

Software System for Management of Tools and Lifting Equipment

1. Purpose

The purpose of this project is to procure, configure, implement, and support a centralized software solution for management of tools, lifting equipment, accessories, and associated inspection and certification records. The system should improve asset visibility, compliance, utilization, maintenance planning, and operational efficiency across all company facilities and project sites.

2. Objectives

The software solution shall:

- Provide complete lifecycle management of tools and lifting equipment.
- Maintain accurate asset inventory and location tracking.
- Manage statutory inspections, certifications, and compliance requirements.
- Support preventive maintenance and calibration scheduling.
- Improve accountability through user assignment and asset traceability. Provide management reporting and analytics.
- Integrate with existing enterprise systems where applicable.

3. Scope of Supply

The Contractor shall provide:

- Software licenses (cloud-based or on-premises).
- System configuration and customization.
- Data migration from existing systems/spreadsheets.
- Hardware integration capability (barcode, QR code, RFID, mobile devices).
- User training and documentation.
- System testing and commissioning.
- Technical support and maintenance services.

4. Functional Requirements

4.1 Asset Register Management

The system shall maintain a centralized asset register containing:

- Asset ID and serial number.
- Asset category and classification.
- Manufacturer and model details.
- Purchase and warranty information.
- Asset status.
- Asset location.
- Department ownership.
- Asset value and depreciation information (optional).
- Photographs and supporting documents.

4.2 Tools Management

The system shall support:

- Hand tools management.
- Power tools management.
- Specialized tools management.
- Tool issue and return tracking.
- User accountability records.
- Tool utilization monitoring.
- Lost, damaged, and retired asset tracking.
- Multi-site inventory management.

4.3 Lifting Equipment Management

The system shall manage:

- Lifting appliances.
- Lifting accessories.
- Shackles.
- Slings.
- Chains
- Hooks.
- Spreader beams.
- Lifting frames.
- Hoists.
- Winches.
- Load testing equipment.
- The system shall maintain:
 - Safe Working Load (SWL).
 - Working Load Limit (WLL).
- Certification records.
- Inspection history.
- Test reports.
- Equipment condition status.
- Expiry dates.

4.4 Inspection and Certification Management

The system shall:

- Schedule periodic inspections.
- Track inspection due dates.
- Generate automated reminders.
- Store inspection reports.
- Maintain audit trails.
- Track certificate validity periods.
- Manage non-conformance findings.

- Generate compliance reports.

4.5 Maintenance Management

The system shall support:

- Preventive maintenance scheduling.
- Corrective maintenance management.
- Work order creation and tracking.
- Maintenance history records.
- Spare parts management.
- Service contractor records.
- Maintenance cost tracking.

4.6 Calibration Management

The system shall:

- Track calibration schedules.
- Maintain calibration certificates.
- Generate calibration reminders.
- Record calibration results.
- Track out-of-tolerance events.

4.7 Asset Tracking

The system shall support:

- Barcode scanning.
- QR code scanning.
- RFID integration (optional).
- Mobile device access.
- Real-time asset location updates.
- Check-in/check-out transactions.

4.8 Mobile Application

The solution should provide mobile functionality for:

- Asset search.
- Inspection execution.
- Tool issue and return.
- Photo capture.
- Digital signatures.
- Offline operation with synchronization capability.

4.9 Reporting and Dashboard

The system shall provide configurable dashboards and reports including:

- Asset inventory reports.

- Inspection due reports.
- Certification expiry reports.
- Maintenance performance reports.
- Utilization reports.
- Asset movement reports.
- Compliance status reports.
- KPI dashboards.

5. User Roles and Security

The system should provide role-based access control for:

- System Administrators.
- Asset Controllers.
- Tool Store Personnel.
- Inspectors.
- Maintenance Personnel. Supervisors. Managers. Auditors.

Security requirements shall include:

- User authentication.
- Password policies.
- Audit trails.
- Activity logs.
- Data backup and recovery.
- Compliance with applicable cybersecurity standards.

6. Integration Requirements

The system should support integration with:

- ERP systems.
- Procurement systems.
- Human Resources systems.
- Maintenance Management Systems (CMMS).
- Document Management Systems.
- Active Directory or Single Sign-On solutions.
- Business Intelligence platforms.

7. Data Migration

The Contractor shall:

- Review existing asset data.
- Cleanse and validate data.
- Import legacy records.
- Verify migration accuracy.
- Provide migration reports.

8. Training

The Contractor shall provide:

- Administrator training.
- End-user training.
- Training materials and manuals.
- Train-the-trainer sessions.

Refresher training if required.

9. Testing and Commissioning

The Contractor shall perform:

- System configuration testing.
- Functional testing.
- Integration testing.
- User Acceptance Testing (UAT).
- Final commissioning.

10. Deliverables

The Contractor shall deliver:

- Fully configured software system.
- Asset database and migrated records.
- User manuals.
- Administrator manuals.
- Training materials.
- Test reports.
- Commissioning report.
- Support and maintenance plan.

11. Warranty and Support

The Contractor shall provide:

- Minimum 12-month warranty period after commissioning.
- Helpdesk support.
- Software updates and patches.
- Bug fixes.
- Technical support during business hours.
- Defined Service Level Agreements (SLAs).

12. Acceptance Criteria

The system shall be considered accepted when:

- All specified functional requirements are demonstrated.
- Data migration is successfully completed.

- User Acceptance Testing is passed.
- Training is completed.
- All deliverables are submitted and approved.
- The system operates reliably in the production environment.

13. Tender Submission Requirements

Tenderers shall provide:

- Company profile and relevant experience.
- Proposed software architecture.
- Compliance matrix against requirements.
- Implementation methodology.
- Project schedule.
- Support model and SLA.
- Training approach.
- Commercial proposal.
- References from similar projects.