Microsoft Dynamics 365

START YOUR JOURNEY

Field Service Training

Comprehensive 3-day workshop designed for functional and technical professionals to master service operations.

- Consultants, BAs, PMs, Service Managers
- Hands-on Labs & Real-world Scenarios
- Preparation for MB-240 Certification

Training Roadmap

3 DAYS

DAY 01

Foundation & Core Operations

Architecture, Lifecycle, Work Orders, Agreements

DAY 02

Scheduling & Mobile Workforce

Resource Management, Schedule Board, RSO, Mobile App

DAY 03

Advanced Scenarios & Analytics

IoT, Power Platform Integration, Customization, KPIs

Includes live environment access and detailed lab guides.

MICROSOFT DYNAMICS 365 FIELD SERVICE

Objectives, Audience & Agenda

3-Day Workshop

Objectives

- Master Field Service core operations, configuration, and work order lifecycle.
- Gain proficiency in resource scheduling, optimization, and mobile workforce enablement.
- Explore advanced integrations with IoT, Power Platform, and analytics.

Target Audience

Training Agenda Overview

1 Foundation & Core Operations

Day 1

Modules 1-5

- Intro & Architecture
- Core Configuration Setup
- Agreements & PM
- Business Process Lifecycle
- Work Order Management

2 Scheduling & Mobile Workforce

Day 2

Modules 6-10

- Resource Management
- Resource Scheduling Optimization
- Inventory & Assets
- Schedule Board Deep Dive
- Field Service Mobile App

3 Advanced Scenarios & Analytics

Day 3

Modules 11-16

01

DAY ONE

Foundation & Core Operations

Establishing the digital backbone for field service excellence. We will cover the end-to-end lifecycle from configuration to work order execution.

09:00 AM - 05:00 PM

Today's Key Focus Areas

Architecture & Concepts

D365 Ecosystem, Licensing, Integration Patterns

Configuration Setup

Org Units, Incident Types, Service Tasks, Products

Work Order Management

Lifecycle, Statuses, Manual & Auto Creation

Agreements & PM

preventive Maintenance, Recurrence, Booking Setup

HANDS-ON LABS

- Navigation & Entity Tour
- Building Incident Types
- Work Order Generation

ARTIFACTS & DATA

- Demo Data Pack
- User Roles Matrix
- Lab Guide PDF

DAY 1 > FOUNDATION & CORE OPERATIONS

Module 1: Introduction to Dynamics 365 Field Service

01

Ecosystem & Architecture

Built on Microsoft Dataverse & Power Platform

Unified Data Model
Seamlessly shares data (Accounts, Contacts) with Sales & Customer Service apps.

Key Components
Work Orders, Universal Resource Scheduling (URS), Inventory, Mobile App.

Experience Layer → Process Layer → Data Layer (Dataverse)

Strategic Integrations

Connecting the end-to-end service value chain

Customer Service
Convert Cases to Work Orders automatically

Finance & Supply Chain
Dual-write for assets, inventory, and invoicing

Power Platform
Power Automate flows, Power Apps & Power BI

Licensing & Deployment

Flexible options for roles and scale

BASE LICENSE
Field Service
For dispatchers, managers & admins

ADD-ON
RSO
Resource Scheduling Optimization

Deployment Models

Business Value

Transforming service operations

First-time fix rate Improve

Travel time & costs Reduce

Asset uptime Maximize

MODULE 1: INTRODUCTION

Demo: Navigating the Field Service App

Live Exercise

Follow These Steps

1

Access the App

Open the App Launcher (waffle icon) and select Field Service.

Action: Click 'Field Service' tile

2

Explore Dashboards

Review the default landing page. Identify charts for active work orders and incidents.

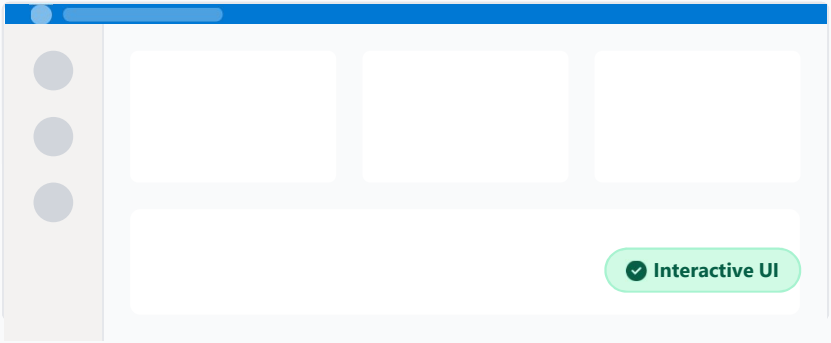
Observe: Visual breakdown of current status

3

Navigate Key Entities

Use the left sitemap to locate Work Orders, Schedule Board, and Assets.

Verify: Locate the Schedule Board



Pro Tips

Use the "Recent" tab (clock icon) to quickly jump back to records you just viewed.

Pin your most frequent views to the "Pinned" section for one-click access.

Learning Outcome

By the end of this exercise, you will be able to confidently navigate the Unified Interface and understand the relationship between core Field Service entities.

MODULE 2

Field Service Business Process Lifecycle

PROCESS FLOW
End-to-End Overview

The 5 Stages of Service

1. Create
Case, Email, IoT Alert, Agreement, or Portal

2. Schedule
Manual Drag & Drop, Assistant, or Auto-Optimization (RSO)

3. Execute
Mobile App, Tasks, Photos, Parts Usage, Signature

4. Review
Manager Approval, Quality Check, Inventory Adjustments

5. Bill & Close
Generate Invoice, Post to ERP, Survey Customer

Service Delivery Models

Break/Fix
Reactive service triggered by customer. High urgency, unpredictable demand.

Preventive
Scheduled maintenance (PM). Predictable, agreement-based, maximizes asset life.

Contract
SLA-driven ongoing service. Often combines reactive & preventive work.

Lifecycle Controls

System Statuses
Open, Scheduled, In Progress, Completed, Posted

SLAs & Entitlements
Response time, resolution time, priority handling

Key KPIs
First-time Fix Rate, Mean Time to Repair, Travel Time

DYNAMICS 365 FIELD SERVICE TRAINING

Case Scenario: Emergency Utility Outage

MODULE 2 | Business Process

Scenario Context

THE SITUATION

A severe storm has caused power outages in the North District. NorthWind Utilities is receiving high volumes of calls and IoT alerts from transformers.

Urgency: Critical

SLA: Restoration < 2 Hours

KEY CHALLENGES

Manual prioritization creates delays.

Dispatchers lack real-time crew location.

Customers frustrated by lack of status updates.

End-to-End Workflow

Hands-on Exercise

10 MIN

1. Open Customer Service Hub, navigate to Active Cases.
2. Create new Case: "Power Outage - Sector 7".
3. On command bar, click Convert to Work Order.
4. Verify Incident Type is set to "Electric_Repair".

Business Impact

40%
Faster Dispatch Time

Real-time
Customer Status Updates

100%
Safety Protocol Compliance

DAY 1 > FOUNDATION & CORE OPERATIONS

Module 3: Core Configuration Setup

03

Organizational Structure

Defining how your service business operates

Organizational Units
Logical divisions (e.g., "West Coast Service") linked to price lists.

Territories
Geographical areas used for scheduling and resource filtering.

Warehouses
Physical locations (depots, trucks) where inventory is stored.

Incident Types (Templates)

Standardizing work order creation

Acts as a "template" that automatically populates:

Service Tasks
Step-by-step checklist

Products & Services
Required parts & labor

Duration
Estimated time to complete

Skills
Required characteristics

Products & Pricing

Managing costs and revenue

Product Catalog	Inventory vs. Non-Inventory
Price Lists	By Territory / Currency
Tax Codes	Postal Code integration

Demo: Configuration

Live setup walkthrough

KEY ACTIVITIES

1 Create Incident Type: Define a standard "HVAC Maintenance" job.

2 Add Dependencies: Link Service Tasks (Inspect, Clean) and Products (Filter).

3 Auto-Population: Create a Work Order and watch details fill automatically.

MODULE 4: WORK ORDER MANAGEMENT

Demo: Creating & Managing Work Orders

Live Exercise

Exercise Steps

1 Create Manual Work Order

Navigate to Work Orders > +New. Select a Service Account and an Incident Type (e.g., "Install IoT Device").

Observation: Tasks & Products auto-populate

2 Convert Case to Work Order

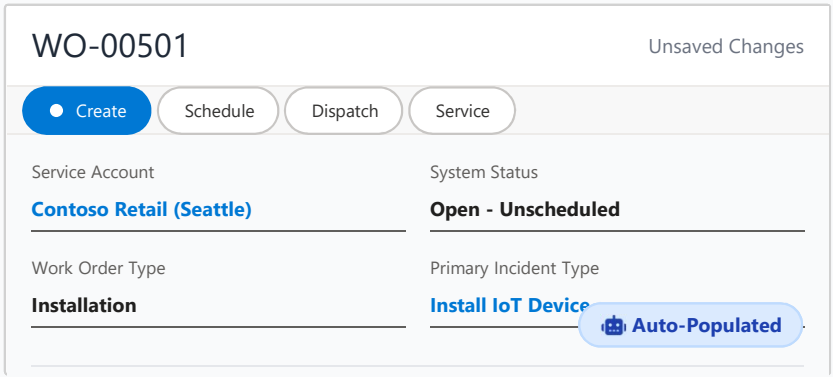
Open an active Case record. On the command bar, click "Convert to Work Order".

Verify: Originating Case field is linked

3 Review Lifecycle & Status

Move the BPF stage to "Schedule". Manually change System Status to Open - Scheduled.

Action: Observe Status/Sub-status sync



Auto-Generated Tasks

Best Practices

Always use Incident Types to standardize jobs. This ensures consistent data for analysis (Mean Time to Repair).

Don't manually change status to "Completed" until all mandatory tasks are done; consider using a Business Rule.

Key Takeaway

Work Orders are the heart of Field Service. Whether from a Case, Agreement, or manual entry, they carry all requirements needed for scheduling.

Module 5: Agreements & Preventive Maintenance

05

Agreement Architecture

Structure for recurring service contracts

Header Information
Defines customer, date range, price list, and overall service terms.

Sub-Agreements
Handles Booking Setups (Work Orders) and Invoice Setups (Billing) independently.

Account → Agreement → Booking Setup

Auto-Generation Logic

Automating the creation of work orders

Booking Setup
Auto-generates Work Orders X days in advance based on recurrence.

Incident Types
Applies templates (Tasks, Products, Services) to every generated WO.

Preferred Resource
Optionally pre-book specific technicians or just create requirements.

Recurrence Patterns

Flexible scheduling configurations

STANDARD

Frequency

Daily, Weekly, Monthly, Yearly intervals

ADVANCED

Logic

"Every 2nd Tuesday" or "Last day of month"

Demo: PM Setup

Creating a Quarterly Maintenance Agreement

1 Define Agreement Details Customer & Dates

2 Configure Booking Setup Incident Type

3 Set Recurrence Quarterly Pattern

4 Activate & Verify Check WO Generation

Day 1 Wrap-Up

Key Takeaways

Core Architecture

Understanding the Dynamics 365 ecosystem, licensing, and integration points with Finance & SCM and Power Platform.

Work Order Lifecycle

Mastered the flow from creation → scheduling → execution → billing, including status transitions.

Configuration Strategy

Importance of Incident Types and Service Tasks for standardizing service delivery and reducing manual entry.

What We Built Today

- Incident Types
- Service Tasks
- Auto-Populated WO
- Quarterly Agreement

Q & A

Open discussion on Day 1 topics.

COMING UP: DAY 2

Resources
Skills, Crews, Territories

Schedule Board
Dispatch & Optimization (RSO)

Mobile App
Technician Experience

02

DAY TWO

Scheduling, Resources & Mobile Workforce

Optimizing service delivery through intelligent resource management, advanced scheduling, and empowering the mobile workforce.

09:00 AM - 05:00 PM

Today's Key Focus Areas

Resource Management

Users, Facilities, Crews, Skills & Territories

Schedule Board

Architecture, Filters, Views & Drag-and-Drop

Resource Scheduling Optimization (RSO)

Goals, Constraints & Automated Optimization

Field Service Mobile

Technician Journey, Offline Mode & Execution

HANDS-ON LABS

- Creating Techs & Skills
- Running RSO Simulation
- Mobile Job Completion

ARTIFACTS & DATA

Tech Profile | RSO Scope | Mobile Config

Module 6: Resource Management

Bookable Resource Types

Defining who or what performs the work

User
Technicians, Dispatchers

Equipment
Specialty tools, Vehicles

Facility
Bays, Depots, Labs

Crew
Teams working together

Characteristics & Skills

Matching the right tech to the job

Proficiency Models
Define rating values (e.g., 1-10, Beginner to Expert) to prioritize skilled resources.

Certifications & Approvals
Track expiration dates and require manager approval for critical skills.

Resource Territories

Geographic and logical organization

Territories help manage schedules by filtering resources and work orders based on location.

Schedule Board Impact

Dispatchers typically view boards filtered by their assigned territories (e.g., "WA - Seattle", "NY - Metro").

Demo: Setup Resource

Creating a qualified technician

1. Create Bookable Resource linked to User
2. Add Characteristic (e.g., HVAC L2)
3. Assign to Territory & set Work Hours

Tip: Correct work hours are crucial for scheduling visibility.

Module 7: Schedule Board Deep Dive

Board Architecture

The central command center for dispatchers

Configurable Tabs

Create public or private tabs based on territories, business units, or specific teams.

Requirement Panel

Bottom pane listing unscheduled work orders, ready to be assigned.

Filter Panel → Resource List → Schedule Grid

Manual vs. Automated

From hands-on control to AI optimization

Manual Drag-and-Drop

Directly drag requirements from the list to a resource slot.

Schedule Assistant

"Find Availability" suggests best slots based on constraints.

RSO (Optimization)

Fully automated batch scheduling to maximize efficiency.

Filters & Views

Finding the right resource for the job

Territories

Filter board by geographic zones

Characteristics

Filter by skills & certifications

Saved Views

Visualization

Interactive map and grid features

Integrated Map View Spatial

Booking Status Colors Visual

Time Resolution Zoom

MODULE 8 | SCHEDULING AUTOMATION

Resource Scheduling Optimization (RSO)

Optimization Strategy
Goals, Constraints & Selection

Optimization Goals

RSO algorithmically scores schedules based on weighted objectives.

Minimize Travel Time
Reduce mileage & fuel costs

Maximize Work Hours
Squeeze in more jobs per day

Match Preferences
Prioritize preferred technicians

Constraints

Hard rules the engine must respect.

- Territory
- Skills
- Time Windows
- Security Roles
- Required Parts

Decision Guide

When to rely on human dispatch vs. automated optimization

View: Side-by-Side

Manual / Assisted

Schedule Board & Schedule Assistant

High-touch scenarios: VIP customers or complex emergencies.

Low Volume: Dispatching < 50 jobs per day.

Exceptions: Managing cancellations or same-day gaps manually.

BEST FOR
Control & Precision

Automated (RSO)

Resource Scheduling Optimization

High Volume: Hundreds/Thousands of work orders.

Recurring Work: Optimizing preventive maintenance routes.

Overnight Batches: Prepare next day's schedule automatically.

BEST FOR
Scale & Efficiency

DYNAMICS 365 FIELD SERVICE TRAINING

Case Scenario: Telecom Same-Day Installs (RSO)

MODULE 8 Optimization

Scenario Context

THE SITUATION

TelcoFast promises "Same-Day Fiber Installation" but struggles with high volume (500+ jobs/day) and complex skill matching.

Volume: 500+ Daily Jobs

Window: 4-Hour Slots

KEY CHALLENGES

Manual scheduling takes 4+ hours daily.

High travel time due to poor routing.

Missed SLA penalties increasing.

Optimization Strategy (RSO)

Goal

Maximize working hours while minimizing total travel distance.

Constraints

Match Territory, Required Skills (Fiber), and Customer Time Windows.

Execution

Run nightly batch for base schedule + intraday for emergencies.

Run RSO Demo

15 MIN

1. **Define Scope**
   Select "WA Territory" and "Installation" requirements.
2. **Set Objectives**
   Prioritize: 1. Locked Bookings, 2. High Priority, 3. Travel Time.
3. **Run Optimization**
   Trigger "Single Resource Optimization" or "Simulation".
4. **Analyze Results**
   Review Booking % vs. Travel Time reduction.

Optimization Impact

Travel Time Reduction -25%

From 90 mins to 67 mins avg/tech

Daily Jobs Completed +18%

Increased capacity without hiring

SLA Adherence 98%

Up from 82% baseline

MODULE 9: MOBILE APPLICATION

Technician Journey: Field Service Mobile

Hands-on Lab

Execution Lifecycle

1

Start the Job

Locate the booking in 'My Bookings'. Update status to Traveling en route, then In Progress upon arrival.

Action: Change Booking Status

2

Tasks & Data Capture

Complete items in the Service Tasks checklist. Use the device camera to attach site photos to the timeline.

Action: Complete Tasks + Add Photo

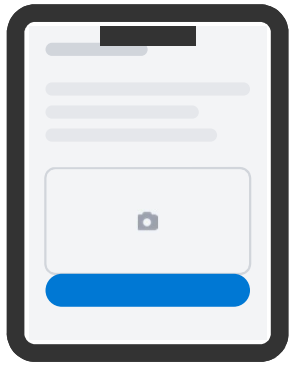
3

Sign & Close

Capture the customer's Signature directly on screen. Set Booking Status to Completed to trigger the invoice.

Action: Sign & Set 'Completed'

MOBILE INTERFACE



Offline Capable

Technician Tips

Use Voice-to-Text for entering detailed notes to save time while on site.

- Download your area map beforehand if heading to a location with poor signal.

Learning Outcome

You will master the standard technician workflow: managing status transitions, ensuring data quality via checklists, and closing jobs for rapid billing.

Module 10: Inventory & Asset Management

Customer Assets

Equipment tracking and history

Service History
Track all work orders, cases, and inspections against specific equipment.

Functional Location
Map assets to physical spots (e.g., Building A > Floor 2 > Server Room).

Warranty & Contracts
Link assets to entitlements to auto-apply pricing discounts.

Asset Hierarchies

Modeling complex equipment structures

- **Master Asset (Plant)**
  - **Parent Component (HVAC Unit)**
    - Child Component (Thermostat)

Faults can be tracked at any level of the hierarchy for precise reporting.

Inventory Management

Multi-location stock control

STATIC
Central warehouses, regional depots, and aisles/bins.

MOBILE
Technician trucks defined as warehouses for van stock.

Inventory Transfers & Adjustments supported

Consumption & Returns

Work order product lifecycle

1 **Estimated** — Defined in Incident Type

↓

2 **Used (Billed)** — Tech updates on Mobile

RMA Process
Support for Return to Warehouse (RTV) and Return to Vendor workflows.

DYNAMICS 365 FIELD SERVICE TRAINING

Case Scenario: Serialized Asset Tracking

MODULE 10 | Inventory & Assets

Scenario Context

THE SITUATION

Apex Manufacturing operates 12 sites with complex production lines. They struggle to track high-value components (motors, pumps) as they move between warehouses, vans, and installation sites.

Risk: Failed Audits

Goal: 100% Traceability

KEY CHALLENGES

"Ghost Assets" missing from inventory.

Inability to validate warranty on parts.

Manual serial number entry errors.

Asset Lifecycle Workflow

Receive
Scan PO Receipt at Warehouse

Transfer
Move to Technician Van

Install
Map Child Asset to Parent

Service
History tracked by Serial #

RMA
Return Defective to Warehouse

Hands-on Exercise

15 MIN

1. Navigate to Assets. Create Parent: "Assembly Line 1".
2. Create Child Asset: "Motor - SN1001". Set Parent to "Assembly Line 1".
3. Go to Inventory Transfer. Move part from 'Main Warehouse' to 'Truck 05'.
4. Open Mobile App. "Consume" the part on a Work Order.

Business Impact

30%
Reduction in Stockouts

Zero
Missed Warranty Claims

100%
Asset Location Accuracy

Day 2 Wrap-Up

Key Takeaways

Skills-Based Scheduling

Configuring resource characteristics, roles, and territories to ensure the right technician is dispatched every time.

Optimization with RSO

Leveraging Resource Scheduling Optimization to balance travel time reduction with SLA adherence and high utilization.

Mobile Execution

Empowering technicians with offline capabilities, digital checklists, and seamless status updates from the field.

Inventory Control

Managing customer assets, warehouse stock, and truck inventory for accurate parts consumption tracking.

What We Practiced Today

Technician Setup

Manual & Auto Scheduling

Q & A

Discussion on scheduling & mobile.

COMING UP: DAY 3

Connected FS
IoT & Predictive Maint.

Integrations
Power Platform & Flows

Analytics
Dashboards & KPIs

03

DAY THREE

Advanced Scenarios, Integrations & Analytics

Moving beyond core operations to intelligent service delivery. We will focus on IoT, Power Platform extensibility, data-driven insights, and end-to-end solution rollout.

09:00 AM - 04:30 PM

Today's Key Focus Areas

Connected Field Service (IoT)

IoT Integration, Predictive Maintenance, Automated Triage

Power Platform Integration

Power Automate Flows, Power Apps, Custom Connectors

Reporting & Analytics

Power BI Dashboards, KPIs, Resource Utilization

Capstone & Rollout

End-to-End Scenario, Implementation Best Practices

HANDS-ON LABS

- IoT Alert to Work Order
- Building Service Dashboards
- Full Cycle Capstone Run

ARTIFACTS & DATA

IoT Simulator | Flow Templates | Dashboard .pbix

Module 11: Connected Field Service & IoT

11

IoT Integration Concepts

Bridging physical devices with digital service

Device Connectivity

Azure IoT Hub or IoT Central to manage device twins and bi-directional commands.

Telemetry & Readings

Ingest real-time data (temperature, vibration, cycles) directly into Field Service assets.

IoT Device → Azure IoT → Field Service (Dataverse)

Predictive Maintenance

From reactive break/fix to proactive service

Anomaly Detection

Identify irregular patterns before failure occurs

Threshold Rules

Simple logic: If Temp > 80°C for 5 mins -> Alert

Just-in-Time Repair

Schedule service exactly when needed, maximizing asset life

Alert Automation

Automating the response workflow

1. **IoT Alert Received**
   System registers alert based on rule breach.
2. **Case/WO Creation**
   Power Automate converts alert to Work Order if auto-resolve fails.
3. **Dispatch & Fix**
   Technician dispatched with sensor data context.

Real-World Application

Demo and Industry Impact

DEMO SCENARIO

Smart HVAC Unit Overheating

Simulated temperature spike triggers auto-creation of "Emergency Inspection" Work Order.

CASE STUDY: EQUIPMENT MANUFACTURER

Downtime Reduction 30%

Module 12: Power Platform Integration

Power Automate

Workflow Automation & Logic

Notifications & Alerts

Send Teams message to Dispatcher when WO is "Emergency". Email customer when Tech is "On Route".

Cross-App Processes

Trigger approval flows for high-cost parts. Sync status updates to external ERP systems.

Trigger (Event) → Condition → Action (Update/Notify)

Power Apps

Custom UX & Technician Tools

Embedded Canvas Apps
Embed custom logic directly in Model-driven forms

Technician Checklists
Complex safety forms with conditional logic

Media Capture
Upload annotated photos directly to SharePoint/Note

Power BI Reporting

Deep Operational Insights

EMBED

Contextual

Embed reports on Account or Asset forms

METRICS

KPIs

MTTR, FTFR, Utilization Rates

Data Connectivity

Module Demos

Practical Application Scenarios

Automated WO Notifications Automate

Custom Technician Checklist App

Manager Dashboard Review BI

Module 13: Customization & Extensibility

13

Core Customization

Tailoring the data model & UI

Data Model

Create custom tables or add columns to existing entities (e.g., Work Order).

User Interface

Modify Forms for data entry and Views for listing records. Configure Model-driven apps.

Best Practice

Use "Solution" files for ALM. Avoid modifying managed default components directly.

Business Logic & Code

Extending functionality beyond standard features

Business Rules (No-Code)

Client-side logic: Show/Hide fields, Set defaults, Validate data.

JavaScript (Client-Side)

Advanced form interactions, API calls, and UI manipulation.

Plugins (Server-Side)

.NET code for complex logic on Create, Update, Delete events.

Security Roles

Controlling access and visibility

RECORD LEVEL

Privileges

Create, Read, Write, Delete, Append, Assign

FIELD LEVEL

Field Security

Secure sensitive columns (e.g., Cost, SSN)

Scenario: High-Cost Repair

Implementing a custom approval process

1. Trigger Condition Cost > $5,000
2. Business Rule Lock Fields
3. Power Automate Start Approval
4. Security Role Manager Only

DAY 3: ADVANCED SCENARIOS

Module 14: Reporting & Analytics

KPIS & INSIGHTS

Power BI Integration

Embed rich, interactive dashboards directly into Field Service forms. Use natural language queries to explore data.

- Real-time data refresh
- Drill-down capabilities
- Custom visualization controls

Out-of-the-Box Reports

Standard SSRS reports ready to use:

- **Work Order Summary**
- **Resource Utilization**
- **Territory Analysis**

Service Performance Dashboard

Last 30 Days | WA Territory

First-Time Fix Rate

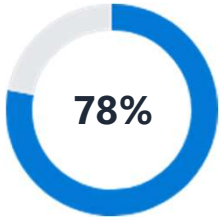
↑ 2.4% vs last month

Mean Time To Repair

3.2 Hrs

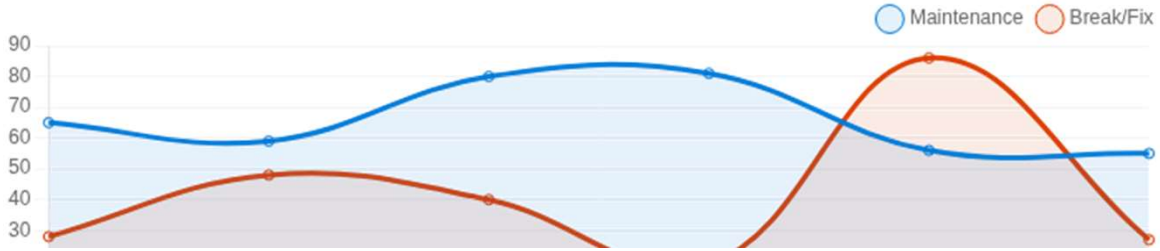
↓ 15m faster

Technician Utilization



Target: 80%

Work Order Volume by Incident Type



Module 15: Implementation Best Practices

Solution Design Approach

Foundation for a successful rollout

Process-First Methodology

Define and map "To-Be" business processes before configuring technology. Don't automate bad processes.

Fit-to-Standard Strategy

Prioritize out-of-the-box features over custom code to reduce technical debt and maintenance.

Key Rule: Extend only when business value > maintenance cost

Data Migration Strategy

Ensuring data integrity and quality

Cleanse & Enrich

Deduplicate Accounts, standardize Addresses, validate Asset serial numbers.

Migration Sequence

1. Configuration Data → 2. Master Data → 3. Open Transactions

Validation Plan

Automated row counts + Spot checks by business users.

Environment Strategy (ALM)

Governance and deployment lifecycle

DEV	TEST / UAT	PROD
Unmanaged Solutions	Managed Solutions	Managed Solutions

CI/CD Pipelines

Automate deployments using Azure DevOps or GitHub Actions to ensure consistency

Change Management

Driving user adoption

Role-Based Training Specific tracks for Dispatchers, Techs, and Managers.

Champions Network Identify power users to support peers during go-live.

Mobile Adoption Focus on UX and "day-in-the-life" scenarios.

MODULE 16: END-TO-END CAPSTONE

Scenario: Multi-Location Service Loop

Group Exercise

Execution Steps

1

Agreement Setup & WO Generation

Create a "Gold Level" maintenance agreement for 5 regional sites. Set recurrence to "Monthly" and allow system to auto-generate Work Orders.

Action: Configure Agreement + Booking Setup

2

Optimize & Execute (RSO + Mobile)

Run RSO to assign the nearest "HVAC L2" tech. On Mobile: switch status to "Traveling", complete service tasks, and capture customer signature.

Action: Complete Work Order on Device

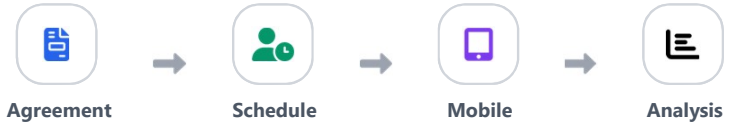
3

Inventory & Reporting

Verify parts were deducted from the "Truck 1" warehouse. Check the "Service Performance" dashboard to see the updated First-Time Fix Rate.

Verify: Inventory Adjustment + KPI Update

DATA FLOW VISUALIZATION



Success Criteria

Ensure the Incident Type has default products to trigger inventory logic.

Verify the technician has the correct Security Roles to sync offline data.

Capstone Objective

Demonstrate full competency by seamlessly connecting sales (Agreements), operations (Dispatch/Inventory), and field execution (Mobile) into a single unified workflow.

Final Training Wrap-Up

3-Day Journey Recap

Core Configuration & Operations

Mastered the end-to-end lifecycle: Work Order creation, Incident Types, and Service Agreements.

Scheduling & Mobility

Optimized dispatching via Schedule Board & RSO; empowered technicians with Field Service Mobile.

Advanced Integrations

Extended capabilities with Connected Field Service (IoT), Power Automate flows, and Power BI analytics.

Success Factors vs. Common Pitfalls

SUCCESS FACTORS	COMMON PITFALLS
Clean Master Data	Over-Customization
User Adoption Plan	Ignoring Mobile UX

Final Q & A

Open floor for any remaining questions.

CERTIFICATION PATH

MB-240
Microsoft Dynamics 365 Field Service Functional Consultant

PL-200
Microsoft Power Platform Functional Consultant

PL-400
Microsoft Power Platform Developer (Optional)

M1 Deep Dive: Dynamics 365 Ecosystem Architecture

MODULE 1 • FOUNDATION

ARCHITECTURE VIEW

Power Platform

- Automate
- Power Apps
- Power BI

Azure Integration

IoT Hub • Logic Apps • Service Bus

EXPERIENCE LAYER — Web (Dispatcher) | Mobile (Technician) | Portal (Customer)

PROCESS LAYER

Core Operations

- Work Order Mgmt
- Agreements & PM
- Inventory & Assets

Scheduling Engine

- Universal Resource Scheduling (URS)
- Schedule Board
- RSO Optimization

Business Logic

- Plugins & Workflows
- Business Rules
- Security Models

Microsoft Dataverse

Common Data Model (CDM)

Account | Work Order | Booking | Product

Finance & SCM

(ERP)

- Invoicing
- Inventory
- Assets

END-TO-END DATA FLOW

Real-time Sync

Case / Intake → Work Order → Booking → Execution → Invoice (ERP)

ENV STRATEGY: DEV→ TEST→ PROD

ALM: SOLUTION LAYERS (MANAGED VS UNMANAGED)

MODULE 1 DEEP DIVE | ARCHITECTURE STRATEGY

Integration Patterns & Licensing

Decision Framework
Connectors, Sync & Entitlements

Integration Patterns

Power Automate
Event-driven workflows, notifications, and lightweight approvals.

Low Code | Connectors

Dataverse Web API
Pro-code CRUD operations, batch processing, and custom portals.

OData v4 | High Volume

Dual-Write
Near-real-time, bi-directional sync with Dynamics 365 FinOps.

Tight Coupling | ERP Sync

Azure Service Bus
Decoupled messaging for high-throughput, async enterprise integration.

Resilience | Decoupled

Synapse Link

Licensing Comparison

Field Service (Base)
The core application license.

- ✓ Work Orders & Schedule Board
- ✓ Mobile App Access
- ✓ Inspection Forms

RSO Add-on
Resource Scheduling Optimization.

- ✓ Automated Scheduling
- ✓ Simulation & What-if
- ℹ Per resource pricing

Cust. Service Ent.
For full case management.

- ✓ Advanced Case SLAs
- ✓ Omnichannel Support
- ✓ Knowledge Base

IoT Intelligence
Device connectivity.

- ✓ Device Registration
- ✓ Anomaly Detection
- ℹ Azure usage separate

Selection Logic

High Volume + Strict SLA	→	RSO Add-on
Complex ERP Sync	→	Dual-Write
Light Notifications	→	Power Automate

MODULE 2 DEEP DIVE

Field Service Lifecycle – Stage-by-Stage

DETAILED FLOW
Handoffs & Automation

1. Intake

Case / IoT / Order

Handoff

Customer / Device → CSR Agent

Automation

Auto-create Case from Email

IoT Anomaly detection

Convert Case to WO

2. Plan

Qualify & Prep

Handoff

CSR Agent → System / Dispatch

Automation

Apply Incident Type

Populate Products & Tasks

Set Territory & Skills

3. Schedule

Book Resource

Handoff

Dispatcher → Technician

Automation

RSO (Overnight optimization)

Schedule Assistant

Travel time calculation

4. Execute

Field Work

Handoff

Technician → System

Automation

Geofence triggers "Arrived"

Booking Status updates WO Status

Inventory deduction

5. Review

QA & Approval

Handoff

Technician → Service Manager

Automation

Power Automate Approvals

Checklist validation

Customer survey send

6. Bill & Close

Invoice & Analytics

Handoff

Manager → ERP / Finance

Automation

Auto-Invoice generation

Post to Finance & SCM

Asset history update

MODULE 3 DEEP DIVE

Configuration Examples: Incident Types

CONFIGURATION

PARENT ENTITY

Incident Type

The "Template" for Work Orders

NAME

PM - HVAC Quarterly Service

EST. DURATION

1 hr 30 m

COPY ITEMS

Yes

DEFAULT PRICE LIST

Commercial HVAC 2024

WHY USE THIS?

Bundles all requirements into one selection. When a user creates a Work Order and selects this Incident

Auto-Generated Components

Service Tasks

Step-by-Step Guide

SEQ	NAME	EST. DURATION	DESCRIPTION
1	**Inspect Filters**	15 min	Photo required
2	**Clean Coils**	45 min	Use approved solvent
3	**Check Freon Levels**	30 min	Record psi value

Products & Services

Billing & Inventory

PRODUCT Qty: 2

Air Filter 20x20x1

Inventory Deducted

SERVICE Qty: 1.5

Standard Labor Rate

Billable Hourly

BEST PRACTICES

Keep incident types granular. Use Service Task Types to group common steps. Pre-populate common products to reduce technician data entry.

MSDYN_INCIDENTTYPE

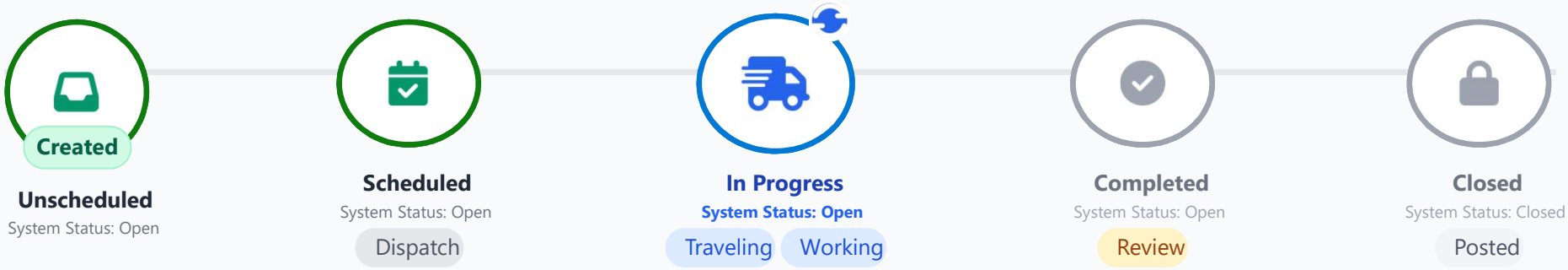
EPA 608 Universal

HVAC Technician L2

MODULE 4 DEEP DIVE | PROCESS GOVERNANCE

Work Order Status Flow & Lifecycle

SYSTEM STATUS VS. SUB-STATUS
Automation Logic



Booking vs. WO Logic

The Bookable Resource Booking (BRB) status drives the Work Order status automatically.

TECHNICIAN MOBILE	→	BACK OFFICE
Traveling	updates to	**In Progress**
Completed	updates to	**Completed**

Data Capture Gates

On Start (In Progress)
Geo-coordinates captured automatically. Timestamp recorded for SLA calculation.

During Execution
Mandatory photos for "Inspect" tasks. Parts consumption scans (barcode).

On Complete
Customer Signature required. Technician notes field cannot be empty.

Governance & Audit

CONTROL RULE
WO cannot be set to Closed directly by Technician. Must pass "Completed" state for Manager Review.

AUDIT TRAIL
All status changes are logged in the Work Order Audit History with User ID and Timestamp.

SLA Timer Status: Running

** Booking Status logic configured in Field Service Settings > Booking Timestamp Frequency*

DYNAMICS 365 FIELD SERVICE TRAINING

HVAC Case Study: From Chaos to Efficiency

MODULE 4 | Deep Dive

Baseline Scenario

THE PROBLEM

A regional HVAC service provider was struggling with manual processes, resulting in a 2-3 day backlog for scheduling urgent repairs and frequent technician revisits.

Backlog: 2-3 Days

Manual Entry: 100%

KEY CHALLENGES

Manual Creation: Work orders created by hand led to data errors.

Inconsistent Tasks: Techs missed steps due to lack of checklists.

Skills Mismatch: Wrong techs sent to specialized jobs.

Solution Workflow

Intake
Customer Call Received

Auto-Create
WO via Incident Templates

Schedule
Skill-Based Matching

Execute
Mobile Checklist & Photos

Close
Auto-Bill & History

Solution Implementation

CONFIG

1. **Incident Templates**
   Pre-defined Service Tasks, Products, and Durations for common repairs.
2. **Auto-Creation Rules**
   Power Automate flow converts Phone Cases to Work Orders instantly.
3. **Skill-Based Scheduling**
   Filtered Schedule Board ensures certified techs for HVAC-R jobs.
4. **Mobile Checklists**
   Mandatory Service Tasks on mobile app to ensure consistency.

Measurable Results

40%
Reduction in Manual Errors

18%
Higher First-Time Fix Rate

22%
Less Travel Time

MODULE 6 DEEP DIVE

Resource Types & Capacity Models

RESOURCES

CORE ENTITY

Bookable Resource

The "Who" & "What" of Scheduling

DEFINITION

Any entity that can be scheduled. This abstraction allows the schedule board to handle people, trucks, and rooms uniformly.

CRITICAL CONFIGURATIONS

Time Zone — Must Match Site

⚠ Without defined Work Hours (Calendar), a resource will not appear on the Schedule Board.

Hourly Rate — Costing

Resource Classifications & Capacity

Users (Technicians)

Licensed D365 Users

Primary Workforce

CAPACITY MODEL

Work Hour Templates

e.g., Mon-Fri, 8am-5pm

DEPENDENCIES

- Requires D365 License
- Needs Security Roles
- Mobile Offline Profile

Equipment & Facilities

Special Tools, Vehicles, Repair Bays

Constraints

USE CASE

Booking a Bucket Truck or Bay 3 alongside a technician.

REQUIREMENT GROUP

Tech A + Crane

Crews

Bookings cascade to members automatically.

Min intersection of members

BEST PRACTICE

Set Work Hours on the Crew Header, then ensure members' hours align. Use Pools for interchangeability (e.g., "Any available Tier 2 Tech").

Type: OPTIONSET

Entity: bookableresource

Skill Matrix & Proficiency Mapping

RESOURCE MGMT

Technician Proficiency Matrix

Valid Missing/Expired

RESOURCE	CORE SKILL (HVAC-R)	CERTIFICATION (EPA)	COMPLIANCE
MR **Marcus Reed** Senior Tech	Level 4 - Expert 4/5	EPA Universal	Compliant
SL **Sarah Lin** Junior Tech	Level 2 - Familiar 2/5	Missing	Blocked
JD **John Doe** Contractor	Level 3 - Proficient 3/5	Expiring (7d)	Warning

PROFICIENCY SCALE (0-5)

0: None | 1: Fundamental | 2: Familiar | 3: Proficient | 4: Expert | 5: Master

Dispatch Rules: Hard vs. Soft

Hard Constraint — MUST HAVE

Resource is removed from schedule board search if criteria isn't met.

Example: Requirement "EPA Universal" vs Tech "None" = Not Available

Soft Constraint — PREFERRED

Resource remains available but receives a lower score in RSO/Assistant.

Example: "Prefer Level 4+" vs Tech "Level 2" = Available (Lower Rank)

Field Service can automatically block bookings if critical certifications are expired.

M7 Deep Dive: Schedule Board Features

POWER USER CAPABILITIES & CONFIGURATION

FUNCTIONAL DEEP DIVE

Tabs & Territories

Create specific board tabs for different territories or lines of business. Reduce noise by isolating resources and requirements per tab.

Shared Views | Public/Private

Advanced Filters

Configure complex filter sets (Skills + Role + Territory) and save them as default views for dispatchers. "Pin" frequent filters for quick access.

Legacy vs New | Multi-select

Requirement Panel

The command center for unscheduled work. Toggle between List and Map views. Drag requirements directly onto the board or use "Find Availability".

Map Overlay | Unscheduled

Visual Color Rules

Define logic to color-code bookings based on priority or status. Examples: Red for "SLA Risk", Gold for "VIP Customer", Green for "On Time".

Custom CSS | Priority

Booking Alerts

Pop-up notifications for dispatchers when scheduling. Use for critical reminders like "Customer requires mask" or "Bad dog on premises".

Icon Indicators | Info Cards

Context Actions

Right-click on bookings to access "Rebook", "Substitute Resource", or change status. Drag-and-drop to move bookings or reassign to another tech.

Rebook | Substitute

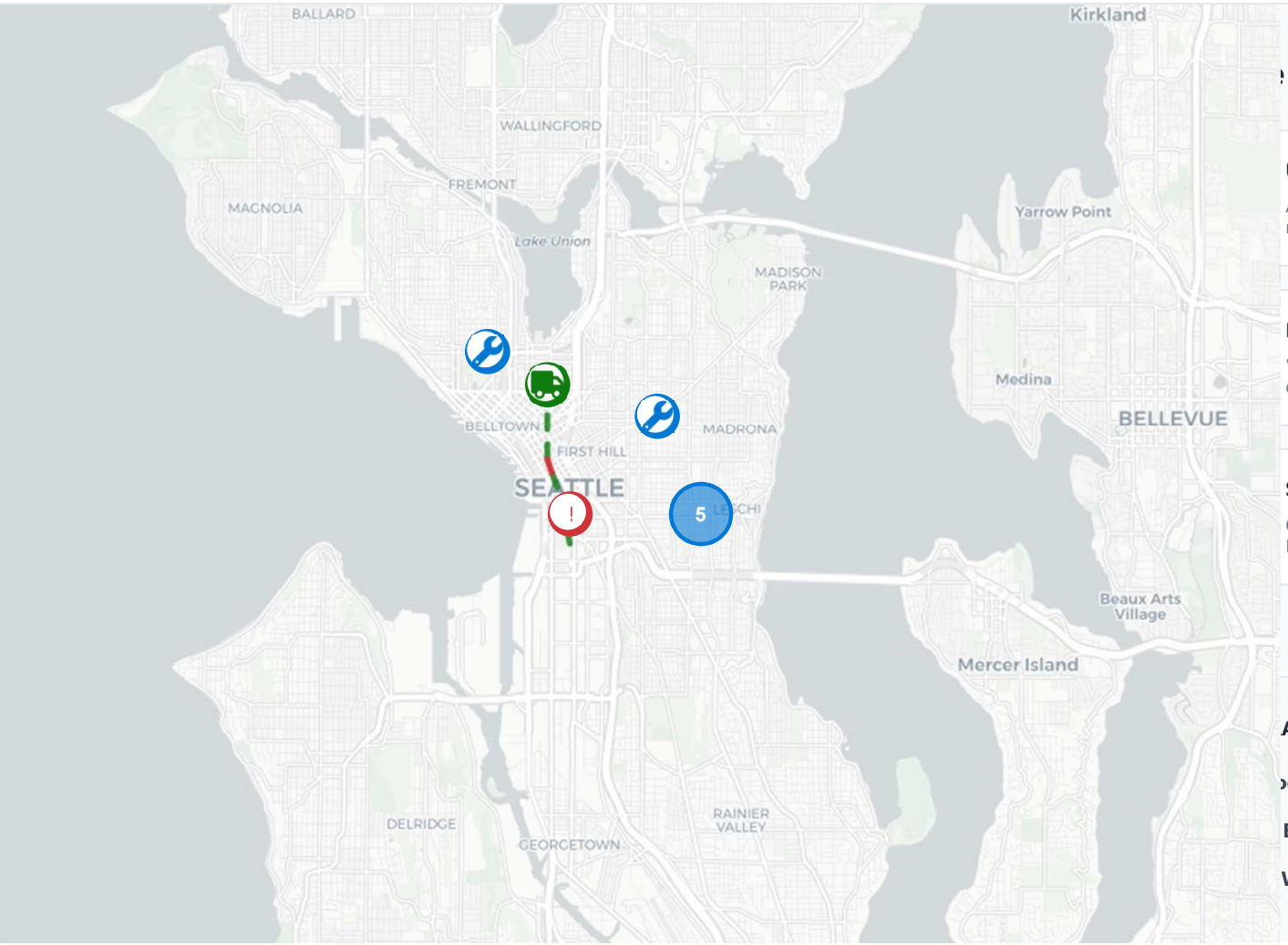
PRODUCTIVITY BOOSTERS

Governance

MODULE 7 DEEP DIVE | SCHEDULE BOARD

Map View, Proximity & Route Planning

Spatial Intelligence
Optimization & Traffic



Capabilities

Urban Clustering

Automatically groups nearby work orders at high zoom levels to reduce visual clutter. Click to expand and assign in bulk.

Proximity Search

"Find Substitute" uses the job location as center point to find nearest qualified resource with available time.

Smart Routing & Traffic

Calculates travel time using historical and live traffic data. Updates ETAs dynamically to warn dispatchers of delays.

ACTICES

ode Upfront: Ensure Addresses are validated on creation.

Buffers: Configure realistic start/end location buffers.

Warnings: Use map icons to flag route violations.

MODULE 8 DEEP DIVE

RSO Configuration: Objectives & Constraints

OPTIMIZATION

SCOPE

Optimization Goal

The "Why" behind the schedule

RSO calculates the "best" schedule by scoring potential routes against weighted objectives.

TRAVEL TIME
Minimize Travel

WORKLOAD
Maximize Utilization

PUNCTUALITY
Maximize On-Time %

Configuration Layers

Constraints (The Rules)

Hard vs. Soft

Matches Skills
Resource must have required characteristics.

Within Territory
Job location must be in resource's territory.

Within Windows
Start/End must fall within Promised Time.

Parts Availability
Restricts if inventory is insufficient.

Policies (Behavior)

Logic Settings

SCHEDULING METHOD

Simulation vs. Automated
Preview changes before committing.

PRIORITY LOGIC

High Priority First
Sacrifice travel efficiency for SLAs.

IMPLEMENTATION TIP

Start with soft constraints for time windows to allow RSO flexibility, then harden them as data quality improves. "Garbage In, Garbage Out" applies heavily to RSO.

MSDYN_OPTIMIZATIONGOAL

Geocoding **Accurate Durations** **Start/End Locations**

MODULE 8 DEEP DIVE | OPTIMIZATION ENGINE

Reading Optimization Results & Tuning

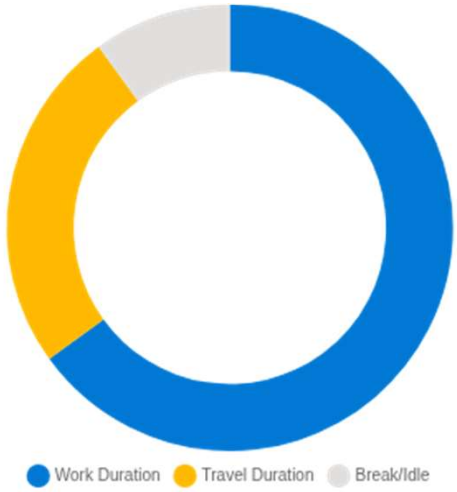
ANALYTICS FOCUS
RSO Metrics & Insights

Optimization Outputs

BOOKINGS CREATED
142 ↑12%

ON-TIME %
94% Target: 90%

Travel vs. Work Analysis



6.2h	1.4h	0.4h
Avg Work	Avg Travel	Idle

What-If Tuning

Adjust constraints and objectives to balance efficiency vs. customer SLAs.

Minimize Travel — **Maximize Priority**

Current: Balanced approach leaning towards SLA adherence.

Locked Bookings — **Flexible Move**

Proximity Clustering [on]

Ignore Promise Windows [off]

SCHEDULING ROUTINE

Nightly Batch (2:00 AM)
Full optimization for next 3 days. High churn allowed.

Intraday (Every 1h)
Optimize only high priority emergencies. Lock existing routes.

Interpreting Results

Rejection Analysis — 18 Unscheduled

Missing Skill / Characteristic	8 orders
No Capacity in Window	6 orders
Territory Mismatch	4 orders

Constraint Violations

Soft Constraint Breached
3 technicians assigned outside preferred territory to meet SLA.

Travel Limit Override
Travel time exceeds 30m average for 2 routes.

MODULE 9 DEEP DIVE | TECHNICIAN EXPERIENCE

Mobile Offline Profiles & Field UX

Checklist & Configuration
Offline First Strategy

Offline Profile Logic

Download Strategy

1. CORE ENTITIES TO SYNC

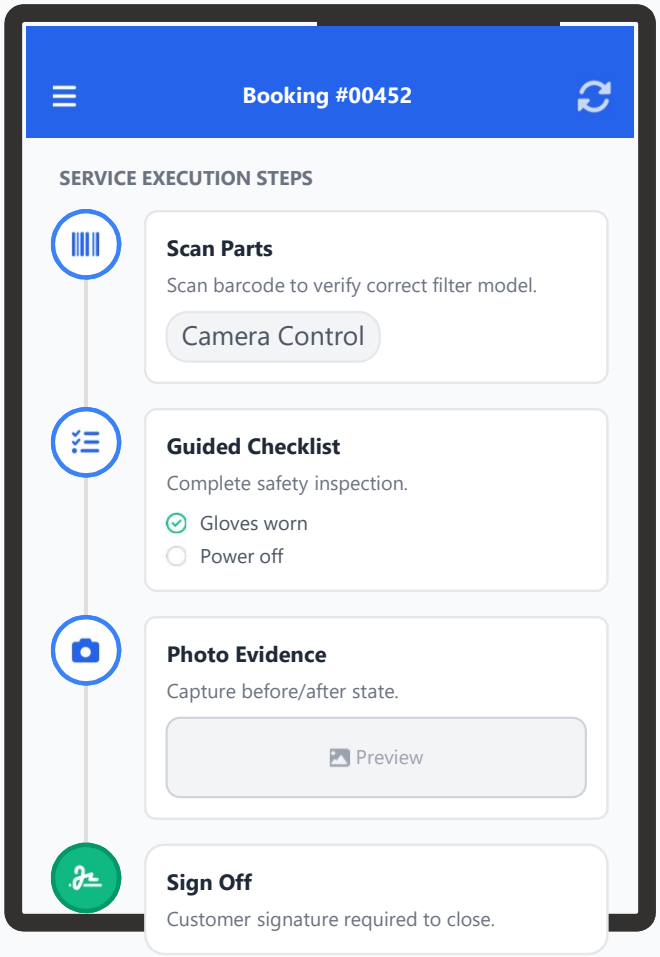
- Work Order
- Booking
- Tasks
- Products

2. DATA FILTERS (KQL/XML)

My Bookings
Resource == CurrentUser

Time Window
Start Date >= Today &&
Start Date <= Today + 7

⚠ Performance Tip: Avoid syncing full price lists or complete customer databases. Use strict filters to keep payload under 500MB.



Field Readiness

Device & Environment

Hardware & Protection

- ✓ Rugged cases (OtterBox/UAG)
- ✓ Anti-glare screen protectors
- ✓ Stylus for signature capture

Battery Management

GPS and continuous sync drain battery quickly.

Power Banks | Car Chargers

Background Sync

Configure sync intervals based on data plan.

Wifi: Every 5m | Cell: Every 20m

MODULE 9 | MOBILE WORKFORCE

Mobile Security & Device Management

Security Matrix
Roles • Field Security • MDM

Application Security (Dataverse)

Technician Role • Minimum Privilege Principle

Base Role: Field Service - Resource

ENTITY / RECORD	READ	CREATE	EDIT	DELETE
Work Order (My Bookings)	✓	✗	✓	✗
Service Tasks & Notes	✓	✓	✓	✗
Account & Customer Asset	✓	✗	✗	✗
Pricing & Cost Secured	✗	✗	✗	✗

Field Security Profiles

Controls access to specific sensitive columns.

- Hide Unit Cost
- Hide Profit Margin
- Read-only Price List

Team Ownership

Row-level access based on Territory.

Techs added to Territory Teams

- Access restricted to own region
- Bookings cascade access

Device Management (MDM / Intune)

Microsoft Intune — Endpoint Manager

- Field Service Mobile app is automatically pushed to registered devices. Updates are managed centrally.
- Require compliant device, OS version, and MFA before allowing login.
- Remotely wipe only corporate data (Selective Wipe) if device is lost or employee leaves.
- Prevent "Save As" to personal storage. Restrict copy/paste between corporate and personal apps.

AUDIT & TRACKING
System logs all sync activities, location history (if enabled), and record updates with timestamps.

MODULE 10 DEEP DIVE | ASSET MANAGEMENT

Modeling Customer Asset Hierarchies

Functional & Technical
Structure & Metadata

LIVE EXAMPLE: BOTTLING PLANT

FUNCTIONAL LOCATION
Atlanta Manufacturing Plant — SITE

PARENT ASSET
Bottling Line A — SYSTEM

EQUIPMENT
Filler Machine #4 — ASSET

COMPONENT
Valve Bank Block — SUB-ASSET

TRACKED ITEM
Pressure Regulator
SN: 998877-X | WARRANTY

Common Structure Pattern

ROOT	L1	L2	L3
Site / Account	Building / Floor	System	Component

Serialized vs. Non-Serialized

Serialized Asset
Unique record. Tracks full history, warranty, and location changes. (e.g., The Pressure Regulator)

Non-Serialized Part
Quantity based. Consumed during WO but not tracked individually after install. (e.g., Cables, Bolts)

Advanced Asset Features

Warranties
Auto-check on WO creation. Alerts technician if part is covered to prevent billing.

Connected Meters
IoT sensors tied to specific hierarchy level (e.g., Vibration sensor on the Filler).

WHY MODEL HIERARCHIES?

Technician Context
Knows exactly where the part fits in the system.

Failure Analysis
Track which specific components fail most often.

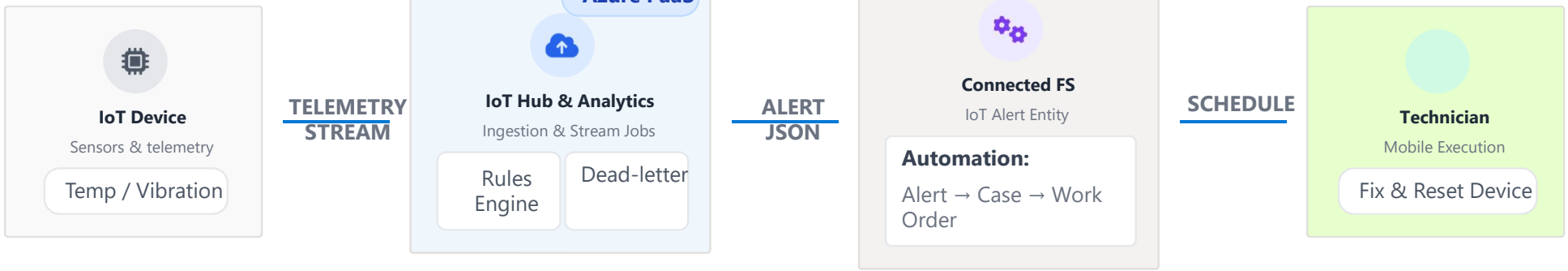
PM Roll-ups
Schedule maintenance on the Line, include tasks for all children.

M11 Deep Dive: Connected Field Service & IoT Architecture

MODULE 11 • ADVANCED SCENARIOS

ARCHITECTURE VIEW

End-to-End IoT Flow



Predictive Models

Moving Averages

Smooths volatile telemetry to prevent false positives.

Thresholds & Z-Scores

Detect anomalies based on standard deviation (sigma) from normal.

Real-World Scenario

Condition Logic:

IF Vibration > 9 mm/s

AND Duration >= 10 mins

AND Temp Trend == "Rising"

Action:

Create Alert → Auto-Create WO (Priority: High)

Reliability & Governance

Retry Policies

Exponential backoff for Logic Apps/Flows connecting to Dataverse.

Dead-Letter Handling

Capture failed telemetry msgs for analysis without blocking pipe.

MODULE 12 DEEP DIVE | PROCESS AUTOMATION

Power Automate: Field Service Patterns

INTEGRATION FOCUS
Cloud Flows & Connectors

Key Connectors

Dataverse
Triggers on WO Create/Update

Microsoft Teams
Post adaptive cards/messages

Approvals
Manager sign-off logic

Outlook / Exchange
Send surveys & alerts

PRO TIP
Always use "Solution-Aware" flows to ensure proper ALM deployment across DEV/TEST/PROD.

Pattern A: Territory Notification

AUTOMATED

Dataverse
WO Created

→

Teams
Post to Channel

Triggered when a Work Order is created in "Emergency" priority.

Pattern B: Post-Service Survey

AUTOMATED

Dataverse
WO Completed

→

Customer Voice
Send Survey

Triggered when System Status changes to "Closed - Posted".

Pattern C: High-Cost Part Approval

INTERACTIVE

Dataverse
Product Added > $500

↓

Approvals
Start & Wait

Resilience

Retry Policies

Configure Exponential Backoff for HTTP actions to handle transient failures (e.g., API timeout).

Count: 4, Interval: PT20S

Concurrency Control

Enable Concurrency Control on triggers to prevent race conditions on the same record.

Degree of Parallelism: 1

Error Handling (Try/Catch)

Use Scopes to group actions and set "Configure Run After" to catch failures and notify admins.

All runs stored for 28 days

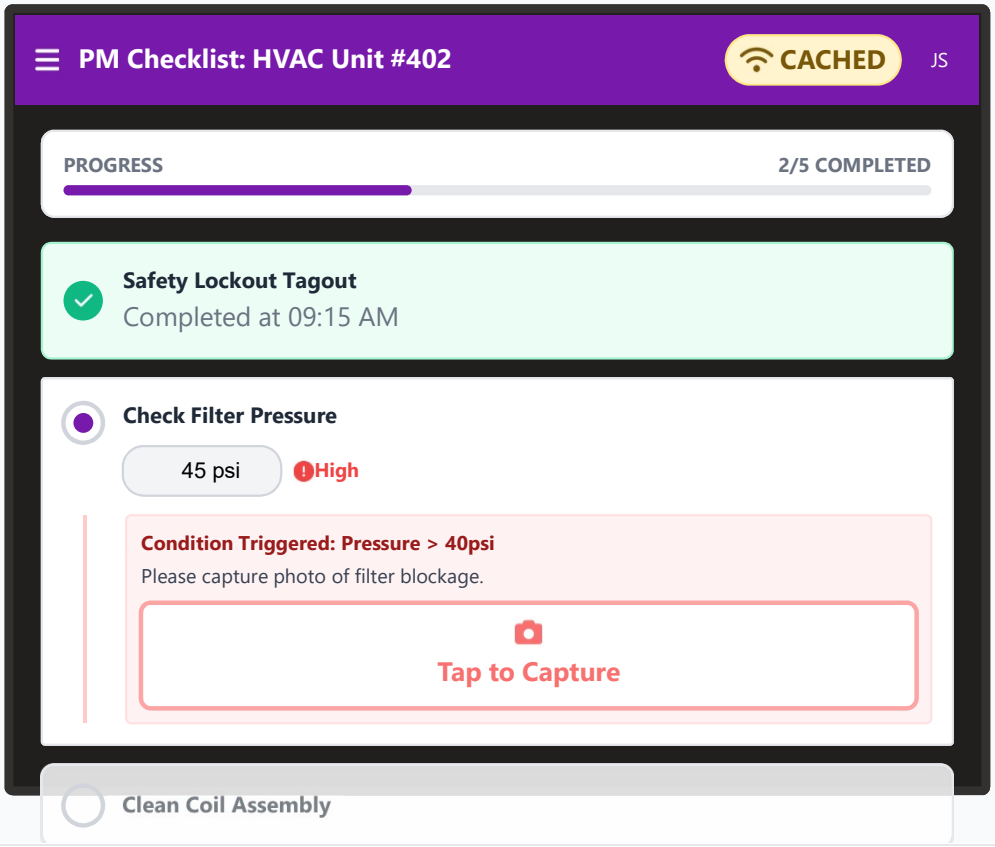
M12 Deep Dive: Power Apps Customization

TECHNICIAN CHECKLIST & GOVERNANCE

CANVAS APP FOCUS

Canvas App Example

Embedded in Model-Driven Form



Governance & Standards

Environment Strategy

Strict ALM process for app deployment.

DEV → TEST → PROD

Dataverse Security

App respects underlying FS security roles.

- Field Level Security
- Ownership Teams

App Telemetry

Monitor usage and crashes via Azure.

App Insights

Accessibility

Compliance with WCAG 2.1 standards.

Contrast > 4.5:1 | Screen Readers

Technical Implementation Details

Embedded Context
Uses ModelDrivenFormIntegration control to read Work Order ID directly from the host form.

Offline Caching Strategy
Leverages LoadData() and SaveData() for local collections when connectivity is lost.

Theming & Branding
Centralized variable store (App.OnStart) for consistent colors, fonts, and button styles across all screens.

MODULE 13 | CUSTOMIZATION & EXTENSIBILITY

Security Roles & Access Matrix

Role-Based Access Control
RBAC • Hierarchy • Field Security

Field Service Security Roles

Role Capabilities & Restrictions RBAC Matrix

ROLE	WO & BOARD	ASSETS	INVENTORY	KPIS
Dispatcher Scheduling	Create/Edit	Read Only	Read Only	None
Technician Frontline	Update Own	Read Only	Consume	None
Inventory Clerk Back Office	Read Only	Read Only	Manage	None
Service Manager Admin	Full Access	Full Access	Full Access	View & Edit

Data Access Architecture

Access Models

Security Layers

Records are owned by Teams linked to Territories. Technicians only see Work Orders within their assigned region.

Managers automatically inherit access to records owned by their direct reports, ensuring oversight without manual sharing.

Granular control over sensitive data columns.

Unit Cost Discount %

BEST PRACTICE
Always use "Least Privilege" model. Assign base roles first, then add access via Team membership.

MODULE 14: REPORTING & ANALYTICS

Deep Dive: KPI Calculations & Dashboard Design

METRICS & INSIGHTS

Key Performance Formulas

FIRST-TIME FIX RATE (FTFR)

```
Jobs Resolved First Visit / Total Jobs
```

Target: >85% | Indicates tech preparedness

MEAN TIME TO REPAIR (MTTR)

```
Σ(ResolvedAt – StartTime) / Job Count
```

Target: <4h | Measure of efficiency

TECHNICIAN UTILIZATION

```
Booked Hours / Working Hours
```

Target: ~80% | Balance of work vs. travel/idle

Data Sources & Drill-down

Primary Tables	Drill-Through Views
Bookings (BRB)	Tech Detail
Work Orders	Asset History
Time Entries	Territory Map

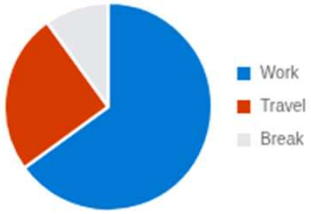
Service Operations Dashboard

Current Quarter | All Territories

On-Time Arrival %

SLA Met

Travel vs. Work Time



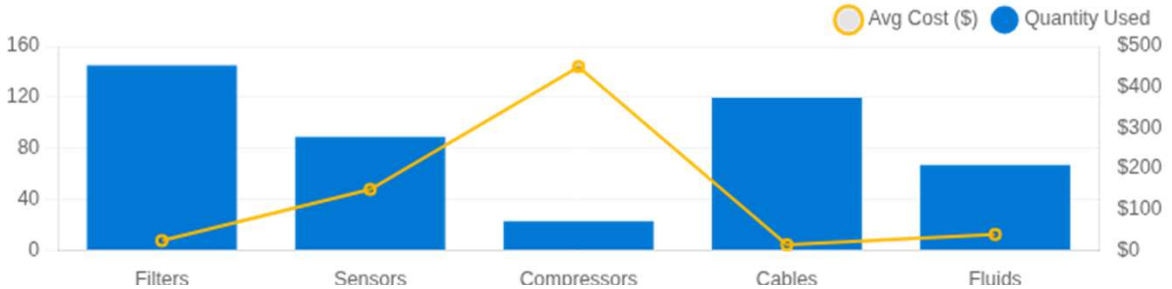
Ratio: 0.54

Repeat Visits by Incident

Top: HVAC Failure

Parts Consumption & Cost Analysis

View Inventory Report



M15 Deep Dive: Implementation Roadmap & Risks

MODULE 15 • BEST PRACTICES

STRATEGY
Project Governance

Implementation Lifecycle

STANDARD DURATION: 12-16 WEEKS

Discover
Process mapping, KPI definition, As-Is analysis

Design
Fit-to-standard, Gap analysis, Solution blueprint

Build
Configuration, Minimal code, Data migration prep

Validate
UAT with "Day-in-Life", Integration testing

Deploy
Cutover plan, Go-Live, Data load

Stabilize
Hypercare support, KPI tracking, Handover

RACI Matrix

R: Responsible | A: Accountable

ROLE	RESPONSIBILITY AREA	TAG
Exec Sponsor	Budget, Strategic Alignment, Blockers	A
Product Owner	Backlog Priority, Requirements, Approval	R
Field Champions	Testing, Feedback, Peer Training	C
IT / Admins	Deployment, Security, Integration	I

Risks & Mitigations strategies

DATA QUALITY

Dirty Master Data

Mitigation: Start cleansing legacy data during Discover phase. Enforce validation rules in D365.

SCOPE CREEP

Over-Customization

Mitigation: Adhere strictly to "Fit-to-Standard". Use OOTB features first; customize only for competitive advantage.

ADOPTION

Change Fatigue

Mitigation: Identify "Champions" early. Gamify the training. Communicate benefits, not just features.

TECHNICAL

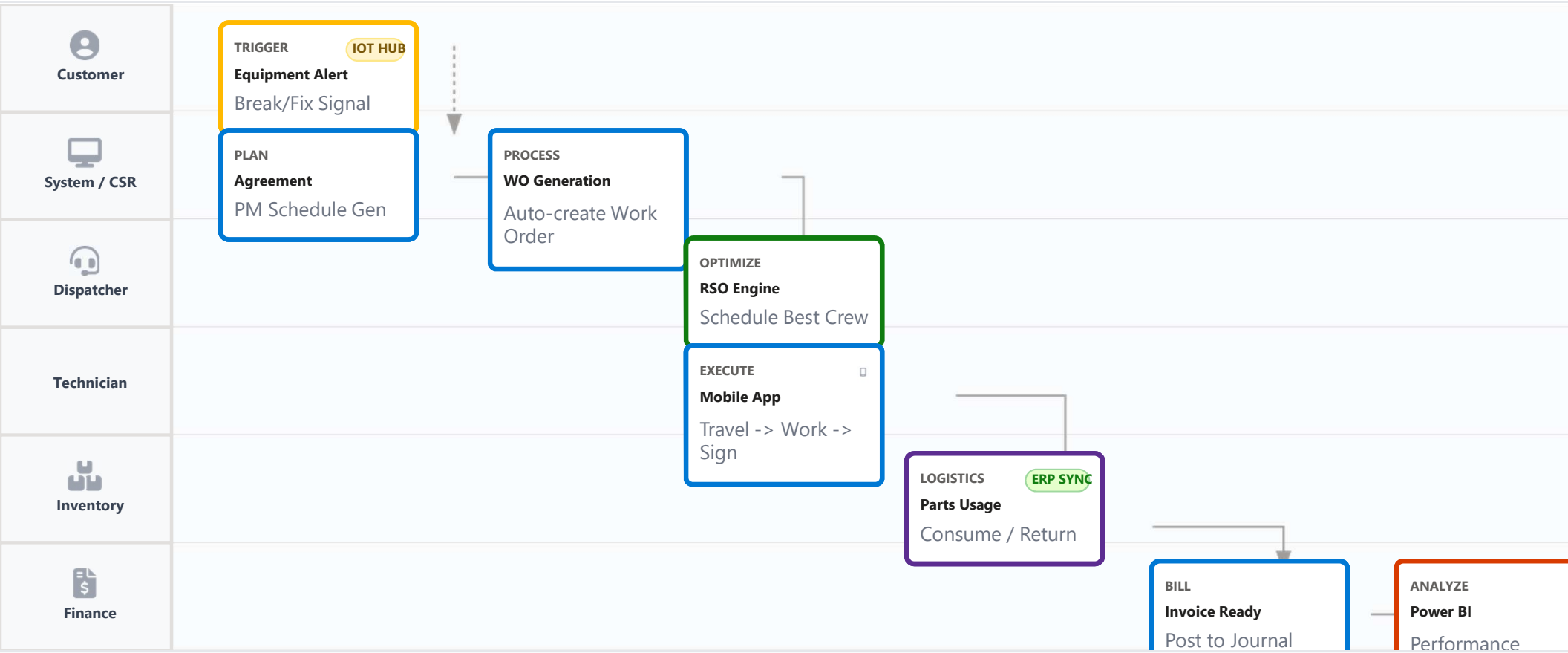
Offline Gaps

Mitigation: Mandate "Airplane Mode" testing during UAT. Verify sync filters payload size < 500MB.

MODULE 16 DEEP DIVE | END-TO-END CAPSTONE

Scenario Blueprint & Process Flow

ERP Integration · IoT Signal · Field Service



SUCCESS CRITERIA
Scenario Targets

FIRST-TIME FIX RATE	TRAVEL TIME	SLA COMPLIANCE
≥ 85%	≤ 20%	≥ 95%

APPENDIX

Integration Decision Matrix

ARCHITECTURE

Scenario vs. Pattern Mapping

Select the simplest pattern that meets NFRs

SCENARIO	PATTERN	KEY CONSIDERATIONS	COST
High-Volume ERP Sync Master data, Inventory, Invoice	Dual-write Real-time	✓ Bi-directional & Tight coupling ⚠ Error handling is critical	$0
Lightweight Alerts Notifications, Simple Approvals	Power Automate Low Code	✓ Rapid dev, User-friendly ⚠ API limits per user/flow	$$
Custom Logic at Scale Complex parsing, Decoupled integration	Azure Functions + SB Pro Code	✓ High throughput, Async ⚠ Requires dev maintenance	$$
Analytics & Archiving Historical reporting, BI Warehousing	Synapse Link Big Data	✓ No impact on transactional DB ⚠ Latency (Not real-time)	$$$

Decision Guidance

Simplicity Principle

Always start with the simplest pattern. Move to complex Azure patterns only when NFRs (Non-Functional Requirements) dictate.

Need Real-Time? NO → DUAL-WRITE / PLUGINS

Need Decoupling? NO → SERVICE BUS

Volume > 100k/day? NO → AZURE DATA LAKE

Evaluation Criteria (NFRs)

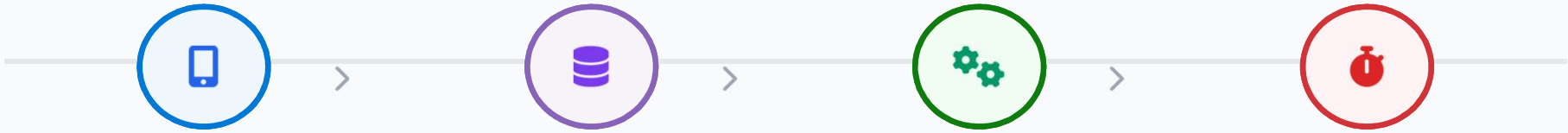
Latency
Sync vs Async

Throughput
Messages/sec

APPENDIX | SYSTEM LOGIC & ARCHITECTURE

Status, Booking & SLA Alignment

SYNC LOGIC
Automation Mapping



Status Mapping Logic

Booking Status → Drives → WO Status

Traveling	→	Open - In Progress
Working	→	Open - In Progress
On Break	→	Open - In Progress
Completed	→	Open - Completed

System Status "Closed" is typically set by back-office billing automation, not the technician.

SLA & Notifications

Time tracking and alerts

SLA TIMER LOGIC

- Starts on **WO Creation** or **Incident Report**
- Succeeds on **First Arrival** or **Completion**

BREACH NOTIFICATIONS

If SLA < 30 mins remaining → Power Automate triggers Alert to Dispatcher Dashboard.

Edge Case Handling

Exceptions and logic gates

Multi-Day Jobs
Technician sets booking to "Incomplete" at end of day. WO remains "In Progress". New booking created for Day 2.

Partial Completion
If parts missing: Status set to "On Hold". SLA timer pauses (if configured). Inventory request triggered.

Returns & Follow-ups
Closing a WO as "Completed" automatically creates a child WO if "Follow-up Required" flag is set.

* Configuration requires System Administrator role in Field Service Settings