



# Maintenance & Field Service – AI ERP TicketingOS

Aircraft · Motorcar · Air-conditioner · Property · Water Filter · UrbanClap-style on-demand

AMC · CMC · Chargeable · Technician dispatch · SLA management · Spare parts

## 1. Master Field Service Execution Flow (Ticket → Closure)

ID	Department	Process	Activity	Action	Progress %
M001	Customer	REQUEST	Service request	Phone/WhatsApp/App/Web – auto create ticket	5
M002	CRM	VALIDATION	Check contract (AMC/CMC/chargeable)	Fetch asset history, warranty, SLA	10
M003	Dispatch	SCHEDULING	Technician assignment	AI matches skills, location, availability → auto assign	20
M004	Field	ONSITE	Technician arrival	GPS check-in, customer notification	30
M005	Field	DIAGNOSIS	Inspection & estimate (if chargeable)	Photo upload, defect list, spare parts identified	45

ID	Department	Process	Activity	Action	Progress %
M006	Customer	APPROVAL	Quote acceptance (for chargeable)	Digital signature / WhatsApp accept	50
M007	Warehouse	SPARE PARTS	Parts issuance	Barcode scan, stock deduction	60
M008	Field	REPAIR / SERVICE	Execution	Task checklist completion (e.g., gas refill, filter change)	75
M009	QA	QUALITY CHECK	Customer sign-off	Photo proof, test run, customer feedback	85
M010	Finance	INVOICE & PAYMENT	Billing	Auto generate invoice (AMC/CMC/chargeable), payment link	95
M011	CRM	CLOSURE	Warranty & follow-up	Ticket closed, schedule next preventive visit (if AMC)	100

## 2. Asset-Specific Maintenance Workflows

### **Aircraft Maintenance (Line / Base)**

Flight hours trigger  
 → Pre-flight check  
 → Defect logging

### **Motorcar (Workshop / Mobile)**

Customer complaint →  
 Diagnostic scan →

### **Air-conditioner (Residential/Commercial)**

Filter cleaning ticket / gas leak → Technician dispatch  
 → Pressure check → Gas refill (kg) → Coil cleaning

### **Property Maintenance (Building / Facility)**

Ticket: plumbing leakage, electrical

→ Parts ordering (AOG) → Engineer sign-off → Release certificate → Logbook entry (airworthiness)

Estimate approval → Repair (engine, electrical, AC) → Test drive → Invoice → Warranty tracking

→ Test cooling → Customer sign-off

fault, painting, pest control → Assign handyman → Spares (tap, pipe, bulb) → Completion → Monthly AMC billing

#### **Water Filter / Purifier (RO/UV)**

Filter change reminder (by date / litres) → Technician visit → Replace sediment/RO/UF membrane → TDS check → Sanitisation → QR scan for next reminder

#### **UrbanClap-style On-Demand (Any appliance)**

Customer app booking → Price estimate (fixed / hourly) → Technician accepts → Service → Payment online → Rating & review

### Critical Service Control Points

- **SLA adherence:** Response time (4h for commercial AC, 30min for aircraft AOG), resolution time.
- **Spare parts authenticity:** OEM parts barcode scan – counterfeits auto flagged.
- **Safety & compliance:** Aircraft – DGCA logbook; Car – torque specs; AC – refrigerant reclaim (no venting).
- **Customer confirmation:** Before/after photos, digital signature mandatory for chargeable jobs.
- **AMC visit compliance:** Auto schedule preventive maintenance (quarterly/half-yearly) – missed visit escalation.

## 3. Billing & Payment Structure (AMC, CMC, Chargeable)

Contract Type	Billing Basis	Payment Schedule	Typical For
AMC (Annual Maintenance Contract) – Labour only	Fixed annual fee (unlimited calls)	50% advance + 50% at 6 months	AC, water filter, property (basic)
CMC (Comprehensive) – Labour + Spare parts	Fixed annual fee + spare parts at cost (or inclusive)	Monthly / quarterly advance	Aircraft, car, commercial AC
Chargeable (T&M or fixed job)	Diagnosis fee + labour (per hour) + spare parts (actual)	100% before / after service (COD online)	UrbanClap, out-of-warranty repair
Preventive AMC (scheduled visits only)	Per visit or per quarter	Quarterly advance	Property painting, AC filter cleaning, RO filter change

💰 Late fee auto-apply on AMC renewals, dynamic pricing for chargeable jobs based on urgency (peak/off-peak).

## 4. ERP Module Mapping (Field Service Management)

### Customer & Asset Registry

– Asset age, warranty, service history, contract end date

### Contract Management

– AMC/CMC templates, auto-renewal, rate escalation

### Dispatch & Scheduling (AI) –

Technician skill matrix, real-time location, route optimisation

### Mobile Field App –

Check-in/out, barcode scan, photo upload, digital signature,

### Spare Parts Inventory –

Bin location, FEFO, vendor backorder, consignment stock at technician van

spare parts  
request

**Billing & Collection** – RA  
(Running Account) for  
AMC/CMC, one-time invoice  
for chargeable

**SLA & KPI Dashboard** –  
Response time, first-time fix  
rate, technician rating

**AI Engine** – Predictive  
breakdown, auto ticket creation  
from IoT sensors

## 5. AI-Based Field Service Automation

Function	AI Automation
Predictive maintenance (IoT)	Aircraft engine vibration sensor → predicts failure 50h before → auto creates maintenance ticket, orders spare
Smart technician dispatch	Customer location + technician skill (car AC specialist) + traffic → AI selects best fit → auto WhatsApp notification
Dynamic pricing (chargeable)	Urgency (same day) + part scarcity + technician rating → AI suggests price (e.g., 1.5x normal)
Spare parts auto-fulfilment	Diagnosis photo (leaking pipe) → AI identifies part number → checks van stock → auto reserve at warehouse

Function	AI Automation
AMC renewal churn prediction	Service frequency + ticket sentiment + competitor presence → AI flags at-risk customers → retention discount ticket
Voice-to-ticket (WhatsApp)	Customer sends voice note: "AC not cooling" → AI transcribes, creates ticket, suggests probable gas leak
First-time fix rate optimisation	Analyzes past repairs → recommends extra spare part to carry on van (e.g., common capacitor for AC)

📱 UrbanClap-like: Customer app booking → AI estimator gives instant price → technician self-assigns → service → auto payment split (80% tech, 20% platform).

## 6. Final Maintenance ERP + TicketingOS Architecture

Request → Validation → Dispatch → Onsite → Diagnosis → Approval → Repair → QC → Invoice → Closure

**Internal ERP:** CRM → Contract → Dispatch → Field App → Inventory → Billing → Analytics

**AI TicketingOS:** AI Predictive Maint → AI Dispatch → AI Dynamic Price → AI Spare Fulfilment → AI Churn → AI Voice Ticket

📁 Every asset becomes a ticket stream – from installation to end-of-life. Zero manual follow-up.

## ■ Asset & Service Traceability (Audit Ready)

**Asset ID (QR/RFID)** –  
Make, model,  
installation  
date, warranty,  
past service  
tickets

**Service ticket**  
– Complaint,  
technician ID,  
parts used  
(batch), time  
logs, customer  
signature

**Spare part lot**  
– Supplier,  
batch no.,  
expiry (for  
filters),  
warranty on  
part

**Compliance certificate** –  
Aircraft  
logbook, DGCA  
stamp; car  
service history;  
AC gas reclaim  
certificate

**Customer portal** – Login  
→ see all  
assets,  
upcoming AMC  
renewals, past  
invoices,  
download  
service reports

## ■ Field Service Dashboards

- Open tickets by SLA (breached vs on-track)
- Average response time (by asset type: AC vs aircraft)
- First-time fix rate (%), parts used per job, technician ranking (customer rating)
- AMC renewal rate (%), revenue from chargeable vs contract
- Spare parts inventory turnover, obsolete stock value
- Technician utilisation (billable hours vs travel/idle)
- Customer satisfaction score (post-service survey), repeat ticket rate (same issue)
- Predictive AI accuracy (failures predicted vs actual)



## Consumer App & Technician App (Included)

### Customer App

- Book service (AC, car, plumbing, etc.)
- Real-time technician tracking
- Instant price estimate
- Digital payment & invoice
- Rate & review

### Technician App

- Accept / reject jobs
- Navigation to customer
- Barcode scan of spare part
- Before/after photo upload
- Earnings dashboard (daily settlement)

💰 Platform fee: 20% of chargeable service value – auto deducted, balance to technician wallet (instant withdrawal).

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☰ AI ERP TicketingOS – Maintenance & Field Service (AMC/CMC/Chargeable). Supports aircraft, car, AC, property, water filter, and on-demand platforms like UrbanClap.

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