

## NOTICE INVITING QUOTATIONS

### **Sub: Notice Inviting Quotations for Engagement of a Vendor/Consulting Firm for Design, Development and Deployment of a Human Resource Management System (HRMS) for Indian Ports Association – Reg**

#### **1. Introduction**

The Indian Ports Association (IPA) intends to put in place a comprehensive, cloud-based Human Resource Management System (HRMS) to modernise and digitise the administration of its workforce and attendance. The System is expected to cover biometric face-recognition attendance, geo-location validated punch-in/out for field and remote staff, configurable shift and roster management, an attendance panel for employees without smartphones, and a self-service mobile app for employees. It should also automate payroll, including dual basic salary structures and half-pay leave computations, generate statutory compliance reports (PF, ESI, TDS, PT) and provide real-time dashboards with AI-driven insights on attrition and absenteeism. Taken together, these are intended to give IPA a single digital platform for HR and workforce management.

As the agency taking this internal digital transformation initiative forward, IPA proposes to engage a vendor/consulting firm, by inviting quotations, to design, develop, test and deploy the HRMS on a priority basis. The complete and detailed Scope of Work for the assignment is set out at Annexure–II which forms part of the Notice.

The indicative resource requirements for the assignment are set out below:

1. Project Manager – overall delivery, planning and coordination;
2. Business Analyst – requirements gathering, functional specification and process mapping;
3. Team Lead – technical leadership and delivery oversight of the development team;
4. UI/UX Designer – interface design and user experience for web and mobile;
5. Frontend Developer – web application user-interface development;
6. Backend Developer (2) – server-side application logic, APIs, database integration and system architecture;
7. Full Stack Developer (2) – core application design, development and integration;
8. Android App Developer – Android employee self-service application;
9. iOS App Developer – iOS employee self-service application;
10. Database Administrator (DBA) – database design, performance and administration;
11. QA Lead – test planning, quality assurance and defect management; and
12. Security Engineer – application and infrastructure security.

In this regard, IPA intends to appoint, through this Notice, a suitable vendor/consulting firm meeting the Pre-Qualification Criteria (PQC) set out below for this assignment.

#### **2. Qualifications, Terms and Conditions for the Assignment**

- i. Only vendors/agencies meeting the Pre-Qualification Criteria (PQC) set out in Article 3 below will be eligible to submit proposals for the assignment.
- ii. The engagement will be governed on a man-month billing basis. The vendor shall bill IPA strictly for actual man-months worked by each deployed resource, with a 'man-day' being 8 productive hours of work performed on IPA's project by a named resource.

- iii. The resources are expected to work on all IPA working days. In case of exigencies, the resources will have to work on IPA non-working days as well for which no additional compensation will be paid.
- iv. The assignment shall be completed within 6 months (24 weeks) from the date of issue of the Work Order), followed by 2 weeks of hyper-care support. In case the assignment is not completed within this stipulated time period, the vendor will non the less complete the work for which no additional payment will be made.
- v. IPA shall not pay for holidays, bench time, travel, tools, infrastructure or any other overhead, and no minimum guaranteed payout shall apply. During the Design and Development phases, billing shall be raised only for actual man-months worked and certified by IPA, supported by a Daily Resource Attendance Log (DRAL) and progress reports. In case a resource has not worked on all IPA working days, prorata payment will be applicable.
- vi. The number of resources indicated at Annexure–I is indicative and may change as per IPA's requirements.
- vii. All deliverables — source code, designs and assets — shall be the exclusive property of IPA. IPA reserves the right to audit actual days claimed for each resource before releasing payment, and to extend the vendor's services beyond the initial period on the same rates, terms and conditions, if both parties agree.

### **3. Pre-Qualification Criteria (PQC)**

Vendors/consulting firms meeting the following Pre-Qualification Criteria (PQC) are eligible to submit their proposal. Vendors shall submit documentary proof against each criterion; IPA reserves the sole and exclusive right to verify the same and to reject any proposal that does not meet the PQC.

- I. Legal Status & Experience – The bidder should be a company/firm registered in India under the Companies Act, 2013 (or the erstwhile Companies Act, 1956) or a registered partnership/LLP, or propriety and should be in the business of IT/software design, development and implementation for at least 3 years as on the date of this notice supported by a Certificate of Incorporation/Registration.
- II. Annual Turnover – The bidder should have a minimum average annual turnover of INR 1 Crore in the last 2 financial years (2024-25 and 2025-26), supported by audited financial statements/CA-certified turnover statements.
- III. Blacklisting – The bidder should not have been blacklisted/debarred by any Central/State Government department, PSU or autonomous body as on the date of this EOI, supported by a self-declaration on the bidder's letterhead.

### **4. Selection Process**

- I. Proposal shall be submitted two cover system, Cover I and Cover II. Cover No.1 shall contain the technical proposal which shall contain documents which establishes that the bidder fulfils the prequalification criteria. The bidder shall necessarily fulfil all the criteria stipulated in the pre-qualification criteria without which their proposal will not be considered. The technical proposal shall also compulsorily contain the CVs of all the key resources without which the submission will be liable for rejection.
- II. Cover II shall contain only the price bid. The price bid of only the technically qualified bidders will be opened. Vendors/consulting firms shall submit a Financial Proposal (man-month rates)
- III. Cover No.I and Cover No.II shall be enclosed in a third cover. The name of the work shall be superscribed in all the covers.

- IV. CVs of the Key Personnel form an integral part of the proposal and its evaluation. No change to Key Personnel shall be permitted after submission without IPA's approval.
- V. After submission, the vendor shall present to IPA's evaluation committee, on a date and time to be intimated separately.
- VI. Technical evaluation shall be based solely on the Technical Presentation made by the vendor to IPA's evaluation committee, on the proposed methodology, work plan and approach. The Technical Presentation should, among other things, cover:
- Understanding of the HRMS requirements and the proposed technical approach
  - Implementation plan and timelines for the assignment
  - Approach to the attendance, payroll, compliance and mobile-app modules
  - Data security, cloud-hosting architecture and support model
  - Track record of similar HRMS/payroll implementations
  - CVs of the proposed Key Personnel
  - Anything else that adds value to the proposal
- VII. Quality-Cost Based Selection (QCBS): Proposals will be evaluated on a Quality-cum-Cost Based Selection basis, with weights split between the technical and financial bids as follows — Technical Evaluation: 60% and Financial Evaluation: 40%.

**a. Technical Bid Score – 60%**

Marks shall be awarded solely on the basis of the vendor's Technical Presentation to IPA's evaluation committee. The bidder securing the highest marks is given a technical score of 100, with the technical scores of other bidders calculated pro-rata against this. The technical score of each bidder is computed as:

$$Ts (bidder) = 100 \times [T (bidder) \div T (highest\ technical\ score\ among\ all\ bidders)]$$

(Adjusted to two decimal places.) Only bidders who score 60 or above on the Technical Bid qualify for evaluation of their Financial Bid; bidders scoring below 60 shall be rejected.

**b. Financial Bid Score – 40%**

Full marks go to the lowest financial bid, with other bidders scored pro-rata against it. If the financial quote of a bidder is F, the financial score is computed as:

$$Fs (bidder) = 100 \times [F (lowest\ financial\ quote\ among\ all\ bidders) \div F (bidder)]$$

(Adjusted to two decimal places.) Any monetary figure in decimals shall be rounded off to the nearest INR. Where the price quoted in words and in figures differs, the lower of the two shall be considered, and a bid may be rejected for any other calculation or summation error.

$$\text{Total Evaluated Score} = 0.6 Ts + 0.4 Fs$$

The bidder with the highest Total Evaluated Score shall be declared the successful bidder.

Interested vendors/consulting firms meeting the Pre-Qualification Criteria (PQC) are requested to submit their proposals on or before 5<sup>th</sup> October 2026 by 3:00 PM positively.

**Enclosures:**

1. Annexure–I – Indicative Qualification, Experience and Resource Requirements for the HRMS Assignment.
2. Annexure–II – Detailed Scope of Work for the HRMS Assignment.
3. Annexure III – Financial Bid

## 5. Deployment of Resources

The following resources have to be deployed for the work

|    | Resource Category  | No. of Resources | Preferred Qualification                                                               | Indicative Experience | Key Domain Expertise & Responsibilities                                                                                                                                           | Man-days (in Months) | Place of Deployment                                   |
|----|--------------------|------------------|---------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------|
| 1. | Project Manager    | 1                | B.E./B.Tech./MCA or equivalent, full-time MBA/PGDM preferred; PMP/PRINCE 2 desirable. | 12+ Years             | Overall project leadership for design, development and deployment of the HRMS; planning, resource deployment, milestone tracking, stakeholder coordination and quality assurance. | 3                    | IPA Office, Delhi / Remote (as per IPA's requirement) |
| 2. | Business Analyst   | 1                | Bachelor's degree in Business Administration/ Computer Science or equivalent.         | 5+ Years              | Requirements gathering, functional specification, process mapping and liaison between IPA stakeholders and the development team.                                                  | 2                    | Remote (as per IPA's requirement)                     |
| 3. | Team Lead          | 1                | B.E./B.Tech./MCA or equivalent with technical leadership experience.                  | 7+ Years              | Technical leadership of the development team; code quality, sprint planning and delivery oversight for the HRMS modules.                                                          | 3                    | IPA Office, Delhi / Remote (as per IPA's requirement) |
| 4. | UI/UX Designer     | 1                | Bachelor's degree in Design/HCI/Computer Science or equivalent.                       | 5+ Years              | Wireframing, interactive prototyping and interface design for the web admin panel and employee self-service portal; usability testing and accessibility compliance.               | 1                    | Remote (as per IPA's requirement)                     |
| 5. | Frontend Developer | 1                | B.E./B.Tech./MCA or equivalent with front-end development experience.                 | 6+ Years              | Development of the web admin panel and employee-facing UI components; responsive design and integration with backend APIs.                                                        | 2                    | Remote (as per IPA's requirement)                     |

|     |                              |   |                                                                                  |            |                                                                                                                                                                                                                   |   |                                                       |
|-----|------------------------------|---|----------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-------------------------------------------------------|
| 6.  | Backend Developer            | 2 | B.E./B.Tech./MCA or equivalent with back-end/server-side development experience. | 5–10 Years | Server-side application logic, API development, database integration and system architecture for attendance, payroll and compliance modules.                                                                      | 6 | IPA Office, Delhi / Remote (as per IPA's requirement) |
| 7.  | Full Stack Developer         | 2 | B.E./B.Tech./MCA or equivalent with full-stack development experience.           | 3–5 Years  | Design, development and integration of core HRMS modules — face-recognition attendance, geo-location validation, shift & roster management, payroll automation and compliance reporting; API and database design. | 6 | IPA Office, Delhi / Remote (as per IPA's requirement) |
| 8.  | Android App Developer        | 1 | B.E./B.Tech./MCA or equivalent with mobile app development experience.           | 3+ Years   | Design, development and maintenance of the Android employee self-service app covering attendance, leave, payslip and notification features.                                                                       | 2 | Remote (as per IPA's requirement)                     |
| 9.  | iOS App Developer            | 1 | B.E./B.Tech./MCA or equivalent with mobile app development experience.           | 3+ Years   | Design, development and maintenance of the iOS employee self-service app covering attendance, leave, payslip and notification features.                                                                           | 2 | Remote (as per IPA's requirement)                     |
| 10. | Database Administrator (DBA) | 1 | B.E./B.Tech./MCA or equivalent with database administration experience.          | 5–7 Years  | Database design, performance tuning, backup/recovery planning and administration for the HRMS platform.                                                                                                           | 2 | IPA Office, Delhi / Remote (as per IPA's requirement) |
| 11. | QA Lead                      | 1 | B.E./B.Tech./MCA or equivalent with software                                     | 10+ Years  | Test planning, functional and regression testing, quality assurance and defect                                                                                                                                    | 2 | Remote (as per IPA's requirement)                     |

|     |                   |   |                                                                                     |           |                                                                                                                                                  |   |                                   |
|-----|-------------------|---|-------------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------|---|-----------------------------------|
|     |                   |   | testing/QA experience.                                                              |           | management across all HRMS modules.                                                                                                              |   |                                   |
| 12. | Security Engineer | 1 | B.E./B.Tech./MCA or equivalent with application/infrastructure security experience. | 10+ Years | Application and infrastructure security, vulnerability assessment, data protection and compliance with security standards for the HRMS platform. | 1 | Remote (as per IPA's requirement) |

## 6. Submission of bids

Completed bids is to be submitted before 3.00 pm on 05/10/2026 to the following address

Prema Kumar J Pillai  
 Head Officer (Procurement and Projects)  
 Indian Ports Association  
 NBCC Place (1<sup>st</sup> Floor)  
 South Tower  
 Bhisham Pitamah Marg  
 Lodhi Road  
 New Delhi 110003

Late submission will not be accepted

**Qualifications, Terms and Conditions for the Assignment**

- i. Only vendors/agencies meeting the Pre-Qualification Criteria (PQC) will be considered for this assignment.
- ii. The team required for the 6-month project duration is set out in Article 5.
- iii. The number and proposed man-days of resources shown are indicative and may change as per IPA's requirements.
- iv. The qualification and experience of proposed resources shall meet IPA's requirements. IPA has the sole and exclusive right to accept or reject any profile put forward by the vendor/consultancy firm.
- v. The work shall be completed in all respects within 6 months, followed by hyper-care support and post-project delivery assistance for a further 2 weeks.
- vi. IPA reserves the right to extend the vendor/consultancy firm's services beyond the 6-month period on the same rates, terms and conditions, if both parties are willing.

## **Detailed Scope of Work**

### **IPA Human Resource Management System (HRMS)**

#### **1. Introduction / Purpose**

This Annexure sets out the detailed scope of work for the IPA Human Resource Management System (HRMS), referred to below as "the System". It sets out, in one place, the functional coverage, deliverables, responsibilities and acceptance criteria that bidders should factor into their EOI response.

#### **2. Project Overview**

The HRMS is meant to be a single, centralised platform — reachable through both a web application and a mobile app — for managing employee records, attendance, leave, shifts, payroll, approvals and everyday HR administration.

It needs to work across the different categories of people who work with IPA:

- Regular Employees (stationed at the administrative office, a rest house, or wherever else the organisation requires)
- Deputation Employees
- Outsourced Employees
- Contractual Employees
- Direct Contract Employees
- Professional Staff engaged through empanelled agencies
- Or any other kind of engagement/deployed employee

Employees will handle most of their day-to-day HR needs through the mobile self-service app, while HR and administrative functions run on the web application. Attendance will mainly be captured through face recognition with liveness verification and, where configured, checked against the location assigned to each employee under their Geo Bind Location setting.

A number of actions are sensitive enough — employee registration, profile changes, Geo Bind changes, shift allocation, attendance regularisation, separation, master-data changes and payroll approval among them — that they should go through a request-and-approval process before taking effect: a request is raised or drafted, checked or recommended, approved, and only then applied to the live record. Exactly who approves what will depend on the employee's type, the kind of request, the organisational hierarchy involved and the permissions of the person raising it.

#### **3. Objectives**

In summary, the System should:

Keep employee information in one central place, work across all the employee categories and organisational structures described above, and cover the complete employee lifecycle — from registration and onboarding through to separation — with secure, self-service login for employees.

On attendance: support face-based attendance with liveness and anti-spoofing checks where configured, GPS-based and office-based attendance, and the Geo Bind, shift and roster rules that govern how and where each employee marks attendance; manage leave and leave balances, attendance approval and regularisation; and handle employee-initiated requests such as profile-picture updates, promotion, transfer and separation.

On finance: manage Festival Advance applications, disbursement and recovery; maintain employee bank information; and generate monthly payroll — working out Loss of Pay (LOP) from approved attendance and leave, and handling statutory calculations such as PF, NPS, ESI (wherever

applicable), TDS (whenever and wherever applicable), Professional Tax and an Income Tax computation module, all driven by configured payroll and statutory rules.

Across the board: provide role-based access with the right organisational restrictions, keep a full approval history and audit trail, produce attendance, leave and payroll reports with controlled Excel/CSV export, and let organisation masters be managed through an approval-controlled process — through both web and mobile interfaces.

#### **4. Scope of Work – In-Scope Functional Modules**

The modules and functions below fall within the scope of this engagement.

##### **4.1 Employee Types & Organisational Scope**

The System must support the employee categories listed in Section 2, and should be flexible enough to accommodate additional employee groups if these are needed later. Each category's profile, attendance and payroll data should be maintained separately, with workflow routing appropriate to that category — for instance, requests relating to Professional Staff should route through the empanelled agency's HR Manager, in the same way Outsourced/Agency staff requests do.

Access should be scoped by both role and organisation, broadly as follows:

| <b>User Type</b>             | <b>Employee Records They Can Access</b>                |
|------------------------------|--------------------------------------------------------|
| IPA HR / Authorised IPA User | Employees permitted under the assigned role            |
| Agency HR Manager            | Employees belonging to the assigned agency             |
| Rest House Manager           | Employees belonging to the assigned Rest House         |
| Reporting Authority          | Employees mapped under the reporting hierarchy         |
| Employee                     | Own record, and whichever self-service functions apply |

An Agency HR Manager or Rest House Manager should not be able to see or change employee records outside their own scope.

##### **4.2 Roles, Permissions & Access Control**

A Role & Permission module should control who can do what, down to individual actions — View, Add, Edit, Delete, Submit, Forward, Approve, Reject, Export and Manage — and should also restrict which employee records or organisational data a given user can act on. An Agency HR Manager's 'Edit Employee' permission, for example, should apply only to employees of that agency. Authorised administrators should be able to assign and change roles and permissions as needed.

##### **4.3 Employee Self-Service (Mobile Application)**

Through the mobile app, employees should be able to see their own profile, Employee ID, department, designation, reporting authority and office/location; check their attendance and leave balance and mark attendance where applicable; apply for leave and raise attendance regularisation, attendance approval or Outdoor Duty requests; and, where permitted, request a profile-picture update or a Geo Bind change. They should also be able to view their salary details and approved payslips, apply for a Festival Advance where eligible, and track the status and history of any request they have raised.

##### **4.4 Employee Lifecycle Management**

Employee registration should run through a controlled draft/request/approval process (Draft → Submitted → Pending Verification → Pending Approval → Approved/Rejected/Returned → Active). Onboarding should cover department and designation assignment, agency or Rest House mapping, office location, Geo Bind configuration, shift allocation, biometric registration, user-account creation, document verification, or any other admissible field/criteria.

Once an employee is active, sensitive profile fields should only be changeable through the applicable approval workflow. This includes profile-picture updates, which follow a different route depending on whether the employee is Regular/Deputation/IPA, Outsourced or Rest House, and administrative actions such as promotion, transfer, and changes to department, designation, office or reporting authority — each of these should be routed through approval before it is reflected on the live record.

Separation should follow the employee's applicable workflow, escalating to ED/MD where required, with a complete record of the separation request and its approval history retained.

#### **4.5 Biometric & Smart Attendance**

Biometric registration should cover employee selection, camera capture, face-quality validation, template generation, registration confirmation and a biometric status update. Attendance itself should be captured through face recognition against a configurable match threshold, with each record storing the Employee ID, date, time, punch type, match result, attendance image and verification status.

Liveness and anti-spoofing checks should catch attempts to fool the camera with a printed photo, a screen playback, a recorded video or other spoofing methods that get configured. In practice, a mobile punch should go through live face capture, a liveness check, a face match, location validation and the applicable Geo Bind rule, before landing as Accepted, Pending Approval or Rejected.

#### **4.6 Geo Bind Location**

The System should support a few different Geo Bind modes: Geo Location Required (GPS-validated attendance within a configured geofence, accepted automatically unless another rule calls for approval, with a configurable geofence radius); Geo Location Not Required (attendance is marked without automatic location finalisation and may sit pending Reporting Authority approval); Office Location (attendance tied to an approved office location and authorised office devices, covering Punch In/Out, face verification and punch status); and Exempted (for employees not required to mark attendance for a given period or rule, with payroll processed per the organisation's policy for exempted staff).

Changing an employee's Geo Bind setting should go through its own approval workflow, taking effect only once approved — the initiating route (IPA HR, Agency HR Manager, Rest House/Authorised Manager, or the employee) will vary by case.

#### **4.7 Attendance Management**

Daily and monthly attendance records should capture, for each employee: date, Punch In/Out, working hours, shift, office/location, GPS coordinates, face-verification and liveness results, approval status, attendance status, late status, early departure and regularisation status.

Reporting Authorities should have an attendance-approval screen showing pending punches, with the date, time, location and verification details, so they can approve or reject and check the approval history. Employees should be able to raise a regularisation request for a missed Punch In/Out, an incorrect entry, a missing record, a wrong punch time, or other approved exceptions — including where several days of attendance are unapproved at once.

#### **4.8 Attendance Rules & Shift Management**

Before accepting a new Punch In, the System should check the employee's previous punch-out, handling shifts that cross midnight appropriately. Shifts should be configurable by name, start/end time, grace period, working hours, applicable employee type/department and status, with shift assignment routed through the applicable approval workflow.

Where useful, shifts and rosters should be auto-suggested based on rules — department, employee type, location, or a defined rotation pattern — with the suggestion routed through approval before activation. Attendance rosters, particularly for Rest House employees, should also go through the applicable approval process.

#### **4.9 Leave, Outdoor Duty & Reporting Authority**

Employees should be able to apply for leave, check their leave balance, choose from configurable leave types (Casual, Sick/Medical, Earned, HPL, Special or any other type of leave configured and applicable) and track the status of their application. The approval path should run from the employee, through leave validation, to the Reporting Authority and then HR or the relevant approver, configurable to the organisation's hierarchy.

Outdoor Duty/Field Duty requests should capture the date, start and end time, location, purpose, remarks and any supporting documents, and route through the configured approval workflow.

Reporting Authorities should have a dedicated hub showing their team's attendance, pending attendance approvals and regularisations, leave and Outdoor Duty requests, other employee requests, Geo Bind requests, recommendations, approval status and relevant reports — all scoped to their place in the organisational hierarchy and their permissions.

#### **4.10 Festival or any other advance Management**

Employees should be able to apply for a Festival Advance/ any other kind of admissible advance, with the System checking eligibility and tracking the requested and approved amount, approval status, disbursement, and the recovery amount, amount recovered, remaining balance and recovery status. The workflow should run from the employee, through HR verification, to Finance/authorised approval, disbursement and then payroll recovery.

Once disbursed, the approved recovery amount should be picked up automatically as a payroll deduction, and the System should prevent total recovery from ever exceeding the outstanding advance. Where an employee separates with an advance still outstanding, the balance should be handled per the organisation's approved final-settlement and recovery rules.

#### **4.11 Payroll Management**

Monthly salary should be calculated from the approved salary structure — basic salary, earnings, allowances — together with attendance, approved leave and all applicable statutory and other authorised deductions, using only attendance and leave data that has already been finalised or approved. The payroll cycle itself should run: batch generation, draft payroll, attendance verification/finalisation, Festival Advance recovery, statutory calculation, Finance review, CAO/ approving authorities' approval, payroll release and payslip generation.

Salary structures should be configurable by basic salary, earning and deduction heads (fixed or percentage-based), salary grade, employee type and effective date. Earning heads should cover Basic Pay, DA, HRA, Special Allowance, Reimbursement and other approved/ applicable earnings (like overtime etc); deduction heads should cover PF, NPS, ESI, TDS, Professional Tax, Festival Advance recovery and any other authorised deductions. An arrear generation module to be configured in r/o pay revisions occurring from time to time.

An Income Tax module should compute taxable income and slab/ regime-based TDS on salary, capture investment and exemption declarations, and generate Form 16 and tax computation sheets in line with applicable rules. Provident Fund and NPS contributions should be configurable by rate (employee and employer share) and wage ceiling, along with the statutory reporting/challans this requires. ESI applicability should be configurable by wage threshold and coverage, wherever it applies, with its own contribution calculation and reporting; Professional Tax should support state-wise slabs, and TDS should be calculated wherever and whenever applicable, per prevailing rates and thresholds. Rates, slabs, thresholds and effective dates for all of these should be maintained through approved configuration, with room to add other statutory deductions as and when the Client notifies them.

Each payslip should show the employee's details, pay period, basic salary, earnings, allowances, PF, NPS, ESI, TDS, PT, Festival / any other Advance recovery, other deductions and net salary, with employees able to view their approved payslips through self-service.

*Note: Applicable statutory rates, slabs, wage ceilings and state-wise PT rules will be finalised and approved by the Client during configuration; ESI and PT applicability will follow the Client's coverage criteria, wherever applicable.*

#### 4.12 Master Data Management

1. Department, Designation, Agency, Office Location, Holiday, Bank and Shift masters should all be manageable — added, updated — with a draft stage and an approval history.
2. The Agency master should capture the agency's name, contact details, address, authorised HR Manager, agreement information, status and employee mapping.
3. The Office Location master should capture the location name, address, latitude, longitude, geofence radius, branch/office and status; the Holiday master should capture the holiday's name, date, type, applicable location, applicable employee group and status.
4. Every master change should follow the same path — create/update, draft, review, CAO approval, then active/published — with the previous and new values both retained for audit.

#### 4.13 Centralised Approval Workflow

A single, configurable approval-workflow engine should govern employee, attendance, master-data, payroll and other controlled requests, taking into account the employee's type, the initiating user's role, the reporting hierarchy, agency, Rest House, department, request type and permissions. The approval matrix to be implemented is summarised below, and should remain configurable where organisational policy calls for a different route.

| Request Type                          | Initiator          | Verifier / Recommender            | Final Approver              |
|---------------------------------------|--------------------|-----------------------------------|-----------------------------|
| Employee Registration – IPA           | IPA HR             | —                                 | CAO/<br>Approving Authority |
| Employee Registration – Agency        | Agency HR Manager  | IPA Verifier                      | CAO/<br>Approving Authority |
| Employee Registration – Rest House    | Rest House Manager | IPA Verifier                      | CAO/<br>Approving Authority |
| Profile Picture – IPA Employee        | Employee           | HR                                | CAO/<br>Approving Authority |
| Profile Picture – Agency Employee     | Employee           | Agency HR / IPA Verifier          | CAO/<br>Approving Authority |
| Profile Picture – Rest House Employee | Employee           | Rest House Manager / IPA Verifier | CAO/<br>Approving Authority |
| Geo Bind – IPA                        | IPA HR             | —                                 | CAO/<br>Approving Authority |
| Geo Bind – Agency                     | Agency HR Manager  | IPA Verifier                      | CAO/<br>Approving Authority |
| Geo Bind – Rest House                 | Rest House Manager | IPA Verifier                      | CAO/<br>Approving Authority |

| Request Type                  | Initiator                  | Verifier / Recommender   | Final Approver              |
|-------------------------------|----------------------------|--------------------------|-----------------------------|
| Geo Bind – Employee           | Employee                   | Reporting Authority      | CAO/<br>Approving Authority |
| Shift Allocation – IPA        | IPA HR                     | —                        | CAO/<br>Approving Authority |
| Shift Allocation – Agency     | Agency HR Manager          | IPA Verifier             | CAO/<br>Approving Authority |
| Shift Allocation – Rest House | Rest House Manager         | IPA Verifier             | CAO/<br>Approving Authority |
| Attendance Approval           | Employee / System          | Reporting Authority      | CAO/<br>Approving Authority |
| Attendance Regularisation     | Employee / Authorised User | Reporting Authority / HR | CAO/<br>Approving Authority |
| Leave                         | Employee                   | Reporting Authority      | Approving Authority         |
| Outdoor Duty                  | Employee                   | Reporting Authority      | Approving Authority         |
| Master Data                   | Admin                      | —                        | CAO                         |
| Separation – IPA              | HR                         | —                        | CAO                         |
| Separation – Agency           | Agency HR Manager          | IPA Verifier             | CAO                         |
| Separation – Rest House       | Rest House Manager         | IPA Verifier             | CAO                         |
| Payroll                       | Finance                    | Review                   | CAO                         |

#### 4.14 Draft, Staging & Audit

The same basic mechanism — create/update, draft, submit, verify/review, approve, publish/activate — should apply to employee registration, profile changes, and changes to the Department, Designation, Agency, Office Location, Holiday, Shift, Bank, Geo Bind, Salary configuration, Payroll configuration and other controlled records, so that nothing overwrites approved live data directly.

A full audit trail should capture the user, role, date, time, IP address, action, request ID, previous and new values, who forwarded, approved or rejected the request, any remarks and the approval status — and this should stay traceable even after the record goes live.

#### 4.15 Rest House & Agency Management

Rest House Managers should have access to employee management, employee export, attendance, the attendance roster, shift allocation, Geo Bind requests, employee requests and separation requests — but only for employees assigned to their own Rest House. Similarly, an Agency HR Manager sits between the Agency and its Outsourced employees, and their operations — registration,

profile picture, Geo Bind, shift allocation, separation, export and other permitted HR actions — should be restricted to their own agency.

#### **4.16 Reports, Dashboard & Export**

A dashboard should show, scoped to the user's permissions: employee counts by type (total, Regular, Deputation, Outsourced, Contractual), who is present, absent or late, pending attendance approvals and regularisations, pending registrations, pending CAO approvals, pending separations, payroll status, department-wise headcount and attendance trends.

Beyond the dashboard, the System should produce: employee reports (master data, by type, by department/agency/Rest House, active vs. separated); attendance reports (daily/monthly, Punch In/Out, late attendance, missing punches, approvals, regularisation, GPS attendance, face verification, exceptions); leave reports (balances, applications, utilisation, department-wise, approval status); payroll reports (monthly payroll, salary statement, PF, NPS, ESI, TDS, PT, LOP, deductions, Festival Advance recovery); Monthly Medical bill Disbursement Reports, Monthly Overtime Report, Yearly leave encashment report, any other report in r/o allowance included in the salary structure and audit reports (user activity, approval history, draft changes, master-data changes, employee changes) — all exportable to Excel/CSV under the same access restrictions that apply elsewhere in the System.

Dashboards should reflect attendance, leave and approval activity in real time as it happens, and should include AI-driven workforce insights — for example, on attendance patterns, absenteeism, late/early-departure trends, leave utilisation and headcount — to support HR decision-making.

#### **4.17 Security & Non-Functional Requirements**

The System should have secure authentication, role-based authorisation, permission-based access, session/JWT security, HTTPS, database access controls, audit logging, data-scope restrictions, biometric data protection, liveness verification and the approval controls described above, with Agency and Rest House users strictly unable to see employee information outside their own scope.

Attendance parameters — face-match threshold, liveness threshold, geofence radius, GPS accuracy requirement, shift timings, grace period and whether approval is required — should be finalised during configuration and approved by IPA rather than assumed. Bidders should also note that GPS accuracy depends on factors such as device hardware, GPS availability, OS permissions, indoor/outdoor environment and network conditions, and that face-recognition performance depends on camera quality, lighting, face position, device performance, the recognition model used and the configured confidence threshold; office-based attendance will likewise depend on the office device, authentication method, camera availability and deployment environment.

The System should be hosted on a secure cloud platform with high-availability architecture (redundancy/failover for critical components), and should have scheduled, verifiable backups with a defined retention and restore process.

### **5. Key Deliverables**

- Web application (administrative/back-office) covering all in-scope modules in Section 4
- Employee Self-Service mobile application (Android/iOS, as applicable) covering the self-service functions in Section 4.3
- Role & Permission configuration covering the user types defined in Sections 4.1 and 4.2
- A configured approval-workflow engine implementing the approval matrix in Section 4.13
- Biometric (face recognition) and liveness-verification attendance capability, with configurable Geo Bind modes

- A payroll engine covering salary structure, earning/deduction heads, statutory calculations (PF, NPS, ESI, TDS, Professional Tax) and an Income Tax computation module, with payslip generation
- Master-data configuration modules (Department, Designation, Agency, Office Location, Holiday, Bank, Shift)
- A reporting and dashboard module with real-time monitoring, AI-driven workforce insights and Excel/CSV export
- Audit-trail and approval-history functionality across all controlled workflows
- A secure cloud hosting environment with high availability and scheduled data backup/recovery
- A system configuration document recording the finalised attendance, payroll and approval parameters, as approved by IPA
- User documentation/training material for HR, Agency HR Managers, Rest House Managers, Reporting Authorities and Employees
- Deployment of the System to the agreed environment(s) and handover of source code/build artefacts as per the commercial agreement

## **6. Roles & Responsibilities**

### **6.1 Bidder / Implementation Partner Responsibilities**

- Design, development, configuration, testing and deployment of all modules described in Section 4, including integration of face recognition and liveness verification
- UAT support and delivery of the documentation/training listed in Section 5

### **6.2 Client (IPA) Responsibilities**

- Timely provision of organisational hierarchy, employee master data, salary structures, statutory rates/slabs and approval-matrix confirmations
- Nomination of a SPOC/CAO representative for approvals and sign-off, and timely UAT feedback within agreed review cycles
- Confirmation of statutory deduction scope/rates (Section 4.11) and approval of the cloud-hosting arrangement (Section 4.17)

## **7. Acceptance Criteria**

- All modules listed in Section 4 are implemented and demonstrable in the deployed environment
- Approval workflows function per the approval matrix in Section 4.13, routing correctly by employee type, role and organisational scope
- Role-based and data-scope access restrictions are verified for IPA HR, Agency HR Manager, Rest House Manager, Reporting Authority and Employee user types
- Face recognition and liveness verification operate at the Client-approved configuration thresholds
- Payroll calculation — including PF, NPS, ESI, TDS, Professional Tax, Income Tax computation and LOP — is verified against at least one full test payroll cycle, with the Finance Review and CAO Approval steps working as specified
- Audit trail and approval history are available and traceable for all controlled transactions
- Reports and Excel/CSV exports generate correctly and respect the user's organisational data scope
- Successful completion of User Acceptance Testing (UAT) and formal written sign-off by the Client's authorised representative

## 8. Note to Bidders

This Annexure sets out the Client's detailed Scope of Work for the System and forms the basis on which bidders should prepare their EOI response. On award of the engagement, this Scope of Work will be finalised and formally signed off by both parties as part of the definitive contract/SOW document, incorporating any clarifications, changes to employee/organisational data, or statutory rate/configuration confirmations that arise during the RFP/contracting stage.

### Annexure III

#### Financial Bid

(to be submitted in cover 2 only)

|     | Resource Category            | No. of Resources | Required man-months | Man- month Rate Quoted (Rs) | Total Amount (Rs) (CxDxE) |
|-----|------------------------------|------------------|---------------------|-----------------------------|---------------------------|
| A   | B                            | C                | D                   | E                           | F                         |
| 1.  | Project Manager              | 1                | 3                   |                             |                           |
| 2.  | Business Analyst             | 1                | 2                   |                             |                           |
| 3.  | Team Lead                    | 1                | 3                   |                             |                           |
| 4.  | UI/UX Designer               | 1                | 1                   |                             |                           |
| 5.  | Frontend Developer           | 1                | 2                   |                             |                           |
| 6.  | Backend Developer            | 2                | 6                   |                             |                           |
| 7.  | Full Stack Developer         | 2                | 6                   |                             |                           |
| 8.  | Android App Developer        | 1                | 2                   |                             |                           |
| 9.  | iOS App Developer            | 1                | 2                   |                             |                           |
| 10. | Database Administrator (DBA) | 1                | 2                   |                             |                           |
| 11. | QA Lead                      | 1                | 2                   |                             |                           |
| 12. | Security Engineer            | 1                | 1                   |                             |                           |

