

**KERALA STATE ELECTRONIC DEVELOPMENT  
CORPORATION LIMITED**



**EOI Invitation**

**For**

**Technology Partner**

**“Command and Control Software with Licence”**

**EOI No: KSEDC/KMO//DLI /EOI/C&CS/005 Dated 30/04/2018**

**Important Deadline for Bidders**

**EOI Submission: - 07/05/2018 at 03:00 PM**

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# **PART - A**

## **EXPRESSION OF INTEREST FOR SELECTING “TECHNOLOGY PARTNERS” FOR**

### ***“Command and Control Software with Licence”***

#### **1. BACKGROUND:**

The KELTRON group companies comprise of the holding company the Kerala State Electronics Development Corporation Limited (KSEDC LTD.), two subsidiaries and seven Marketing Offices (KMOs), located at Ahmedabad, Bengaluru, Kolkata, Chennai, Delhi, Hyderabad and Mumbai. KELTRON is the first State Electronics Development Corporation in India, fully owned by the Government of Kerala. KELTRON is incorporated on 29<sup>th</sup> September 1972 under Companies Act, 1956 with its registered office at Keltron House, Vellayambalam, Trivandrum – 695 033. KELTRON is the Total Solution Provider for the Government of Kerala.

Today, KELTRON products/ projects remain as icons of technology brought to benefit the people. As diverse as its products and their uses are, they are unified by its pivotal strength as a solutions provider. It is this philosophy that has made KELTRON a vital contributor to the changing needs of the world and the community to which it belongs to, during the last 42 years.

Continuing in its quest to bring the benefits of frontier technology to its customers, KELTRON has forged strategic alliances with world leaders in the trade. Its focus today is in adapting technology to fulfil the needs of its customers with a renewal mission to emerge as a provider of better solutions for the future. KELTRON’s major products are Electronic Components, Security and Surveillance Systems, Strategic Electronics, Intelligent Transportation systems, Automatic Traffic Regulating System, Power Electronics, Information Technology Solutions, Process Automation Systems, Project Consulting etc.

KELTRON’s strategic vision is to become a world-class, growth-oriented electronics corporation specialised in providing quality, market-focused products, services and cost-effective system solutions to a large clientele. Company aims to achieve a turnover level of Rs.1000 Crores within the next 5 years.

#### **2. PROJECT:**

KELTRON is in the process of augmenting its business domain to include < *Command and Control Software with Licence* >, herein after called “Solution” and is looking for a suitable ‘Technology Partner herein after called TP” who has got expertise and experience in designing and/or in providing Technology Support, manufacturing, supply, testing, installation & commissioning and maintenance in the above solution.

#### **3. OBJECTIVE:**

KELTRON proposes to appoint a TP with proven professional track record and experience in above solution .With this Request for Qualification through Competitive Bidding, KELTRON seeks Expression of Interest (“EOI”) from interested Parties (“Bidders”) to work as TP to perform the indicative Scope of Work illustrated under Section - 4 (Scope of work) of the EOI document. The EOI document can be downloaded from the website at [www.keltron.org](http://www.keltron.org)

#### **4. SCOPE OF WORK & TECHNICAL SPECIFICATION**

Supply & Commissioning of Command & Control Software with License. The OEM should have a direct presence in India with a development center for customizing the solution if required as per end user.

Design, development, manufacturing, supply, testing, installation, and commissioning (as is applicable) of the following to work as a single integrated solution. The solution comprises of the following modules/ subsystems.

Integration of all the sensors with Command and Control Software. As per list below:

##### **Particulars of Sensors:**

1. EO Sensor (Day/Night)
2. RADAR
3. Tethered UAV ( Video feed only)
4. OFC ZB-DAS
5. IRIDS
6. UGS
7. UWS (Sonar) (Passive)
8. Water Robots (Audio I video feed only)
9. Gate Management

##### **Additional Modules Required:**

1. MCOP
2. FDC
3. L3C
4. M3C
5. RDC

The firm should possess complete capabilities to modify the software as per requirement

## SCHEDULE OF REQUIREMENT

Sr. No.	Description of Work	Qty
1	<b>Command and Control Software with Licence as per Technical Specifications</b>	1

### Objectives:

**4.1** The Software should have an objective to implement holistic & integrated video & surveillance management with enhanced capability to show the generated alerts by devices deployed in border areas. The software should have ability to integrate Camera/UAV/Radar/Radar/HHTI & sensors which should work in conjunction .Pre defined Work flow should be an inseparable function of software which should terminate with trigger alerts & report formulation for future ready reference.

**4.1.1** Software should be flexible, dynamic, distributed, reactive, real-time, scalable, expandable, redeploy able & shall have following characteristics:-

- (a) Should be deployed on an IP based Non Proprietary Networks
- (b) Leveraging existing infrastructure
- (c) Automated policies, workflows & response plan
- (d) Control monitor & maintain disparate network
- (e) Provide a single customized dashboard interface which promotes situational awareness with control & monitoring
- (f) A place where different technologies come together to create an efficient and operational requirements.

**4.1.2** Major Modules of Software:-

- a) Surveillance Integration Application:** Real Time display of surveillance feed to the C& C centre for Ops assessment by Ops commander. Software should cater for real time monitoring of surveillance feeds & retrieval of feed at given point at any given .Software should support display of feed in rugged Laptop/PDA allowing visualisation of Location surveillance on Map.
- b) Video Management Software (VMS) Module:** VMS shall offer centralized management of all devices, servers and Users. VMS should manage, store, deliver and support encoding, distributing, managing and achieving. Video feed should allow recipients of the video to brings and play back the expected video without installing separate software on their Computer. VMS should provide support for multi casting of video feeds to client work stations in order to conserve network resource.
- c) GIS Module:** Software should have inbuilt integrated GIS module which shall give a multilayer visualization of Area of Interest with comprehensive view of deployment of sensors & surveillance devices.
- d) Event handling Module:** System should be capable of handling various events with a time line view, integration with video/surveillance feed. Event

handler shall be capable to provide detailed overview of incident to various concurrent users at a time.

- e) **Data visualization module:** System should have functionality of simultaneously display on at least three screen included GIS, VMS and event logging screen.

### **Technical Specifications:**

- Installation and Commissioning of complete system as per site requirement would comprise of Application Software Development and versioning control.
- System should take less time in initialization. Time taken to start the system from switching on to load OS, common software loading area maps, satellite imagery and getting full sensor/camera/radar/UAV feed shall not be more than 3 minutes. Software should be robust to handle large data when exposed to multiple devices in parallel without being freeze.
- Software should have standard military symbol library for depicting own/counterpart formations, weapons, sensors and geographical terrain.
- The software architecture should be on a platform which could be integrated with existing IPP (Intranet Prahari Project). It should have MS windows OS and MS SQL as database with most current version. Front end should be able to technically integrate all sensor inputs to provide centralized control, situational awareness & event response coordination through one comprehensive user interface. The Platform on which the software is deployed and database should be robust enough to handle large amount of video data.
- The Software platform shall be a modular & scalable open architecture and if required shall allow to plug any industry open standards.
- The C&C software should seamlessly interface with following sensors, which can be deployed on the ground, riverbed or in riverine area like:

IRIDS (Infra-Red intrusion detection system), Unattended ground sensors (UGS), Electro Optics cameras (day/night) (EO), Under Water Sensors (UWS), Water Robots (ROV), Tethered UAV, OFC-DAS etc. Complete details of the sensors are available on demand.

The sensors shall be integrated by their respective vendors through a PC/laptop based software and C2 vendor should be capable of integrating the same with software.

- The GIS component of Command and Control software if developed from open source of GIS, should be robust enough with all the required features of GIS. In a Command and Control software from a third party license, GIS component should be provided with a perpetual license having no requirement of renewal of license at any stage after the implementation. In addition, GIS software of either type should be compatible to work with imageries in raster/vector form in 2D / 3D format having DEM features.
- The software platform shall have features to put various inputs received, on various platforms like GIS screen, video clipping, still photograph, event report in a single document to be called as 'View of Incident' which can be further augmented with result of analysis for record purpose.

- The information received from various systems and sensors shall be presented in an intuitive multi - layered interactive GIS map System.
- The software should have capability to integrate any open API/SDK platform of any third party system and interface without keeping much dependency on OEM & vendor. It should interface various devices deployed seamlessly. User should be able to save sensor-data and pictures with a geo tag and date and time stamping for easy correlation and referencing at a later stage.
- The Central Command & Control Center should remain in an active state so that when an alarm is received from a sensor, the system monitor should indicate "alarm" status and the affected zones of the border/IB should be immediately shown on the video screen through nearest PTZ/fixed camera. The system should also differentiate between human-being, animal or boat movement, with the help of video-analytics or appropriate signal received from a sensor, where applicable.
- The system should be capable of executing Slew to Cue function for verification of incident, based on alert generated by another sensor by visual verification of event by the camera, wherever applicable.
- The C & C system shall support a minimum of 128bit Encryption for all communications between the Server & Client (Thin, Thick & Rugged laptops/palm tops) terminals to ensure that data is adequately protected from unauthorized access.
- The C&C system should have scalability in terms of adding new sensor/device and through this Data/Alert on various screens.
- The C&C system shall have the ability to redirect events-details (Common Operating Picture) to first responder/ORT based on manual buttons as well as using automated procedures for escalation using time delays, alarm priority, zones, or other criteria, as determined from time to time.
- The C2 Software shall provide a GUI based facility to modify processes and policies (SOP) by the administrators, which decides the complete chain of action to be taken on an alert generated by a sensor.
- It should be possible to change the workflows and process-guidance without upgrading the software or restarting the system.
- The administrative access to the system shall be role based and shall allow administrator to add supported systems and/or devices, modify, customize or create configurations of user GUI, setting levels of user permissions and pre-emption rules for control of system functions and capabilities.
- The C2 Software shall allow access to information received through sensors or created by a console operators, to any operator based on his level of authority or his position in the Command and control hierarchy.
- The system should be capable of interfacing with Radio/wireless (UHF/NHF) based on IP Communication Network like DMR. The responsibility to arrange API/SDK for DMR system shall rest with the vendor.

- The system shall maintain logs of all events, whether received from sensors or initiated by operator from console. The system should thus archive all relevant information about processed data from integrated systems, subsystems and devices.
- The C2 Software shall have the ability to collect system performance data to enable analysis of system performance, comparison with baseline measurements, identification of discrepancies and implementation of corrective actions. Table of baseline data for comparison shall be provided by BSF at the time of implementation.
- There should be a separate panel for report generation, in respect of threats, visible in different windows, for pattern analysis and profiling.
- The C2 Software shall provide a report generator to enable the quick generation of user defined reports including
  - a. Report of all user commands and actions
  - b. Report of all alerts, alarms and events.
  - c. Health status for connected systems.
  - d. Processed data from integrated systems, subsystems and devices.
- The C2 Software shall provide the facility to upgrade web-clients centrally which means that it should be feasible to upload updates from one place without the need to install the same at each operator location.
- The C2 Software shall be designed in such a manner that individual components (VMS and GIS) and subsystems can be maintained separately without compromising the integrity of the entire C2 Software.
- System shall have facility for operator assisted delete and push of data (video as well as other appropriate sensors) for saving the disk space and archiving.
- System shall be capable of integrating the data from the sensors with data input by the operator in the Main Command & Control Center, to achieve data fusion.
- The OEM / bidder should have experience of integration of all the sub systems in Command and Control software with available protocol.

#### **4.2 Impart training to KELTRON Staff (as applicable)**

1. On the project/modules/ solutions.
2. Test and QC procedures: Formulation of Test Procedure for inward inspection, in-process quality control and final product testing & acceptance.
3. Installation and Commissioning.
4. After Sales / Maintenance Support.

#### **4.3 As part of Project Implementation Cycle to provide documents: (as applicable)**

1. Site / Requirement study
2. Bill of materials
3. Project costing
4. Vendor development support
5. Die & tools development support
6. Type approvals & certification support



**4.4 Post Project Implementation Support: (as applicable)**

1. Successful Implementation with appropriate approved Test Procedures
2. Continued support to successful running of the project
3. Upgrades if necessary
4. Seamless integration with other systems through “various means”

**5. MATERIAL TO BE SUPPLIED BY THE CONTRACTOR**

1. All material specified in the schedule of supply should be supplied within 6 month from date of issue of work order.
2. All petty material not specified in the schedule required to complete the job.

**6. TECHNICAL SPECIFICATIONS/ CONDITIONS**

1. The equipment/material shall be supplied and installed as per specifications given in the schedule.
2. The equipment/material shall be supplied as per specifications after inspection by the agency mentioned in the schedule against each item along with inspection certificate.
3. Tenderers shall be responsible to make any required software changes which may be required during the period of warranty to make the equipment in good working order.

**7. INSPECTION OF MATERIAL: Inspection Procedure**

After delivery of the software and successful installation/ commissioning of the software by the firm, Joint Inspection for successful commissioning/ Functionality of the software will be carried out by a Board of officers (BOO) detailed by Comm. & IT Department, of end user, within 15 days after completion of commissioning. Firm shall have to customize the software during trial and within Guarantee/ Warranty and CAMC period as per the operational/ field requirement of end user.

**8. REQUIREMENT OF TENDER SAMPLE**

The tenderer shall make available complete set of Command and Control Software for functional evaluation of the software within two weeks on hearing from purchaser.

**9. OEM WILL ALSO ISSUE WARRANTY CERTIFICATE**

**Conditions for Warranty**

- The Contractor shall arrange to rectify any kind of failure/modification of software that may arise in the executed work within a period of 12 months after certified date of commissioning of the work.
- During this period the contractor shall arrange to replace all the defective components free of cost.
- The firm shall maintain the system installed on round the clock basis for its perfect working.

- The firm shall replace the components, if required, free of cost during warranty. Similarly, Software modifications, if required shall be done during warranty for which no extra cost shall be paid.
- The firm's engineer shall check all the system modules at least once in a quarter for its perfect working and record the observations in the log book to be kept in the custody of end user.
- Contractor's site engineer shall have contact number & Email shall be accessible 24 hours, even on holidays so that he can be called during failures on the system. This contact number shall be given to end user for day-to-day dealings.
- KELTRON will not be liable for expenditure incurred for traveling/logistics from one location to other by site engineer or any other competent person employed/ sent by the contractor for attending to the faults Contractor shall replace/repair faulty system at his own cost & no extra cost shall be paid for this.
- Contractor shall be equipped with necessary spares so that in case of repairs requiring longer duration the contractor may replace faulty equipment and the system works on the spare equipment till such time faulty equipment is repaired or is altogether replaced as per site requirement.
- Responsibility for maintenance and proper upkeep of the systems installed shall be fully of the contractor and expenditure incurred for the same will be borne by the contractor.
- In case of damage due to software corruption, the replacement and reprogramming shall be contractor's responsibility.
- The contractor is liable to attend to all types of faults/failure except those arising out of physical breakage (which is not as a result of bad workmanship on the part of the contractor) or missing parts due to theft.
- The contractor will not be liable for any penalty if it is proved that system is damaged due to natural calamity or theft. If the need arises, the contractor shall take defective parts to their workshop on proper gate passes issued by the competent authority.
- During Warranty if any change in software/hardware is required, the contractor should be required to arrange the same without any additional cost.

**Penalty Clause:** The firm's engineer shall check all the system modules at least once in a quarter for its perfect working and record the observations in the log book to be kept in the custody of end user.

**Minor Failure:** The failure shall be attended and set right within 24 hours of reporting. In case of default, penalty of Rs.1000/- per day shall be imposed till the failure is rectified.

**Major Failure:** The failure shall be attended and set right within 24 hours of reporting. In case of default, penalty of Rs.5000/- per day shall be imposed till the failure is rectified. In case preventive maintenance is not done by the contractor, Penalty of Rs. 5000/- per schedule visit shall be deducted.

## 10. COMMISSIONING

The contractor shall be responsible for the commissioning of entire Command and Control Software with Licence along with integration of Cameras, Switches with Control & Storage

System/subsystems. The completion certificate in accordance with General Conditions of Contract, Technical Specifications and Special Condition of Contract shall only be issued by end user after the installation is satisfactorily commissioned including provisioning at Divisional/Zonal Head quarter as specified.

## **11. EOI PREPARATION**

1. Bidders shall provide the solution, in its entirety to KELTRON.
2. Bidder shall submit the EOI in the application form provided as “Form-B”.
3. Bidder shall submit the EOI along with a covering letter as per “Form-A”.
4. Bidder shall submit the EOI in sealed envelope with “EXPRESSION OF INTEREST FOR “TECHNOLOGY PARTNER” written on top, containing one (1) hard copy in original and three (3) photo copies (“Printed Documents”) along with the entire required Appendix in the order provided in the table of enclosures.
5. Bidder shall note that it shall submit the duly filled EOI format and covering letter as mentioned above along with all the supporting documents in hard copy form as well in soft copy form on a CD.
6. *The EOI should reach KELTRON Travancore House, K. G. Marg New Delhi - 110 001 on or before 07/05/2018 at 03:00 PM.*
7. KELTRON will not be responsible for or accept as a valid reason any postal delay or non-receipt/non-delivery of the EOI.
8. Any deviation from the prescribed format mentioned in the exhibits will make the bid liable for rejection. Bids incomplete in any respect or not providing adequate information will also be ground for rejection.
9. If the Bidder conceals any material information or makes a wrong statement or misrepresents facts or makes a misleading statement in the EOI, in any manner whatsoever, in order to create circumstances for the acceptance of its EOI, KELTRON reserves the right to reject such EOI. KELTRON shall have no liability to any person for excluding or rejecting any such bid.
10. KELTRON reserves the right to accept or reject any EOI or to annul the bidding process and reject all EOIs at any time, without assigning any reasons thereof and KELTRON shall not entertain any claim whatsoever on this account. The Bidder shall have no claim on KELTRON in case his EOI is rejected or the bidding process is annulled.
11. Participants requiring any clarification on the EOI may notify KELTRON in writing or by e-mail to the **ID: KELTRONDELHI@GMAIL.COM**.
12. KELTRON shall endeavour to respond to the questions raised or clarifications sought by the Participants. However, KELTRON reserves the right not to respond to any question or provide any clarification, in its sole discretion, and nothing in this Clause shall be taken or read as compelling or requiring KELTRON to respond to any question or to provide any clarification.
13. KELTRON may also on its own motion, if deemed necessary, issue interpretations and clarifications to all Participants. All clarifications and interpretations issued by KELTRON shall be deemed to be part of the EOI. Verbal clarifications and information given by

KELTRON or its employees or representatives shall not in any way or manner be binding on KELTRON.

## **12. ELIGIBILITY CRITERIA**

1. Bidder should be an Indian Company registered under Companies Act 1956.
2. Bidder should not have been debarred / black listed by any Government, Semi-Government organizations in India, Public Sector Undertakings of the Centre or State Governments.
3. Registered as a company for System Integration, Managed Services, Faculty Management Services, IT- Infrastructure Support Services and Repair Services.
4. The Bidder should have possession of source code for Firmware (as is applicable) and should have the capability to modify and incorporate changes.
5. The Bidder should be provide Indigenous Command & Command Software with Licence.
6. The Bidder should have the competency for the mentioned Implementing the solution and should have a panel of expert in the roll.
7. If the Bidder is not a manufacturer (only a technology provider) it should have an authentic undertaking from the corresponding should be Indian OEM/OEMs.

## **13. EVALUATION of EOI**

1. The SBU/KMOs will constitute an Evaluation Committee to evaluate the responses of the Participants as per the Evaluation Methodology.

The Evaluation Committee constituted shall evaluate the responses to the EOI and all supporting documents & documentary evidence. Inability to submit requisite supporting documents or documentary evidence, may lead to rejection of the EOI response. The Committee may seek additional documents as it deems necessary, at its discretion.

2. EOI evaluation will be carried out considering the information furnished by Bidders as prescribed under covering letter and Application form for EOI. The Bidder must fulfil the minimum qualification requirements as mentioned in Section - 12 (Eligibility Criteria) KELTRON intends to conduct the bidding process for the selection of the TP based on a Competitive Two Stage Bidding Process-
  - (a) In the first stage, KELTRON intends to qualify bidders who meet the Qualification Requirements detailed in Section - 12 (Eligibility Criteria) of this Expression of Interest (“EOI”) and declare them as Qualified Bidders and
  - (b) In the second stage, Qualified Bidders will be called for a detailed presentation for evaluating their technical capability, product quality, QA procedure, etc.
  - (c) Each of the responses shall be evaluated to validate compliance of the Participant according to the processes and approach to enable partnership, presentation and demonstration.

- (d) KELTRON will intimate the outcome of the EOI evaluation in due course. The decision of KELTRON in this regard shall be final and binding on all bidders. After identification of the successful Bidder, KELTRON intends to execute an Agreement/SLA with the successful Bidder, thus concluding the process of appointing a TP.
3. Notwithstanding anything stated above, KELTRON reserves the right to assess Bidder's capability and capacity to perform along with quality of execution by the bidder based on field visit and feedback, in the overall interest of KELTRON.
  4. The decision of the Evaluation Committee in the evaluation of responses to the Expression of Interest shall be final. No correspondence will be entertained outside the evaluation process of the Committee.

The Evaluation Committee reserves the right to reject any or all responses.

#### **14. OWNERSHIP OF THE EOI**

The bidder shall submit all the documents given in Form – C in Part B of EoI.

- 13.1 Without affecting any intellectual property rights, which may exist in a response to this EOI, all responses submitted will become the property of KELTRON. Without limiting this section, KELTRON reserves the right to copy and reproduce, for KELTRON's own internal use, responses for the purposes of evaluation, clarification, negotiation and/or contract execution and anything else related to these purposes. In addition, the KELTRON will retain copies (soft and hard) of all responses, evaluation, negotiation or such other materials as are required for the discharge of its legal obligations and in order to efficiently and effectively manage any contract entered into with a Bidder.
- 13.2 KELTRON reserves the right to change, modify, add, alter the EOI document or cancel the bidding process without assigning any reasons thereof, at any time during the bidding process. The bidding process shall end with signing of the Agreements. Any such change shall be notified in Keltron web site.
- 13.3 Notwithstanding anything stated above, KELTRON shall not be responsible or liable for non-receipt of any such change/notice by bidder. The bidder or any third party shall not object to such changes/modifications/ additions/ alterations explicitly or implicitly. Any such objection by the bidder shall make the bidder's proposal (at EOI stage, RFP stage and/or financial proposal Evaluation stage) liable for rejection by KELTRON. Further objection by any third party shall be construed as infringement on confidentiality and privileged rights of KELTRON with respect to this document.

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