

Invitation for Expression of interest : e-maintenance management system

Introduction

1. The maintenance responsibility in the IAF spans across a diverse range of aircraft, associated equipment, support equipment, communication, guided weapons to armament. The scope of the task not only gets dictated by the huge inventory but also by the technological diversity and origins.
2. Maintenance management of such diverse inventory requires extensive data management, monitoring, analysis, planning and control. The IAF plans to implement an enterprise wide, centralized, on-line COTS e-maintenance/ MRO System with automated workflows and BI tools to facilitate efficient and effective maintenance management and control.
3. The IAF invites expression of interest from leading SIs/ OEMs (ERP/MRO) in this field for setting up a Turn Key project, to provide a customized solution to automate the maintenance management process across the organization, with latest web based technologies. The application would ride on AFNET, an OFC network and utilize the existing resources. Additional hardware requirements as necessitated by this application in terms of servers, desktop PCs, thin clients, power supplies etc. shall be procured under this project.

Project Overview

4. The main objective of the E-Maintenance System is to generate a software solution, which should be capable of facilitating computer aided maintenance for the aircraft/ equipment in the IAF's inventory and result in a paperless maintenance operation with organization wide visibility. The implementation of this package should ensure the following basic objectives:
 - (a) Computer aided scheduled/ unscheduled maintenance of aircraft/ equipment in the IAF inventory.
 - (b) Time and activity based regulations monitoring for all processes.
 - (c) Facilitating online visibility and information flow across the organization.
 - (d) Systematic data storage and archival.
 - (e) Automating maintenance workflows.
 - (f) Intelligent tools for analysis and planning.

- (g) Interoperation with legacy applications.

Outline of Scope

5. The scope of this project is to provide a turnkey solution comprising hardware, system software, application software, customization, training, implementation, commissioning and maintenance support. It covers the design, customization, supply, installation, testing, commissioning and warranty of the equipment, software and all associated Services. The turnkey solution must be provided by a System Integrator/ OEM (MRO/ EAM/ ERP) who shall be completely responsible for the consultancy, drafting project scope document, core business process document, SRS with the e-maintenance coordination committee, project management and timely execution of the project, compliance of SLAs, as a single point solution provider and the sole prime contractor/ bidder for the entire project. The System Integrator(SI)/ OEM shall be the Prime Contractor and undertake the following functions, for all solution components:-

- (a) Overall Program and Project Management.
- (b) Acquisition of solution components either by procurement from OEM or third party sources (for SI) or development/ customisation.
- (c) Acceptance of solution components and provisioning of services either directly or through OEM for implementation of the solution components from OEMs with customisation as necessary (in case of a SI). In case of usage of pluggable modules for addition/ modification of functionality, the OEM/ SI would ensure using licensed versions with marketing permission/ IPR.
- (c) Total Systems Integration
- (d) Quality assurance from the respective OEMs
- (e) Risk Control and Management
- (f) Package Configuration and Customisation
- (g) Inter-application Interface and Integration
- (h) Commissioning and going live
- (j) Design and Preparation of Test Data and System Testing
- (k) Training by OEM on packages implemented.

(l) Change Management for transition from current to new environment

(m) Facilities Management (enterprise management system (call handling, onsite support)) for all locations.

(n) Post - Implementation Support (upgrades (OS and application), patches, maintenance and administration)

6. The scope of e-maintenance implementation in the IAF can be categorized across twelve clear verticals which are :

(a) Aircraft including UAVs

(b) Guided Weapon Systems

(c) Air Defence Radars

(d) Air Traffic Control Systems, approach aids including radar systems.

(e) Safety Equipment (crash barriers)

(f) Communication systems and Combat network

(g) Power Generating Equipment

(h) Ground Support Equipment

(j) Armament

(k) Mechanical Transport

(l) IT Equipment and support.

(m) Training

7. The complete project would be undertaken under two phases. The first phase would be utilized for development and testing of the complete application. The application will however be rolled out only for the aircraft vertical in phase-I. The second phase of the application would be utilized for application roll out for the balance verticals and application enhancements. As a part of the contract the vendor would be required to provide one year of handholding with onsite support at all locations after completion of the project and subsequent five years of maintenance contract which will include updates, patches and version upgrades for both OS and application as applicable.

8. The scope of the project involves deployment of the solution on a central and DR site, roll out & implementation of the application for approximately **170** locations covering approximately **550** units/ formations with functionality/ customisation as defined by requirement of individual verticals at a location. The total user base for the application would be approximately **70,000**. A local database, storage and server would be maintained at each location which would ensure continued operations even in case of connectivity failure.

9. The vendor may suggest BPR/ Best practices as a part of standardization, but the user requirements as defined by the IAF would be given a higher priority for the customization effort. The RDBMS/ application cluster software would be provided by the IAF (Oracle 10g/ SQL Server/ RAC). The centralized deployment and management of the application and authentication/ identity management shall be done using existing infrastructure in the AFNET.

10. The application would be based on SOA (service oriented architecture), and would be implemented using an optimally aligned COTS package for maintenance module of ERP/ MRO/ EAM with least customization for gaps in open architecture framework in an incremental model. The aircraft vertical would be utilized for gap analysis. The application will interoperate with legacy applications like IMMOLS (Integrated On Line Material Management Solution) and I-CATS (Integrated Command Air Tasking System). The IMMOLS uses SQL server and VC on a distributed architecture. I-CATS is a proprietary web based application using GIS, VC, VB and custom codes with its own proprietary database. The database is SQL compliant. Scalability (horizontal and vertical for projected user base), ease of deployment and upgrades/ versions, response and interoperability would be the essential features of the application, which would need to be specifically demonstrated during evaluation on internet bandwidth, with details of request/ response cycles.

11. As regards to functionality, the essential features include workflow automation, analysis and monitoring tools, database management, identity management, paperless operation, online reporting, planning tools and centralized management including updates, patches, version upgrades (OS and application/ custom codes).

12. The project would be implemented in a phased manner as under :

(a) **Phase-I** : Complete application development and testing for all the twelve verticals, implementation and roll out for the aircraft vertical for approximately 90 locations with interoperability including infrastructure.

(b) The development/ customization for individual verticals would need to be progressed simultaneously meaning thereby, simultaneous deployment of 12 teams.

(c) **Phase-II** : Implementation and roll out of the application for the balance verticals at approximately 80 locations and application enhancements across all the locations in the IAF .

(d) Handholding with onsite support across all sites : **One year after complete deployment.**

(e) Maintenance support including product/ application upgrades, patches : **Five years from the end of handholding period.**

13. The OEM/ SI must submit a broad implementation plan/ strategy for both the phases .

14. The prequalification criterion for SI and OEMs are as below :

Pre –qualification criterion :SI

S.No.	Criteria	Documents to be submitted as part of EoI
1.	The SI should be a registered company in India with an annual turn over of not less than 500 Crores in each of the last three financial years. (2004-07)	Audited financial statements and other satisfactory evidences such as certificate by authorized signatory, auditors certificate etc.
2.	The SI should have existence in India for last five years as on 31Mar08 and should have proven experience in the field of IT system integration (including third party integration), Support, Application maintenance and consulting. Consulting experience on IT strategy and six sigma is a must and on COBIT is desirable. Joint ventures, consortia, sub contracts are not acceptable.	Certificate of incorporation of the company and detail of major projects undertaken in last five years.
3.	The SI should have an adequate number of consultants on the payroll for the proposed application, with experience on implementation of all the major modules (maintenance and support).	Certificate from an authorized signatory with details of such manning.
4.	The SI should have an existing relationship for a period of at least last three years with the OEMs (Hardware/ Software) proposed. The SI must have a prior joint implementation/ development experience (for software application only) or must have a	Copies of partnership deeds. Detail(s) of such implementation(s)/ Manning details for the competency center.

	competency center for the proposed application.	
5.	The SI must've following or equivalent valid certifications for last one year at least : (a) a valid level 5 SEI CMM / CMMI certification. (b) a valid ISO 9001: 2000 certification (c) a valid BS7799/ ISO 27001/ 27002 certification/ IB Clearance. The above certifications are not mandatory for the OEM if the OEM (ERP/ EAM/ MRO) bids as a prime bidder. The OEM must furnish detail on quality procedures/ standards adopted towards software development/ implementation/ support.	Valid Certificates.
6.	The SI should have prior experience and proven track record of having successfully executed full life cycle of web based, networked, multi-user, online enterprise applications , on a turnkey basis with customization/ development and support for : (a) At least one project of value 50 Crores or (b) At least two projects of value 32 Crores or (c) At least three projects of value 25 Crores. The cost may include cost of licensing, development, customization, integration, training, support, deployment etc. Aggregation of phased deployments for the same project is permissible.	Project description, with budget, dates, project completion certificates, licensing, locations, user base, references, contact details (for verification), acceptances from concerned Officers and financial value of the projects performed.
7.	The SI must have executed successfully at least three sizeable software application projects in defence , defence/ civil aviation globally either directly or as consortium member/ sub-contract.	Certificate from authorized signatory and details of contact personnel in the organizations for verification if required. In case of joint execution, exact detail of work undertaken and its

		content percentage of the total project scope, certified by an authorized signatory must be furnished.
8.	The SI should be capable of deployment and onsite support (direct or through OEM/ partner) for the application at about 170 locations with comprehensive support infrastructure (24x7x365). The scope includes implementation, fault handling and functional assistance. The mechanism should be web based, call center based or location based support staff. The requirement is that the call should be attended at all locations within a specified response time at all levels. Should preferably be ISO 20000/ BS 15000 certified for service management.	Footprint and manning levels for such roll over/ deployment/ support.
9.	(a) The SI should essentially employ solution architects and QA staff from OEM, for certification on correct implementation at each stage/ level as a part of the team. (b) The OEM while authorizing a vendor to quote for this EoI must give an undertaking that in case of any default in execution of this tender by the vendor, the OEM will take all necessary steps for successful execution of this tender.	Undertaking by SI and OEM.
10.	Must not employ personnel on non-Indian origin on this project without required clearance.	Certificate from authorized signatory
11.	The SI/ OEM shall be completely responsible for the execution of the project as a single point solution provider and the sole prime contractor for the entire project.	Undertaking duly signed by Authorized representative of the SI taking complete responsibility of all deliverables/ execution.
12.	If the SI/ OEM chooses to be part of the Consortium, the consortium must not be of more than three parties. The other parties can only be a Hardware vendor (OEM/ Authorised partner) and an Application Software Vendor (OEM)/ SI. For the	-MoU duly signed by authorized representative from all the parties. -Undertaking duly signed by Authorized representative of the SI/

	members it is mandatory to meet the Prequalification criterion independently and the SI/ OEM shall still be the sole prime contractor.	OEM taking complete responsibility of all deliverables/ execution. -Balance sheets for all members for last three years.
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Prequalification Criteria for OEM (for ERP/ MRO application):

15. The Offered ERP must meet the following Criteria:

Sl. no.	Criteria	Documents to be submitted
1.	Must have Indian/ Global experience in web based, 3-tier ERP/ EAM/ MRO implementation / solution .	Supporting certified documents with full details .
2.	Must have an existence for at least ten years as on 31Mar08 and must have a global annual turnover of at least 1000 Crores for last three financial years (2004-07). In case MRO/ EAM is the only product of the company, the OEM may submit details of major implementations in last five years with relevant details including cost of projects and manning levels for these years with annual turn over figures.	Audited financial statements and details of share holding pattern.
3.	Single ownership of intellectual property/ marketing right for the proposed application	Proof/ Supporting document.
4.	Must have implemented directly or through a SI , full life cycle of projects of similar scale and scope in India/ abroad. At least three implementations must be in defence sector with live customers . Enclose name, contact details and Project details and scope for such customers.	Supporting documents.

5.	Must have at least 10% global market share in ERP/ MRO/ EAM field as applicable. (product/ sector/ support, services/ implementation)	Supporting document (latest Gartner/ IDC or equivalent research report)
6.	Must be reporting profit in last three financial years.	P&L statement for last three years (Indian/ Global)
7.	The company must also submit a published roadmap for product support and development of the proposed application for next ten years at least.	Supporting document.
8.	The application must support open standards .	Submit proof of the same.
9.	Must have a development/ support center in India.	Supporting document with details of manning for support/ development.
10.	Must have at least three certified partners in the country with at least one live customer (India/ global) and established competency centers for each.	Supporting document.
11.	The Proposed Application vendor should have at least 3 Public Sector customers with sizeable enterprise implementations for the similar scope.	Supporting documents signed by an authorized signatory.
12.	Please indicate databases supported for integration/ operation : (a) Oracle (b) DB2 (c) MS SQL (d) Open Source databases.	Technical literature/ documents.
13.	Must support leading OS softwares. Please mark as applicable : (a) MS Windows	

	(b) Linux (c) Unix (AIX) (d) Unix HP (UX) (e) Unix (Solaris)	
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Pre-qualification criteria for OEM (Hardware)/ Authorised Vendor/ Partner :

16. The OEM/ Authorised vendor/ partner must meet the following Criteria:

Sl. No.	Criteria	Documents to be Submitted
1.	The vendor should be a leading, IT hardware company registered in India with existence for at least last five years in India. The annual turn over for last three years (2004-07) should be at least 450 Crores. (Indian/ Global)	Documentary proof
2.	The vendor's servers should be certified for Windows, RHEL, Unix, DMI 2.0 compliance and PCs certified for Windows Vista / Red Hat Linux.	Supporting document
3.	The vendor must be ISO 9001, 14001 certified or have equivalent certifications.	Supporting documents
4.	Comprehensive mechanism for call handling and support (web/ call/ location based)	Supporting document
5.	In case OEM authorizes a vendor, then an agreement from the OEM needs to be submitted to the effect that OEM undertakes product specific responsibility and that of initiating all necessary steps towards project completion, in case the vendor defaults.	Copy of valid, authenticated document.

Additional Conditions

17. The OEM/ SI must submit their stand/ commitment on handing over of source code/ IPR to the IAF.

18. The company/ vendor would have to submit a non-disclosure agreement.

19. An OEM (application) may participate directly as a prime bidder or may authorize SI(s) to participate in the bid quoting its solution. The SIs at the same time may propose suitable solution(s) with details of expertise on each. No new proposals however shall be permitted at RFP stage. Documents and details of roles to be undertaken by each member in a team, with relevant documents will have to be submitted.

20. In addition to the documents asked for, the annexures to this EoI must be referred for submission.

Consortium

21. The SI/ OEM (ERP/EAM/MRO) shall be the prime bidder/ contractor, project consultant and overall project coordinator as a single point solution provider. He shall have a back to back tie up with OEM (Hardware/ Software)/ SI as necessary for project implementation and submit complete details and documents in this regard. The partners so chosen should meet the individual criteria. Documents in support should be furnished with full details. Consortium for the purpose of joint bid is not permitted.

Statement of credentials

22. The EoI must showcase the SIs/ vendor's capability to carry out the project (similar assignments, expertise, skill sets etc). Credentials of the prime bidder and members with their proposed role must be defined. The OEM/ SI would be asked to give a detailed live demonstration, of the application to facilitate evaluation.

Important Dates

23. The vendors are advised to strictly adhere to the time frames given below. Any representation in this regard for delay will not be accepted.

Pre Submission meeting	:	18 Mar 08 at 1000 Hrs at CSDO, Subroto Park, New Delhi-10.
Last date for submission of EoI	:	30 th day from the date of publishing of EoI on website/ newspapers(whichever is earlier).

24. The vendors must attend the pre submission meeting for on the spot clarifications sought, if any.

25. Interested Vendors may furnish their Expression of Interest by giving all the necessary documents as mentioned against each of the above mentioned criteria, as proof of qualifying the minimum requirements. The Expression of

Interest in a sealed cover along with an application duly signed by an authorized signatory must reach the following address on or before the 30th day from date of publishing of EoI in the website/ news papers(whichever is earlier), by 1500 Hrs.

Gp Capt Jagat Nandan
CO , CSDO AF
Subroto Park
New Delhi – 10 .

26. Vendors are advised to study all EoI documents carefully. Evaluation of vendors will be done as per guidelines stipulated in Defence Procurement Procedure-2006. Submission of documents shall be deemed to have been done after careful study and clear understanding of its implications. Non compliance/ incorrect/ incomplete submission would result in rejection of the vendor. No representation in this regard shall be permitted.

27. AHQ VB, reserves the right to withdraw the EoI/ reject any request for tender document without assigning any reason at any stage.

Systems Integrators credentials:

1. Name of the organization [Prime bidder] :

2. Address of the Bidder (Global HQ
and India Operations :

3. Legal status of Prime bidder in India :

4. Stock holding pattern for the Bidder :

5. Name of the Application(s) Proposed :

- Please list the Application(s) proposed

6. IP ownership of the Proposed Application :

7. Systems Integrators Financials :

Turnover last three yrs above the specified level –

PARAMETERS	YEAR	YEAR	YEAR
	2004-05	2005-06	2006-07
TURN OVER			
PROFIT			
R & D INVESTMENT			

* Annual figures to be quoted.

*Audited balance sheets and P & L Statements be submitted.

8. Systems integration vendor's data :

(All data should be pertaining to the proposed solution for e-maintenance management system)

• SEI – CMM level : 5 or above

• BS 7799/ ISO 27001/02/ IB :

Clearance

• Presence in India : Number of years since inception
in India.

• Employee Strength : Number of employees on roll
(Do not include temporary employees) with expertise area

- Sales Coverage : Number of cities where Prime bidder has direct Sales presence.
- Support coverage : Number of cities in India where the Prime bidder has direct support presence.
- Strength of qualified consultants in the application proposed
- Consulting & implementation agreement with ERP vendor(s) proposed
- Consulting experience :
 - IT Strategy
 - Six Sigma
 - COBIT
- Turnkey enterprise projects implemented India / Global
- Number of enterprise implementations (Global)
- Number of enterprise implementations (India)
- Number of implementations for Public sector (India/ Global)
- Number of live customers in Defence Industry/ Organisation (Global)
- Number of live customers in Defence Industry/ Organisation (India)
- Provide details of one enterprise implementation in this sector in India/abroad.

Proposed ERP Software(s) Vendor(s) Credentials:

1. Name of the Application Vendor :
2. Address of the Application Vendor : Global HQ and India Operations.
3. Legal status of Application Vendor(s) in India
4. Proposed Application's Owner(s) of the IP : Enclose proof of the same.
5. Application Vendor(s) : Financials

PARAMETERS	YEAR	YEAR	YEAR
	2004-05	2005-06	2006-07
TURN OVER			
PROFIT			
R & D INVESTMENT			

* Annual figures to be quoted.

*Audited balance sheets and P & L Statements be submitted.

6. Presence in India : Number of years since inception in India.
7. Sales Coverage : Number of cities where Prime bidder has direct Sales presence.
8. Support coverage : Number of cities in India where the OEM has direct support \ presence.
9. MRO/ EAM/ERP Market share (Global) : Enclose third party research reports.
10. Number of Implementations(Global) :
11. Number of Implementations(India) :
12. Number of Implementations in Defence (Global) :
13. Number of Implementations in Defence (India) :
14. SOA Compliance :
15. Number of versions released in the last 3 years. (Indicate number and details of date of release, availability in India and period for which each of the version is supported).

16. Integration with existing PIM available on desktops like evolution and outlook.

17. Data Base(s) supported (including open source) : List the DBs supported by the application.

18. Nature of activity of the application vendor in India: Indicate

- Development:
- Support
- Implementation
- Sales & Marketing
- Training