Microsoft Dynamics 365

Connected field service

Table of contents

Do your current business applications enable the best field services practices?

The world's connected AI business cloud

Sales

Talent

Finance

Operations

Commerce

Service

Marketing

Dynamics 365 & Power Platform

Supporting connected field service

Key considerations for delivering connected field service

Do your systems improve technician efficiency and enable monetizing new business models?

Are the technologies you're using today supporting your business needs?

How are you using analytics to predict issues and proactively provide solutions?

Business concerns

66%
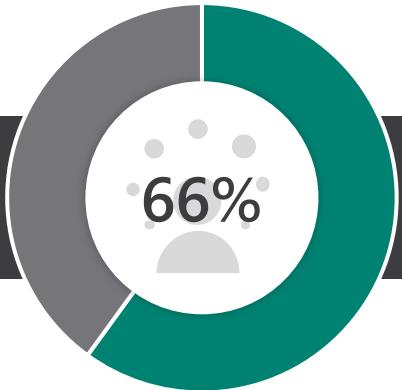
Organizations with budgets earmarked for proactive support technologies in 2018/19[1]

$1,000

Cost for every time a service company dispatches a truck[2]

75%
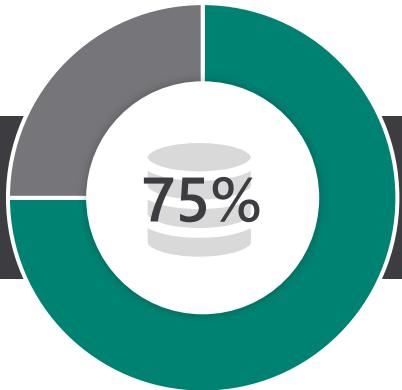
Field service organizations that provide technicians with mobile apps[3]

25%
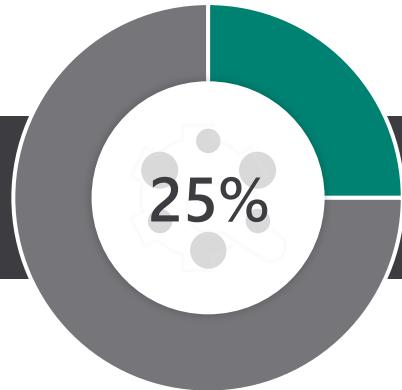
Average productivity increase through connected field service[4]

1. 2017 TSIA report on field service spending
2. MSDynamicsWorld
3. Gartner Field Service Report 2017
4. Gartner Field Service Survey

Typical functional concerns
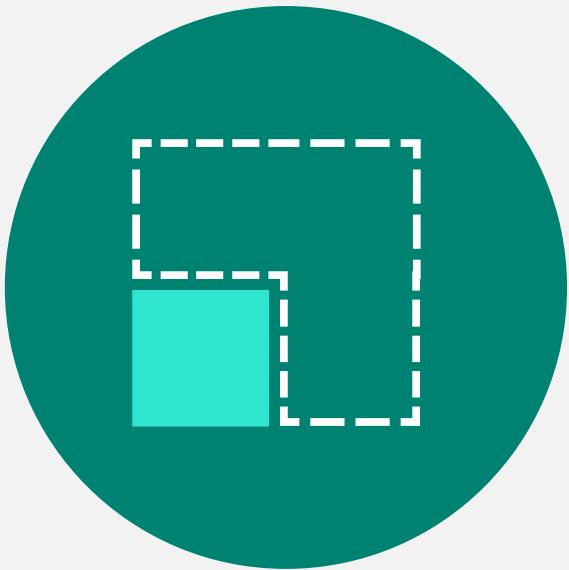
Reactive, break-fix business models and inability to scale
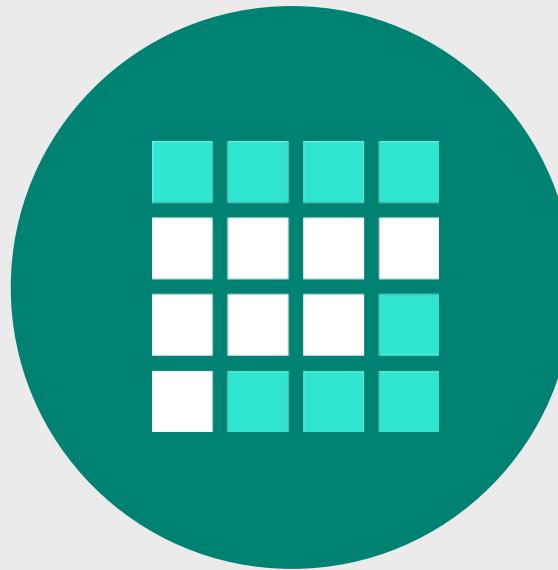
Outdated/siloed systems causing inefficiencies
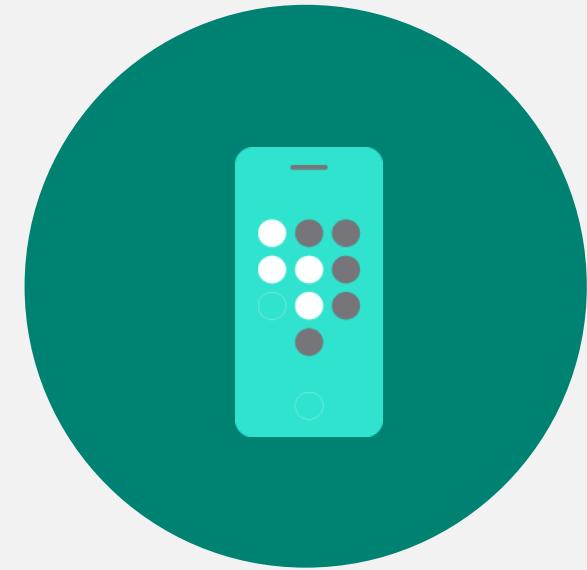
Poor technician enablement due to lack of mobile capabilities

The changing landscape
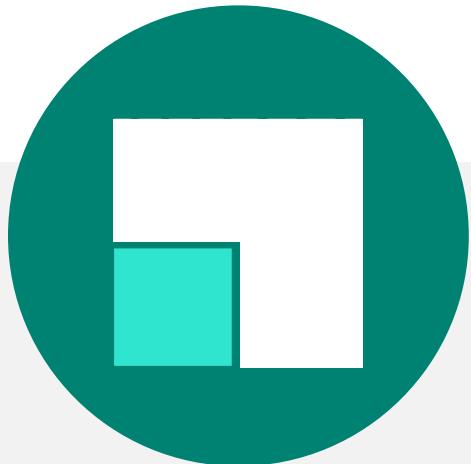
Increased use of proactive support models
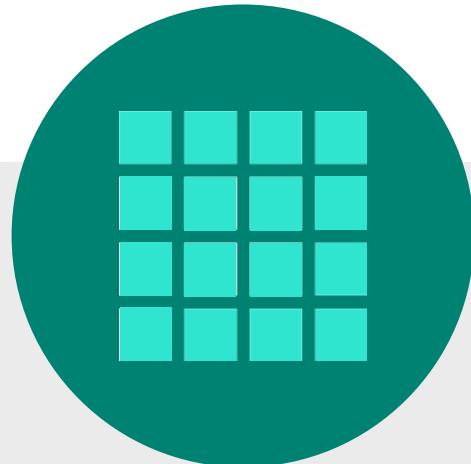
Real-time insights and troubleshooting through augmented reality capabilities
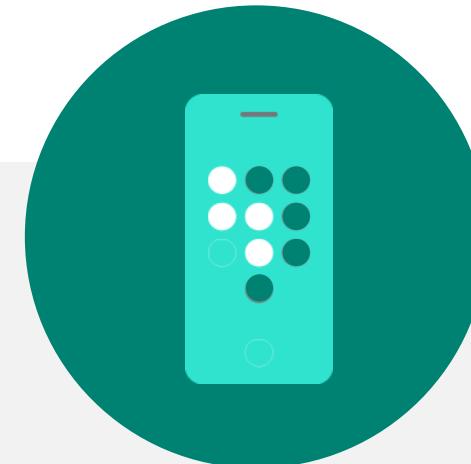
Predictive maintenance driven by data analytics, ensuring proactive customer engagement

Product complexity and increasing customer demands have surpassed existing technology stack abilities to support operations[1]

[1] TSIA 2019

A focused approach to connected field service

Intelligent planning

- Effectively plan and manage customer demands across all channels
- Efficiently manage service agreements and preventive maintenance

## Empowered agents and technicians

- Empower agents and technicians with tools to manage and solve cases
- Assist customers virtually with elevated training and guidance

Technology unification

- Integrate and unify data, systems and apps to automate and manage complex business processes
- Gain real-time insights and visualization

Functions enabling connected field service

INTELLIGENT PLANNING	CUSTOMER	DEVICES	INTERNET	PHONE	SMS	CHAT	SOCIAL	IN PERSON

AGENT CONTACT CENTER

CUSTOMER SERVICE CENTER	SMS / CHAT	AGREEMENTS	WARRANTIES	SERVICE LEVEL AGREEMENTS	PREVENTIVE MAINTENANCE CONTRACTS

SENSORS FAILURES, WARNINGS, METERS	USAGE-BASED MAINTENANCE	MACHINE LEARNING	EVENT-BASED MAINTENANCE	CONTRACTS

CASES → WORK ORDERS

EMPOWERED AGENTS AND TECHNICIANS

SCHEDULING & DISPATCH

DESKTOP INTERFACE

WORK ORDER	ASSET MANAGEMENT	SLA MANAGEMENT/ ROUTING / ASSIGNMENT			
AGREEMENTS	CUSTOMER ASSETS	CONTRACTS & AGREEMENTS	RESOURCE MANAGEMENT	SCHEDULING	AUTOMATIC SCHEDULING
INVOICING	LOCATION		SKILL MANAGEMENT	GEOGRAPHY DETAILS	

TECHNICIAN

MOBILE APP

KNOWLEDGE BASE	REMOTE COMMANDS	SELF-SERVICE SCHEDULING	MOBILE OFFLINE	EXPERT GUIDANCE
STEP-BY-STEP INSTRUCTIONS	DEVICE MONITORING	VIRTUAL HELP DESK / INVENTORY / SURVEYS		ON-THE-JOB SUPPORT / LEARNING

TECHNOLOGY UNIFICATION

ADMINISTRATION

RESOURCE MANAGEMENT	ASSET MANAGEMENT	APPLICATION MANAGEMENT	INTEGRATION		
			APPLICATION	DEVICES	ENTERPRISE SYSTEMS

AUTOMATION

DATA AND VISUALIZATION

Microsoft ecosystem supporting connected field service

INTELLIGENT PLANNING

CUSTOMER	DEVICES	INTERNET	PHONE	SMS	CHAT	SOCIAL	IN PERSON

AGENT CONTACT CENTER

CUSTOMER SERVICE CENTER
Dynamics 365 Customer Service

SMS / CHAT
Dynamics 365 Digital Messaging

SENSORS Azure IoT
FAILURES, WARNINGS, METERS

AGREEMENTS
- WARRANTIES
- SERVICE LEVEL AGREEMENTS
- PREVENTIVE MAINTENANCE CONTRACTS
- USAGE-BASED MAINTENANCE
- MACHINE LEARNING
- EVENT-BASED MAINTENANCE
- CONTRACTS

DYNAMICS 365 FIELD SERVICE   CASES → WORK ORDERS

EMPOWERED AGENTS AND TECHNICIANS

SCHEDULING & DISPATCH

USER INTERFACE

WORK ORDER

CUSTOMER ASSETS

SLA MANAGEMENT/ ROUTING / ASSIGNMENT Universal Resource Scheduling

AGREEMENTS

LOCATION

CONTRACTS & AGREEMENTS

RESOURCE MANAGEMENT

SKILL MANAGEMENT

GEOGRAPHY DETAILS

SCHEDULING

AUTOMATIC SCHEDULING
Resource Scheduling Optimization

TECHNICIAN

MOBILE APP
Dynamics 365 Field Service Mobile

KNOWLEDGE BASE

REMOTE COMMANDS

STEP-BY-STEP INSTRUCTIONS

DEVICE MONITORING

SELF-SERVICE SCHEDULING

MOBILE OFFLINE

VIRTUAL HELP DESK

INVENTORY

SURVEYS

EXPERT GUIDANCE

ON-THE-JOB SUPPORT Remote Assist

LEARNING Guides

TECHNOLOGY UNIFICATION

ADMINISTRATION

RESOURCE MANAGEMENT
Azure AD

ASSET MANAGEMENT
Microsoft 365 Administration Center

APPLICATION MANAGEMENT
Dynamics 365 Administration Center
Omnichannel Administration

INTEGRATION

APPLICATION
Dynamics 365 F&O
SDK
AppSource

DEVICES
IoT Central | CIF

ENTERPRISE SYSTEMS
LogicApps / Flow

AUTOMATION Microsoft Flow | LogicApps

DATA AND VISUALIZATION Common Data Service | Power BI

Dynamics 365 provides the foundation to optimize field service
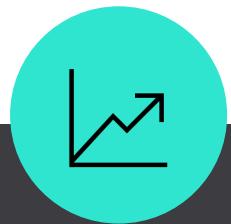
Intelligent planning

Multichannel customer engagement

Service agreements and preventive maintenance

Predictive maintenance enabled by Internet of Things (IoT)

Proactive field service driven by machine learning

Empowered agents and technicians

Right people at the right time

Effective resource, asset, and inventory management

Active remote support of field technicians

Expert guidance and technician training plus enablement
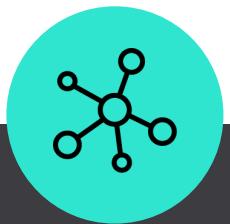
Technology unification

Enhanced productivity with unified data, advanced reporting, custom analytics, and data visualization

Solution optimization through integration and automation

Customized client support and channel integration

Intelligent planning

- Multichannel customer engagement
- Service agreements and preventive maintenance
- Predictive maintenance enabled by IoT
- Proactive field service driven by machine learning

INTELLIGENT PLANNING

Multichannel customer engagement

Connect with customers

- Use multiple channels, like chat in Dynamics 365 and SMS, for contextual engagement with customers

- Deploy the chat widget to enable technicians and agents to connect with customers

- Automatically identify and load customer and work details
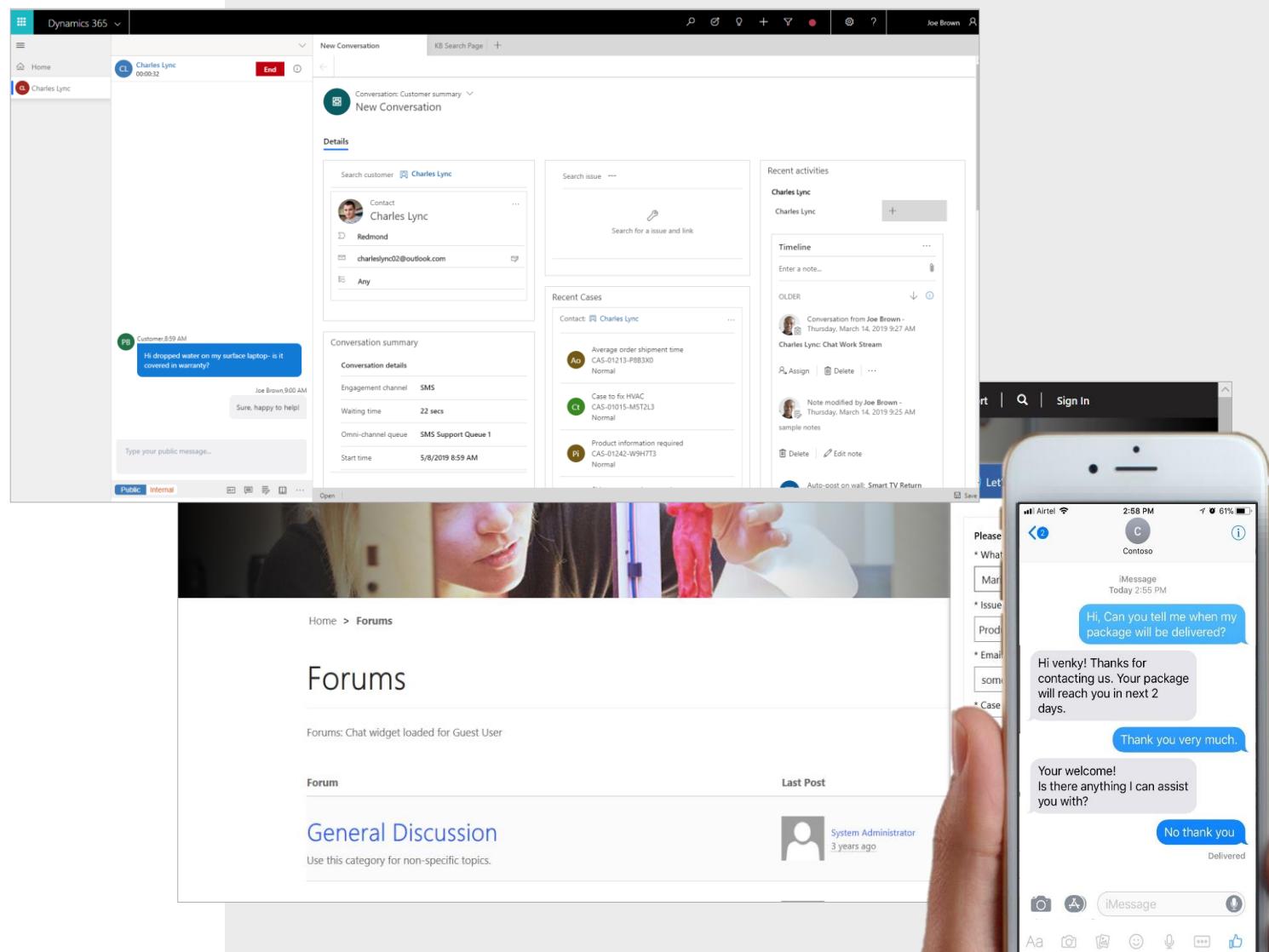
INTELLIGENT PLANNING

Multichannel customer engagement

Effectively create work orders

- Create different work orders types, specify customized work order sub status, and add/set priorities

- Pre-define work order types to specify the various types of service jobs that can be performed within an order

- Maintain detailed record of work order timeline to enable customized customer engagement

Multichannel customer engagement

Engage with your customers

- Send automated reminders and updates to customers through outbound text and phone capabilities

- Communicate proactively by providing your customers with real-time technician location tracking and automated voice and text appointment reminders

- Dispatch technicians using optimized routes and skills-based assignments and resources

- Send personalized surveys immediately after service calls with Microsoft Forms Pro—included with Dynamics 365 Field Service

INTELLIGENT PLANNING

Multichannel customer engagement

Keep track of all service interactions

- Enable customers to open and track work order status, invoices, agreements, and assets

- Grant customer access to a knowledge base within the self-service portal to self-diagnose issues

- Empower customers to view and track work order data in real time

- Use a single portal to display content in multiple languages

INTELLIGENT PLANNING

Agreements and preventive maintenance

Generate preventive work orders

- Track, manage, and monitor the maintenance needs of an asset based on the manufacturer's recommendations

- Set up customer agreements so you can automatically generate work orders and invoices based on future need

- Use machine learning models to enable preventive maintenance based on EAM data

INTELLIGENT PLANNING

Predictive maintenance enabled by IoT

Gain insights to react quickly

- Enable real-time telemetry and interact with your customers' field environment

- Effectively integrate and support a wide array of Microsoft and third-party managed IoT devices

- Gain greater scale and efficiency

- Analyze and act on new data

- Integrate and transform business processes

SaaS | IoT Edge

Use | Solutions

Managed Solutions — IoT Central, Connected Field Service

Solution Accelerators — Remote monitoring, Predictive maintenance, Connected factory ...

Build your own | Platform

Device Support → Data and Analytics → Visualization and Integration

Azure IoT Hub | Azure Time Series Insights | Azure Logic Apps

Azure Sphere

Partner Solutions
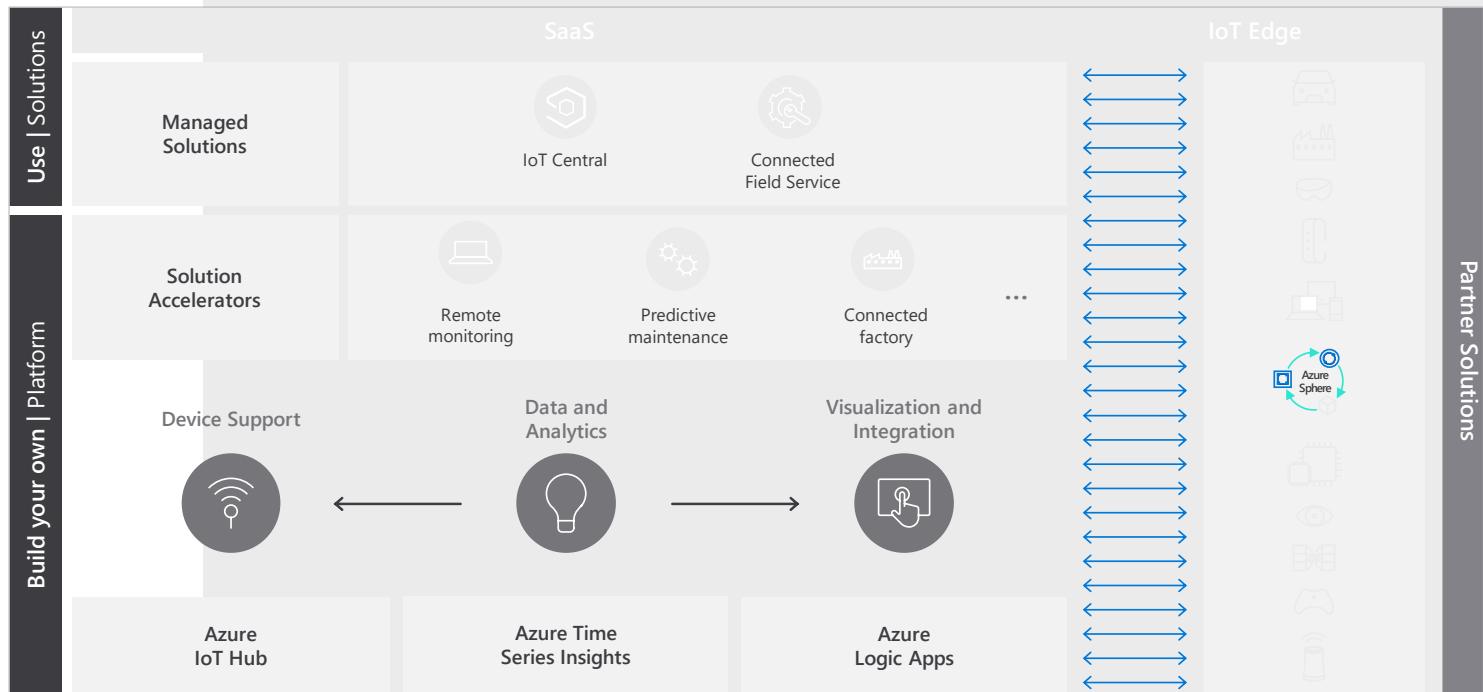
INTELLIGENT PLANNING

Predictive maintenance enabled by IoT

Use IoT Central to set alert rules

- Take advantage of a fully managed SaaS solution with Azure IoT Central

- Get started quickly with minimal IoT experience required

Connected Field Service with Azure IoT Central

Simulated Devices for development

Real Devices

IoT Central

Anomaly detected

Flow - orchestrate IoTAlert creation

IoTAlert

Field Service

CFS commands & updates

Case or Work Order

IoT Alert

Connected Field Service Model Driven App

Field Service Dispatchers & Technicians
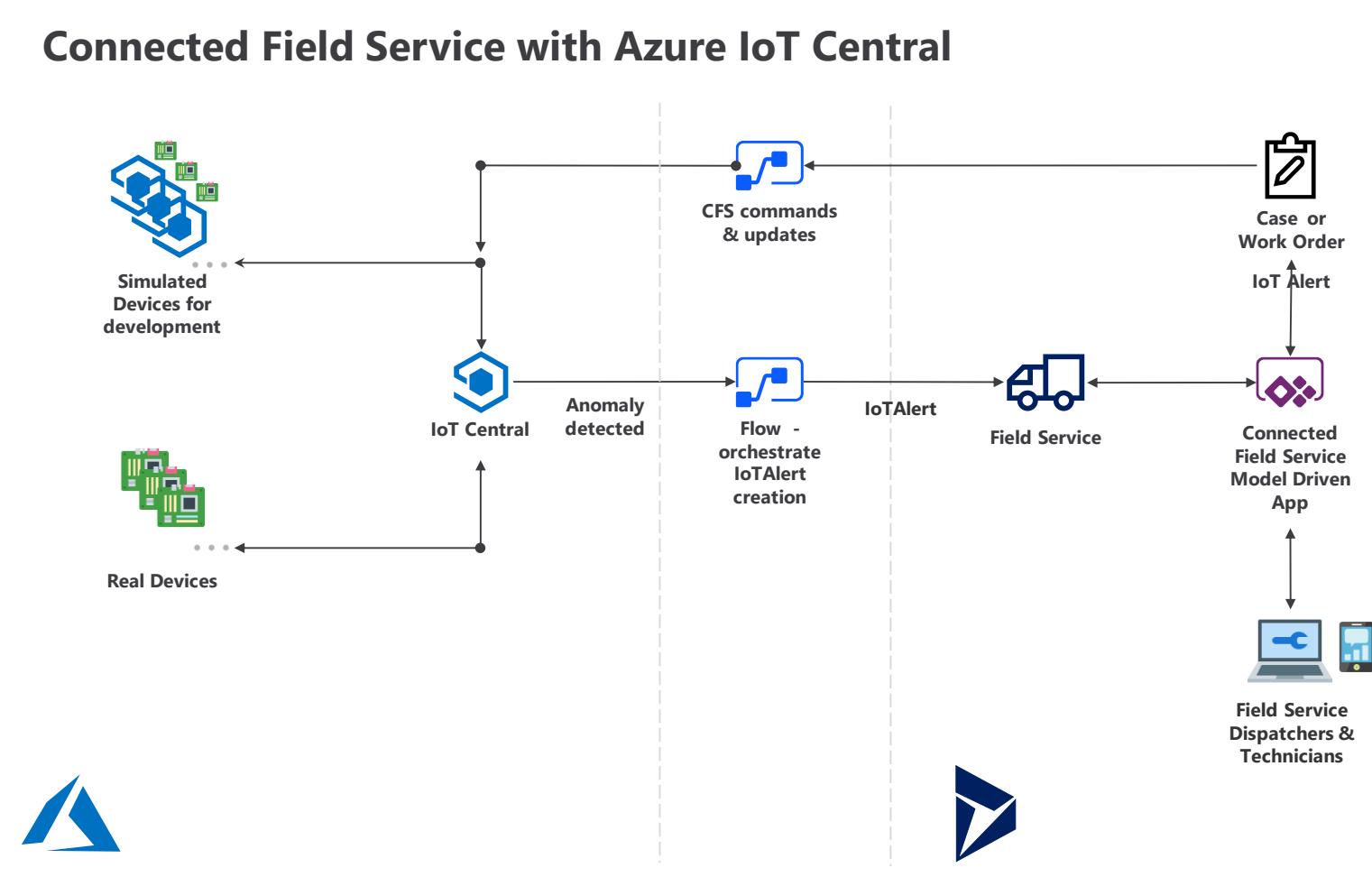
INTELLIGENT PLANNING

Predictive maintenance enabled by IoT

Increase efficiency with Azure IoT Hub

- Azure IoT Hub enables businesses to connect, monitor, and manage billions of IoT assets

- Take advantage of an open, flexible cloud PaaS that supports open-source SDKs and multiple protocols
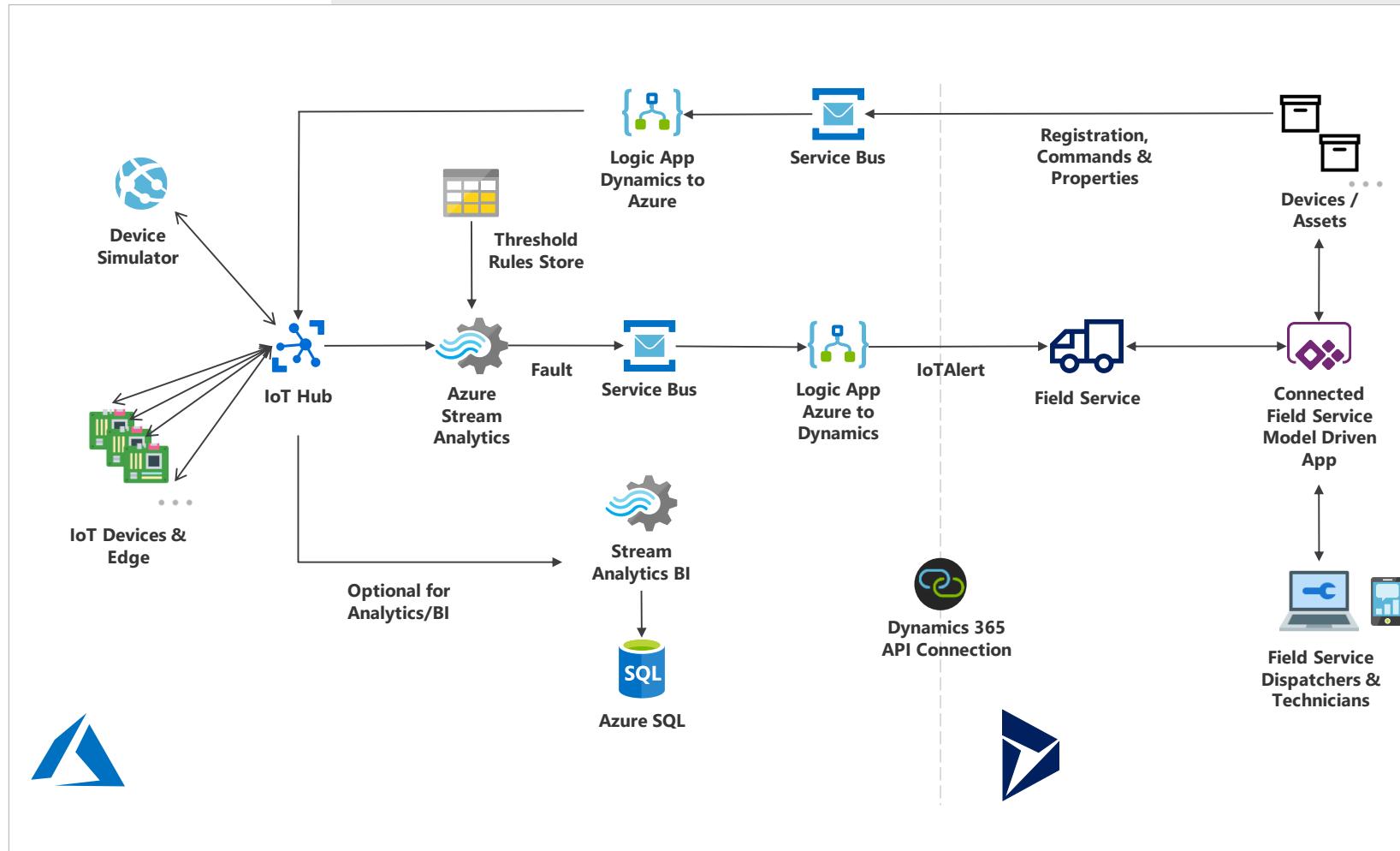
INTELLIGENT PLANNING

Predictive maintenance enabled by IoT

Monitor devices remotely

- Using the field service module, see and solve issues before clients are aware of them

- Reduce the number of service calls you receive by identifying and resolving issues before they occur

- With device telemetry and service maintenance data, make intelligent decisions around dispatching technicians with the right expertise, availability, and proximity to the job

- Create rules and configure Microsoft Flow to integrate IoT-connected devices with an active alert system to receive updates on specific device activity
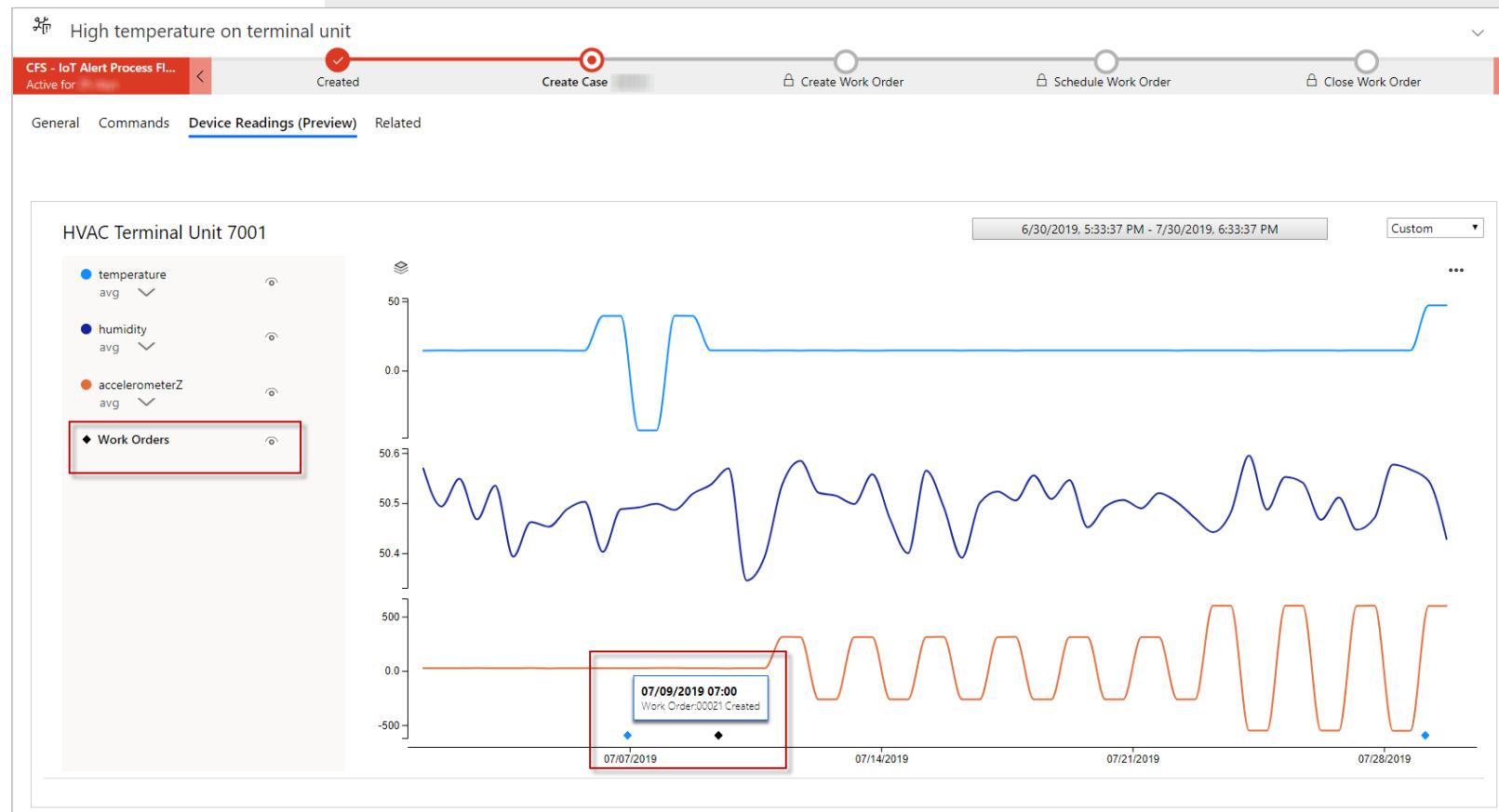
INTELLIGENT PLANNING

Predictive maintenance enabled by IoT

Automate maintenance

- Predict when a device needs attention and automate self-healing or maintenance steps before any kind of problem

- Use the remote monitoring dashboard to view telemetry from your connected devices, provision new ones, or upgrade firmware

- Visualize simulated devices on a map and respond to alerts

- View product usage, issues, and repair history from a central portal to diagnose problems and deliver predictive maintenance

- Get instant notifications and alerts about device health to automate the service-request generation process using predefined rules
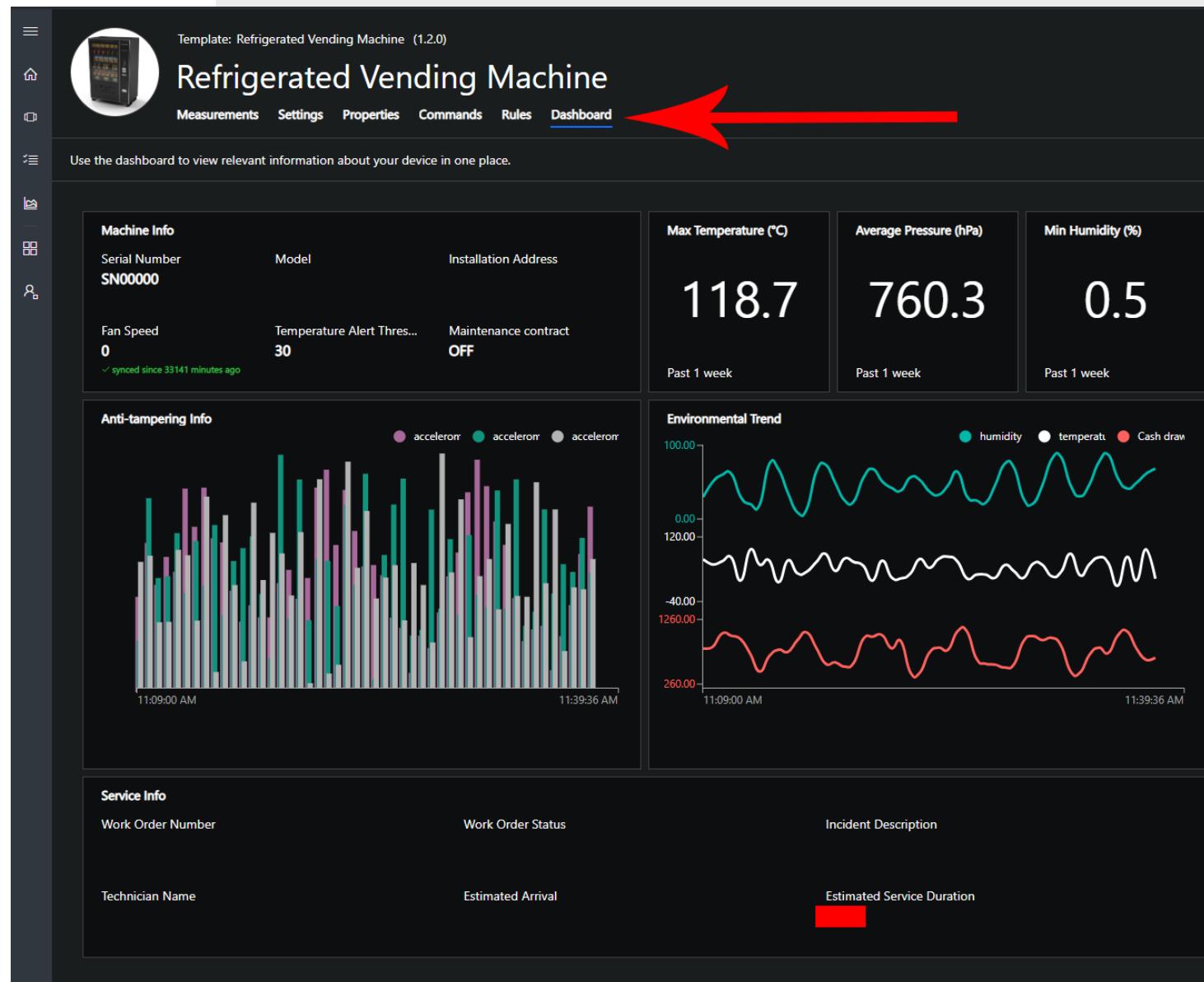
INTELLIGENT PLANNING

Proactive field service driven by machine learning

Optimize resource management

- Optimize resource assignments using multiple factors, such as a technician's experience in handling the specific failure, the customer's preferred technician, or proximity to the site

- Automatically assign the work order to the best available personnel

- Create the most efficient travel path for technicians, optimizing their schedules and allowing them to perform additional calls per day

- Using real-time inventory management, ensure that the replacement part is available on the scheduled date and that the technician has access to the tools needed to complete the job

INTELLIGENT PLANNING

Proactive field service driven by machine learning

Improve customer service delivery capabilities

- Allow for automated, remote self-healing and predictive forecasting, monitoring, and analyzing connected devices for potential issues

- Using historical device data and predictive analytics, get system recommendations for scheduling technician site visits, heading off future problems and notifying the customer of the work order

- Using recommendations from the system, enable technicians to discuss additional products and services during site visits that meet their customers' specific usage and operating needs
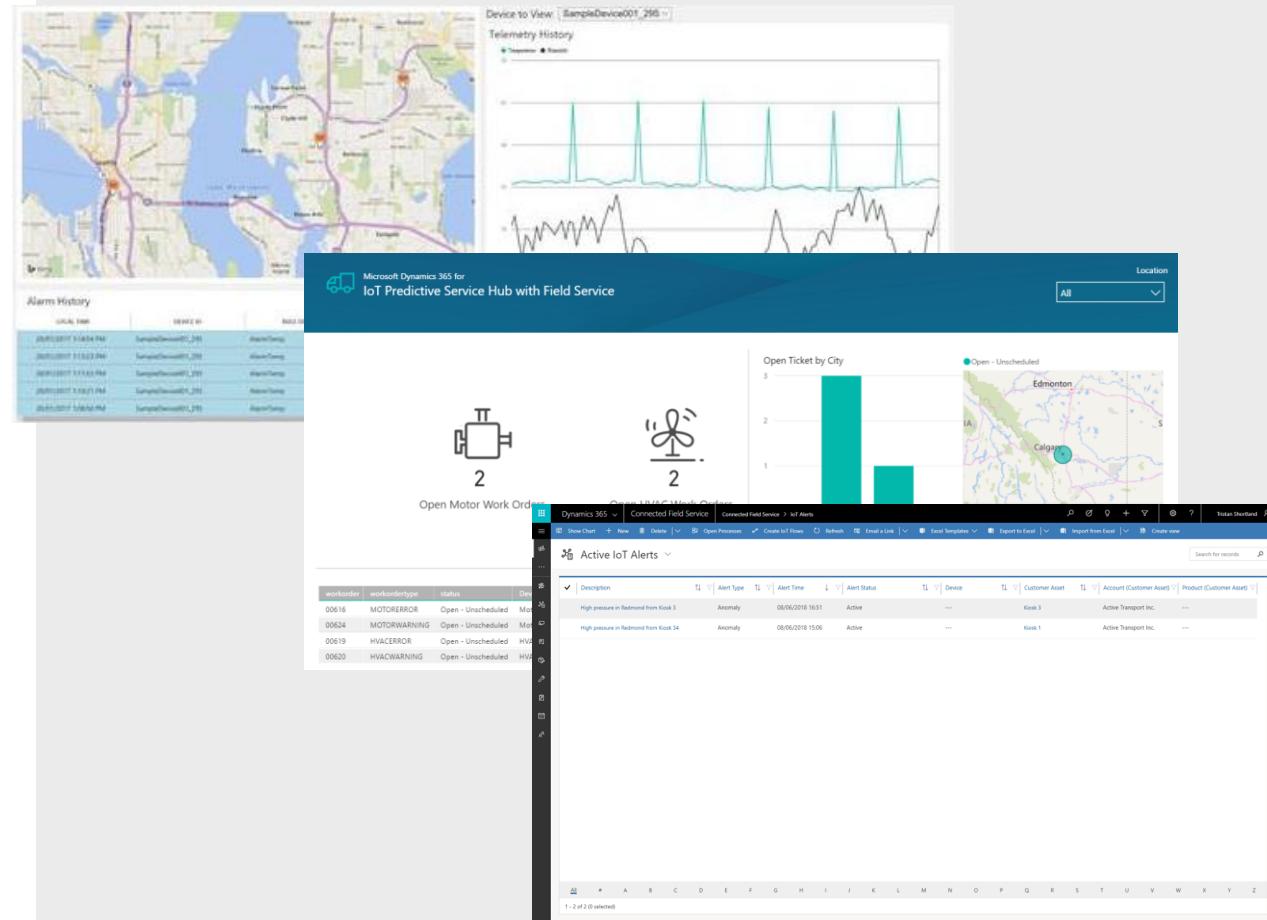
A focused approach to connected field service

Intelligent planning

- Effectively plan and manage customer demands across all channels
- Efficiently manage service agreements and preventive maintenance
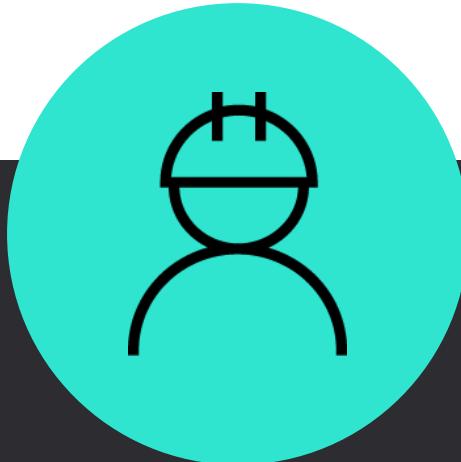
Empowered agents and technicians

- Empower agents and technicians with tools to manage and solve cases
- Assist customers virtually with elevated training and guidance
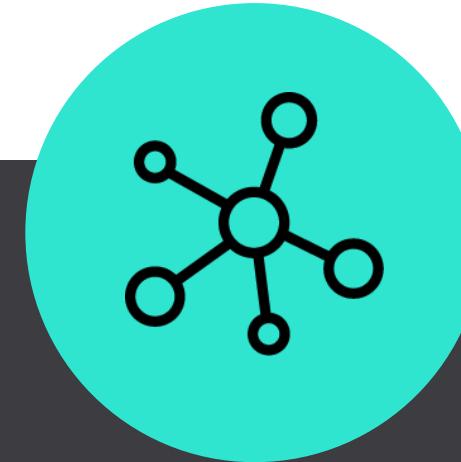
Technology unification

- Integrate and unify data, systems and apps to automate and manage complex business processes
- Gain real-time insights and visualization

Empowered agents and technicians

- Right people at the right time
- Effective asset and inventory management
- Active remote support of field technicians
- Expert guidance and technician training plus enablement

Right people at the right time

Enable smart scheduling and routing

Automate and improve scheduling

EMPOWERED AGENTS AND TECHNICIANS

Right people at the right time

Enable smart scheduling and routing

- Assign resources to jobs and tasks based on location and need

- Ensure the right resources are assigned to customers at the right time and optimize resources to fit in the most appointments per day

- Schedule work orders for the most appropriate resources by optimizing bookings for the shortest travel time, available work hours, and more

EMPOWERED AGENTS AND TECHNICIANS

**Right people at the right time**

Automate and improve scheduling

- With Dynamics 365 Field Service, support the degree of automated scheduling automation that fits your needs

- Enhance manual scheduling using the schedule board to select requirements and create bookings

- Through the Schedule Assistant tool, take advantage of a semi-automated approach using available recommendations and most appropriate resources

- Using Resource Scheduling Optimization (RSO), automate the scheduling of your workforce, setting objectives such as "minimize travel time" and "maximize working hours"


Manual scheduling

Scheduling Assistant

Resource Scheduling Optimization (RSO)

Effective asset and inventory management

Asset and inventory management

EMPOWERED AGENTS AND TECHNICIANS

Effective asset and inventory management

Asset management

- Upload 3D knowledge articles and models of assets for field technicians to reference in the field

- Review work order history per asset using IoT device information

- Access multi-layer device hierarchy with links to product catalog for product trends

Effective asset and inventory management

Inventory management

- Accurately track service stock at mobile and fixed locations, including available, on hand, on order, and allocated inventory

- Manage updates and stock history for any location, including truck stock

- Manage inventory information for transactions including requests, return material authorizations (RMA), a return to vendor (RTV), stock adjustments, or transfers

- Use the ship-via option to specify different shipping methods used by your company

Active remote support of field technicians

Deploy the Field
Service mobile app

Solve problems faster
the first time

EMPOWERED AGENTS AND TECHNICIANS

Active remote support of field technicians

Deploy the Field Service mobile app

- Give field technicians the information they need to get to a customer location and complete work orders quickly

- Effectively capture and update all work order details through full offline capabilities

- Customize the app to function as barcode scanner, RFID, and credit card reader

- Use GPS functionality to help schedule work orders to the closest available field technician, calculating arrival times to customer locations, and geofencing

- Take pictures of completed work for attaching to invoices, helping with resolution tracking, or training purposes in the future

EMPOWERED AGENTS AND TECHNICIANS

Active remote support of field technicians

Solve problems faster the first time

- Remotely assist and engage with customers from virtually anywhere in the world using Remote Assist and Microsoft Teams in either HoloLens or an Android mobile device

- With heads-up, hands-free video calling on HoloLens, first-line workers can collaborate with remote experts on PC or mobile to troubleshoot issues in context

- Virtualize the customer perspective to provide detailed guidance on complex systems

- Enable field service technicians to monitor assets and send commands remotely to assist customers on the spot
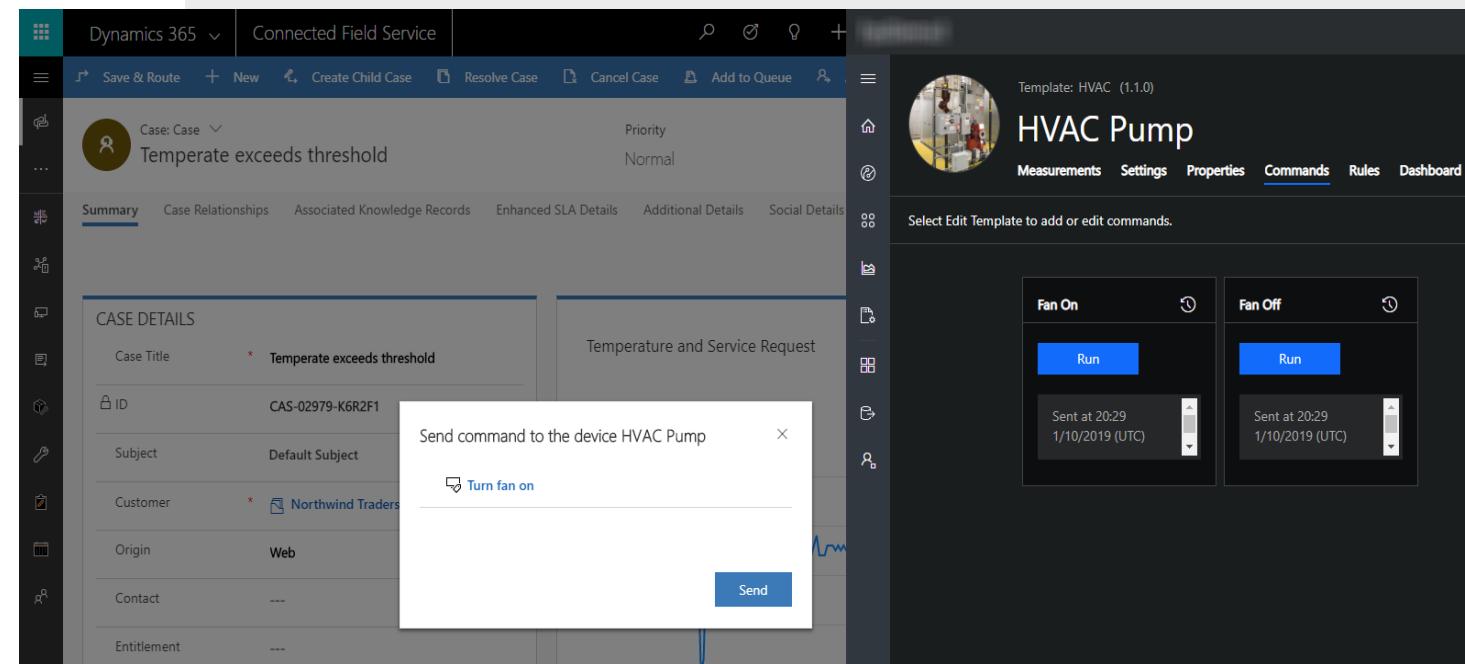
Expert guidance and technician training plus enablement

Offer expert guidance with service using annotations or files
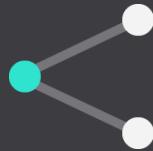
Integrate training augmented reality and artificial intelligence into training

Provide interactive environments for visualizing products

EMPOWERED AGENTS AND TECHNICIANS

Expert guidance and technician training plus enablement

Offer expert guidance with service using annotations or files

- Enable external access through Microsoft Teams to collaborate with customers from different organizations or domains

- Allow users to make or receive calls from guest contacts with Dynamics 365 Remote Assist on Microsoft HoloLens

- Use edit mode to make annotations within the contact's virtual space from the mixed reality toolbar

- Link files or draw arrows to highlight key areas of focus during the remote session, providing detailed instruction and deep understanding of solutions
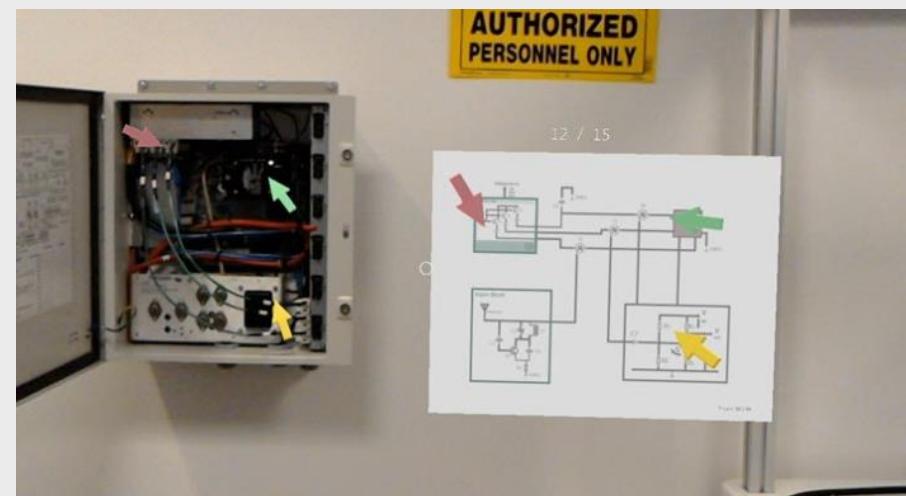
EMPOWERED AGENTS AND TECHNICIANS

Expert guidance and technician training plus enablement

Integrate augmented reality and artificial intelligence into training

- Using Dynamics 365 Guides, an augmented reality tool, provide employees with an understanding of how to apply learnings in common scenarios

- Create interactive content through Guides that employees can revisit to gain a deep understanding of core subjects, view 3D models, and get hands-on training

- Provide step-by-step instructions that guarantee quality and consistency of work across the team

EMPOWERED AGENTS AND TECHNICIANS

Expert guidance and technician training plus enablement

Provide interactive environments for visualizing products

- Give customers a mixed reality view with Dynamics 365 Product Visualize, which visually represents products in granular detail

- Display 3D models of products to show customers how a product will fit into their environment

- Make notes and adjustments to models in real time while engaging with the customer

- Ensure a confident purchase by addressing the customer's questions or concerns about key components during the mixed reality display
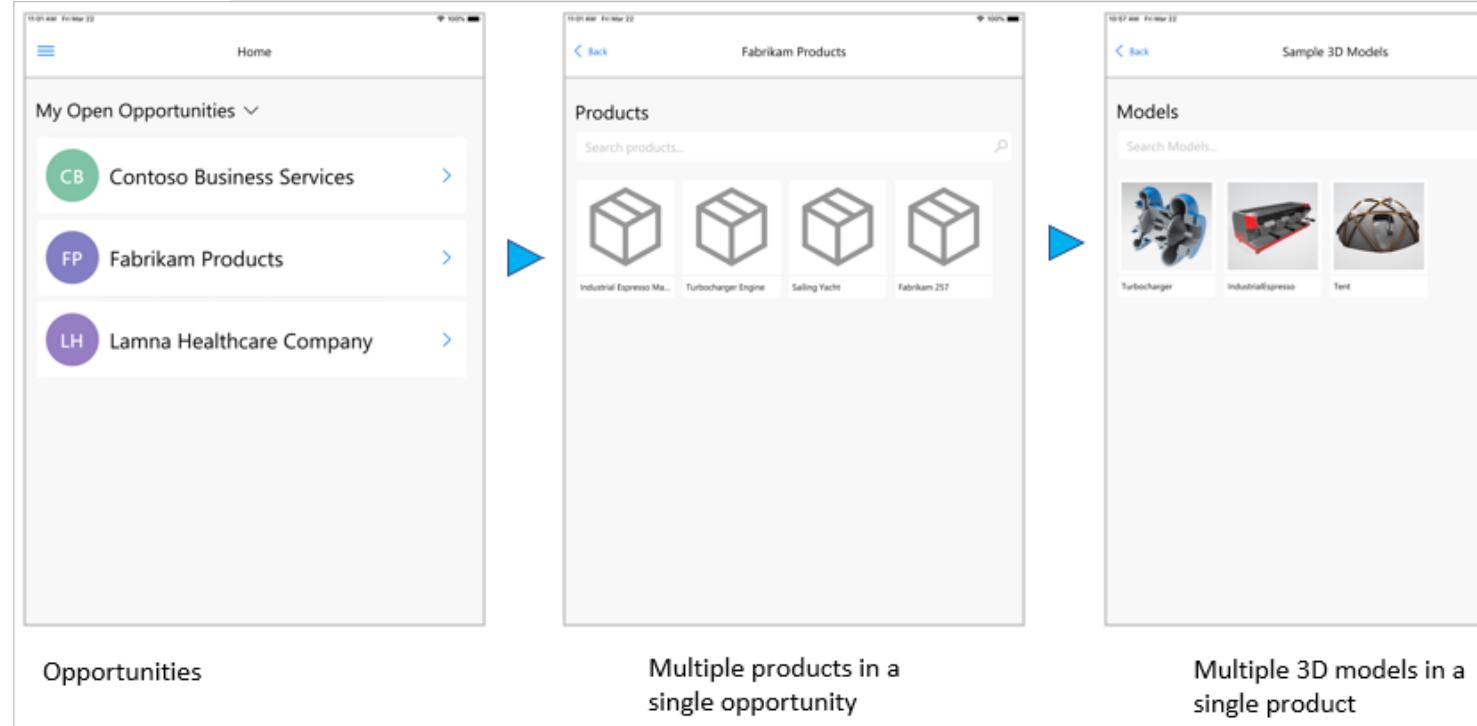
Opportunities

Multiple products in a single opportunity

Multiple 3D models in a single product

A focused approach to connected field service

Intelligent planning

- Effectively plan and manage customer demands across all channels
- Efficiently manage service agreements and preventive maintenance

Empowered agents and technicians

- Empower agents and technicians with tools to manage and solve cases
- Assist customers virtually with elevated training and guidance

Technology unification

- Integrate and unify data, systems and apps to automate and manage complex business processes
- Gain real-time insights and visualization

Technology unification

Enhance productivity with unified data, advanced reporting, custom analytics, and data visualization

Optimize current solutions with the power of integration and automation

Support clients on their terms with channel integration

TECHNOLOGY UNIFICATION

Enhance productivity with unified data, advanced reporting, custom analytics, and data visualization

Unify data with the Common Data Service

- Improve ease and accuracy of planning and reporting through a unified source of truth

- Streamline machine learning, and improve reporting and apps using Power Query

- Build rich applications with PowerApps

- Automatically apply business rules and logic already defined in your customer service to your PowerApps

- Get a secure and cloud-based storage option for your data with role-based security to control access

TECHNOLOGY UNIFICATION

Enhance productivity with unified data, advanced reporting, custom analytics, and data visualization

Analyze and visualize data using Microsoft Power BI

- Enable field service managers and dispatchers to analyze and visualize data, drawing useful insights to help with better decisions and corrective actions

- Use templates with pre-built data model, reports, and dashboards

- Take advantage of easy-to-use dashboards, interactive reports, and compelling visualizations
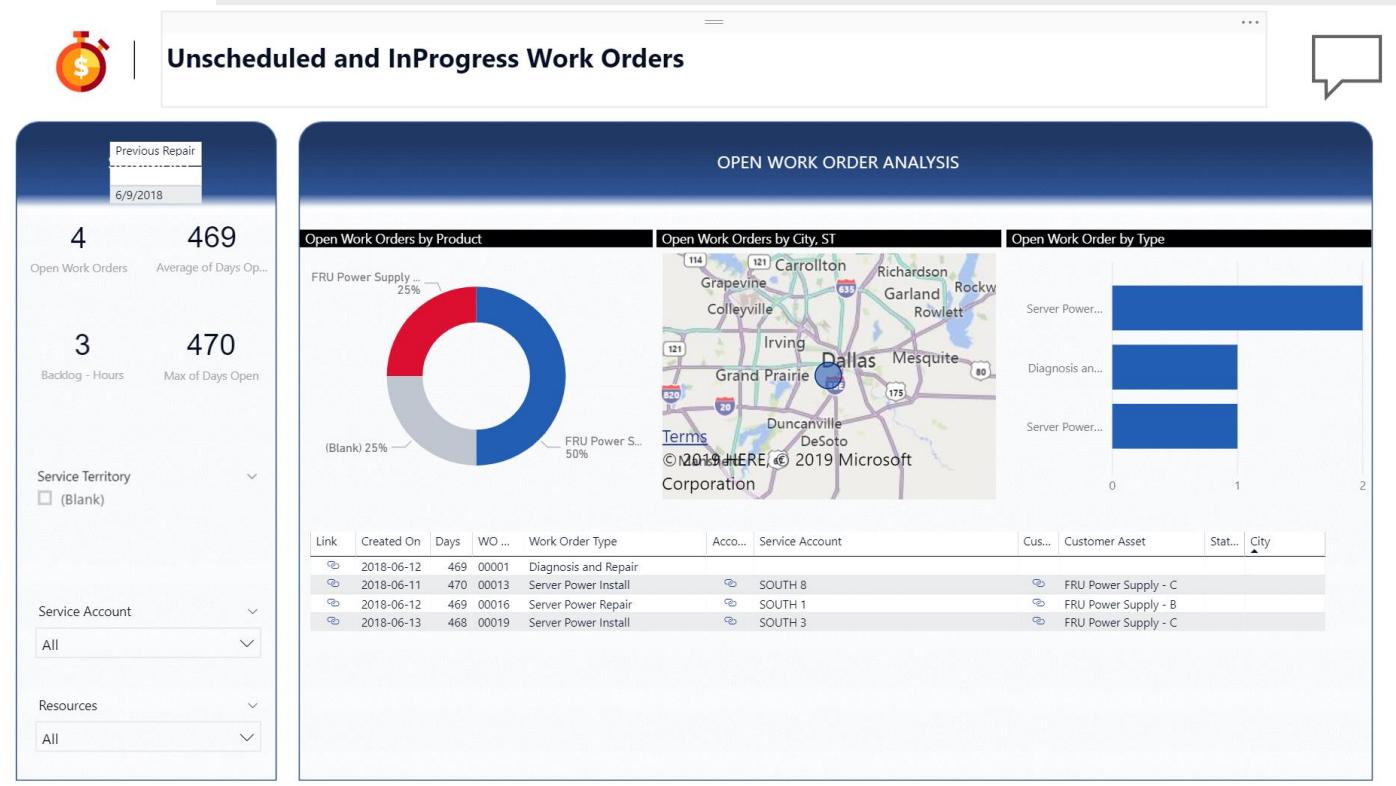
TECHNOLOGY
UNIFICATION

Optimize current solutions with the power of integration and automation

Automate business workflows with Microsoft Flow

Collaborate using templates and connectors

Integrate applications via Microsoft AppSource

TECHNOLOGY UNIFICATION

Optimize current solutions with the power of integration and automation

Automate business workflows with Microsoft Flow

- Integrate with pre-built Flow templates for frequently used applications to track and respond to events as they happen

- Automate manual tasks without a single line of code by plugging Flow into Dynamics 365 Field Service

- Use Flow to assign new tasks automatically in the Field Service workflow

- Integrate Microsoft PowerApps with Flow to trigger workflows from within apps, or combine PowerApps with Microsoft Power BI to drive business analytics on your data

TECHNOLOGY UNIFICATION

Optimize current solutions with the power of integration and automation

Collaborate using templates and connectors

- Easily work with Field Service info, share files directly from Teams, and integrate and sync files automatically

- Manage a single set of user identities and credentials in both your Azure Active Directory domain and Dynamics 365 Customer Service

- Get up and running quickly with built-in features and integrations with Microsoft platforms your organization is already familiar with

TECHNOLOGY UNIFICATION

Optimize current solutions with the power of integration and automation

Integrate applications via Microsoft AppSource

- Add new capabilities to your existing field service solutions to meet your business needs

- Use applications tailored to the field service industry that work with Dynamics 365 and align to the common data service

- Try any app for free before you buy

TECHNOLOGY
UNIFICATION

Support clients on their terms with channel integration

Bring your own channels

Support clients on their terms with channel integration

Bring your own channels

- Bring your own third-party channel providers with the Channel Integration Framework, which is agnostic for all JavaScript-based widgets

- Through two-way communication, support inbound and outbound according to your business and process workflows

- Extend and customize within Dynamics 365
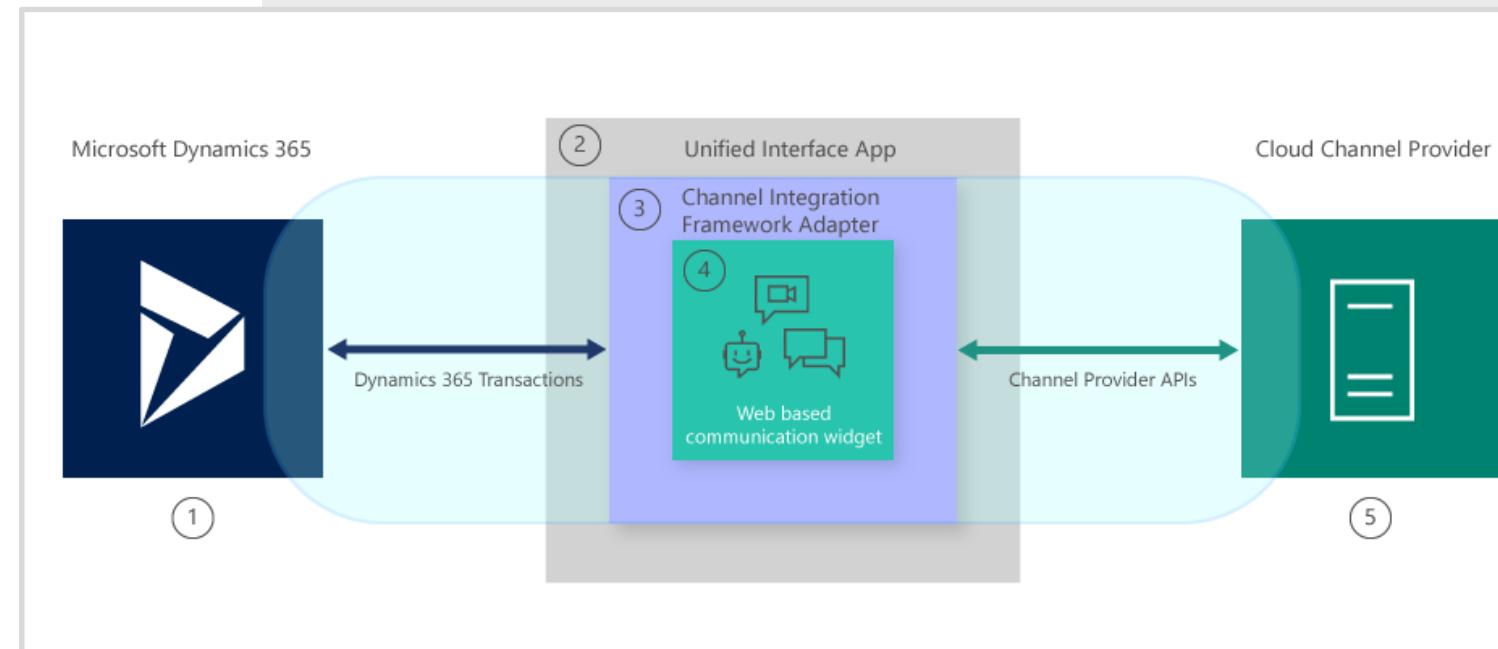
An adaptable approach to proactive field service

Core
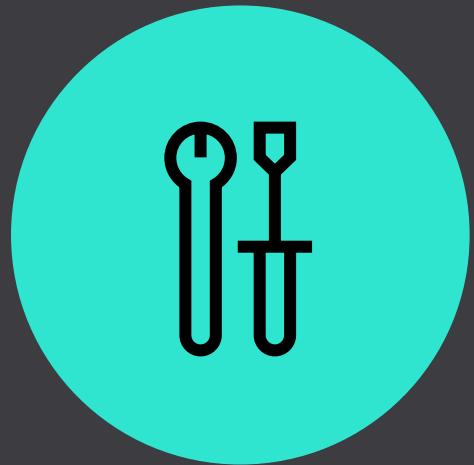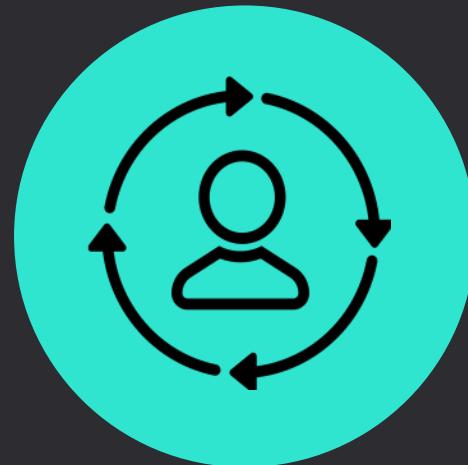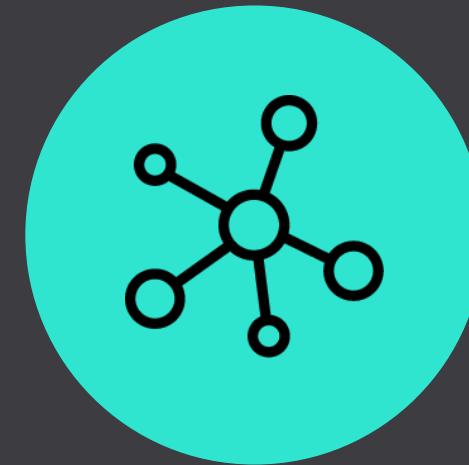
Field service automation

Effectively plan and manage your field service workforce

Extended

Connected field service

Improve field processes, customer engagement, and effectiveness

Advanced

Extensions to connected field service

Extend and automate with artificial intelligence, intelligent connectors and apps

Core

Empower every agent

Dynamics 365 Field Service

- Work order management

- Scheduling and dispatch tools

- Communication tools

- Asset management

- Inventory, purchasing, and returns capabilities

- Billing capabilities

- Time tracking

Benefits

- Stay up to date with work orders from creation to closing

- Automatically schedule to align right job skills and best location to get more appointments per day

- Enhance collaboration between customer service agents, technicians, and more

- Effectively track customer equipment and service history

- Easily manage stock, purchase orders, fulfilment requests, and product returns

- Auto-generate invoices based on services delivered to customers

- Accurately track time taken by resources on work, traveling, and break

Extended

Connected field service

- Self-service portals

- Preventive maintenance

- Easy-to-use mobile application

- Analytics for reporting

Benefits

- More personalized portal experience for employees and customers

- Moving from costly scheduled maintenance plans to just-in-time predictive maintenance

- Customizable and extensible mobile app to meet the field service worker's needs

- Gaining deep insights into KPIs to better manage field service and customer engagement

Advanced
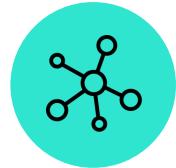
Extend and automate with artificial intelligence, intelligent connectors and apps

- Integration with IoT platform
- Dynamics 365 Remote Assist on Microsoft HoloLens
- Integrate with augmented reality and artificial intelligence
- Dynamics 365 Product Visualize
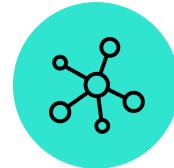
Benefits

- Build your own connected field service solution that integrates IoT data with Dynamics 365

- Virtualize physical environment to share what you see to the remote team for assistance

- Walk multiple sites without being on location, getting a real-time view of a problem to troubleshoot efficiently

- Give your customers a more accurate representation of your products with 3D models

ADAPTABLE IMPLEMENTATION

Core

Extended

Advanced

Field service automation

- Work order management

- Scheduling and dispatch tools

- Communication tools

- Asset management

- Inventory, purchasing, and returns capabilities

- Billing capabilities

- Time tracking

Connected field service

- Self-service portals

- Preventive maintenance

- Easy-to-use mobile application

- Analytics for reporting

Extensions to connected field service

- Integration with IoT platform

- Dynamics 365 Remote Assist on Microsoft HoloLens

- Integrate with augmented reality and artificial intelligence

- Dynamics 365 Product Visualize

Microsoft Dynamics 365

Next steps

Take the next step

Get started with Dynamics 365 Field Service—empower your digital transformation through applying intelligence and connecting your data.

Lean on the next generation of business applications with trusted Microsoft cloud services.

[Dynamics 365 learning paths](#)

[Dynamics 365 Field Service](#)

Microsoft Dynamics 365