

Full Software Development Plan

Automation Switches, KNX, Tuya, Fan & Future LED/COB Factory CRM + ERP

1. Software Purpose

We need a complete business software for our automation switches factory. This software should manage the full journey from customer inquiry to final service.

The system should cover:

Lead → Daily Visit Planner → Site Visit → BOQ → Design Files → Quotation Versions → Payment Planner → Purchase → Inventory → Factory Production → Engraving → Tuya/KNX Setup → Fan Assembly → Future LED/COB Assembly → QC → Dispatch → Installation → Service Reminder

This should not be only a CRM. It should be a complete **CRM + Project Management + BOQ + Factory ERP + Client/Designer Portal**.

2. Main Users

The software should have role-based access.

Internal Users

1. Admin
2. Sales Team
3. Sales Manager
4. Project Manager
5. Designer
6. Purchase Team
7. Inventory / Store Team
8. Factory Manager
9. Engraving Team
10. Tuya Setup Team
11. KNX Programmer
12. Fan Assembly Team
13. LED / COB Assembly Team
14. Quality Check Team
15. Dispatch Team
16. Installation Team
17. Service Team

18. Accounts Team

External Users

1. Client
2. Architect
3. Interior Designer
4. Contractor, if required

Each user should only see the data allowed for their role.

3. Main Dashboard

The software should have separate dashboards.

Admin Dashboard

Admin should see:

- Total leads
- New leads today
- Site visits today
- Pending site reports
- Pending BOQ
- Pending quotations
- Pending quote approvals
- Pending payments
- Overdue payments
- Purchase pending
- Stock shortage
- Production pending
- Engraving pending
- KNX programming pending
- Tuya setup pending
- Fan assembly pending
- LED / COB assembly pending
- QC pending
- Dispatch pending
- Installation pending
- Service complaints open

Sales Dashboard

Sales person should see:

- Today's visits
- Call reminders
- Follow-up reminders
- Payment follow-ups
- Pending BOQ
- Pending quotation
- Pending client approval
- Pending designer approval
- Hot leads
- Lost leads
- Won projects

Factory Dashboard

Factory team should see:

- Approved projects
- Material shortage
- Assembly pending
- Engraving pending
- Tuya setup pending
- KNX setup pending
- Fan assembly pending
- LED/COB assembly pending
- QC pending
- Ready for dispatch

Accounts Dashboard

Accounts team should see:

- Payment due today
- Payment overdue
- Project-wise collection
- Invoice pending
- Receipt pending
- Payment plan status

Service Dashboard

Service team should see:

- Service tickets open
 - Technician assigned
 - Site visit pending
 - Part replacement pending
 - Warranty cases
 - Closed service tickets
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4. Lead Management / CRM

The software should manage all customer inquiries.

Lead Details

Each lead should contain:

- Client name
- Mobile number
- Email
- Project name
- Project type
- Site address
- City
- Google location
- Architect name
- Interior designer name
- Contractor name
- Lead source
- Sales person assigned
- Requirement category:
- Automation switches
- KNX system
- Tuya switches
- Smart home automation
- Fan
- Lighting / COB
- Full package
- Approximate budget
- Lead status
- Next follow-up date
- Remarks

Lead Status

Lead status should include:

- New
- Contacted
- Site visit planned
- Site visited
- BOQ pending
- Quote sent
- Follow-up
- Negotiation
- Won
- Lost
- On hold

Lead Reminders

The system should create reminders for:

- Call follow-up
 - Site visit
 - Quote follow-up
 - Payment follow-up
 - Designer follow-up
 - Client approval follow-up
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5. Daily Visit Planner

The sales team should have a daily visit planner.

Daily Plan View

Each sales person should see:

- Today's site visits
- Client meetings
- Architect meetings
- Interior designer meetings
- Payment collection visits
- Service visits
- Follow-up calls
- Pending reports

Visit Details

Each visit should include:

- Project name
- Client name
- Contact number
- Site address
- Google Maps link
- Visit purpose
- Scheduled date and time
- Assigned sales person
- Reminder before visit
- Check-in button
- Check-out button
- Visit notes
- Upload photos
- Next action
- Next follow-up date

GPS Tracking

During site visit:

- Sales person should check in from site
- GPS location should be captured
- Check-in time should be captured
- Check-out time should be captured
- Site photos should be uploaded
- Visit report should be mandatory

Management should be able to compare:

Planned visit vs actual visit

6. Site Visit Report

During site visit, sales person should create a proper site report.

Site Report Should Include

- Project name
- Visit date
- Sales person name

- Client / designer present
- Site location
- GPS check-in
- Site photos
- Room-wise requirements
- Electrical points
- Automation points
- Fan points
- Light points
- Curtain points
- AC points
- KNX points
- Tuya points
- Remarks
- Next action

Room-Wise Survey

Room categories:

- Living room
- Dining
- Kitchen
- Master bedroom
- Bedroom 1
- Bedroom 2
- Bathroom
- Passage
- Balcony
- Outdoor
- Custom room

For each room, the sales person should add:

- Switch board location
 - Number of switches
 - Automation requirement
 - Fan requirement
 - Dimming requirement
 - Curtain control
 - AC control
 - Lighting requirement
 - Photos
 - Notes
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7. BOQ Module

The BOQ module is one of the most important parts.

BOQ should be created:

Project-wise → Floor-wise → Room-wise → Product-wise

BOQ Should Include

- Room name
- Product category
- Product name
- Model number
- Quantity
- Unit price
- Discount
- GST
- Final price
- Engraving names
- System type:
- Normal switch
- Tuya
- KNX
- Fan
- LED / COB
- Accessory
- Installation charges
- Programming charges
- Remarks
- Approval status

BOQ Version

BOQ should also have versions:

- BOQ V1
- BOQ V2
- BOQ V3
- Final BOQ

Old BOQs should never be deleted or overwritten.

8. Quotation Module

The software should generate instant quotations from BOQ.

Quotation Features

- Auto price from product master
- Manual price edit with permission
- Discount option
- GST calculation
- Installation charges
- Programming charges
- Transport charges
- Payment terms
- PDF generation
- WhatsApp sharing
- Email sharing
- Client approval
- Designer approval
- Version history

Quotation Versions

The system must save every quotation version:

- Quote V1
- Quote V2
- Quote V3
- Final Quote

Each quotation version should store:

- Linked BOQ
- Products
- Quantity
- Rate
- Discount
- GST
- Payment terms
- PDF copy
- Sent date
- Created by
- Approved by
- Approval date
- Comments
- Status

Quote Status

- Draft
- Sent
- Revised
- Approved
- Rejected
- Final

There should be a clear view to compare:

Quote V1 → Quote V2 → Quote V3 → Final Quote

9. Payment Planner

After final quote approval, the system should create a payment plan.

Payment Stages

Example:

- Booking payment
- Before production
- Before dispatch
- Before installation
- Final balance

Payment plan should support:

- Percentage-based payment
- Fixed amount payment
- Due date
- Reminder date
- Payment received
- Pending payment
- Overdue payment
- Receipt upload
- Invoice upload
- Payment mode
- Transaction reference

Payment Reminders

The system should send reminders to:

- Sales person
- Accounts team
- Admin
- Client, if enabled

Reminder channels:

- App notification
 - Email
 - WhatsApp, if integrated
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10. Project Master Page

Every project should have one main page.

This page should show everything:

- Lead details
- Client details
- Architect details
- Interior designer details
- Site address
- Google location
- Visit history
- Site photos
- BOQ versions
- Quotation versions
- Payment plan
- Design files
- AutoCAD files
- Wiring layout
- Engraving list
- Purchase status
- Inventory status
- Production status
- Dispatch status
- Installation status
- Service history
- Comments
- Approvals
- Documents

This page should be the single source of truth.

11. Design File & Cloud Storage Module

For every project, the software should create a cloud folder.

Project Folder Structure

Example:

- 01 Client Details
- 02 Site Visit Photos
- 03 AutoCAD Files
- 04 Design Layouts
- 05 Wiring Drawings
- 06 BOQ Files
- 07 Quotation Versions
- 08 Final Approved Quote
- 09 Engraving Approval
- 10 Production Files
- 11 Dispatch Documents
- 12 Installation Photos
- 13 Service Reports

File Types

The system should support:

- DWG
- DXF
- PDF
- JPG
- PNG
- XLSX
- DOCX
- ZIP

File Upload

Designers should be able to upload:

- AutoCAD files
- Wiring drawings
- Electrical layouts

- KNX wiring diagrams
- Tuya switch layouts
- Fan layout
- Lighting layout
- COB layout
- RCP layout
- Final approved drawings

File Details

Each file should show:

- File name
- File type
- Version
- Uploaded by
- Uploaded date
- Status
- Comments
- Download button

One-Click Folder Download

There should be a button:

Download Full Project Folder

This should download a ZIP file with all approved files and documents.

There should also be separate buttons:

- Download AutoCAD files
- Download design layouts
- Download wiring drawings
- Download quotation versions
- Download final approved quote
- Download site photos
- Download installation photos
- Download service reports

Cloud Storage

Recommended:

- AWS S3, Google Cloud Storage, or Google Drive integration

The software should preferably store files in cloud storage and also allow Google Drive sync/export.

12. Designer / Architect / Client Portal

External users should have a portal.

Designer / Architect Can

- View project details
- View site photos
- Upload design files
- Upload AutoCAD files
- Upload wiring layouts
- View BOQ
- View quotation
- Add comments
- Request changes
- Approve design
- Approve BOQ
- Approve engraving
- Approve final quote

Client Can

- View approved BOQ
- View quote versions
- View final quote
- View approved design files
- View payment schedule
- Upload payment proof
- Add comments
- Approve final quotation
- Approve final engraving
- Download project documents

Thread Comments

Each project, BOQ, quotation, and design file should have comment threads.

Example:

Designer comment: "Shift this switch board near the entrance."

Sales reply: "Updated in BOQ V2 and Design V2."

Client comment: "Approved."

All comments should stay inside the project.

13. Engraving Module

Each switch should have engraving names.

Engraving Details

For each switch:

- Project name
- Room name
- Board number
- Product model
- Button 1 name
- Button 2 name
- Button 3 name
- Button 4 name
- Scene names
- Font
- Language
- Finish
- Approval status
- Production status

Engraving Flow

- Draft
- Sent to designer/client
- Changes requested
- Approved
- Sent to factory
- Engraving in progress
- Engraved
- QC done

Final engraving sheet should be downloadable.

14. Product Master

There should be a product master for all products.

Product Categories

- Automation switches
- Tuya switches
- KNX products
- Smart panels
- Modules
- Fan parts
- Finished fans
- LED / COB products
- Drivers
- Accessories
- Installation items
- Packaging material

Product Details

Each product should include:

- Product name
- SKU
- Model number
- Category
- Brand
- Cost price
- Selling price
- GST
- Unit
- Stock quantity
- Minimum stock level
- Product image
- Technical document
- Active / inactive status

15. Purchase Module

The system should manage purchase requirements.

Purchase Flow

- Material requirement generated from approved BOQ
- Stock check
- Shortage list
- Vendor selection

- Purchase order
- Purchase approval
- Material inward
- Purchase invoice upload
- QC after inward
- Stock update

Purchase Order Should Include

- Vendor name
- Product
- Quantity
- Rate
- GST
- Expected delivery date
- PO PDF
- Status

Purchase status:

- Draft
- Sent
- Confirmed
- Part received
- Fully received
- Closed

16. Inventory Module

Inventory should track raw material, finished goods, and project-reserved stock.

Inventory Types

Raw Material

- PCBs
- Switch modules
- Plates
- Frames
- Fan motors
- Fan blades
- Rods
- Canopies
- LED bodies
- COB chips

- Drivers
- Screws
- Packaging

Finished Goods

- Ready Tuya switches
- Ready KNX panels
- Ready fans
- Ready lights

Project Reserved Stock

When a project is approved, required stock should be reserved.

Example:

Total available Tuya switches: 50
Project A reserved: 20
Project B reserved: 10
Free stock: 20

This prevents double selling.

Inventory Alerts

- Low stock alert
 - Out of stock alert
 - Project shortage alert
 - Purchase pending alert
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17. Production Module

Approved BOQ should automatically create production job cards.

Job Card Types

Tuya Switch Job Card

- Project name
- Product model
- Quantity
- Engraving details
- Tuya configuration
- Testing checklist

- Packaging requirement

KNX Job Card

- KNX device list
- Programming requirement
- ETS file reference
- Addressing details
- Testing checklist
- Site programming notes

Fan Assembly Job Card

- Fan model
- Motor
- Blade type
- Canopy
- Rod
- Finish
- Quantity
- Testing checklist
- Packaging

LED / COB Assembly Job Card

- Product type
- Wattage
- Body type
- Driver
- Colour temperature
- Beam angle
- Quantity
- Testing checklist
- Packaging

Production Status

- Pending
 - Material pending
 - Material ready
 - In assembly
 - Engraving pending
 - Programming pending
 - QC pending
 - Packed
 - Ready for dispatch
-

18. Tuya Setup Module

The system should track Tuya switch setup.

Tuya Details

- Product model
- Project name
- Room name
- Device name
- App account details, if required
- Configuration status
- Testing status
- QR/code or device reference
- Remarks

Status:

- Pending
 - Configured
 - Tested
 - Ready
-

19. KNX Module

The system should track KNX work.

KNX Details

- Project name
- KNX device list
- Room-wise device allocation
- Group address
- ETS file upload
- Programming status
- Testing status
- Site commissioning status
- Final backup file upload

Status:

- Design pending
- Programming pending
- Testing pending

- Site commissioning pending
 - Completed
-

20. Fan Assembly Module

Fan assembly should be tracked like production.

Fan Details

- Fan model
- Finish
- Motor
- Blade
- Canopy
- Downrod
- Quantity
- Assembly team
- QC status
- Packing status

Status:

- Material pending
 - Assembly pending
 - In assembly
 - QC pending
 - Packed
 - Ready for dispatch
-

21. Future LED / COB Assembly Module

The software should already be designed to add LED and COB assembly later.

LED / COB Details

- Product type
- Wattage
- Body
- Driver
- COB chip
- Colour temperature
- Beam angle

- Finish
- Quantity
- Testing status
- Packing status

This module can be activated in the future.

22. Quality Check Module

QC should be mandatory before dispatch.

QC Checklist

For switches:

- Physical finish checked
- Engraving checked
- Button function checked
- Tuya setup checked
- KNX programming checked, if applicable
- Packaging checked

For fans:

- Assembly checked
- Motor checked
- Blade balance checked
- Finish checked
- Noise checked
- Packaging checked

For LED / COB:

- Driver checked
- Colour temperature checked
- Wattage checked
- Body finish checked
- Burn test completed
- Packaging checked

QC should allow:

- Pass
- Fail
- Rework required
- QC photos

- QC remarks
-

23. Dispatch Module

Before dispatch, the system should check:

- Final quote approved
- Payment stage cleared
- Production completed
- Engraving completed
- QC passed
- Packing list ready

Dispatch Details

- Project name
 - Box number
 - Product list
 - Quantity
 - Packing photos
 - Dispatch date
 - Vehicle / courier details
 - Delivery challan
 - Invoice
 - Received by
 - Delivery status
-

24. Installation Module

The installation team should have mobile access.

Installation Details

- Project name
- Site address
- Installation date
- Installer assigned
- Product list
- Site photos
- Installation checklist
- Pending work
- Client sign-off

- Designer sign-off
- Completion photos

Status:

- Planned
 - In progress
 - Partially completed
 - Completed
 - Pending issue
-

25. Service Module

After installation, the system should manage service reminders and complaints.

Service Reminders

Automatic reminders:

- 7 days after installation
- 30 days after installation
- 6 months
- 1 year
- Warranty expiry

Service Ticket

Each service ticket should include:

- Client name
- Project name
- Product affected
- Issue description
- Photos / videos
- Technician assigned
- Visit date
- Part required
- Resolution notes
- Final photos
- Client feedback

Status:

- Open
- Assigned

- Visited
 - Part required
 - Resolved
 - Closed
-

26. Notifications & Reminders

The software should send reminders for:

- Calls
- Site visits
- Follow-ups
- BOQ pending
- Quote pending
- Quote approval
- Payment due
- Payment overdue
- Purchase pending
- Stock shortage
- Production delay
- Engraving approval
- Dispatch pending
- Installation visit
- Service visit
- Warranty expiry

Notification channels:

- Mobile app push notification
 - Email
 - WhatsApp Business API
 - SMS, optional
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27. Reports

The software should generate reports.

Sales Reports

- Lead report
- Sales person performance
- Site visit report
- Quote conversion report

- Lost lead report
- Architect-wise sales
- Designer-wise sales
- Product-wise sales

Payment Reports

- Payment due
- Payment overdue
- Collection report
- Project-wise outstanding
- Invoice pending

Factory Reports

- Production pending
- Assembly pending
- Engraving pending
- QC pending
- Dispatch pending
- Material shortage

Inventory Reports

- Stock report
- Low stock report
- Purchase report
- Project reserved stock
- Dead stock

Service Reports

- Open complaints
- Technician performance
- Product issue report
- Warranty claims

28. Mobile App Requirements

The mobile app should be for:

- Sales team
- Site visit team
- Installation team
- Service team

- Designer/client access, if required

Mobile App Features

- Login
 - Today's tasks
 - Daily visit planner
 - GPS check-in
 - GPS check-out
 - Photo upload
 - BOQ creation
 - Visit report
 - Call reminder
 - Payment reminder
 - Service reminder
 - Comment replies
 - File view/download
 - Client approval
 - Designer approval
 - Push notifications
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29. Web Admin Panel

The web admin panel should be used by:

- Admin
- Sales manager
- Accounts
- Purchase
- Factory
- Designer
- Dispatch
- Service

Web panel should include all modules with full reporting and approval control.

30. Recommended Technology

Frontend Web

- React.js or Next.js

Mobile App

- Flutter

Backend

- Node.js with NestJS
or
- Laravel

Database

- PostgreSQL

Cloud Storage

- AWS S3
or
- Google Cloud Storage
or
- Google Drive integration

Maps

- Google Maps API

Notification

- WhatsApp Business API
- Email
- Push notification
- SMS optional

PDF Generation

Required for:

- BOQ
- Quotation
- Payment plan
- Job card
- Engraving sheet

- Packing list
 - Delivery challan
 - Installation report
 - Service report
-

31. Development Phases

Phase 1: CRM + Daily Visit + BOQ + Quotation

Build first:

- Lead management
- Daily visit planner
- Call reminders
- Site visit planner
- GPS check-in/check-out
- Photo upload
- Site visit report
- BOQ creation
- Instant quotation
- Quote PDF
- Quote version history
- Project master page

Phase 2: Design File + Client/Designer Portal + Approvals

Build second:

- AutoCAD upload
- Design layout upload
- Wiring drawing upload
- Cloud project folder
- File version history
- One-click folder download
- Designer portal
- Client portal
- Comment threads
- BOQ approval
- Quote approval
- Engraving approval

Phase 3: Payment + Accounts

Build third:

- Payment planner
- Payment reminders
- Invoice upload
- Receipt upload
- Payment status
- Overdue alerts
- Payment reports

Phase 4: Purchase + Inventory

Build fourth:

- Product master
- Vendor master
- Purchase order
- Material inward
- Stock management
- Project reserved stock
- Low stock alerts

Phase 5: Production + Assembly

Build fifth:

- Production job cards
- Tuya switch setup tracking
- KNX programming tracking
- Fan assembly tracking
- LED / COB future assembly structure
- Engraving tracking
- QC checklist

Phase 6: Dispatch + Installation + Service

Build sixth:

- Packing list
- Dispatch challan
- Invoice link
- Dispatch photos
- Installation planner
- Installer app

- Client sign-off
- Service ticket
- Service reminders
- Warranty reminders

Phase 7: Advanced Reports + Automation

Build last:

- Advanced dashboards
 - Performance reports
 - Profitability reports
 - Architect/designer business reports
 - Product-wise sales analysis
 - Delay analysis
 - WhatsApp automation
 - AI report summary, optional
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32. Most Important Rules for Developer

1. Old quotations must never be overwritten.
 2. Old BOQs must never be overwritten.
 3. Design files must have version history.
 4. Every project must have a complete project folder.
 5. Every project must have one master page.
 6. Sales BOQ must be connected to factory production.
 7. Payment should be linked to dispatch approval.
 8. Engraving must be approved before production.
 9. QC must be passed before dispatch.
 10. Client and designer comments must stay inside the project.
 11. GPS check-in must be mandatory for site visits.
 12. Photos must be mandatory for site visit, dispatch, installation, and service.
 13. Stock must be reserved project-wise after order confirmation.
 14. The software must be mobile-friendly from day one.
 15. The system should be built modularly so LED/COB assembly can be added later.
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33. Final Summary for Developer

We need a complete custom CRM + ERP software for an automation switches and smart home factory.

The software must manage:

- Leads

- Daily visits
- Site reports
- BOQ
- Quotations
- Quotation versions
- Payment planning
- AutoCAD and design file storage
- Client/designer approvals
- Comment threads
- Purchase
- Inventory
- Production
- Engraving
- Tuya setup
- KNX programming
- Fan assembly
- Future LED/COB assembly
- QC
- Dispatch
- Installation
- Service reminders
- Reports

The most important flow is:

Inquiry → Site Visit → BOQ → Design → Quote → Approval → Payment → Purchase → Production → Assembly → QC → Dispatch → Installation → Service

This software should become the main operating system for the full company, from factory to site to client to designer.