitive bids and no more questions/clarifications are entertained since the available time for preparing and submitting of bids is only two weeks i.e., due on 5th August 2011.

Note: As the annexure C1 is very comprehensive and numbers of entries are to be made it is suggested to upload the bid at the earliest without waiting till the last hour.

2. Bid Submission Details

Q-1. I would like to request you for an extension of two weeks for the final date of submission of tender no. G-29-11, "Vehicle Tracking and Maintenance and Passenger Information System (VTMS & PIS) at KSRTC 2000 buses". Considering the size and scope of the project, an extension of two weeks would help us to gain a greater understanding of KSRTC's requirements and prepare our response accordingly Therefore, I request you to kindly extend the final date of submission of tender no. G-29-11 by (i) 2 weeks to 2nd August 2011. General This RFP is a big RFP and we request for an extension of 2-3 weeks. (ii) Tender

Notice Last date for Submission of the bid – 19th July 2011. The Pre bid meeting is scheduled on 5th July 2011. As per the norms, bid submission is usually after 3-4 weeks of receiving replies to the queries. The bidder can prepare for the bid only after receiving the response to their queries. We therefore, request you to extend the bid submission due date by at least a month so that enough time is given to address the bid completely and comprehensively.

Ans: The revised last date for Tender submission date will be 05 August 2011 upto 17:00 hrs

Q-2. In the Commercial requirement (Annexure C), schedule for AMC cost is not mentioned. Please confirm where to include this AMC cost.

Ans: This is covered under the “Annexure C OPEX”. All items are under Warranty in Year 1 and the rest are to be indicated under column Year 2 and Year 3

Q-3. As per clause 1.2 in commercial requirement, is it mentioned that financial bid will be evaluated based on only schedule A and Schedule B of annexure C. What about the other schedules Schedule C to Schedule G. Schedule C-G will also have significant cost implication. Moreover, as mentioned above AMC schedule also needs to be added in annexure

Ans: In the RFP there are only three Annexure viz A B and C. Annexure C has schedule A and B.

Q-4. Ref : commercial offer opex (annexure c2): Is the Ops & Monitoring at various places (Control Room, Depot & Div office , Bus Stand) will be taken care by KSRTC officials ...or this will be required to be done by Bidder...?? IF this is to be done by Bidder. Then how many persons required at what locations ...and what will be Duty Hrs (for how many shifts) for the same.

Ans: Monitoring of all Infrastructure components are to be taken up with the NMS centrally and is to be proposed by the bidder as a part of the solution. No physical presence of the vendors personnel is required as a matter of routine at the bus stands

Q-5. In the format provided > There is no provision of mentioning the 'Tax' components for Schedule-B. Do you expect the bidder to quote including the same?

Ans: Taxes when applicable are to be provided separately in the revised annexure C2 provided for Opex attached to the addendum. Those bidders who have already uploaded there commercial offer are requested to delete the same and resubmit in the revised annexure C2.

Q-6. Evaluation Procedure and Criteria Under "A. Bid Meets all Project Management Criteria" > Business Processes For Using and Managing the System. What do you mean by 'Business Processes For Using and Managing the System'

Ans: This aspect of evaluation deals with the Business Processes suggested as part of the solution in using and managing the VTMS system. While it is generally relevant, it is all the more necessary in the case of Bus and Crew allocation part of the application. The bidder will need to provide a write up of the software application in relation to application management and its use by the end user.

Q-7. Part 3: Pg no. 5 & 6 - As part of the VTMS & PIS implementation, it is proposed that the System Integrator (SI) undertakes a study of the existing operations before implementation of VTMS & PIS project clearly the objectives and goals to be achieved through VTMS & PIS,

and follow through with an evaluation on VTMS & PIS post-implementation. This study will focus on key measurable and achievable parameters. Our understanding is that the SI needs to meet the Functional and Technical Requirements, and operate the system meeting the various SLA's as mentioned in the RFP. There will be no new objectives/ parameters that will be defined, post-award of contract. Kindly confirm.

Ans: There will be no new objectives post-award of the contract. All for changes in the requirements as a standard project management process, change requests need to be submitted by the vendor for approval to the PIC for consideration.

Q-8. It is not exactly mentioned how will be in charge of collecting all pertinent data to run the solution (GPS survey and digitalization of the network, resources, schedules and timetables integration, points of interest...). It should be mentioned that is the responsibility of the vendor.

Ans: The requirement outlined in the RFP includes not only supply and installation of the equipment, but also includes configuration of the GPS system, providing the necessary data elements to make this functional. Hence collecting data related to GPS survey and digitalization of the network, resources, points of interest, is the responsibility of the vendor. However, vendor build the VTMS application with provision to create schedules by KSRTC and the timetables will be derived from these schedule information. The system is to be maintained by the vendor for three years (24x7x365) as part of the offer.

Q-9. For the VTS unit, will KSRTC not pay any money in advance? It would be good if KSRTC can pay 50% of the amount in advance and remaining 50% over 3 years in each quarter.

Ans: The payments terms are outlined in the commercial part of the tender. No changes are possible in the payment terms.

Q-10. In the implementation schedule, the "Ongoing Operation & Support" phase during 3 years should be detailed (explicit supplier responsibilities like spare, reporting to management, staff...). As the Connectivity has to be provided by the vendors at KSRTC premises where the Solution will be used (such as main stations where PIS will be installed and other KSRTC premises) it should be mentioned the number of offices to be equipped? As per our understanding the additional material (such as desktops, routers, UPS...) will not be provided by the vendor (except for the central control room and data center).

Ans: The place where connectivity is required is mentioned in Annexure 1 of the Functional and Technical specifications. These are 35 bus stands. As regards the additional material required at the bus stands (for PIS), the vendor will need to provide the same at each Bus Stand in annexure 1 to the Functional & Technical Specifications.

Q-11. Commercial offer Capex (annexure-c1)(1): Schedule A: Capital Expenditure > Section E : (GIS Software and Components) Integration of application software with GIS road network dataset > Built into GPS System. We understand that GIS data set of road network, is a part of backend system. Not to be built into VMU GPS system...Please confirm

Ans: KSRTC does not possess the GIS road network datasets. These will be put together by the vendor.

Pre Qualification Criteria

Q-12. I request you to kindly abolish the following condition from list of Pre-Qualification Criteria for bidders [Section 1.5.2 (1)] of General Instructions and Commercial Specifications section of tender. "The prime bidder or the sub-contractor should have satisfactorily implemented vehicle tracking and monitoring solution and passenger information system in one transport organizations with at least 100 buses within the last three years." This condition will disqualify companies experienced in VTMS & PIS but without any transport organization as customers. By abolishing it, KSRTC can choose the final bidder from a wider pool of qualified applicants. So we request this clause to be removed.

Q-13. In annexure a(1)> Pre-Qualification Information: 3b The prime bidder or the sub-contractor should have satisfactorily implemented vehicle tracking and monitoring solution and passenger information system in one transport organizations with at least 100 Buses within the last three years. Can 2 projects with total 100 buses implementation be considered?

M-Ans| Ans Q-12 & Q-13: The section 1.5.2 (1) of General Instructions and Commercial Specifications section is amended to "The prime bidder or the sub-contractor or Consortium/ JV partner should have satisfactorily implemented vehicle tracking and monitoring solution and passenger information system in minimum of two Transport organizations with at least 100 buses in public or private sector environment in India or outside the country. Letters of completion of such projects from the customer is required to be submitted as evidence of satisfactorily completing the project".

Q-14. Clarify that the bidder should have had experience in providing tracking and monitoring solution to 100 buses of a transport organization of Government or Private sector?

Ans: The VTMS solution of 100 buses can either be for the government or private sector.

Q-15. In Pre-qualification criteria for Bidders Clarification Request: We feel that this project is a Systems Integration project involving knowledge of electronics, GIS, software and telecommunication, and therefore not an IT solution. We request you to modify the requirement IT Solution provider to System Integrator. We would also request you to modify the condition of 100 buses to 20 buses or above, as in any case even 100 buses is a very small figure in comparison to your requirement of 2000 buses. We feel it is the capability that is more essential and not the quantity.

Q-16. We have not installed the tracking system in buses, but we have installed many system in trucks, schools, cars, tractors, waste collection van etc.. As we have not installed in buses, we have also not installed PIS at bus stops. But at the same time, we are confident that we can install PIS in bus stops without any problems. Can this credentials be considered as valid qualify criteria.

Q-17. Annexure a(1)> Prequalification Information: 3a: The Prime Bidder should have been an IT solution provider in commercial operation for a period of at least 5 years as of 31-3-2011 as evidenced by the Certificate of Commencement of Business issued by the Registrar of Companies. An Intelligent Transport Solution Provider having capability in IT solution as well as On Road Hardware deployment.....May be Considered?

M-Ans| Ans Q-15, Q-16 & Q-17: Intelligent Transport Solution provider will also be considered. Other requirements cannot be relaxed.

- Q-18.** What are the other certifications which will be considered equal to CMM level 3?
- Q-19.** The prime bidder must hold certifications in CMM level 3 or equivalent. We would like to inform that most of the Telematics Company will not comply to CMM level 3 as we are not a pure software manufacturer; we are more of a Telematics service provider. We request KSRTC to remove this point to enable more Telematics companies to participate in this tender.
- Q-20.** The prime bidder must hold certifications in CMM level 3 or equivalent. Clarification Request: We feel that this project is a Systems Integration project involving knowledge of electronics, GIS, software and telecommunication, and therefore not an IT solution. We request you to modify the clause of CMM level 3 to ISO 9001 or equivalent. In clause 2.2.6 it is mentioned about SSI and their certification, in this context we would like to point out that SSI do not have a CMM level certification either.
- Q-21.** In the Annexure-A, PREQUALIFICATION INFORMATION, Column C “The prime bidder must hold certifications in CMM level 3 or equivalent “, the CMM applies to software companies. Will “ISO certification “would be considered as “EQUIVALENT”, if not then we will Would request you to include “ISO certification “ as a part of Prequalification Information.

M-Ans| Ans Q-18, Q-19, Q-20 & Q-21: The section 1.5.2 (3) is amended as “The prime bidder must hold certifications in CMM level 3 /4/5 or ISO 9001”.

- Q-22.** Should the Prime Bidder have been an IT solution provider or can it be a service operator as well?

Ans: The Prime Bidder should have been an IT solution provider.

- Q-23.** In Pre-Qualification Criteria is it 25 crores for last 3 financial years or individual year.

Ans: The minimum average turnover for the last 3 years is to be 25 Crores

3. Technical and Functional Solutions

- Q-24.** Req 5: support multiple names (alias max of 3) for single place. Kindly elaborate

- Q-25.** F-Req 5: Configuration module shall support multiple names (alias max of 3) for single place and shall have an intuitive user interface to enable operational managers easily create locations, pickup points, roads, routes, schedules Kindly elaborate the requirement along with purpose of usage.

M-Ans| Ans Q-24 & Q-25: The names of places can have aliases. There are of two types of aliases that are required. For Example – Bengalooru, Bangalore, or Hubli, Hubballi. These are aliases in English. In addition, there is a need to provide aliases in Kannada. Provision in the software should exist to maintain these details. Functionally, the user can query with either Bangalore or Bengalooru or Bengaluru to get the details. Similarly, one primary name would be used for providing responses to queries

- Q-26.** T Req 2: Although T Req 9 provides no. of concurrent users' queries transactions, how many Concurrent Users (including both KSRTC and Commuters) required for web access?

Ans: The entire solution is expected to be web-based and the requirements for concurrent connections are indicated in the RFP.

Q-27. General: What is the expected transmission frequency of GPS data to the Central system?

Ans: The data at the Central System is to be updated as per RFP requirements. It is expected that the GPS data is transmitted in the normal course in a time window of 3 to 5 minutes

Q-28. T-Req 12Pg 9: Application Access for certain features shall be provided to general public with no login feature and other advanced features would be provided only on login.- Our understanding is that there will be no login provision for end commuters. Login will only be for KSRTC officials /staff. Please confirm our understanding.

Ans: Your understanding is correct.

Q-29. T-Req 82 / Pg 29: Fire extinguisher system: The vendor shall provide industry standard fire extinguishing system for the Data Center. Please specify the "industry standard" that is to be followed while implementing fire extinguishing system.

Ans: Fire detection and suppression system specification: The FS 125 GAS UL approved pressure 42 bar.

Q-30. SMS Gateway and E Mail gateway available? If so, kindly provide detail.

Ans: KSRTC is not having any gateway. Vendor has to establish the required gateways.

Q-31. Overall Scope of Service: Pg 8: Implementation of Monitoring system for ascertaining the health of the VTMS IT infrastructure. We understand that in ascertaining ITMS health, Tempering & Battery alerts are required. Is our understanding correct?

Ans: There are two types of Monitoring that is required. VMU related monitoring – this is as you have mentioned. Any tampering with the VMU is to be detected. Monitoring at Data Center – This is to ascertain that all links, Servers, Bus Stand servers hosted Applications, and their consequent services are functional. Any disruption in these is to be highlighted by the Monitoring system. A typical NMS tool (Commercial / Open Source/ Customized) is required for this purpose

Q-32. General Technical Requirements, T- Req 8: Pg 9: Digital Signatures on XML Documents: All digital signatures implemented on XML documents MUST conform to standards such as W3C XML Signature Specifications (<http://www.w3.org/Signature/> <http://www.w3.org/Signature/>). Are the reports required to be signed with digital signatures? Please elaborate the requirement of digital signatures.

Q-33. T-Req 8: Digital Signatures on XML Documents. This has got commercial impact. So, please define number & types of different XML documents to be used with Digital signature

M-Ans| Ans Q-32 & Q-33: This is a guideline for all solutions when configured with Digital Signature. Perhaps the bidders may choose not to use Digital Signature based systems

Q-34. What is the meaning of IT Infra Monitoring Systems > Do you mean a full fledged licensed product like NMS Tool (Network Management System) Or, Bidder Can provide Own customized solution for this ? KINDLY PROVIDE FEEDBACK

Ans: The bidder is free to provide a customized solution

Q-35. Please provide the languages to be used for Portal (Bi-Lingual - English + Kannada)?

Ans: The general portal will be Bi-lingual (English and Kannada). The details of maps will be in English and Kannada

Q-36. Web Services: Wherever web services are used in VTMS, the interchange must conform to industry standards such as W3C SOAP 1.2 standard (<http://www.w3.org/2000/xml/Group/>). We think SOAP based VTMS application is not required, as VTMS app can be without Web Services also....It totally depends on the architecture of the solution, as envisaged by individual Bidder...(Reqd things may be achieved w/o including web services)..Please reply if this is a MANDATORY requirement??

Ans: The bidder is free to choose the architecture and solution. Web Services is not mandatory. However, direct interface to AWATAR will not be provided. This needs to be through Web Services.

Q-37. F-Req 24: VTMS application software shall support for playing back the recorded details of the bus movement along the authorized route for a period of 3 months online and 3 years archive data Play Back' option is a tool for online data (upto 3 months).... Online Play back on Archived data is not possibleKINDLY CONFIRM

Ans: This requirement is to be understood from the need for playing back the recorded data for the immediate past three months and archive such data for a period of one year for retrieving and playing back for any period as required. This may be used for planning storage requirements.

Q-38. T-Req 29: GPS specifications - Channel > Minimum 16-Channels, We think Minimum 20-channel receiver is required for accuracy as definedPLEASE PROVIDE FEEDBACK ON THE SAME

Ans: RFP defines the minimum requirements. Bidders are free to choose features that are over and above the minimum requirements.

Q-39. T-Req 30: Environmental specifications -Do we require certificate from External Govt Agency.

Ans: No. Bidder is to provide an undertaking that the RFP specifications are met

Q-40. T-Req 45: Features of Proposed Solution – the solution must be standards-based that can be installed on standard operating systems, databases, communication technologies, based on accepted industry standards, on a unified portal framework and built on an architecture that will provide secure access to applications. Can 'Freeware' be used for creating the framework as well as Software required for building the application (e.g. : Tomcat, Java along with Java based available framework, MySQL, Geoserver etc.) ?? YOUR FEEDBACK PLEASE.

Ans: Yes. Robust Open Source Applications and tools can be used for configuring the solution. However, all software tools (DB, OS, comm. Server, Portal Framework etc) need to be "patched" regularly as a matter of routine with adequate testing and proofing the patch.

Q-41. T-Req 53: GIS services Can a Third Party hosted & licensed Map API (like Google) be used, instead of own hosted MAP application?

Ans: Yes.

Q-42. General Do vendors suppose to create helpdesk for the end user support or the support is Restricted to only technical infra support?

Q-43. T-Req 87 / Pg 29: Monitoring the IT infrastructure kindly elaborate on the type of service required. Does this mean setting up a help desk for support to users? Are the advertisement

servers included in this support? It would be helpful in case the manpower requirement for this purpose be clearly listed.

M-Ans| Ans Q-42 & Q-43: The Help Desk is centralized and required for only Technical Support on VTMS system provided by the vendor for the KSRTC end users and not Commuters who access the system on the Internet/ SMS. Advertisement servers are also included in the support. Manpower requirement may be estimated by the bidder in accordance to the requirement.

Q-44. Do you require and helpdesk management solution? If yes

- a. Identify Maximum number of analyst (helpdesk technicians) for Helpdesk.
- b. Identify the maximum number of end User for Helpdesk.
- c. Do you require High Availability for Helpdesk Management software?
- d. Do you require DR setup for Helpdesk Management software?
- e. Do you need the Asset Management solution for managing the lifecycle of asset including financial data?
- f. Do you need an asset management solution to integrate with helpdesk and automatically raise tickets when a desktop or server violates the policy?
- g. Do you need an asset management solution that has the capability to take remote control of desktop & server to troubleshoot issues?
- h. Do you require the asset management solution to track the vendor's details?
- i. Identify Number of Desktops and Servers (OS wise break up is desirable) to be managed by IT Asset Management solution?
- j. Do you require High Availability for Asset Management software?
- k. Do you require DR setup for Asset Management software?

M-Ans| We do not foresee a help desk management solution. Question a to f and h to k. Not required. Question g above – Server Management and Monitoring of the Bus Stand Servers is required.

Q-45. Time schedule Can vendor propose the revised time schedule? This time schedule looks very challenging.

Ans: The required time schedule is mentioned in the RFP. KSRTC can accommodate appropriate changes that are conformance with the spirit of the indicated time lines.

Q-46. General what is the budget?

Ans: As indicated in the tender documents, the budget is Rs.10 Crores. However the bidders are requested to quote their offer duly complain to the technical and functional requirements so as to achieve the best results.

Q-47. Technology - Is there any preference of technology in which the functionalities to be developed or KSRTC is ok with the vendors to propose the technology stack.

Q-48. The Operating system of the server is not mentioned. Will it be Linux based or window based? In case of Linux, it is less prone to viruses, and has less recurring licensing cost. Does

application need to be platform independent, so that it is compatible with both Linux and windows?

Q-49. What is the database being used here .Is this being limited to ingres / postgres or can SQL or oracle will be used and in which platform?

M-Ans| [Ans Q-47 , Q-48 & Q-49: Technology stack can be proposed by the bidder](#)

Q-50. Hardware - Is the vendor expected to provide both Hardware and software together or KSRTC will procure the hardware directly from OEM based on the hardware sizing given by the vendor.

Ans: [Yes. Hardware will be procured by the vendor](#)

Q-51. General - Is there any current backup software is used? Or Bidder is supposed to propose the same? Who will bear the cost of consumables like tape drives etc Additionally,

Q-52. Annexure C-2: Opex Pricing Consumables: As the volume of consumables are not known, so request you to make this as a scope of KSRTC.

M-Ans| [Ans Q-51 & Q-52: Backup software is to be proposed by the vendor. Consumables such as Printer Cartridges will be provided by KSRTC. Other consumables related to datacenter like backup tapes \(if required by the solution\) are to be borne by the vendor.](#)

Q-53. For the pilot implementation, can vendor use their existing infrastructure for servers?

Ans: [No. Vendor will have to implement the pilot as per specifications in the data center proposed for the project.](#)

Q-54. Who will bear the electricity consumption so cost under the purview of the entire project for entire duration?

Ans: [KSRTC will bear the cost of electricity](#)

Q-55. F Req 15: Dash board to be displayed on computer screen or there should be a separate and exclusive display unit

Ans: [The computer display is to be hooked up to a display panel. No separate display systems are envisaged.](#)

Q-56. Implementation Schedule (Entire System), F-Req 123 / Pg 35: Implementation Schedule: Deploying application subsystems- VTMS, PIS, configuration & Customization. We request that the customization be not part of this step as it's an evolutionary step and not possible to complete it within the 10 day period given for implementation

Ans: [While we agree that fine tuning the implementation through specific customization is evolutionary, the requirements as mentioned in the RFP need to be completed before pilot implementation as per schedule.](#)

Q-57. Annexure C-2: Opex Pricing Two way voice communications between buses and Control room. As we are not aware of the number of calls which will be made to the control room, it will be difficult to judge the tariff of these calls. Also it will be easy for KSRTC to procure & manage these SIM Cards. So request you to make this as a scope of KSRTC.

Ans: [This requirement cannot be relaxed – All communications costs as mentioned in TReq 64 will have to be borne by the vendor based on the competitive plans offered by the service provider.](#)

Q-58. With reference to your tender dated 09-06-2011 we would like to know the status of manpower (kindly help us in providing a clarification whether as an bidder we need to provide the manpower) on the “KSRTC VTMS and PIS for 2000 buses”.

Ans: Manpower is required from the bidder for implementation period (installation, training, etc), and at the Data Center for Monitoring the implemented VTMS on a continuous basis.

Q-59. F-Req 4. The Services for configuration of all GIS parameters as per KSRTC requirements be provided for a period of three years by the bidder i.e., vendor has to survey and configure. These include items such as defining Geo Coding (Address Geo Coding, Reverse Geo Coding), Geo-fencing required point etc. How many approximate Point of Interest (or Landmarks) are to be Geofenced and over How Many Road kilometers Length & How much Square kilometer Area?

Q-60. General: Kindly provide total number of routes and average number of stops per route, on which the 2000 VMU-fitted vehicles will be plying.

M-Ans| Ans Q-59 & Q-60: The precise data will be provided to the selected vendor. For the purpose of estimation, for routes used by the 2000 buses the bidder may take approximately 5000 (+/-15%) locations that need geo fencing. These include points such as, pick up points, Bus Stands, and Bus Platforms (polygon fencing for platforms). In addition, the bidders may note that the geo coding and fencing is to be provided as a service during the contract period for all additions and deletions as required.

Q-61. Part 3: pg no. 6: Acceptance Testing & certification we suggest that there should be timeline for KSRTC to arrive at acceptance decision. In case of deviations to acceptance, SI should be given a chance to correct and present himself once more.

Ans: Acceptance criteria for the Pilot are mentioned in the RFP. These need to be adhered. For the larger implementation, KSRTC will ensure that acceptance testing and certification is not delayed. The project is monitored at the highest level by PIC with regular review meetings where such matter can be taken up from time to time.

Q-62. Part 3: Pg no. 7: The Project Manager of SIPM will nominate a suitable neutral and technically competent agency or agencies for conducting acceptance testing and certification, simultaneous with the award of the project to the SI. Who would pay for the services of the neutral agency nominated?

Ans: KSRTC will appoint a separate Monitoring and Evaluation Agency for the purpose. KSRTC will bear the cost of Acceptance Testing and Certification.

Q-63. Part 3: Pg no. 8: c. Assessment of transaction/data losses in relation to Disaster Recovery system. Since no DR site is envisaged as a part of this VTMS project scope, does KSRTC already have a DR site?

Q-64. In the server hardware, it is not mentioned anything regarding disaster management server. It need to be included to run the system smoothly in case of any major breakdown in main server for unforeseen reasons (like fire etc..).

Q-65. Backup Management: Do we require the backup management for the DR site?

Q-66. In the RFP its included for replication for DC site to DR site .Do we require SAN based or Host based. Do we require replication of all the servers or just the database General we assume that the application will be hosted in KSRTC DC, in such case who will provide

bandwidth? Is there any plan for DR? Is DR is in scope? If yes then what is the RTO and RPO. ? Where would the DR centre be hosted?

M-Ans| Ans Q-63, Q-64, Q-65 & Q-66: As of now, KSRTC does not have a DR site. This will be finalized separately in due course and is out scope for the present RFP response.

Q-67. Please define 'No of Seats' , Languages, Working hrs & shifts for Call Center

Ans: Call center is out of scope for the present RFP.

Enquiry

Q-68. Freq 35 VTMS Support real time enquiry from KSRTC Staff (or Commuter) between two points and for all the trips that are scheduled with pickup point/stop/bus stand/place/sector and ETA of destinations as well as the present position of the bus. How the enquiry is made?

Ans: The enquiry is typically for time table between two places based on the parameter/s like trips having stops/pickup point at the given places, trips touching given bus stand, trips via given places, trips belonging to given sector. Expected Time of Arrival of a trip vehicle at given destination, Present location of the bus etc.

Q-69. Information availability on Bus routes such as Bus Numbers, Starting – Destination Point – enroute stops, hotels, Schedule nos, trip-codes, ETA / ETD, approximate travel time in at least two languages – English and Kannada, types of buses – AC / Non-AC / Non-stop routes, class, platform, etc. This information is to be provided on SMS and Internet. What is the detail work flow for info to be provided via SMS - will That be based on query by the Traveler to a specific No in a specific format?? KINDLY DETAIL

Ans: The enquiry is made through the KSRTC portal or through SMS. We do understand that some of the queries needing detailed response will not be supported through SMS. The SMS needs to be sent to a pre-designated number in a prescribed format.

Q-70. Stakeholders and Broad Overview of Requirements: Pg 5 & T-Req 64: Pg 27: Facilitate timely management of Incidents / Accidents, effectively monitoring break downs and the related information, route diversion in the event of any incidents on the highways – State and National & Two way voice communication between Bus and Control room /specified numbers. Please clarify whether a call centre is required by KSRTC in the control room. If yes, then pls clarify who will provide the manpower to run this call centre & how many persons are required in the control room to take the calls from crew.

Ans: The Call center will be the responsibility of KSRTC. VTMS & PIS applications will pass on alerts /SMS messages in real time to the KSRTC users/staff posted for the purpose who will manage the incident/accidents.

Schedule and Roster Management

Q-71. Req 1: Kindly elaborate on how "Map based creation of road" is envisaged. Should it be "Map based creation of rout" instead of "Map based creation of road"?

Q-72. F-Req 1: Configuration module shall have Facility to create / Modify Road, Routes, Schedules and other standard GIS parameters. Road master/detail will have different roads with unique road ID containing all the places along the path used by KSRTC with other relevant information about road. Map based creation of road is preferred Please detail on

...what do u mean by Map based creation/modification' of road. Kindly elaborate the envisaged requirement on this

M-Ans| Ans Q-71 & Q-72: KSRTC manages its operations based on Schedule numbers which are unique to a depot. A schedule will contain all the operational details like trips, route, duty to be performed by crew, number of crew & vehicles required, etc. The route will contain details of locations (busstops, pickup points, etc) on which the schedules are operated. The route will be derived from 'Road' (text information). The 'Road' is a concept used for defining different paths along which KSRTC operates its schedules. The 'Road' contains all the information about the path like places along the path, distance between them, type of path like (asphalt road/mud road etc), running time required for different class of buses etc.

- a. The broad process involves the following
- b. Creation of 'Roads' – E.g. Bangalore to Mumbai.\ has asphalted road with Tumkur, Sira, Davanagere, Hubli....Pune etc as cities. Distances between these places are recorded, Running Time for Volvo – 18 hours, Express 22 hours.
- c. Creation of Routes – This uniquely defines a segment of the Road definition above. For ex. Creation of Bangalore to Hubli route is a sub-segment of the Bangalore Mumbai Road (with all the details between Bangalore to Hubli in the Road Definition above).
- d. Creation of Schedules - This defines the number of trips to be performed by bus in a specified route along with relevant details. For ex. Schedules of KSRTC that operates between Bangalore and Hubli are given schedule no and Trip code. For ex. Bangalore to Hubli Trip code. 2000BNGHBL. Hubli to Bangalore Trip code 2100HBLBNG. Schedule 172/173 could be a Volvo service while 380/381 could be an express service. A trip may consist of a mix of different class of services. For e.g. a trip under a schedule may operate as Express service for a part of the route and as ordinary for another non overlapping part of the route.
- e. The map based creation of road here refers to creation of 'Road', necessary for creating KSRTC route & schedule, by just clicking on the required places in the map without entering place names in the application. This feature is envisaged to enable easy creation of 'Roads' by any user with the help of map, without knowing about the enroute places of the physical road.

Q-73. Operational Features, Configuration of Roads, Routes, Schedules, F-Req 8, Pg 11: Facility to allocate a bus on unscheduled route on real time basis kindly elaborate. Does it mean over the air assignment of a bus on a new route? The new route should already be existing?

Ans: Refer answer to question 72 above for information on Configuration of Roads, Routes and Schedules. This implies a bus allocated to one schedule can be re-allocated to other Schedule on real time at the Central Control room on an existing route.

Q-74. F-Req 2: There shall be provision to export/import the Road, Route and Schedule data to/from MS Excel file in a format required by KSRTC. What do you mean by "Road Data' to be exported from / Imported to VTMS app DB?

Q-75. In Vehicle Crew: There shall be provision to export/import the Road, Route and Schedule data to/from MS Excel file in a format required by KSRTC. Clarification Request: Please

indicate whether AWATAR output data will be available in the MS Excel format or as CSV or any other delimiter.

M-Ans| Ans Q-74 & Q-75: Refer answer to question 72 above for information on Configuration of Roads, Routes and Schedules. KSRTC presently has some 'Road', Route and Schedule data in MS Excel. The application shall have provision to import this data. Similarly, there shall be provision to export/convert VTMS application 'Road', Route and Schedule data to MS Excel.

Q-76. F-Req 6: The module shall support for cancelling a service (full/partial) dynamically for present/future/previous date of journey, for a day or period and record any operational information, Re-introduce the cancelled service for a day or period. Kindly elaboratewhat are the services as defined here?

Ans: Refer answer to question 72 above for information on Configuration of Roads, Routes and Schedules. The scope of services is limited to Schedules/trips. The application need to show schedule status as 'cancelled' in case the schedule is cancelled for a day or for a period.

Q-77. Req 8: We need to know more about this feature. Kindly elaborate, as this has a direct impact on the cost

Q-78. Stakeholders and Broad Overview of Requirements: Pg 5: Implement a Crew Roster system for allocation of personnel to trips; Implement a Trip Schedule system for planning and dispatch of buses. Details are required to estimate effort involved

Q-79. Page-26 T-Req 55 (Part 1): Application layer components: Roster Application Services – These components provide a feature to create modify and allocate crew to a trip and is interfaced to the VTMS application. The details of the proposed software custom built/customized product is to be provided

Q-80. T-Req 56: Schedule Application Services – These components provide features to create modify and delete schedules and are interfaced to the VTMS application. The details of the proposed software custom built/customized product is to be provided Is Roster App Service and Crew Scheduling are part of VTMS application or Not? is it limited to Integration or do we have to develop this Application?

Q-81. T-Req 91 Pg 30-: KSRTC will facilitate the successful bidder is expected to interact and arrive at appropriate technical solutions through discussions with the existing solution providers. VTMS will integrate with the following systems....- Are the "Scheduling module for Vehicle Fleet Scheduling" and the "Crew Roster module for allocation of Crew" systems already existing ?

Q-82. Freq – 8 While the VTMS module is to be rolled out to all divisions, the Roster module needs to be rolled out at later in consultation with KSRTC. Whether rostering is happening in control room?

M-Ans| Ans Q-77 to Q-82: Roster Application Services & Schedule Application Services are part of VTMS & PIS application. This requirement needs to be developed by the vendor. The requirement is elaborated below.

- a. KSRTC uses Duty roster, Running chart, Control chart for enabling systematic operation of schedules: The Duty roster will contain crew allocation in advance for a week based on week days against schedules. The allocation will continue in

repetitive cycles and there will be provision for changing the allocation based on different parameters like week day/date/period.

- b. The running chart will contain schedule wise crew allocated. The Control chart will contain schedule wise vehicles allocated in advance for a week based on week days against schedules. The allocation will continue in repetitive cycles and there will be provision for changing the allocation based on different parameters like week day/date/period.
- c. The VTMS & PIS application shall have provision for creating duty roster containing allocation of bus and crew in advance for a week based on week days against schedules. The duty roster (allocation) shall automatically continue in repetitive cycles (weekly) and there will be provision for changing the allocation based on different parameters like week day/date/period. This helps to avoid daily allocation manually and the manual intervention is required only when there is change.
- d. The creation/modification of above duty roster (allocation of bus and crew) can occur at depot/division or control room as per KSRTC requirement. The application shall have role & privilege based access to users attached to these units. The vehicle and crew are selected from LOV.

Q-83. In F-Req 8 it is clearly mentioned that the driver and bus allocations can be changed on real-time basis in the Roster Configuration Module. This requirement should be highlighted in the VTMS System description (form F-Req 12) to ask for advanced regulation functions: - If a delay is seen for a bus in the VTMS real-time module (e.g. In the cartographic view), the operator should be able to change the schedule of the next buses (correspondences) at a regulation point (like a terminal) and send messages on the PIS displays. The ETA, ETD... should be recalculated on real time basis and showed to the passengers. For example if a bus coming from Bangalore is late at Hassan, the buses started just after to go to Mangalore can wait for the passengers who had to change bus in Hassan to do Bangalore – Mangalore, and all the passengers should be informed - To be able to perform advanced regulation tasks, the software should also show the routes affected to an operator in the form of a graph with current position of the buses (technical interfaces for real-time regulation tasks and take decisions).

Ans: We do appreciate the suggestion. However, this is out of scope for the present project.

Q-84. We recommend mentioning all specific documents to be automatically generated and published (printed, web, sms...) by the system: Form IV, link diagrams, timetables... The way the KSRTC staff (drivers, planners, supporting staff...) is working today should not be changed in a radical manner (smooth change management), as per KSRTC MD instructions during the pre-bid meeting.

Ans: We do appreciate the suggestion. Change management is the responsibility of the Project Management Team along with Project Implementation Committee as per the requirements put forth by the vendor.

Q-85. F Req 8: While the VTMS module is to be rolled out to all divisions, the Roster module needs to be rolled out at later in consultation with KSRTC. How much delay in rolling out is envisaged??...this will help in determining the timeline for project management (roll-out).

We presume that 'Roaster module' rollout does not connect to any payment milestone.
KINDLY CONFIRM

Ans: As the complete operation of KSRTC depends on Schedule and allocation of bus and crew to schedule form the basis of VTMS and PIS applications for monitoring and tracking. The software is one of critical component and needs to be available for implementation from the beginning.

Q-86. F-Req 12: The system will be web based and the bidder shall manage the VTMS portal on a day to day basis for a period of three years. The typical activities cover standard portal visitor analysis, popular pages, page loading times, other maintenance activities such as changing website content, modification, restructure, initiating customer opinion polls etc as required by KSRTC. VTMS is an application portal ..not a dynamic content portal , as per defined criteria ..If this is considered to be a full-fledged web cum information portal, PLEASE REPLY IF WEB CONTENT CREATION & MAINTENCE IS IN THE SCOPE OF BIDDER?

Ans: Yes. The bidder will need to create and maintain the content for the VTMS & PIS application portal.

Q-87. F-Req 14: Users will be classified based on roles with access levels across the application. For e.g. depot-wise access, with users of one depot will not have access to other depots. The control room staff has access to the data of all depots. The divisions Control room shall have access to all details pertaining to buses of their division and those that pass through the division. The important access levels required are Corporation/Division/Depot/Bus Stand. The bus stand staff can have edit access to limited data of all services passing through his bus stand. What do you mean by Bus-Stand Staff? Kindly elaborate their roles & access.

Ans: A schedule consists of information like trip wise departure time, arrival time, enroute stops with time, bus stands and platforms, etc. The complete data of the schedule can be modified (or created) by a user attached to depot of the schedule and the user can not modify data of a schedule belonging to other depots. An user attached to Division office can modify complete information of all the schedules attached to his division and the user can not modify data of a schedule belonging to other division. Whereas, user attached to Central office can modify data of any schedule. The user attached to a bus stand (Bus-Stand Staff) can modify schedule data related to his bus stand irrespective of schedule depot (like platform etc). This type of restriction is applicable to all the necessary data.

4. Implementation Schedule

Q-88. F-Req 123: Pg 35: Table:18: VTMS implementation Schedule Since the delivery of servers would generally take 6-8 weeks, therefore 30 days envisaged for the data centre and control centre setup is less. Request to make this 60 days instead.

Q-89. For Site preparation (Preparation for provisioning power, cabling, UPS at Data center in KSRTC HQs and Structured cabling connecting Data center facility with back end systems & testing connectivity) only 6 days are provided. Pls provide minimum 30 days for data centre preparation

Q-90. I would like to add a question on the implementation planning: If we have to install 2000 buses in 5 months, we have to install 20 buses every day, which is not realistic. We think that the planning is too short. 9 months seems to be a minimum

Q-91. Part1: Implementation Schedule (Entire System), F-Req 123/Pg 35: Implementation Schedule: B2: Setting up connectivity with ISP: Queries: Please note that certain areas may be unfeasible or only a single ISP may exist and may not be able to complete the process within the defined time. So request you to reconsider this time line.

M-Ans| [Ans Q-88 to Q-91: The project is of highest priority to KSRTC. However, certain specific implementation details and corresponding schedules will have to be discussed and finalized with the PIC to arrive at a realistic project plan. Small deviations if any will be accommodated by PIC based on the assessment of the situation.](#)

Q-92. The accuracy of the prediction of vehicle location should not vary more than +/- 3 meters. Clarification Request: This parameter of +/- 3 m depends on the Dept. of Defence policy of the USA and may vary based on their decisions. Currently the GPS receivers offer a 10m accuracy.

Q-93. T Req 20: Kindly review this specification as GPS accuracy level is around 10 Mtrs.

M-Ans| [Ans Q-92 & Q-93: While services with +/- 3 meter accuracy are available, the maximum of 10 meters is mandated.](#)

Data Center and Control Room

Q-94. Monitoring & Operational Station (Control room) and Data center- Requirements. Data center shall be housed in a premises identified by KSRTC. A room approximately 20x15 is will be provided for the purpose. All servers will be housed at this place in racks that are to be supplied by the Vendor. Clarification Request: Please specify the type and dimensions of racks.

Ans: [Rack sizes are dependent on the choice of servers. Therefore the bidder may choose the appropriate racks](#)

Q-95. DATA CENTER – Precision AC estimated to be approximately 3 x 4 tonnes, is to be supplied by the vendor along with minimum fire detection and fire suppression system. Clarification Request: Please specify the nature of fire detection and suppression system that is required. Data Centers are not provided with hydrants and other forms such as Potassium Ion based suppressors are often used.

Ans: [Fire detection and suppression system specification: The FS 125 GAS UL approved pressure 42 bar.](#)

Q-96. At least two alternate paths are to be provided with direct connectivity to the data center. The vendor shall provide all network related hardware and software required for central stations. Clarification Request: Please elaborate on the two alternate paths, whether all leased lines are also required to be redundant or this specification is restricted to Control Room only.

Q-97. F-Req 80. The operations and monitoring stations (control room) shall be housed in a premises identified by KSRTC. IS THE CONTROL ROOM close to DATA CENTER on the same premise ? Can these be connected viz, LAN? Approximate Distance?

M-Ans| Ans Q-96 & Q-97: T-Req70 Specifies leased line connectivity along with redundant communication link to Data Center. Control room and Data center are located in the same building and be connected viz, LAN.

Q-98. F-Req 80 Pg 21: The operations and monitoring stations (control room) shall be housed in a premises identified by KSRTC- Our understanding is that a) Control rooms would be in the KSRTC premises b) KSRTC would bear all the costs of electricity, furniture, generator, air conditioning, etc. at the Control rooms Kindly confirm if our understanding is correct. Is KSRTC going to provide the H/w (computers, UPS, etc.) at divisional and depot Monitoring and control centers (other than the central control room)?

Ans: Yes. Control rooms would be in the KSRTC premises. KSRTC would bear the costs of electricity, furniture, generator, air conditioning for the Control room. KSRTC is going to provide the H/w (computers, UPS, etc.) at divisional and depot Monitoring and control centers (Division and Depot control rooms) .Whereas, vendor has to supply items for control room (central control room) as specified in RFP.

Q-99. F-Req 91Pg 23: Campaign System Manager is the owner of the entire campaign system is responsible for its operations, addition of new locations, operations and interacting with the other stakeholders. He is the central one point contact for the system.- We presume that the Campaign System Manager is from KSRTC. Is our presumption correct?

Ans: Yes.

Q-100. F-Req 89: The Campaign System is conceptualized as a distributed system with a Central server in Bangalore and Local servers at locations where the campaigns are run. The central server hosts the Campaign Master System (CpMS) that controls all local servers that host the Campaign Slave System (CpSS) at various locations (Bus Stands). The CpMS and CpSS are interconnected through VPN as in the case of VTMS and use the same data channels, standby configurations etc. Alternately, this can be achieved over high speed broad band wireless connectivity between Central Server (loaded with Campaign Master System) and Different Displays...In that case CpSS local servers are not needed....This can be determined based on details of types of campaigns required ...

Ans: High speed wireless connectivity requirements are dropped.

Q-101. F Req 92: Campaign assets are received and uploaded to the system from central location. Who is responsible for creating & supplying Campaign Data/content??

Ans: KSRTC will be responsible for ensuring Campaign Data and required context.

Q-102. Query: The hardware sizing is dependent on the system integrator and performance guarantee is ensured by the SLA levels. Making all the servers scalable up to 4 processors would be unnecessary as all the servers need not be of this kind of configuration. We would request to leave this to the SI to decide on the sizing

Q-103. Can vendors change the server configuration and specification, if he/she feels that the required functionality as per the document can be achieved at lower configuration and thus lowering the over-all cost?

Q-104. The tender states "Processor expandability: Minimum acceptable number of processors is 2; and the servers must be expandable to support 4 processors".

Q-105. Section: part 1 functional and technical requirements –page 29: w.r.t Application performance:

- a. Do you want to monitor each web transaction 24x7 in Production environment to help you triage, diagnose and locate the root cause performance anomalies in an application
- b. Do you want to know how your end user experience is 3) How many application servers are we talking of here? How many CPU's and cores per cpu are there on each application server

M-Ans| Ans Q-102 to Q-105: As mentioned in T-Req 78, the hardware sizing is an indicative list. Bidder is free to arrive at suitable deployment architecture. As regards monitoring system, the requirement limits to system health check. Each web transaction need not be monitored.

Q-106. SAN Array: System is FC Storage, Array should support clustering , SAN switch and power supply, controllers in redundancy, with near online storage on SATA Query: Today SAS storage is a standard storage accepted in the industry. We request you to make the storage type as FC/SAS storage

Ans: FC/SAS storage can be deployed

Q-107. Ability to manage advertising campaigns through display of advertisements at Bus Stands. Kindly provide details of this plan as envisaged? Will this be though data being sent from back-end system, or offline periodic fixed Advt CAN WORK? What will be TIME DURATION OF A DAY (w.r.t VTMS info) for Advt display?

Ans: Refer to requirements under the section “Advertisement & Campaign Management Services – an overlay on VTMS” F-Req-87-94.

Q-108. Regarding info on 'Platform' > How to capture the Platform Info, in advance, in the backend systems?

Ans: Application should provide for entering the Schedule details like Platform etc in the Schedules master.. KSRTC will enter this data.

Q-109. F-Req 70: Display system in addition to the display of information from VTMS shall be capable of displaying advertisements and multimedia content at the bus stops and may need to alternate between Passenger information and Advertisements. What is the rule of timing/ duration of alternate display between PIS info & Advt content?

Ans: The duration of alternate display is to be parameterized. However as a general rule, PIS will be prioritized.

Q-110. Part1: T-Req 71/Pg 27: Advertisement server: Queries: Kindly provide the maximum duration and resolution of advertisement. How many advertisements will be stored in the advertisement server at any point of time? Who will manage the advertisement server and the periodic changes to the server?

Ans: Resolution of the advertisement shall meet the display specifications provided. At this time the number of advertisements cannot be estimated. Server hard disk should be able to meet the storage requirement. The advertisement/ bus stand server will be managed from a central control room.

SMS

Q-111. Will the SMS be on bi-lingual mode?

Ans: SMS will be in English only

Q-112. Evaluation Plan > Number of SMS/Internet access/ Call Center queries for Arrival and Departure information. Please define if the system needs to have - outgoing SMS, public Portal, Call Center.

Ans: Yes – Outgoing SMS is required. A public portal is also required. Call Center is the responsibility of KSRTC.

Q-113. Please give us estimated total SMS volumes/month enabling us to taking into consideration while bidding.

Q-114. General Technical Requirements, T- Req 9: Pg 9: The system shall support 3000 concurrent user queries/transactions with 2000 vehicles and 52 PIS display units. However, software system should be scalable to support 5000 concurrent user queries/transactions with 7000 buses and 500 PIS display units without affecting performance the system shall be scalable with additional hardware included as required at a later point. What is the scalability required for SMS based query? Initial how many SMS messages are expected and what is the service level norm for response?

M-Ans| Ans Q-113 & Q-114: While there are no specific estimates for the total number of SMS, provision for a peak load of 100-150 SMS per minute is to be supported. In the event the load increases during the later period of the project, Architecture should accommodate higher rates. The service norm is to respond to an SMS in <2 mins.

Training

Q-115. F-Req 121 Pg 34: Table 17: Strength of personnel required to be trained. Kindly provide details of number of personnel to be trained.

Q-116. F-Req 121 / Pg 34: The number of personnel trained is indicated in the table below Field persons to be trained are missing. Kindly provide the same. No. of people to be trained?

M-Ans| Ans Q-115 & Q-116: In depth Hand holding Training is to be conducted for the personnel at the Bangalore deputed to the Control room. This will involve an indepth hands on sessions for about 10 days. Training at 12 locations is envisaged for relevant KSRTC personnel who will be involved in Monitoring and tracking. Typical Training for these personnel is envisaged to be of duration 1 day, Classroom training of about 2 hours and hands-on training on VTMS of 4 hours. KSRTC will arrange for the training infrastructure such as Computer/Projection system, class room etc. The vendor's responsibility is to conduct this training for 3 batches at each location. Each batch is expected to be of 20 KSRTC personnel. Training for Drivers and Conductors will be at 50 Depots. The training will be limited to 2 hours per batch and a maximum of 8 batches over two day duration.

Q-117. F-Req 122 Pg 34: The supplier shall provide world class printed documented training manual on all areas of training Kindly provide the list of training areas.

Ans: An outline for the Training areas is indicated in Table 17.

Q-118. F-Req 120 Pg 34: The supplier shall be responsible forShall also train KSRTC identify IT systems staff in the maintenance of the Vehicle Tracking and Monitoring System including the data center and control room equipment and services. We understand from this document and from the Part 3 document that KSRTC staff would manage the control room and call centre operations, whereas the IT infrastructure management and operations will be the responsibility of the SI (successful bidder). Kindly confirm whether our understanding is correct.

Ans: Your understanding is correct. KSRTC Staff and IT systems staff need to be trained to use the System, specifically monitoring and Tracking, System Health Check, MIS Reports generation, Maintenance of Master Data, etc.

MIS Reports

Q-119. Eco-system partners: Pg 7: Access to history data and information on various incidents and accidents to process insurance claims on buses / passengers; encouragement of two wheelers and car users to start using the public transport system to bring down traffic congestion and to keep the environment green and healthy. Please specify which types of reports are required for Insurance Claims. Also provide a sample report to be generated for insurance claim.

Ans: The clause may be read as 'providing reports of incident and accident data entered in the application.

Q-120. F-Req 103 Pg 30/F-Req 109 Pg 31: Facility for generating a report of the recorded details of the bus movement along the authorized route for a period of 6 months online with 3 years near online archives of data. Operational performance information shall be available online / near online for a period of at least two financial years for comparison purpose archiving old data up to three years.- How long is raw data (GPS data) to be retained online in the system ? What does "near online" mean?

Ans: Near Online storage systems are in-between Online (Immediate access such as FC based storage) and Offline (Tape drives). Near online typically would be SATA drives that store the data and may take a few seconds more for data fetching.

Q-121. F-Req 110 Pg-31: Sample reports - 13: Vehicle Trip revenue details- Revenue details are not being maintained by VTMS and PIS system. How would revenue information come to the VTMS system?

Ans: This should read as Vehicle TRIP details. And not Vehicle Revenue Details.

Q-122. KSRTC Management / Pg 6: Cater to requirements of dynamic and context based specific reports graphs and charts and other standard Management Information System reports to give a snapshot view to the KSRTC management on daily, monthly, quarterly, half-yearly and yearly performance. Kindly elaborate the scope of "dynamic and context based" reports & graphs. What is the periodicity of updating of dynamic information in tables/graphs?

Ans: "Dynamic" (vs. Static) refer to the Real-Time reports (vs. static reports at 9AM everyday). "Context" would mean the a host of things such as user roles, summary details, drill down features of the dash board function for the KSRTC management

Q-123. F-Req 102: Facility shall be provided for reports to be generated on demand / scheduled as nightly runs and emailed to a set of ids maintained. Can we define which reports (from the list) can be on Demand basis,, and which will be on scheduled basis ?

Ans: These will be provided at the time of Implementation to the successful bidder.

5. Infrastructure

Q-124. F-Req 114 Pg-33: Support response for voice queries - through surveys collected every quarter < 5 rings - Calls to be picked within 5 rings- Pilot implementation is for one month only. Survey frequency for voice queries response should also be defined accordingly.

Ans: 'Surveys collected every quarter' may be read as 'surveys collected every week' .

Q-125. The routine 24 x 7 x 365 access to the VTMS system will be from the hubs of operations broadly classified as Monitoring Stations and Operations Stations. Kindly provide the respective nos, the location of all different types of Operational stations - like Central, Operation, Monitoring, Bus Stand etc.

Ans: The Monitoring Station and Operations Station covered under the scope of this project is one control room (central). The number of other Monitoring and operational stations are not relevant for the vendor as KSRTC is going to establish them as per its requirement. The VTMS & PIS application should have roles & privileges and dashboards which support users working at these centers which will be detailed at the time of system study.

Q-126. Any Infrastructure (PC, Network, Internet connection etc.) is to be provided at different centers ...by the bidder?

Ans: Bus Stands in Annexure 1 to Part 1 need to be provided with servers with Internet Connection and connected to the number of Displays indicated. But no Infrastructure (PC, Network etc.) is to be provided at Monitoring and operational stations other than central control room.

Q-127. Part 3: Pg no. 6: the system integrator (SI), in addition is expected to set up its own project management team (SIPM) and deploy a project management information system (PMIS). Please elaborate on PMIS.

Ans: In our view VTMS is a large project that needs to be managed for geographically distributed activities to build the solution. Therefore the need for a Project Management Team. It is to be realized that the present requirement is for a solution and run it for 3 years rather than just equipment and software supply.

Q-128. 1. Page 6: In Vehicle Crew (Part 1) Page 15: F-Req 49:Ability to track the driver behavior through Harsh Acceleration/ braking, over speeding and provide alerts real time audio alerts where needed

Ans: Beep alert is required inside the bus and such events are recorded by the application.

Q-129. T-Req 67. : Data Center – The vendor shall locate the centralized data center to house all the hardware and software required for VTMS at a location specified by KSRTC. Physical security to the location is the responsibility of KSRTC Any Civil work is required at Data Centre or Any other places (as per purview of this project) ?

Ans: Major civil works for the Datacenter are not perhaps needed. Assistance in minor works such as for installation of AC etc be provided by vendor.

Q-130. Electrical Work Reqd for data center? (Like supply etc.)?

Ans: Electrical work for the Data Center will be the responsibility of KSRTC.

Q-131. Furniture Reqd for Control Centre?

Ans: No. This will be provided by KSRTC.

Q-132. F Req 49, T Req 24: Kindly elaborate what condition will define Harsh Breaking and acceleration

Ans: Typical Deceleration / Acceleration exceeding 10m/sec or a similar metric can be taken to be Harsh Breaking / Acceleration

Q-133. F-Req 114 Pg 33: ETA at bus stands to be accurate by +/- five minutes The ETA prediction accuracy mentioned under T-Req 19 is +/- 10 minutes. Kindly confirm regarding what is the required ETA prediction accuracy?

Ans: The ETA prediction accuracy mentioned under T-Req 19 is for the entire system while that of Freq 114 is for the pilot which is a more stringent for the limited pilot deployment

Q-134. Does KSRTC require integration with a call centre?

Ans: No.

Software, Hardware, Networking, Application and Security Specifications

Q-135. AWATAR to VTMS request: The VTMS application shall be interfaced with AWATAR to receive Trip code from AWATAR and send VTMS related information to the AWATAR passenger/user. Clarification Request: Is AWATAR equipped to receive VTMS information. Please specify what all parameters the VTMS information comprises of.

Q-136. F-Req 32: AWATAR to VTMS request: The VTMS application shall be interfaced with AWATAR to receive Trip code from AWATAR and send VTMS related information to the AWATAR passenger/user. Kindly provide input on probable IN / OUT data integration possibility between AWATAR & proposed VTMS (what are the services etc are built into AWATAR systems)?

M-Ans | Ans Q-135 & Q-136: Refer Freq-32 and 33. VTMS information in this context means – Trip No, ETA/ETD of the Trip, real time status and location of the Bus. The user/passenger in AWATAR will provide trip code and request for the location, ETA of the bus. If the passenger requires text information it shall be provided on the same page and if the passenger requires map based information then the request will be re-directed to VTMS & PIS application url for obtaining the information.

Q-137. F-Req 33 Pg 13: VTMS to AWATAR request: The VTMS application shall be interfaced with AWATAR to accept PNR number or Ticket number from VTMS user and obtain corresponding trip code from AWATAR and provide the VTMS application user VTMS related information- Kindly elaborate this Functional requirement and its usage ? Will end commuters login into the VTMS directly, with details of ticket / PNR number?

Q-138. F-Req 33: VTMS to AWATAR request: The VTMS application shall be interfaced with AWATAR to accept PNR number or Ticket number from VTMS user and obtain corresponding trip code from AWATAR and provide the VTMS application user VTMS related information. Kindly provide technical details (e.g. OS, RDBMS, API details) of AWATAR

Q-139. Technical & Functional Details of existing Reservation System, is required ...WHEN THE SAME WILL BE PROVIDE?

Q-140. Stakeholders and Broad Overview of Requirements / Pg 6. Integrate to the existing AWATAR reservation system for common trip numbers and bus schedules, and number of vacant seats in the bus, and provide for a trip allocation system for those schedules not present in AWATAR To integrate with AWATAR complete details of Database, OS and field, Protocols used in AWATAR are required. Kindly provide the same to check the feasibility of integration.

Q-141. Integrate to the existing AWATAR reservation system for common trip numbers and bus schedules, and number of vacant seats in the bus, and provide for a trip allocation system for those schedules not present in AWATAR PLEASE PROVIDE work flow as per requirement of data integration & what to be seen in the online VTMS and what way

M-Ans| [Ans Q-137 to Q-141: The End commuter/User will either login to the VTMS public portal or send an SMS to enquire about the TRIP details such as ETA/ETD with Ticket/PNR number. Ticket/PNR number and TRIP CODE are available in AWATAR. Commuters login into the VTMS directly and enter Ticket number /PNR number. VTMS application will obtain the TRIP CODE and provide required information to the Commuter/user. The IN / OUT data for developing web services is provided in FReq-33. Further details will be provided to the successful bidder at the time of development.](#)

Q-142. If any update is Reqd at Reservation system, for integration, WILL THAT BE UNDER THE SCOPE OF BIDDER?

Ans: [AWATAR system enhancements for integration will be outside the scope of the VTMS & PIS project.](#)

Q-143. Freq – 8: The list of Crew will be obtained from the master list of employees? Is there any integration to ERP / HRMS systems?

Ans: [No Integration to ERP / HRMS system is envisaged in VTMS project. The employee master has to be developed in VTMS & PIS application with minimum required information.](#)

Q-144. Do you need to manage infrastructure components – routers, switches, servers, firewalls, etc that span across multi-technology vendors, to be able to discover these devices and identify fault and real-time availability of these devices, to perform root cause analysis to identify root cause and reduce the mean time to repair (MTTR)

Ans: [Yes the infrastructure is to be monitored at the Data Center, Control room, 35 Bus Stands \(PIS\) , data communication links for availability and in case of a major failure or repeated minor failures RCA is required.](#)

Q-145. Do you need to enforce policies around network configurations to ensure adherence to standards?

Ans: [Yes.](#)

Q-146. Do you need to leverage statistics to illustrate which applications use network resources, who is using them and when, to intelligently implement effective workload scheduling and QoS policies and avoid unnecessary link upgrades

Ans: Monitoring and Performance of the systems is a regular and continuous activity that will be periodically reported to KSRTC. Upgrade decisions if any are to taken jointly based on utilization statistics.

Q-147. Do you need to plan future capacity needs and customize bandwidth projection calculations by utilization, protocol and Type of Service (ToS)?

Ans: There are no estimates for future requirement. Therefore the vendor need not plan for future capacity expansion. However, system architecture will have to be scalable with additional hardware when the need arises in the future and separate hardware will be procured for the same if required

Q-148. Do you need to analyze trends in applications, hosts, and conversations per class of service?

Q-149. Do you need to be able to collect performance data, evaluate it for threshold violations and issue early warnings in real time so you can address problems before they become critical?

Q-150. Do you need to be able to run what-if scenarios of expected or possible future conditions to prepare your infrastructure to satisfy increased demand for existing services, support new applications and extend your network to new locations?

Q-151. Would you like to be able to compare current performance to a fixed threshold, using historical data to establish what is normal for a specific day and time and then assesses whether the current behavior deviates from that norm?

Q-152. Do you need to view multivendor live and historical database performance trends and provide fast triage to database problems affecting services

M-Ans| Ans Q-148 to Q-152: Trend analysis in terms of utilization for services and infrastructure components are needed.

- a. As this is an important project for KSRTC, there will be periodic reviews on the system performance and utilization that will flow from the transaction data as well as system utilization data. These data will be used to objectively arrive at assessments
- b. TReq- 85 – 89 provide the guidelines for System Health check management. Where possible, for important system components, thresholds will be set to forewarn about problems.

Q-153. Do you need to be able to provide 24x7 monitoring of all business transactions for this distributed Web application environment?

Q-154. Do you need to monitor individual end-user transactions in real-time, enabling you to measure Service Level Agreements (SLAs), identify and triage problems before customers are affected, manage incidents by business impact and improve service delivery?

M-Ans| Ans Q-153 to Q-154: Business transactions are not monitored at the atomic level. System Availability, health check are in the scope of Monitoring

Q-155. Total Number of Network devices to be monitored for Fault monitoring?

Q-156. Total Number of Network devices to be monitored for Performance monitoring?

Q-157. Total Number of Servers and total number of Physical CPU sockets for Server monitoring?

Q-158. Total Number of Database Server, Number of Physical CPU's and Core for each servers?

M-Ans| Ans Q-155 to Q-158: These are architecture specific details. Bidder can compute these details based on the architecture proposed.

Q-159. Do you need EMS to be proposed with Fault tolerance /Disaster recovery Capability?

Ans: DR is out of scope for the present project. A typical EMS/NMS tool (Commercial / Open Source/ Customized) is required for this purpose

Q-160. The stations will be web-enabled, shall provide for appropriate user access (role based, read only/read-write) and other security controls how many Number of user identities that to b managed on role based Access control Mechanism?

Ans: Approximately 30 user roles are to be managed with restrictive, access to data of parent unit (read/edit) and other unit data (read only)

Q-161. Auth & Directory Services –(CSS) holds the user credentials for all users. What type authentication are you considering (token, soft token, biometric).?

Ans: User Id and Password based authentication is expected. No Hard or Software tokens / biometric is envisaged in the present system

Q-162. Are you also considering securing sensitive data at endpoints (laptops/desktops), emails, stored data, net work layer?

Ans: All data is stored at the data center in this web based system. Desktops/Laptops are not envisaged to store any data

Q-163. Log Management- Could you state number of key servers, Applications, Databases, network, security devices –where logs has to be collected?

Ans: The numbers of key servers are dependent on the specific architecture proposed. Therefore bidder is to indicate the key servers in their architecture

Communication

Q-164. In Vehicle Crew: Two-way communication between the driver and control room/specified officials for Emergency /incident management through use of preconfigured call buttons and numbers. Clarification Request: Please confirm whether 2 way voice communications between driver and control is required over GPRS. If yes, please note that the positional information traffic is shared on the same medium and several voice calls may hamper the data exchange from the terminals to the control.

Q-165. In Vehicle Crew: Establishing an audio conference with the bus driver and other stakeholders. Clarification Request: Please note that conference calls also severely limit the exchange of data

M-Ans| Ans Q-164 & Q-165: Typically, in such cases data is sent across after the voice call is completed. Till then the data is stored in the VMU.

Q-166. Stakeholders and Broad Overview of Requirements / Pg 5 Facilitate timely management of Incidents / Accidents, effectively monitoring break downs and the related information, route diversion in the event of any incidents on the highways – State and National. Kindly

clarify how to implement route diversion? Will control room communicate over the display or will it be a voice communication?

Ans: It will be a diversion authorization to the driver will be issued by the control room on Voice. Corresponding message will be displayed on the PIS system display

Q-167. T-Req 2: Accessibility: The entire set of applications for VTMS needs to be web based. The VTMS application must be accessible through the internet to a KSRTC user / commuter as per the industry standard User Authentication System and User Roles framework. Further the access should be possible through popular browser interfaces such as Internet Explorer, Firefox, and Google Chrome. The users are located across the various locations in the state. The Graphical user interface shall be browser based and intuitive: 1. Is Internet Access for KSRTC users @ Division & Depot Offices (managing fleet ops) for accessing VTMS via WAN in the scope of Bidder?

Ans: No. providing internet connectivity to Division and Depot as well as other offices is not in the scope

Q-168. 2. Control Center locations are also @ same place of Data Center (closed by, so that access can be provided through LAN). else, Control Center users also have to have internet access

Q-169. Is Internet Access @Control Center in the scope of Bidder?

M-Ans| Ans Q-168 to Q-169: Control room is connected to Data center through LAN and will share the Data center internet band width.

Q-170. T-Req 65: In addition, based on the requirement at a later date, the vendor may have to provide connectivity to the following at additional cost during the project period of 3 years

Q-171. § Broad band/Leased Line to Divisional /Depots level control rooms. 1. How many divisional, depot control rooms? 2. What are their locations 3. AT what time the connectivity will be reqd (will help tp determine the bidding)

M-Ans| Ans Q-170 & Q-171: For the present project this connectivity is out of scope. Present bid therefore need not take this into account as part of costs. If required in the future, KSRTC will indicate the same and Vendor is expected to provide this at additional cost.

Q-172. Page - 27, T-Req 64: (Part 1): Connectivity to Bus stand Displays – Leased Line/Internet. Kindly provide us the detailed Address for all Bus stands for us to undertake the feasibility of Telecom Services.

Ans: Annexure 1 to the Functional and Technical requirements provide the list of bus stands where the system will be implemented. Each City has KSRTC bus stand/s in a prominent location and the address list available in Annexure 1.

Q-173. T-Req 70: At least two alternate paths are to be provided with direct connectivity to the data center. The vendor shall provide all network related hardware and software required for central stations. Is the 2 alternate path connectivity will be required for the entire solution domain (Data Center, Control Center, VPN connection to various PIS display places) or only for Data centre (housing the central system) ?

Ans: This is required only for the Data center

Q-174. Which type of Voice communication required (VMU to Control Station)? Is it one-to-one or one-to-many?

Ans: It is one-to-one.

VMU

Q-175. F-Req 49. Alerts on exceptions for all other pre configured parameters such as driver behavior, harsh acceleration/braking, non stoppage at designated points, not meeting the ETA and ETD schedules etc and logged into journey details of the bus for each trip

Q-176. For providing alerts on Harsh Acceleration/Breaking we need to integrate with Sensor either available in the Bus already or we need to provide additional sensors. The sensors need to be integrated to the VMU through Analog/Digital I/O. For this feature the VMU has to have Analog/Digital I/O ports. Accordingly the VMU Specification to be revised to include Analog/Digital ports. Please clarify the Number of Analog/Digital ports require as a standard feature of VMU to provide this functionality.

Q-177. Page 16 T-Req 24: (Part 1): Technical Requirements of Vehicle Mounted Units VMU should support the configuration of standard parameters such as Over-Speeding, Harsh Braking, Harsh Acceleration etc as well as other general in vehicle parameters and generate alerts as necessary. Kindly clarify how over speeding Incidents are Captured. This can be achieved through GPS Data or Integrating to the Vehicle Sensors. In case of integrating to Vehicle Sensors we will require One Analog/Digital I/O port.

Q-178. In Vehicle Crew: Ability to track the driver behavior through Harsh Acceleration/ braking, over speeding and provide alerts real time audio alerts where needed. .Clarification Request: please indicate whether these alerts are required in the bus only or at the control center also. Please specifically indicate the period at which the updates are required from each vehicle as this is the crux of the entire project in estimating the bandwidth, etc. Please also mention whether acceleration sensors are to be installed or whether the acceleration is to be computed from the GPS data, in which case the true acceleration cannot be ascertained and depends on the rapidity of the GPS data received from each bus.

Q-179. Is the VMU unit has to be on a real-time operating system?

M-Ans| Ans Q-175 to Q-179: The minimum features of the VMU are provided in the RFP and need to be met. These may be suitably enhanced to meet other requirements for your proposed solution.

- a. We suggest that the incidents, harsh breaking etc are captured through GPS data.
- b. Audio alerts are required in the bus
- c. Driver Behavior alerts at the central station is to be logged in 3-5 minutes.

Q-180. Page 15, F-Req 59:(Part 1)Vehicle Mounted Units: Audio Speaker and Microphone of the VMU needs to be located at appropriate place speaking listening and should be able to pick up audio from the driver Rating of Audio Speaker and Microphone to be provided.

Ans: We believe that the bidders are familiar with the Cabin operating conditions for design and implementation of the audio speaker and microphone. You may please suggest the specifics in your solution towards meeting the functional requirements.

Q-181. Page 16, T-Req 27 :(Part 1) Vehicle Mounted Units The VMU shall be scalable/upgradeable to support feature like capturing number of available seats if KSRTC decides to implement in future. In order to support Capturing of Data like Number of Available seats etc...the VMU requires a minimum of 3" integrated display system. Kindly confirm if this is mandatory as a part of standard VMU feature.

Q-182. T-Req 27: The VMU shall be scalable /upgradeable to support feature like capturing number of available seats if KSRTC decides to implement in future. How is this feature envisaged? What will be the provision of interfaces to be required at VMU for this? How overall this is being proposed?

M-Ans| [Ans Q-181 to Q-182: The said features are proposed enhancements at a later point in time. The specification required for T-Req 27 is that the VMU is to be scalable to accommodate this later.](#)

Q-183. T-Req – 18. VMU shall conform to relevant Indian or international standards with corresponding Indian or International certification. Please mention the certifications / standard required

Ans: [T-Req 28 outlines the certification requirement. CE / FCC](#)

Q-184. Vehicle Tracking & Monitoring System (VTMS) – are you looking providing integrated security single sign on & access management for operating and control center staff?

Ans: [The entire VTMS & PIS is conceptualized as a single application with role based access. SSO may not be essential. If the solution proposed so requires, you may suggest an appropriate solution.](#)

Q-185. VMU application should generate alerts on tampering of the VMU or its components. Clarification Request: Please specify the nature of tampering, electronic/ physical also what kind of alert is required at Control as well as at the bus.

Q-186. One Integrated tamper proof casing for complete PIS Unit and should address physical security considerations. Clarification Request: Please elaborate the tamper proof casing – whether electronic/ physical for vandal proofing

Q-187. T-Req 26: Tampering means - 1. Disconnection of power 2. Opening of enclosure lid Is our understanding correct?

M-Ans| [Ans Q-185 to Q-187: Disconnecting or tampering with Antenna, Opening of the enclosure lid etc. Alerts are to be categorized as Tampering alert and highlighted on the console. The same is to be recorded as per the normal process outlined for alerts in the RFP.](#)

Q-188. The VMU shall support be scalability/upgradability to support feature like capturing number of available seats if KSRTC decides to implement in future. Clarification Request: Does KSRTC intend installing weight sensors on the seats, and if so other parameters, such as the time the seats that are not occupied, etc. will need to be specified as vacancy positions should not be generated if a passenger merely stands for a short while.

Ans: [KSRTC does not as of now have plans for installing weight sensors.](#)

Q-189. F-Req 51: Pg 15: Preconfigured alerts with respect to vehicles and crew shall be sent to the Mobile number/ email id via the SMS/ email as maintained in the system – for ex, Expiry of Mandatory items such as Crew Licenses,..... breakdowns, accidents etc- Our

understanding is that the preconfigured alerts are related to vehicle maintenance (oil change, servicing), expiry of Vehicle Road permits, FC, or expiry of crew driving licenses. In case of breakdown and accidents, alerts can be triggered by pressing the panic button on the VMU. Kindly confirm if our understanding is correct.

Ans: Your understanding is Correct for preconfigured alerts. You may refer to Requirements on Alerts from FReq-45 to F Req-54.

Q-190. F-Req 123 Pg 35 Table: 18 VTMS implementation Schedule -B3: Our understanding of the VMU-GPS navigation System is a normal GPS unit which would receive and transmit data (location)/ alerts to central system. It is not a device which provides route guidance to the driver. Kindly confirm if our understanding is correct.

Ans: Yes your understanding is correct.

Q-191. Identification of the buses in the real-time fleet tracking module. When the System will track the buses with their GPS position and serial number, it will have to know which trip is starting each bus. If the system tries to deduce the trip based on the serial number, it will be difficult for KSRTC to change the vehicle dispatch (every change of vehicle must be entered in the central system, which is not flexible). The driver or conductor should enter the trip when starting the service, the vendor should explain how. We recommend to mention in T-Req 22 that the device (with the 4 alert buttons) should also have a numerical keyboard to enter the identification (driver and service) and a display to see some information (for example if the driver actually affected to the trip he is starting).

Ans: The detail regarding how this is achieved in VTMS & PIS application is given in part-1 page-11 F Req-8. Also refer answer to question no 111.

Q-192. F-Req 59: The vehicle mounted communication hardware i.e., Audio Speaker and Microphone of the VMU needs to be located at appropriate place speaking listening and should be able to pick up audio from the driver. There is a conflict in these 2 clauses. We recommend hands-free with amplified speaker & microphone, since wearing a headset is not feasible while driving

Q-193. F-Req 60: Driver will be given an interface for the voice communication. Communication Headset will be provided to the driver to interact with Control Room

Q-194. F-Req 58: Should we provide a Speaker or Headphone or both?

M-Ans| Ans Q-192 to Q-194: Yes, wearing a headset is not advisable. Bidder is to make a provision for hands free operation.

Q-195. T-Req 28: GSM/GPRS specifications > Equipment needs to be certified as per Indian or international standards CE or FCC International standards - CE & FCC does not guarantee the performance of VMU in Indian road condition. Can we consider Indian LAB test for Shock, Vibration in place of CE / FCC?

Ans: CE / FCC certification is part of the requirement

Q-196. VMU Communication Schematic. What is the requirement for Key pad attached to VMU ...? What is the specification of this keypad? What is the functional purpose of the same?

Ans: Keypad indicated in the schematic may be ignored

Q-197. F Req 47 - How many panic buttons are required in the VTMS Unit? Apart from one SoS button, do you require status button like Break Down, Tyre Puncture, Traffic Jam, etc?

Ans: Four buttons are required. One of these is the panic button that connects the driver to the control center, and the other three are for calling preconfigured numbers for voice communication.

Q-198. T Req 30 Table 7:"Operating -20°C to +70°C" - Is it the specification of GPS module or the vehicle unit? If this is the specification of vehicle mounted unit, we would like to submit that the area of operation as specified in page 4 of the tender do not experience such an extreme temperature. Providing vehicle mounted unit complying to the said specification is possible but due to this particular feature, the cost will increase exponentially. May we request to modify the specification as -5 degree C to +55 degree C.

Ans: The requirement may be taken as -5 degrees C to + 55 Degrees C.

Q-199. T-Req 23: Is it OK have 1000 points instead of 5000?

Ans: This requirement is to be met.

Q-200. F-REQ 58 "VMU should support 2-way voice communication between the driver of the vehicle and the various Control room (Central and Divisional) for sending alerts from vehicle with preconfigured buttons for activating the voice communication with the central control station, call centre, and divisional control room. The configuration shall allow communication only to the numbers maintained. The voice communication will be simple and activated through the press of a button".

Q-201. T-REQ 22 "VMU should have at least 4 programmable buttons (SOS button – 1 no. plus 3 buttons – configurable for different messages/hotline communication to preconfigured numbers)".

Q-202. We have the following concerns on the above points, The VMU should have at least 4 programmable buttons will limit participation of a lot of good hardware as the points seems to be very proprietary in nature.

M-Ans| Ans Q-200 to Q-202: This is not proprietary in nature and is a functional requirement. The buttons will be preconfigured to call on Control Centre, Corresponding Depot, Divisional Traffic Officer and Call Center

Q-203. We have the following concerns on the above points; the other important point is that when voice and data are combined in a single SIM card inside the VMU, there is a very big threat of losing important data, as in any telecom protocol the voice rides over data.

Q-204. We have the following concerns on the above points, If voice is very important, we suggest that there should be a separate provision of hardware with voice SIM and the programmable buttons. This will make sure there is no threat of loss of data.

M-Ans| Ans Q-203 & Q-204: Typically, in such cases data is sent across after the voice call is completed. However, the bidder is free to configure the VMU communication system to meet the functional requirements.

Q-205. Is the VMU unit manufacturer should have a proven record of installation of 2000 numbers. (Which is KSRTC requirement)?

Ans: No. Details about VMU manufacturer is out of scope. Equipment needs to be certified as per Indian or International standards CE or FCC (please refer Table 5 in Part1 T- Req 28 at Page no. 16).

Q-206. Is the VMU should be capable of being connected to pulse odometer in the buses?

Ans: No. This is out of scope

Q-207. In case of any failure in Vehicle Mount Unit because of some tampering or other reasons, does it need to be corrected instantaneously (in some case it may be at very far areas), or it can be corrected when it came back to depot after the trip?

Ans: The vendor should correct this within time specified in SLA.

Q-208. Whether the VMU antenna required is external or internal or is left to Vendor?

Ans: External antenna for VMU is preferred. But vendor has option to any type which can meet SLA.

Q-209. Is VMU Battery backup of 8 hours is required?

Ans: VMU Battery backup of 8 hours is mandatory as in RFP.

PIS

Q-210. F-Req 113 Pg 33/F-Req 115 Pg 33: Successful completion of pilot project is to be measured as implementation in 20 buses in 2 routes covering 6 bus stands one starting bus stand, one destination bus stand, and one intermediate bus stand as indicated by KSRTC. Implementation of signboards at two bus stands, Implementation of signboards at bus stands in one identified route. This route will be indicated by KSRTC- Please clarify on whether PIS boards are to be put up at 2 or 6 bus stands. If these are to be there at 2 stands, then what does the mention of "6 bus stands" signify?

Ans: F-Req 113 mentions 2 routes and 3 bus stands in each route with Starting, Ending and Intermediate. (2x3) 6 Bus stands. Sign boards are to be implemented at six bus stands

Q-211. T-Req 1 Pg 9: "All display technologies and software must supportSpecifically the systems must support English and Kannada"- Is this the case that the static text appearing on the application screens are to appear in Kannada, or are the data entry fields of these screens also required to allow entry in Kannada ?

Ans: Static Text appearing on the screens will of course be in Kannada. Some of the information displayed on Passenger Information System display units like Place names, Vehicle status etc. need to be in Kannada and English. Data input by users/Commuter for Queries need to support Kannada and English. Application portal information need to be in Kannada and English.

Q-212. F-Req 50 Pg 15: In case of vehicles that are moving Alerts shall be flashed at the control room as well as the nearest two Bus stands i.e., through one that is passed and the one approaching Bus stand- What are all the alerts that need to be flashed at the Bus stand(s)? What information needs to be flashed at the bus stand already passed?

Ans: The alerts in case of breakdown/Accident shall be flashed/displayed as soon as the information is captured in the application.

Q-213. F-Req 68 Pg 18: Display systems needs to support Digital display of text, images and video on appropriate screens such as LCD, Plasma Panels, LED, etc....- Min specification for LCD is provided in T-Req 42 . What is the minimum specification for LED PIS display units? Should only LCD devices be considered?

Ans: Bidder may consider LED displays as well with equivalent specifications

Q-214. F-Req 75 Pg 19: Availability of Display Sign boards > 98%, Screen refresh at control panels with updated data on bus locations to be within less than 5 seconds. Here it is mentioned that "All displays for PIS will have a with configurable refresh rate, ideally 1 minute or less". The frequency of bus location data update would depend on the transmission frequency. What is the expected transmission frequency of GPS data from the VMU to the Central system? The frequency of data transmission to the signboard (from the Central system), can only be higher than the VMU transmission rate. Please clarify.

Ans: At the bus stands, the displays will have to normally handle multiple pages at any point in time. The screen refresh rate refers to the page refresh aspect only. We do understand that the Data Transmission to the display will be higher than that of data received from the VMU.

Q-215. For the embedded hardware (PIS and in the buses), a remote supervision and software update should be enabled (F-Req 59 and 37)?

Ans: Remote monitoring software for the bus stand servers is part of the System Health check requirement. (F Req 59 refers to Vehicle Communication hardware , F Req 37 refers to enquiries, T Req 37 – Display unit specification)

Q-216. Overall Scope of Service/ Pg 8: Passenger Information System (PIS) to provide the estimated time of arrival and departure and arrival of buses at various destination and intermediate points calculated based on the vehicle position at any point in time. The ETD is only via human intervention, a pre-programmed ETD will be displayed. At the source station, the system has no way of knowing the ETD in case the departure is delayed.

Ans: The application will have Scheduled Time of Arrival as well Scheduled Time of Departure (STD). The delay is calculated based ETA and ETD value is arrived at with reference to STD.

Q-217. If next 2 Hrs Bus info details are to be shown, then too many Buses will qualify for the display...HOW DO U WANT TO SHOW THOSE..SCROLLING?? What will be the time interval between consecutive Bus inform display?

Ans: Refer question 214 above - At the bus stands, the displays will have to normally handle multiple pages at any point in time. The screen refresh rate refers to this aspect only. The refresh rate is configurable.

Q-218. F-Req 71:The frequency and period of information display on PIS display shall be configurable from central location for advertisements and other transit information

Q-219. F-Req 72:.. Display shall provide for modular configurable layout enabling parallel display of content on different areas of the screen – Real time Transit information (Routes, ETA, Type of service, Fare, Seats available etc), Time/Date, Public announcements, Safety information, Commercial advertising, a ticker tape at the bottom for text announcements/advertisements, other local Tourist information. Kindly provide the details of the placement of different information @ different area of display ...

Ans: Ans Q-218 & Q-219: The exact specifications will need to be arrived at based on the aesthetics. A sample for the same is suggested under T-Req 37. Seats availability requirement is dropped

Q-220. F-Req 76: The bus Stand display, which receives will display continuously until the next set of data is received. What does that mean? What to display till next msg comes? Also, in case of connection is lost (between Back End & Display) a default msg can be displayed (some message) for temp period ...Is that OK?

Ans: "Next Set of Data" – means the updates on the ETA of the arrival of buses as calculated by the Central system based on the Tracking information.

Q-221. F-Req 68: Display systems needs to support Digital display of text, images and video on appropriate screens such as LCD, Plasma Panels, LED, etc both in English and Kannada. W.r.t this point, it is also mentioned under: T-Req 42 for Minimum Specifications for LCD Display Units...What would be the actual/ minimum requirement for Display Hardware as per functional feature?

Ans: Minimum Requirements for Display is provided under TReq – 42

Q-222. Part1: T-Req 42/Pg 19: Type of Display – 52 Inch: Queries: 52 Inch is now getting obsolete. Kindly modify it to 55"

Ans: The bidder is free to choose higher size of display units. The minimum requirement is 52 inches display

Q-223. Part1: T-Req 42/Pg 20: Environmental specifications Sealing - IP 65: Queries: These are COTS items. IP 65 sealing is not available with these items. Request you to remove this clause

Ans: The displays at bus stands need to meet Dust proof and water proof enclosure criteria. IP 65 is not required.

Q-224. Part1: T-Req 42/Pg 20: Environmental specifications Drop: 1 mt on all faces: Queries: These are COTS items. Drop tests are usually not performed on them. Request you to remove this clause

Ans: 1 mtr Drop requirement is withdrawn for this project

Q-225. Is On-Board vehicle PIS display required?

Ans: No. The On-Board vehicle PIS display unit is out of scope.

Q-226. There is no need of server and server room at bus stands for displaying PIS units. Can desktops be used?

Ans: No Desktops cannot be used as the system is required 24 x 7 x 365.. KSRTC shall provide a physically secure place for locating the server at every bus stand.

GIS

Q-227. Nature or type of road and its status (closed / open / partially open deviation details where a road is temporarily not motorable, etc. Do you require that Bidder should consider Routable GIS Data with all kinds of profiling as part of supply??

Ans: Profiling information for Roads will be provided by KSRTC based on operational practices. Provision in the software needs to exist to record this data in KSRTC 'Road' master mentioned in answer to question 72.

Q-228. F-Req 28. VTMS shall provide the above data on demand with an overlay on the geographic map or as a text table on real time basis at pre-determined and configurable intervals .KINDLY SPECIFY ...What will be the scale of different layers of GIS map data for National Level, State Level, City Level etc.

Q-229. Page 22 F - Req 81: (Part 1): Configuration of Roads, Routes, Schedules The geographical information system (GIS) applications shall enable display of the position of vehicles on a detailed digitized road map of the routes and linked with the communication control and reporting applications. We understand that only vector map is required. Please clarify. Also please clarify the area of map that is required in the application. Is it only Karnataka or do we need to include TN, Kerala, A.P and Maharashtra. Any specific map resolution that is required? Is bilingual (English & Kannada) option required in the map also?

Q-230. F-Req 4 Pg 11: The Services for configuration of all GIS parameters as per KSRTC requirements be provided for a period of three years by the bidder i.e., vendor has to survey and configure- In case KSRTC wants to deploy a local GIS (map) server, then what are all the GIS parameters required ?

M-Ans| Ans Q-228 to Q-230: Vector Maps are required with a capability to zoom. The map coverage needs to be for all destinations operated by KSRTC covering all neighboring states. The Maps need to be bilingual

- a. Scale of the in City / Town level is to be of the order of 1:1500 atleast. This is required for tracking the relative position of bus at the platform in bus stand.
- b. Outside of Cities / Towns i.e., roads and less dense population, a maximum scale of 1:10000 may be used.
- c. Google Maps can be deployed as part of the solution (google has max zoom scale 1:1333.33) however Google licensing arrangement and consequent costs will have to be worked out by the bidder. Dedicated Data link to Google Server from Central Data Center will have to be provided by the vendor.

Q-231. F-Req 1 Pg 10: Configuration module shall have Facility to create / Modify Road- Can GIS data services available on the internet (e.g. Google maps) be used for tracking? (These already have roads in-built in their map database).Or does KSRTC want to deploy a local GIS (map) server at the proposed Data centre, and use this local GIS map data for tracking ?

Ans: The 'Road' here refers to concept used by KSRTC as a basis for creating schedules for its operation and has nothing to do with GIS data. For details refer answer to question 72.

Q-232. Page 11 F - Req 3 (Part1)Configuration of Roads, Routes, Schedules Configuration module shall support creation of the following master data as per KSRTC requirement§ Precise geographical position (Longitude/latitude coordinates) of each item in the route § En-route boarding points, stops/pickup points, authorized stops, hotels, etc. § Details of Depots, Divisions, Bus stands, platforms, places and other units of KSRTC with details of contact telephone numbers and contact names of KSRTC officials§ Precise distances between places § State, District, KSRTC. Jurisdiction of the points on the route § Nature or type of road and its status (closed/ open / partially open, deviation details where a road is

temporarily not motorable, etc. Any other item that is required for VTMS To create the master data (GIS Lat/Long) for each item as per KSRTC requirement we will require list of all the items as mentioned in the F-Req 3.

Q-233. Page 11 F - Req 4 (Part 1): Configuration of Roads, Routes, and Schedules. The Services for configuration of all GIS parameters as per KSRTC requirements be provided for a period of three years by the bidder i.e., vendor has to survey and configure. These include items such as defining Geo Coding (Address Geo Coding, Reverse Geo Coding), Geo-fencing required point etc. We understand that for geocoding of the points and geofencing of the routes the required information will be provided by KSRTC officials. i.e. Bus-stops

M-Ans| Ans Q-232 to Q-233: A list of items of interest (Places, Bus Stands, Bus Stops, pickup points, etc) will be provided by KSRTC for Geo-coding and Geo Fencing requirements. Geo Coding Geo fencing etc., for the items in the list will be responsibility of the Vendor.

6. SLA & Penalties

Q-234. 5.1.6 & 5.1.7: Payment is linked to Performance against SLA. Kindly define the SLA in details for all the linked are and penalty, if any / or deviation

Ans: SLAs of interest to KSRTC are defined in Part 3 page 13. Deviations and items if revised are highlighted in the pre bid queries responses (this document).

Q-235. Part 3: pg no. 13: Service level metrics & penalties. What is the overall cap on liability? What is the overall cap on limitation of liability on penalties? To reconsider terms for penalties for non compliance.

Ans: Overall Liability is limited to the value of the contract. .

Q-236. Part 3: Pg no. 13: Service level Metrics & penalties: Hosting Centre: Update of portal contents from decision to implementation < 2 hrs. Updating time would depend on number of factors like Content type, volume, time of the day when the request is made, etc.

Q-237. Kindly specify what type of content to be modified / request window timings?

Ans: Yes. Considering all the factors the update should happen within the stipulated time. Where the volume is high, KSRTC may grant exemptions. The SLA mentioned as <2hrs are for minor updates and during office hours. All major updates will be handled under Functional Requirement Upgrades and Client Access Upgrades which are indicated as <30 days and <60 days. Vendor shall work out a guideline outlining minor/major upgrades separately once the project implementation is completed.

Q-238. Part 3: Pg no. 14: Average time for completing any query regarding vehicle status < 30 seconds. There is a mismatch on the time specified under Service level Metrics (pg. 13) and Penalties for non compliance (pg 14). On page 13 this is mentioned as "< 45 sec", whereas under penalties f for non-compliance it is "<30 sec".

Ans: The inconsistency is acknowledged. Page 13 item should read as 30 secs.

Q-239. F-Req 114 / Pg 33: Availability of GSM communication network device in-vehicle > 98% - At any point of time minimum 99% of GPS units shall be functional. It is mentioned that availability of GSM should be > 98% for GSM/GPRS connectivity we are dependent cellular operators sometimes it is possible that GSM/GPRS signals are not available in dark patches areas and we can ensure that DATA logs for that period. And as required GPS availability

should be more than 99%. GPS signals being provided by US satellites only. We can ensure only availability of GPS hardware uptime > 99%

Ans: Your understanding is right. Communication Network Device in-vehicle (hardware) is the evaluation criteria mentioned for the pilot.

Q-240. Client access upgrades <60 days s Computing accuracy 100% Customer/ user Satisfaction level >80% Availability of Vehicle Mountable Units 99.90% (measured on daily basis) 98% (measured on monthly basis) Availability of Display units 99.90% (measured on daily basis) 98% (measured on monthly basis)

Q-241. Local Area Network: Network availability 99.9% recommendation:98% (measured on monthly basis) Network Latency Average of > 75 milliseconds per month Average of > 75 milliseconds per month Uptime of Back Office Servers > 99.9% recommendation: 98% (measured on monthly basis)

Q-242. 500 Fixing a bug or issue < 7 days For every week delay 100 Functional requirements upgrade For every week delay beyond agreed period 100 Rate of Vehicle Mountable Units failure/noncooperation The VMU is non-operational when the unit is diagnosed as faulty. >12 Hours Repair time Over and above for every 12 Hours delay failed VMU per day (rounded off to next whole number) 100 Rate of Display units failure/non-operation The display unit is non-operational when the unit is not able to provide necessary data >12 Hours Repair time

Q-243. Time for Complex reports generation < 5 min For every week delay in meeting the requirement

Q-244. Service Level Metrics: VTMS & PIS Reliability & Availability Recommendation: VTMS & PIS Application Availability 99.90 % (measured on monthly basis), recommendation: 97-98 % (measured on monthly basis)

Q-245. Service Level Metrics: VTMS & PIS Reliability & Availability Recommendation: Availability of Vehicle Mounted Units 99.90 % (measured on daily basis), recommendation: 98 % (measured on monthly basis)

Q-246. Service Level Metrics: Local Area Network: Network availability 99.90 %, recommendation: 98 % (measured on monthly basis)

Q-247. Part 3: Penalties for non-compliance: The accuracy of the prediction time (ETA): should not vary more than +/- 10 minutes: For every week delay in meeting the requirement: Rs. 100. Recommendation: No Penalty since dependent on GPS satellite services & GSM service provider & Internet Service Provider.

Q-248. Providing archive data/information and content update < 7 days For every week delay Rs, 100

M-Ans| Ans Q-240 to Q-248: The SLA clauses are a result of well-thought out requirements as quality of service (QOS) is the outcome of concerted efforts of all. The SI is expected to meet these stringent standards ensuring that the third party service providers such as communication providers support the requirements through primary and secondary mechanism to meet the service requirements. Where, the services cannot be met such as due to force majeure conditions, KSRTC will review and grant exemptions to the exceptions in the SLA requirements.

Q-249. Part 3: Penalties for non-compliance: VTMS & PIS application availability 99.90% (measured on monthly basis): If downtime exceeds to min in a month for every 30 min penalty is Rs. 1000. Recommendation: <97 % (measured on monthly basis): If total downtime exceeds 1 day in a month for every 60 min penalty is Rs. 500.

Q-250. Part 3: Penalties for non-compliance: Rate of Vehicle Mountable Units failure/non-operation The VMU is non-operational when the unit is not able to provide necessary data at predefined intervals: <0.5% per day: Over and above 0.5% for every failed VMU per day (rounded off to next whole number): Penalty Rs. 100. Recommendation: >12 hours repair time: Over and above for every 12 hours delay failed VMU per day (rounded off to next whole number).

Q-251. Part 3: Penalties for non-compliance: Rate of Display Units failure/non-operation: The display unit is non-operational when the unit is not able to provide necessary data: <0.5% per day: Over and above 0.5% for every failed display unit per day (rounded off to next whole number): Penalty Rs. 100. Recommendation: >12 hours repair time: Over and above for every 12 hours delay failed VMU per day (rounded off to next whole number).

M-Ans| Ans Q-249 to Q-251: We do understand that there are several limitations in servicing trouble tickets for VMUs and needs a process for reporting, investigation, servicing and closing. The following is the overview of this process.

- a. Problem reporting – KSRTC will report the non functioning of VMU and PIS Units Investigation and servicing
- b. Vendor shall investigate the problem and report back to KSRTC the reason, and remedial action
- c. Servicing – The VMU /PIS will either by replaced or repaired in 24 hours from the time of Problem reporting
- d. Penalties – Penalties will be charged if the 24 hour turns around is violated (Problem reporting to Servicing). For all VMU servicing 24 hour turnaround is subject to vehicle availability
- e. The penalty amount for VMU failure or non-operation is reduced from Rs.100 to Rs.50 per day per VMU.

Q-252. Part 3: Penalties for non-compliance: Vehicle Location accuracy: should not vary more than +/- 3 meters: For every week delay in meeting the requirement: Rs. 200. Recommendation: No Penalty since dependent on GPS satellite services.

Ans: A location prediction accuracy of +/- 10 meters is acceptable.

Q-253. Service Level Agreement (SLA) in RFP is very comprehensive, it is very difficult to maintain 99.90% uptime as GPS and GSM service provider will not have any such SLA's. Achieving 99.90% is a big challenge and very expensive redundancy option. Hence it is requested to relook at this parameter.

Ans: The SLA requirement is for the application availability at the Data Centre. The limitation in GPS GSM service providers is understood.

7. Legal

Q-254. Part 3: Pg no. 14: Grievance and Complaints Settlement. Kindly elaborate what type of Grievances or complaint settlements, are to be addressed by the SI.

Ans: This refers to Grievances & Complaints of KSRTC regarding VTMS & PIS project. The Implementation Vendor (IV) is expected to deploy a mechanism of processing and resolving grievances & complaints based on the IVs operations and quality effectiveness,.

Q-255. Part 3: pg no 22: Tax : In the event of any increase or decrease of the rate of taxes due to any statutory notification/s during the Term of the Agreement the consequential effect shall be to the account of SI. If there are any changes by the Indian Central or State government in the existing tax structure, which is applicable for this Project, with effect from the next day to the date of signing of the Contract and if SISPL is required to pay an amount towards tax or duty then Customer shall reimburse SISPL at actual, the additional tax or duty so paid by SISPL.

Ans: There are two phases in meeting the additional expenses on account of revision in the tax structure. In the first phase, the consequential effect will be on the SI means that the SI will pay the revised tariff component. In the second phase the SI will claim reimbursement from the customer (KSRTC) for the additional tax or duty so paid by the SI i.e. taxes will be allowed ruling at the time of raising the invoice.

Q-256. Part 3: pg no. 24: Limitation of Liability: SISPL's total cumulative liability, arising from all causes of action of any kind, including, but not limited to, Contract, Tort (including negligence), Strict liability, breach of Warranty, infringement of Intellectual Property Rights, damage to property, misrepresentation, or otherwise, shall not exceed 10 % the amount paid under this Contract. SISPL shall not be liable to Customer for any indirect, remote, special, incidental, or consequential damages arising out of or related to this Contract, lost profits, lost sales, business investments, loss of any goodwill. Limitations shall apply, notwithstanding any failure of essential purpose of any limited remedy.

Ans: Part 3: Provisions of clause 3.6.3 will remain and cannot be modified.

Q-257. Part 3: pg no 22: BREACH AND RECTIFICATION: In the event that either Party believes that the other is in Material Breach of its obligations under this Agreement or Service Level Metrics under this Agreement, such aggrieved Party may terminate this Agreement upon reasonable notice to the other Party. Any notice served pursuant to this Article shall give reasonable details of the Material Breach, which could include the following events and the termination will become effective:

Q-258. We recommend following clause to be included: Customer shall pay the entire demobilization cost of the Project. Further as a consequence of such termination, customer should pay for the services performed till the date of termination, for the work in progress, for costs of termination of sub-contracts by the Supplier, if any and cancellation charge as compensation. Customer should reimburse the costs incurred by Supplier towards termination of the Contract in whole or any part thereof. Further, a notice of one month should be served on the SI to cure the defect and if the defect is not cured within the time prescribed, the customer can terminate the contract after serving notice of three months on the SI.

M-Ans| Ans Q-257 & Q-258: The recommended amendment is not acceptable. The provisioned clause shall remain.

Q-259. Part 3: pg no 23: WARRANTIES SI warrants and represents to the Project Manager, VTMS & PIS Project that: It has full capacity and authority and all necessary approvals to enter into and to perform its obligations under this Agreement; This Agreement is executed by a duly authorized representative of SI; It shall discharge its obligations under this Agreement with due skill, care and diligence so as to comply with Article 2.3.etc. We recommend following exclusions to be included:

- a. (i) The warranty shall not apply, if:
- b. Operating environment conditions/site pre-requisites are not adhered to the specification of the system
- c. Improper site preparation, or site or environmental conditions that do not conform to SISPL's site specifications;
- d. Customer's non-compliance with Specifications or Transaction Documents;
- e. Improper or inadequate improper or negligent use, storage or maintenance or calibration;
- f. Use or installation in connection with other products which do not fit in the specifications of the system or have not been approved by SISPL.
- g. Customer or third-party media, software, interfacing, supplies, or other products;
- h. Compliance with the design and instruction of employer or any third Parties appointed by employer or third party design or interface data.
- i. Repairs or modifications not performed or authorized by SISPL;
- c. Damage to equipment/hardware/software caused by harmful code, being any computer program virus or other code that is harmful, destructive, disabling or which assist in or enables theft, alteration, denial of service, unauthorized disclosure or destruction or corruption of data.
- d. Abuse, negligence, accident, loss or damage in transit, fire or water(k) damage, electrical disturbances, transportation by Customer, or other causes beyond SISPL's control.

Q-260. Non-SISPL Branded Products and Services. SISPL provides third-party Products, software, and services that are not SISPL Branded "AS IS" without warranties of any kind, although the original manufacturers or third party suppliers of such products, software and services may provide their own warranties.

- a. Following shall apply, if warranty is specifically applicable:
- b. Warranty starts from the date of delivery of the equipment(s) on pro-rata basis.
- c. The scope of the warranty is mentioned in the End User License agreement, in case of _____.
- d. A warranty on the software and equipment shall be provided by the respective OEMs/Authorized partners as per the respective OEMs/partner policy and terms.

- e. Warranty is limited rectification of “defect”, being any material non-conformity with the contractually agreed specifications.
- f. The warranty shall be strictly limited to repair, renewal or replacement at SISPL’s option, of the parts of the product which are returned by Customer and acknowledged to be defective.
- g. Any repair or replacement due to causes listed in the warranty exclusions part shall be at Customer’s cost. (v) It is agreed that warranty set forth in the contract shall constitute the sole remedy of Customer and the sole liability of SISPL with respect thereto. The warranties of the contract should be in lieu of all other warranties, express or implied. If there is any replacement or rectification, during the warranty period there should not be any extension of warranty by such duration.

M-Ans| Ans Q-259 & Q-260: The published clause shall remain. The exclusions are not acceptable. The recommended alternate / additional clauses are not acceptable.

Q-261. Part 3:pg no 31:3.8.5 ASSIGNMENT: All terms and provisions of this Agreement shall be binding on and shall inure to the benefit of the Project Manager, VTMS & PIS Project, SI and any assignment or transfer of this Agreement or any rights hereunder by either Party shall be strictly prohibited. This Agreement may not be assigned by either Party without the prior written consent of the other Party. However either party may entirely or partly transfer this Agreement and obligations under this Agreement and under any related individual agreement to any of its Affiliates and - in connection with any type of merger, consolidation, divestiture, dissolution and any other type of business combination or business reorganization, including, without limitation, the establishment of joint venture companies, without any prior written consent.

Ans: The underlined additions to the clause are not acceptable.

Q-262. Part 3: pg no 33: DISPUTE RESOLUTION: Any dispute or difference whatsoever arising between the parties to this Contract out of or relating to the construction, meaning, scope, operation or effect of this Contract or the validity of the breach thereof, which cannot be resolved through the application of the provisions of the Governance Schedule, shall be referred to a sole Arbitrator to be appointed by mutual consent of both the parties herein. If the parties cannot agree on the appointment of the Arbitrator within a period of one month from the notification by one party to the other of existence of such dispute, then the Arbitrator shall be nominated by KSRTC. The provisions of the Arbitration and Conciliation Act, 1996 will be applicable and the award made there under shall be final and binding upon the parties hereto, subject to legal remedies available under the law. Such differences shall be deemed to be a submission to arbitration under the Indian Arbitration and Conciliation Act, 1996, or of any modifications, Rules or re-enactments thereof. The Arbitration proceedings will be held at Delhi, India. We recommend following:

Q-263. “All disputes arising out of or in connection with this Agreement, including any question regarding its existence, validity or termination, shall, unless amicably settled between the Parties, be finally settled by arbitration in accordance with the Arbitration and Conciliation Act 1996, and any modifications thereto and re-enactments thereof from time to time, by three arbitrators. Each Party shall appoint one arbitrator and the third arbitrator shall be appointed by the selected two Arbitrators. The seat of Arbitration shall be Mumbai, India.

The arbitration proceedings shall be conducted in English. 1) Legal: We suggest to include the below verbiage "Either party can terminate the agreement/this engagement by giving 90 days notice period" 2) Legal We request addition of new clause Limitation of liability. We suggest that neither party shall be liable for any indirect loses or damages of whatsoever nature. The aggregate maximum liability shall be limited to the contract value."

Ans: Ans Q-262 to Q-263: Agreed limited to a) the seat of arbitration will be Bangalore; the proposed clause {underlined above} is not acceptable.

Q-264. Part 2 Pg no. 15: If supplies are not made as per the delivery schedule prescribed or the revised delivery schedule intimated by the consignee, if any, the consignee will purchase such requirements from any alternate sources and the extra expenditure incurred thereof will be recovered from the supplier's Bills due for payment or from the Security Deposit. Further the default supplier has to reimburse all the liquidated damages / losses arising due to non-fulfillment of contractual obligations -What is the overall cap on Risk Purchase?- What is the overall cap on Limitation of Liability including Risk Purchase?

Ans: There is no cap on the overall limit. The supplier who defaults will reimburse all the liquidated damages / losses arising due to non-fulfillment of the contractual obligations.

Q-265. Part 2: Pg. no. 24: At the same time as KSRTC notifies the successful Bidder that its proposal has been accepted, KSRTC shall enter into a separate contract, incorporating all agreements (to be discussed and agreed upon separately) between KSRTC and the successful Bidder. Such agreements shall cover, in detail; aspects/ terms of the contract such as:(1) Performance security(2) Contract form(3) Warranty(4) Payment(5) Prices(6) assignment(7) Sub-contracts(8) Liquidated damages(9) Termination(10) Applicable law(11) Notices(12) Change orders(13) Taxes and duties(14) Confidentiality(15) Limitation of liability(16) Technical Documentation(17) Project Management(18) Bidder's obligations(19) Exit clause(20) Service metrics(21) Scope of work(22) Deliverables(23) Penalty(24) Etc... Kindly provide detailed T&C for each of terms listed ion 4.10.1

Ans: Refer to Section 3 of Part 3 – VTMS & PIS - Operational and Legal Requirements for a draft of the agreement proposed to be signed.