

DEVELOPMENT AND DEPLOYEMENT OF ICT SOLUTION FOR PROJECT MANAGEMENT ACTIVITIES OF VARIOUS PROJECTS OF APUIAML

Terms of Reference

Tender Notice No: ToR/APUIAML/ICT Solution/SP/2021-21/09/01



1. Introduction

Andhra Pradesh Urban Infrastructure Asset Management Limited (APUIAML) is a joint venture company of Government of Andhra Pradesh (GoAP). APUIAML takes up various projects under infrastructure segment relating to sectors such as Water, Wastewater, Urban roads, Buildings, Bridges, Schools, Lakes & Canals, Parks etc. For all the projects that APUIAML offers ‘Project Delivery’ services during planning & execution stages, it intends to develop an in-house **web/mobile based ICT** solution for project management activities.

2. Objective

The main objective of the intended Project Management System (PMS) solution to monitor, regulate and manage Project Delivery activities of various projects undertaken by APUIAML. The solution is to be flexible and scalable and should be able to current and future projects of APUIAML.

3. Users of the PMS:

Following are the intended users of the PMS system when and then required.

- a. CEO
- b. CTO
- c. Division Head
- d. Project Coordinator/project Manger
- e. Resident Project manger
- f. Functional head
- g. Filed engineer
- h. Client-side officers and staff
- i. Others as per specific requirements of each of the projects

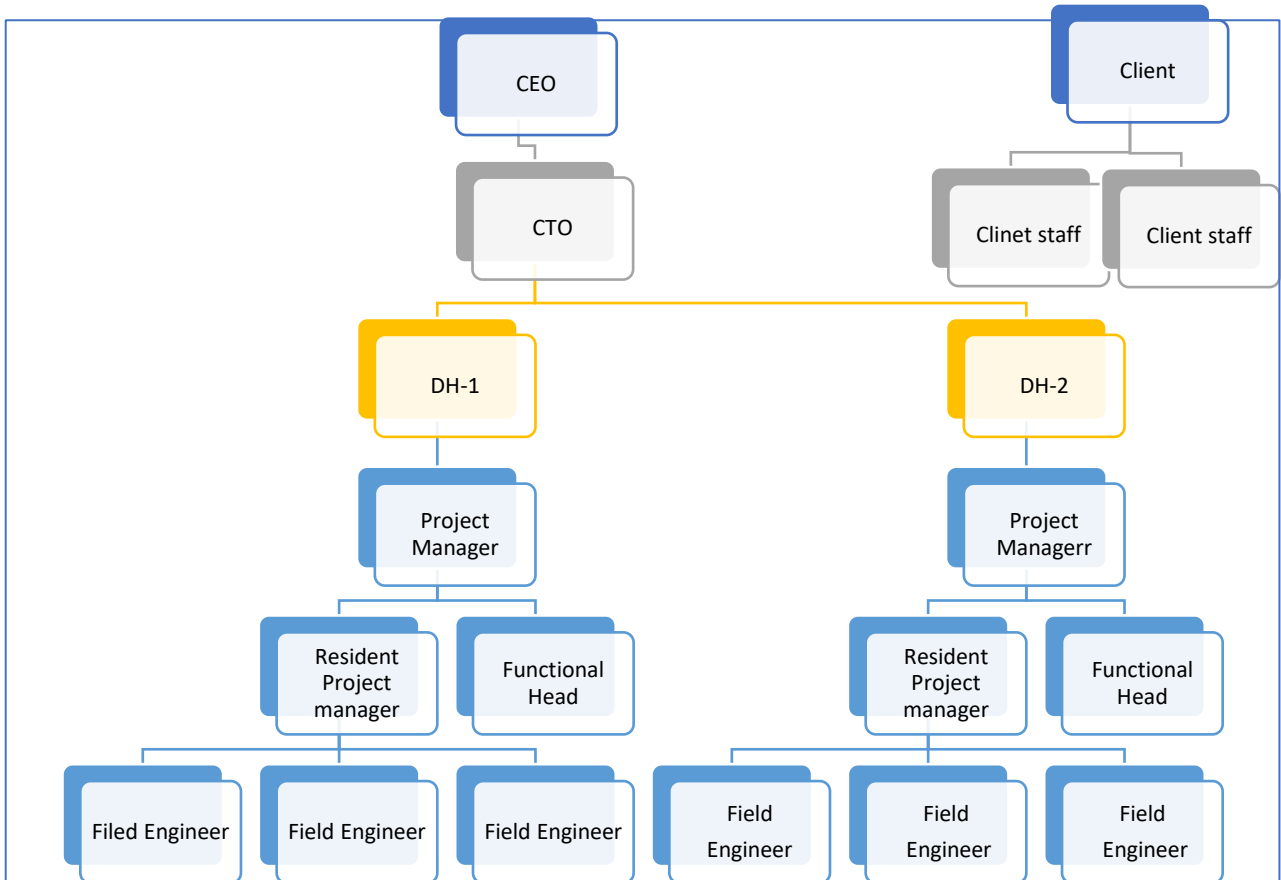
Indicative User Profiles		
S. No	User	Role
1	CEO	View rights, Uses mainly dashboard, reports and providing comments and suggestions
2	CTO	View rights, Uses mainly dashboard, reports and providing comments and suggestions
3	Division Head	View rights Uses mainly dashboard, reports and providing comments and suggestions

Indicative User Profiles		
S. No	User	Role
4	Project Coordinator	Monitor and make changes the data, owner of the project, monitor and control the project
5	Resident Project Manager	Makes data entry, owner of the tasks performed at field level
6	Field Engineer	Enters the data
7	Client	View
8	Other User Profiles	As per specific requirements of each of the projects

- Field engineers enter the data on the daily basis in the data entry forms as per specifications. This will be done at work site. He will take photographs, videos, documents, and uploads to the database. Photo and video shall be a part of the data entry form. The Data / Documents / Photos uploaded on daily basis should be available in archive, for easy / quick reference and also comparison of Nadu and Nedu.
- Resident project manager (RPM), Functional head will verify and approve the data entered by field engineers – 1st level check
- Project manager monitor the data entered and randomly checks the data- 2nd level check.

3.1. Users Hierarchy

The hierarchies are indicative only. Actual is to be arrived at the time of the designing.



The levels are to be modified as per specific requirements of each of the projects.

4. Major Activities of the PMS:

Following are the major intended activities of the PMS,

1. Creation of users and their management
2. Creation of Project and its Activities
3. Updating of the daily status
4. Report generation
5. Dashboard

5. Functional requirements:

The proposed PMS shall facilitate the following minimum functional requirements which are indicative. Actual is to be arrived at during ‘requirements gathering and design’ stages.

5.1 User Management Module

- a. Facility to add users
- b. Facility to delete users
- c. Facility to block the user
- d. Facility to change/modify the roles of the users

5.2 Project tasking Module

- a. Facility to create a project
- b. Facility to modify and delete the project
- c. Facility to define timelines and budget to the project
- d. Facility to add resource to the project
- e. Facility to add tasks to the project
- f. Facility to add sub-tasks to the project
- g. Facility to add resource to the task and subtasks
- h. Facility to add BOQ to the activities
- i. Facility to enter task wise daily progress
- j. Facility to select the units in the metric system and other system
- k. Facility to upload Photographs
- l. Facility to upload Video
- m. Facility to upload and communicate with project related files (cad, shape files, .mpp etc.)
- n. Facility to upload any tasks related documents
- o. Facility to upload any QC reports
- p. Facility to modify MIS formats depending on project specific requirements.
- q. Facility to enter bills & payment summary information
- r. Creation of data entry forms for field level engineers to enter progress data in terms of quantity and quality task wise or activity wise.
- s. Solution shall have flexibly to define tasks and sub-tasks as per the requirement of the project on need basis.
- t. Facility shall be able to enable, disable and filter out certain activities, forms, fields based on project and end client requirement
- u. GIS linked project coordinates
- v. Geo-coordinates shall be marked/embedded while taking photograph or video

5.3 Reporting Module

1. Facility to generate summary report project wise
2. Facility to generate summary report across projects
3. Facility to generate Daily progress report
4. Facility to generate Weekly progress report
5. Facility to generate Monthly progress report
6. Task wise progress report
7. Payment tracking report
8. Project budget report
9. Timeline Data: Facility to search and visualize data, reports, photos, videos, etc. on a timeline basis.

5.4 Dashboard

1. Overall progress across the projects in the form of graphs, charts, tables
2. Progress across the projects in the form of graphs, charts, tables
3. Budget information, overall financial report and project wise financial report in the form of tables, graphs and charts
4. Performance information

5.5 Data Access

The data should be accessible on cross platform viz. Android, iOS, windows, and mac (Linux).

6. Time period:

Entire development and deployment of PMS solution (requirement gathering, coding, testing, user acceptance test and deployment etc.) shall have to be completed within 4 months from the date of receipt of work order.

7. Development Environment:

The intended PMS shall be a web-based system and required portability to the mobile and tabs without separate development for mobile devises.

Activity	Software proposed
Web Designing	Open-Source tools
Web Development	Microsoft .net or Java (Preferably .net)

Database	MySQL and other open-source databases
Hosting	Cloud platform

The database used should be able to create “enterprise geodatabase” and consume in ArcGIS and QGIS applications through “database connections” and it should be able to consume the REST API generated from GIS applications. The necessary connectors / adaptors should be applied.

The PMS system shall be developed in the form/concept of layers or building blocks, so that it will enable other programmers to utilize or modify the source code or disable or enable certain features wherever required on need basis in the future.

Projects, layers, formats etc should be flexible enough for appropriate modifications.

Note: The scope of work mentioned here in this document is indicative and actual scope is to be arrived at “systems requirement gathering & solution design” stage.

8. Solicitation of Financial Quotes from Interested Agencies

It is solicited that eligible and interested agencies who have executed at least project of similar nature are to submit financial quotes for development and deployment of PMS by furnishing the documents - (i) duly filled Annexure A (ii) signed and stamped ToR (on each of the pages of this ToR) and (iii) documentary evidence for execution of project/s with similar nature – on or before 20.09.2021 at the following address:

The CEO,
APUIAML
4th Floor, NTR Administrative Complex,
Pandit Nehru Bus Station
Vijayawada.

S. No	Component	Unit	Total Cost in Indian rupees in figures	Total Cost in Indian rupees in words
1	Project Initiation, SRS Preparation, System and DB design, Solution Development, Testing & Bug	LS		

	Fixing, Deployment & Training.			
2	Standard AMC/maintenance & Support after go-live – as required for 1 year	LS		

Hiring the deployment platform is APUIAML's responsibility

9. Payment Schedule

#	Milestone	% of payment in terms of LS amount for component 1 of the table above.
1	Approval of SRS Document	10%
2	Approval of System Design	10%
3	Approval of Development of Solution	40%
4	Upon successful completion of UAT	10%
5	Upon successful Deployment of the solution & training	30%

10. Other terms and conditions

1. Time frame shall be adhered to without fail.
2. Source code shall be supplied to the APUIAML.
3. Required Training on developed Software and code shall be given to the APUIAML
4. Handholding support from developers is required till the objectives of the PMS is achieved.
5. No advance payment shall be made.

Annexure A

Format for

FINANCIAL PROPOSAL

[On the Letter head of the Agency/Firm]

Date:

The CEO,
Andhra Pradesh Urban Infrastructure Asset Management Limited (APUIAML),
4thFloor, NTR Administrative Block, Pandit Nehru Bus Station,
Vijayawada-520013, Andhra Pradesh

Sub: FINANCIAL PROPOSAL FOR PROVIDING CONSULTANCY SERVICES FOR “Development and Deployment of ICT based solution for Project Management activities of various projects APUIAML”

Sir:

As a part of the Proposal for providing consultancy services for the subject assignment, we hereby submit the following Professional Fee quotation to the APUIAML.

S. No	Component	Unit	Total Cost in Indian rupees in figures	Total Cost in Indian rupees in words
1	Project Initiation, SRS Preparation, System and DB design, Solution Development, Testing & Bug Fixing, Deployment & Training.	LS		
2	Standard AMC/maintenance & Support after go-live – as required for 1 year	LS		

And this is inclusive of transport, printing and stationery and all other expenses except GST towards our Professional fee for the subject assignment to be paid as per payment schedule specified in this ToR.

We shall abide by the above quote, terms and conditions of this ToR, if APUIAML selects us as the Consultant for this particular project.

We also understand that in case any difference between the quoted amount in words and figures, the quote in words will be taken as final.

We agree that this offer shall remain valid for a period of one hundred and eighty (180 days) from the Proposal Due Date or such further period as may be mutually agreed upon.

Yours faithfully,

(Signature of Authorised Signatory)

(Name, Title, Address, Date)

Note: The financial proposal to be submitted strictly as per the above format.