

Project Overview

Aquanav ERP is a modular web portal built to manage vessel-based and marine operational projects. The platform integrates project execution, procurement, workforce management, asset control, inventory tracking, financial reporting, and customer collaboration into a single, streamlined interface. Each module is designed to interoperate, offering role-based access, transparency, and traceability for all stakeholders.

Project Modules

0. Dashboard Module

Purpose: Role-specific summaries and analytics.

Features:

- Tailored dashboards for Admin, Project Manager, Finance, Customer, and Employee
- KPIs: Project status, stock alerts, payroll overview, asset usage, etc.
- Visual charts: Line, bar, pie
- Filters: Project, user, customer, date range
- Quick links to key functions

1. Company Configuration

Purpose: Organization-level branding and settings.

Features:

- Upload and manage company name, logo, address, contact
- Apply branding to PDF headers globally

2. Supplier Master

Purpose: Manage supplier data.

Features:

- Add/edit/delete supplier records
- Capture tax ID, bank info, contact info
- Used in PO and Purchase Invoice workflows

3. Inventory Management

Purpose: Real-time inventory tracking and FIFO-based costing.

Features:

- Categorize inventory as Consumables, Tools, or Equipment
- Optional document attachments per item
- **FIFO used for both deduction and costing**
- Alerts for low stock
- Real-time stock updates

Stock Inflow:

- Automated via Purchase Invoice

Stock Outflow:

1. **Goods Issue (GI):** Manual stock issue linked to projects
2. **Project Daily Activities:** Auto GI during activity logging

Reports:

- FIFO-based inventory valuation
- Item consumption logs
- Project-wise usage and costing
- Export as PDF/Excel

4. Asset Management

Purpose: Lifecycle management of physical assets.

Features:

- Barcode-based asset registration
- Assign to projects/users
- Statuses: Available, In Use, Maintenance, Returned, Retired
- Maintenance logs
- Usage and availability reporting

5. Project Management

Purpose: Manage the full lifecycle of projects, from setup and resource allocation to daily operations and cost reporting.

5.1 Project Setup

- Create, edit, and delete project records with key attributes:
 - **Project Title**, **Vessel Image**, and **Rich Text Description**
 - **Start Date**, **Planned End Date**, **Actual End Date**
 - **Tag Employees**, **Assign Assets**, and **Link to Customer**
- Manage project locations:
 - Add, edit, and delete individual locations
 - Bulk import locations via Excel upload
- Define and track project status: Not Started, In Progress, On Hold, Completed, Cancelled
- Set **Estimated Budget** and monitor **Actual Cost** (Inventory + Payroll)

5.2 Daily Activity & Planning

- Log daily activities for each project:
 - **Date**, **Location**, **Completed Tasks**, and **Remarks**
 - Plan **Next-Day Activities**
- Optionally record resource usage:
 - **Inventory Consumption** (auto-generated Goods Issue)
 - **Hydro Blasting Machine Usage** (from dedicated log)
- **Note:** Employees are tagged only at the project level, not per daily entry

5.3 Photo Management

- Upload and organize images by **location** and **date**
- Add optional **captions** for clarity
- Grouped photos are stored for reuse in both daily and final project reports

5.4 Hydro Blasting Machine Log

- Record daily machine usage:
 - **Date**, **Machine ID**, **Running Hours**, **Remarks**
- View, filter, and export logs for performance analysis
- Include these entries in daily reports when required

5.5 Daily Report Generator

- Generate consolidated reports for a **selected date range** with a specified **Report Date**
- Report structure:
 1. **Completed Work** (Start Date → Report Date):
 - Activities performed, inventory consumed, hydro logs, grouped images
 2. **Planned Work** (Report Date → End Date):
 - Future planned activities
- Option to attach one-time-use images (not stored)
- Export reports in **PDF** and **Excel** formats

6. Employee Management

Purpose: Maintain employee records and project involvement.

Features:

- Add/edit employee data and documents
- Assign to projects only
- Optionally create linked portal user account

7. Payroll Management

Purpose: Salary processing based on project duration.

Features:

- Auto-calculate payroll from project start/end dates
- 1 workday per day rule
- Generate monthly payroll
- Salary slips (PDF) and monthly payroll report (Excel)
- Used in actual project costing

8. User Management

Purpose: Handle user creation, roles, and permissions.

Features:

- Create users manually or auto-create via employee/customer
- Roles: Admin, Finance, Project Manager, Customer, **Employee**
- Manual permission configuration
- Role-specific access behavior:
 - **Employee:** View assigned projects and payroll slips only
 - **Customer:** View assigned projects, invoices, and reports
 - **Finance:** View payroll summaries, purchase and sales financial reports, and generate financial analytics
 - **Project Manager:** Create and approve purchase requests; manage inventory and goods issues; oversee project setups; generate and review daily and range-based reports; manage photos and hydro blasting logs
- Audit logs
- Email password reset

9. Purchase Management

Purpose: Full purchase lifecycle control.

Purchase Request:

- Fields: Item, quantity, urgency, reason
- Statuses: Draft → Submitted → Approved/Rejected

Purchase Order (PO):

- Created from approved requests **or directly**
- Includes supplier, delivery date, item list, tax
- Partial fulfillment supported
- Document attachments allowed

Purchase Invoice:

- Creates inventory inflow
- Multiple invoices per PO supported
- Document uploads

10. Sales Management

Purpose: Quotation and invoice management for services.

Quotations:

- Customer, service items, tax, discounts
- Status: Draft, Sent, Approved, Rejected, Converted

Sales Invoices:

- For services only (no inventory link)
- Linked to project and customer
- Track payment status: Unpaid, Partially Paid, Paid, Overdue
- Display payment due dates and highlight overdue invoices
- Credit notes and adjustments
- Exportable to PDF
- Visible in Customer Module

11. Customer Module

Purpose: Unified access for customers via user account.

Logic:

- Creating a customer also creates a user with role "Customer"
- Customers redirected to this module on login

Features:

- View assigned projects and reports
- Download invoices

- Submit feedback/comments
- Review communication logs

12. Reporting & Analytics

Purpose: Visualize operational and financial data.

Features:

- Filters: Module, date range, project, user, customer
- Reports:
 - Inventory usage
 - Payroll
 - Asset logs
 - Project actual cost (inventory + payroll)
- Export to PDF, Excel, CSV

13. General Features

Purpose: System-wide usability enhancements.

Features:

- In-app notifications for key events
- Document/image uploads
- Responsive design
- API-ready backend
- Full development lifecycle