

IBM  
**Strategy  
Consulting**

# IBM Supply Chain transformation with Dynamics 365

*Build competitive advantage*





# Market Insights

# Manufacturing trends

Maintenance costs are estimated to range between **15%** to **40%** of total production costs

Running an equipment to the point of failure could cost up to **10** times as much as regular maintenance would

As of 2018, **53%** of the facilities use CMMS to monitor their maintenance. Additionally, **55%** use spreadsheets and 40% still use paper.

Predictive maintenance is highly cost effective, saving roughly **8%** to **12%** over preventive maintenance, and up to **40%** over reactive maintenance (according to the US Department of energy)

According to IDC 2021's survey, **42%** of the organizations currently use augmented reality/virtual reality (AR/VR) technologies in some capacity with their EAM applications, and other **38%** organizations plan to use it in the next 2 years

Improved planning drives resiliency.

**57%** report that improving supply chain planning is critical to achieve supply chain resiliency.<sup>2</sup>

Increased visibility drives resiliency.

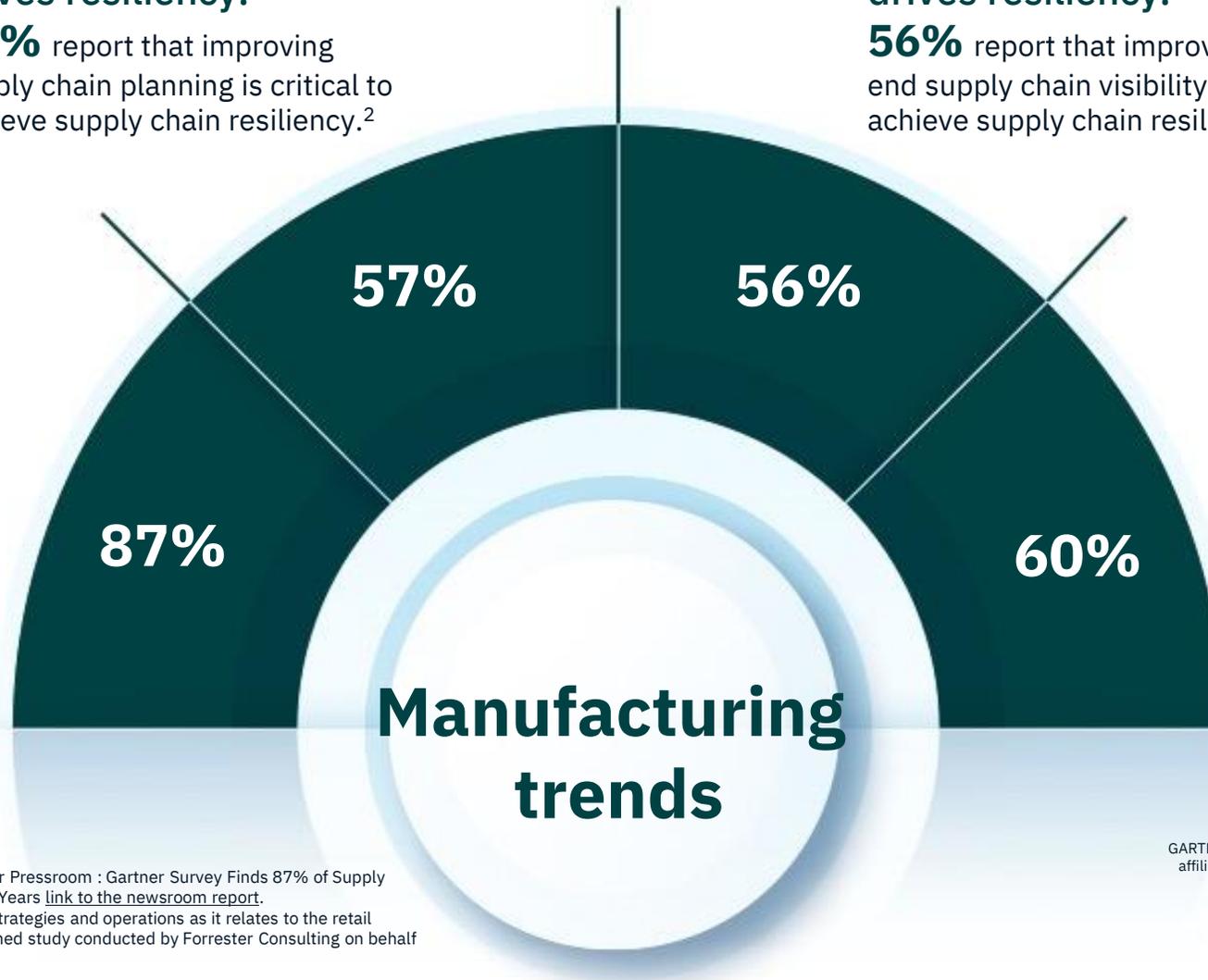
**56%** report that improving end-to-end supply chain visibility is critical to achieve supply chain resiliency.<sup>3</sup>

Investing in supply chain resiliency.

**87%** of supply chain professionals are planning investments in supply chain resiliency within the next two years, with 89% wanting to invest in agility.<sup>1</sup>

Adapt a composable business approach.

By 2024, **60%** of manufacturers will participate in distributed supply chain network to reduce the risk of an unplanned disruption in their value chain.<sup>4</sup>



**Manufacturing trends**

Sources:

1 2020 Gartner® Future of supply chain survey, featured in Gartner Pressroom : Gartner Survey Finds 87% of Supply Chain Professionals Plan to Invest in Resilience Within the Next 2 Years [link to the newsroom report](#).

2,3,4 Base: 624 global decision makers of digital transformation strategies and operations as it relates to the retail experience for their retail experience for customers; A commissioned study conducted by Forrester Consulting on behalf of Microsoft, November 2020.

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# Returns Statistics

- **8%** returns from physical stores
- **20%** returns from E-Commerce
- During the holiday season, digital return rates can spike upto **30%**
- As per IHL, retailers lose more than **\$600 billion**/year due to returns. These costs include lost cost of the order + cost of transaction.



# Digital transformation is accelerating

**84%**

Assets are becoming smarter

84% use or plan to use IoT in conjunction with their EAM applications

**18%**

Siloed asset data are still not shared

18% still use spreadsheet or paper based toolset for FSM

**34%**

Service models are altering the future technician profile

34% lack the knowledge to meet service demand

**40%**

Industries embrace new kinds of serviceable equipment

40% have already converted business processes to support contactless experiences

**52%**

Organizations are investing in better connectivity

52% of organizations are prioritizing investment in connectivity programs

**80%**

Organizations are accelerating automation initiatives

80% of the organizations are accelerating their automation initiatives which is clear sign that digital transformation is the way forward

# Key challenges & Desired outcomes

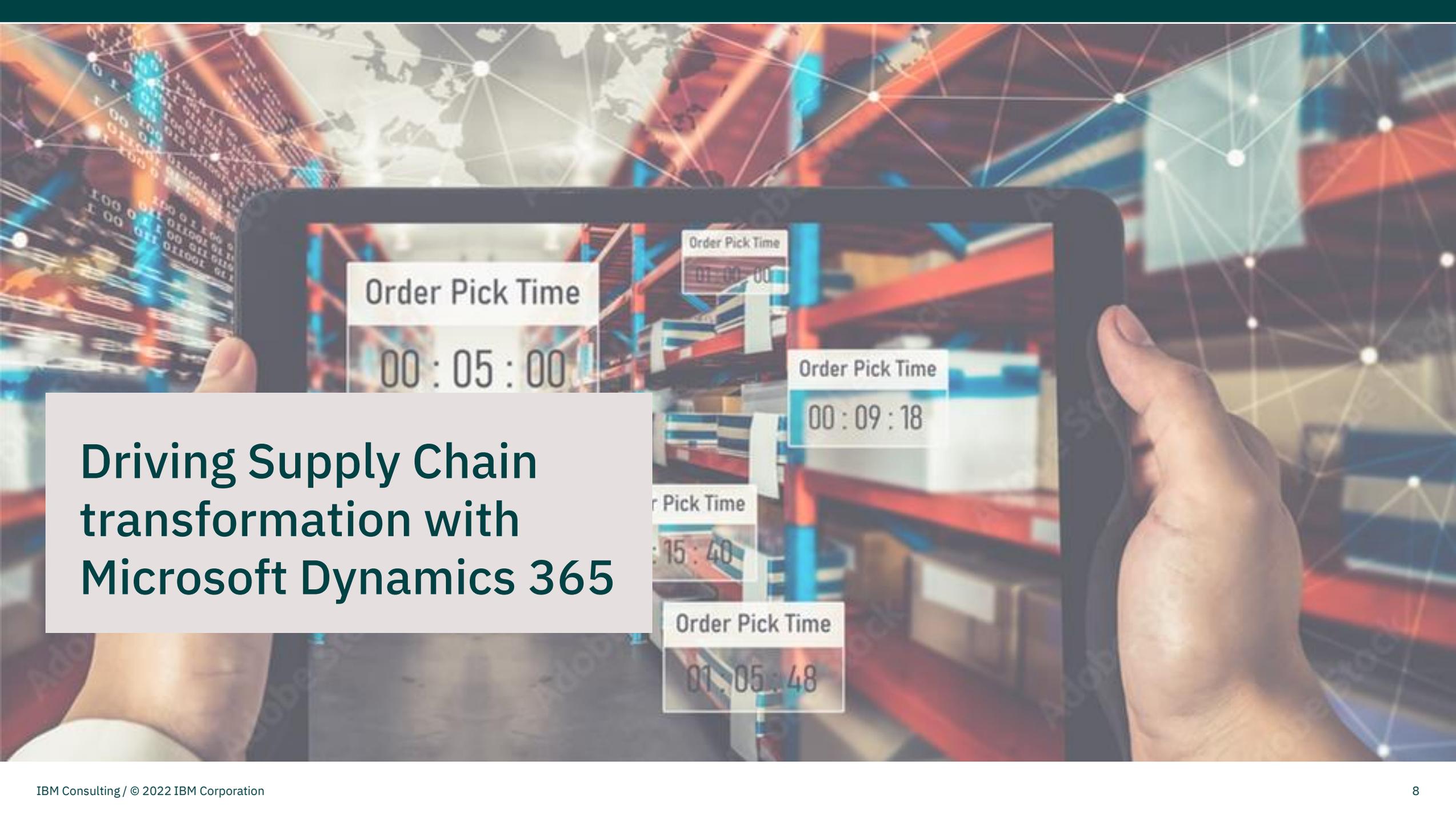
## Challenges

- Lack of visibility into performance across manufacturing and distribution locations to reduce the impact of quality and throughput issues
- Lack of preventive and predictive maintenance programs to improve asset uptime and productivity
- Lack the ability to ensure 24X7 high throughput production an without latency and intermittent connectivity issues
- Inability to quickly respond to changing business models and meet OTIF metrics
- Lack of real-time inventory visibility
- Long winded and complex return management process
- Stock-outs/long lead times



## Desired Outcomes

- Ensuring business continuity while improving throughput, efficiency and uptime sustainably.
- Proactively mitigate machine failures
- Increasing productivity and agility by connecting people to processes, assets and information
- Automate and optimize fulfilment and streamline the entire order lifecycle
- Real time inventory visibility across the enterprise
- Simplify, automate and optimize returns
- Optimize stock levels



**Driving Supply Chain  
transformation with  
Microsoft Dynamics 365**



# Dynamics 365 Compostable architecture

Offers end-to-end solutions in a wide range of industries to meet specific business challenges

Accelerated deployment that supports changing business models for fast ROI

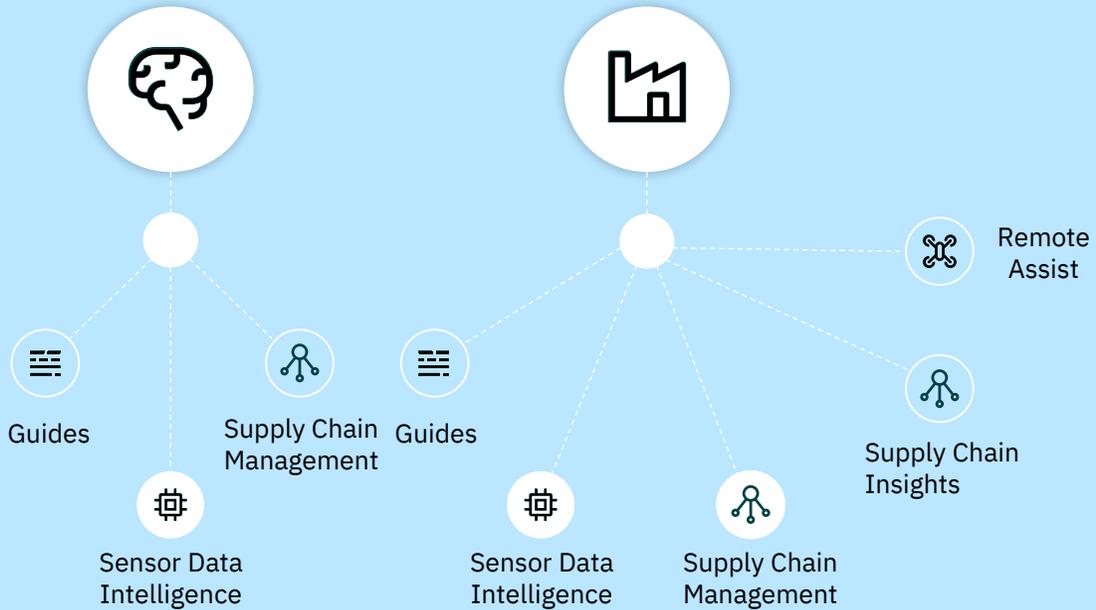
# Dynamics 365 composite architecture key advantages

1

Reusable apps to offer end-to-end solutions in a wide range of workloads and industries

Smart Maintenance

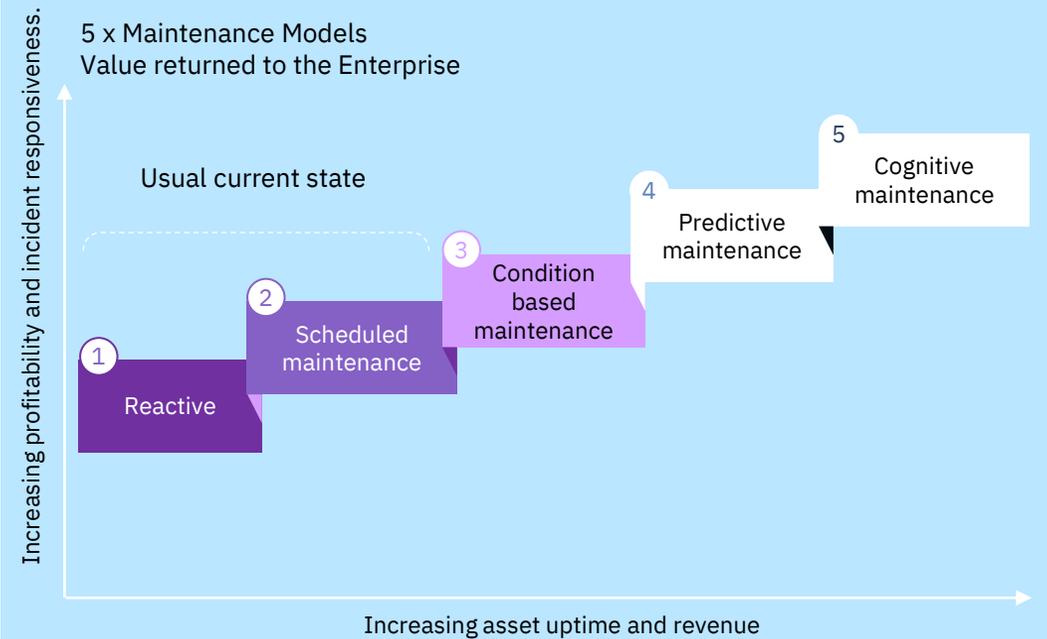
Factory of the Future



2

Accelerated deployment that supports incremental maturity model strategy for fast ROI

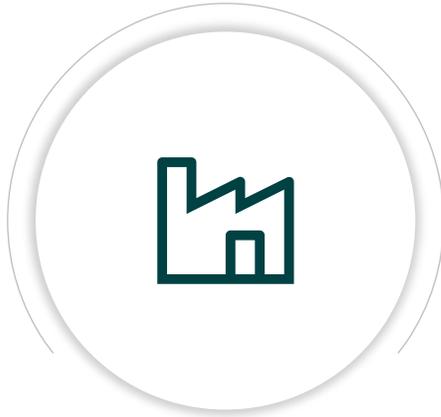
Path to cognitive maintenance



**Dynamics 365 Supply Chain Management** is an agile solution that enables customers to create a resilient supply chain by enhancing visibility, gaining planning agility and maximizing asset uptime to operate profitably during disruptions.



# Our approach for supply chain resiliency



Asset  
productivity



Intelligent manufacturing  
operations management



Intelligent  
fulfilment

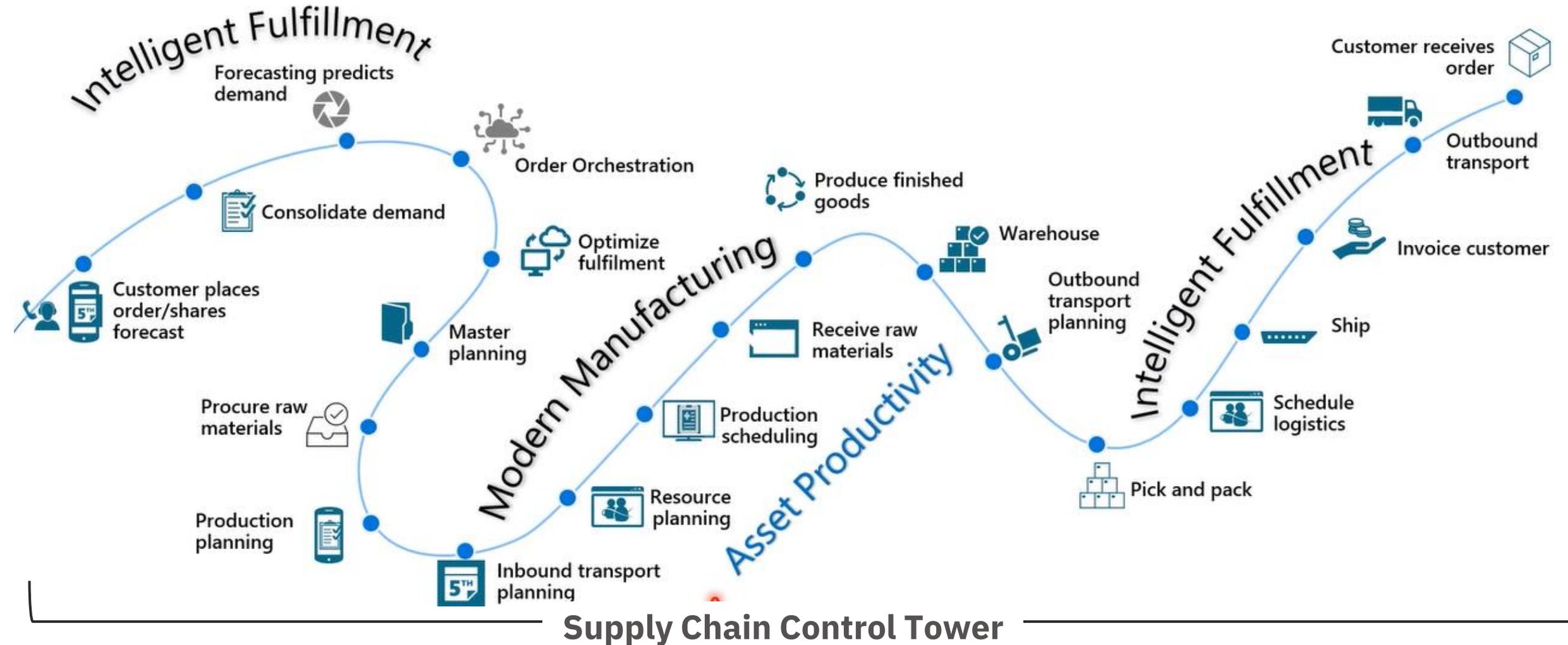


**Sustainability**



**Technology unification**

# Transform Supply Chain as a strategic competitive asset



Enable decision makers to control the supply and demand in the supply chain

# Getting started

## Start with Composable Solutions for fast time to customer value



Asset  
Productivity



Supply Chain  
Management

- Asset Management
- Sensor Data Intelligence



Intelligent  
Fulfillment



Intelligent Order  
Management



Power  
Platform



Supply Chain  
Management

## Work with clients to co-create end-to-end solution



Modern  
Manufacturing  
and Operations  
Management



Supply Chain  
Management



Guides



Field  
Service

- Engineering Change Management
- Planning Optimization
- Inventory Visibility



Agile Supply  
Chain



Intelligent Order  
Management



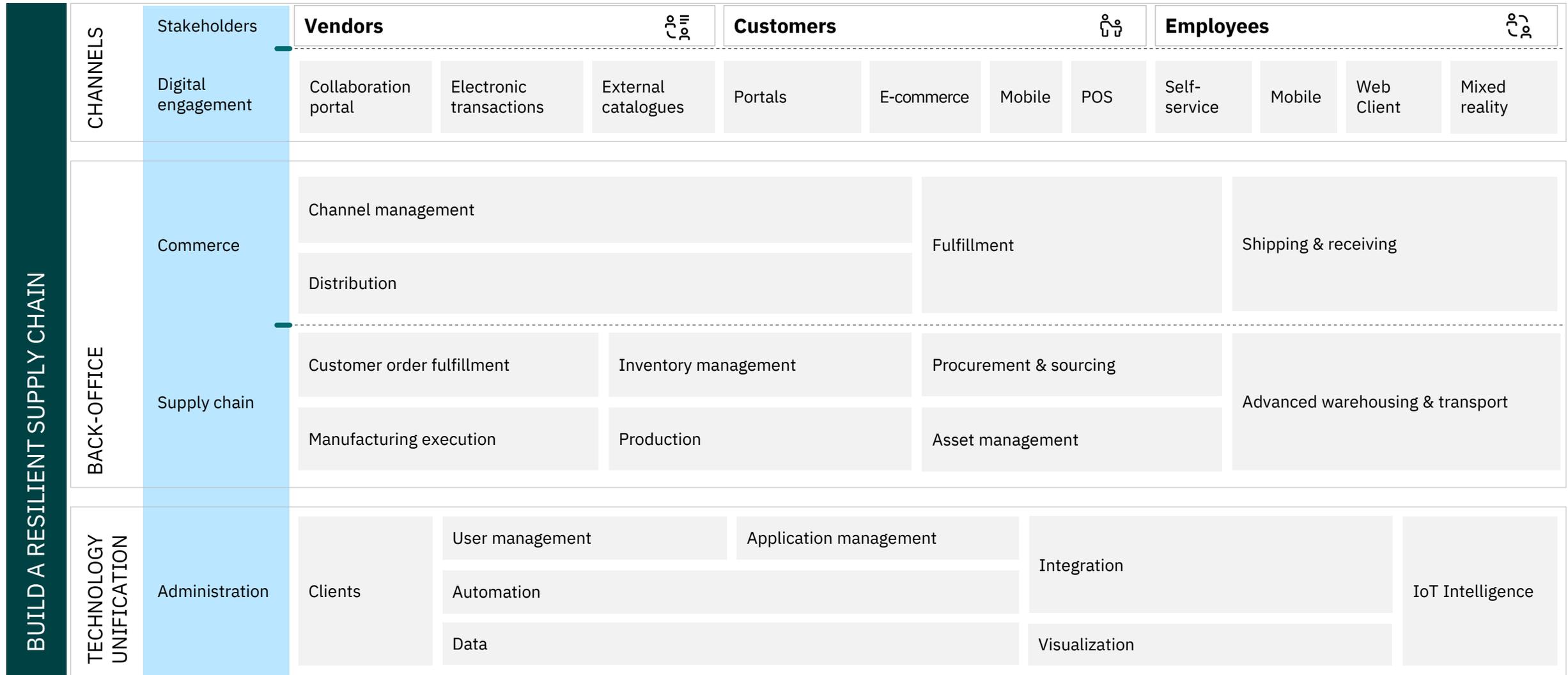
Supply Chain  
Management



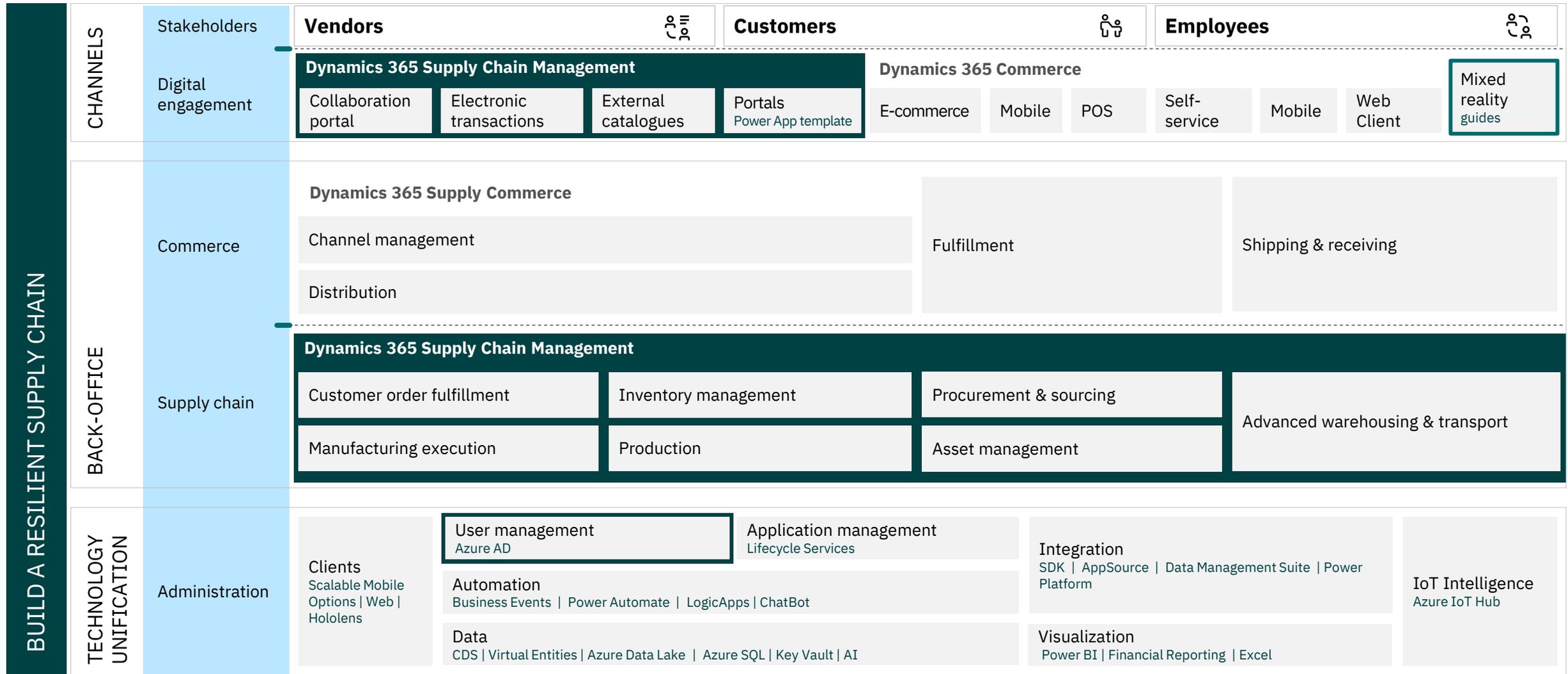
Power  
Platform

- Supply Chain Control Tower
- Demand Planning

# Functions enabling a resilient supply chain



# Microsoft ecosystem supports supply chain resiliency





# Enable organizations to create a resilient supply chain with Dynamics 365

Dynamics 365 provides the capabilities to enable organizations to create a resilient supply chain by enhancing visibility, gaining planning agility and maximizing asset uptime to operate profitably during disruptions.



## Asset productivity

Evolve asset maintenance



## Intelligent Manufacturing Operations Management

Streamline production lifecycle  
Innovate with intelligent Manufacturing operations



## Intelligent fulfillment

Automate and optimize fulfillment  
Automate & Simplify returns

Manage the entire cycle in supply chain via Control tower

# Asset Productivity

- Dynamics 365 for Supply Chain provide capabilities to simplify and enhance asset management
  - Manage the full lifecycle for an asset while keeping track of asset locations and hierarchies.
  - Supports various types of maintenance to more effectively plan and predict maintenance:
    - Reactive maintenance
    - Preventive maintenance
    - Condition-based maintenance
    - Predictive maintenance
    - Prescriptive maintenance

**Reactive** only repairs prompted by machine failure or worker request.

**Preventative** Maintenance repairs and services based on a fixed schedule regardless of condition.

Includes **Condition-based** maintenance which is continuously monitors operating parameters to assess health and indicate maintenance, and **Predictive** maintenance by analysing real-time (or near real-time) data used to identify asset reliability risks.

**Prescriptive** maintenance users advanced analytics to make predictions about maintenance and recommends or prescribes corrective actions based on cognitive technology such as ML and AI.

Breakdown

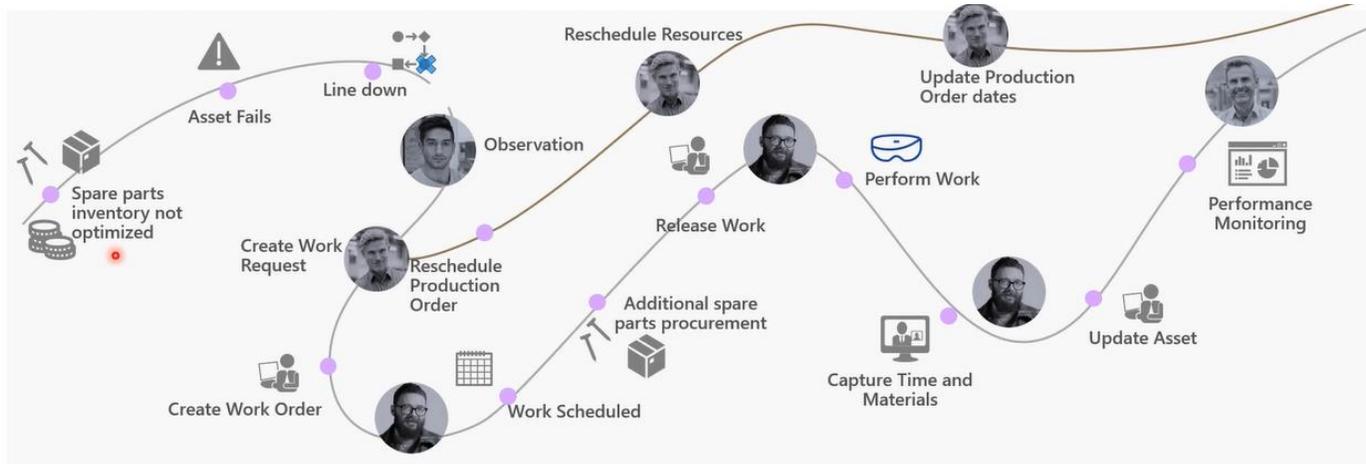
Scheduled

Connected

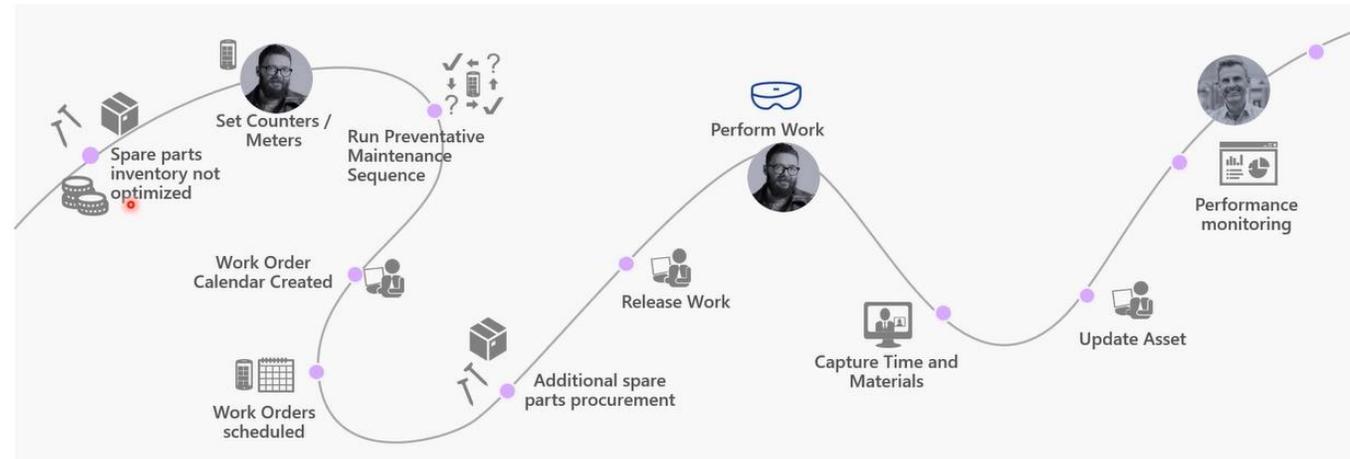
Intelligent

# Reactive & Preventive Maintenance

## Reactive Maintenance



## Preventive Maintenance

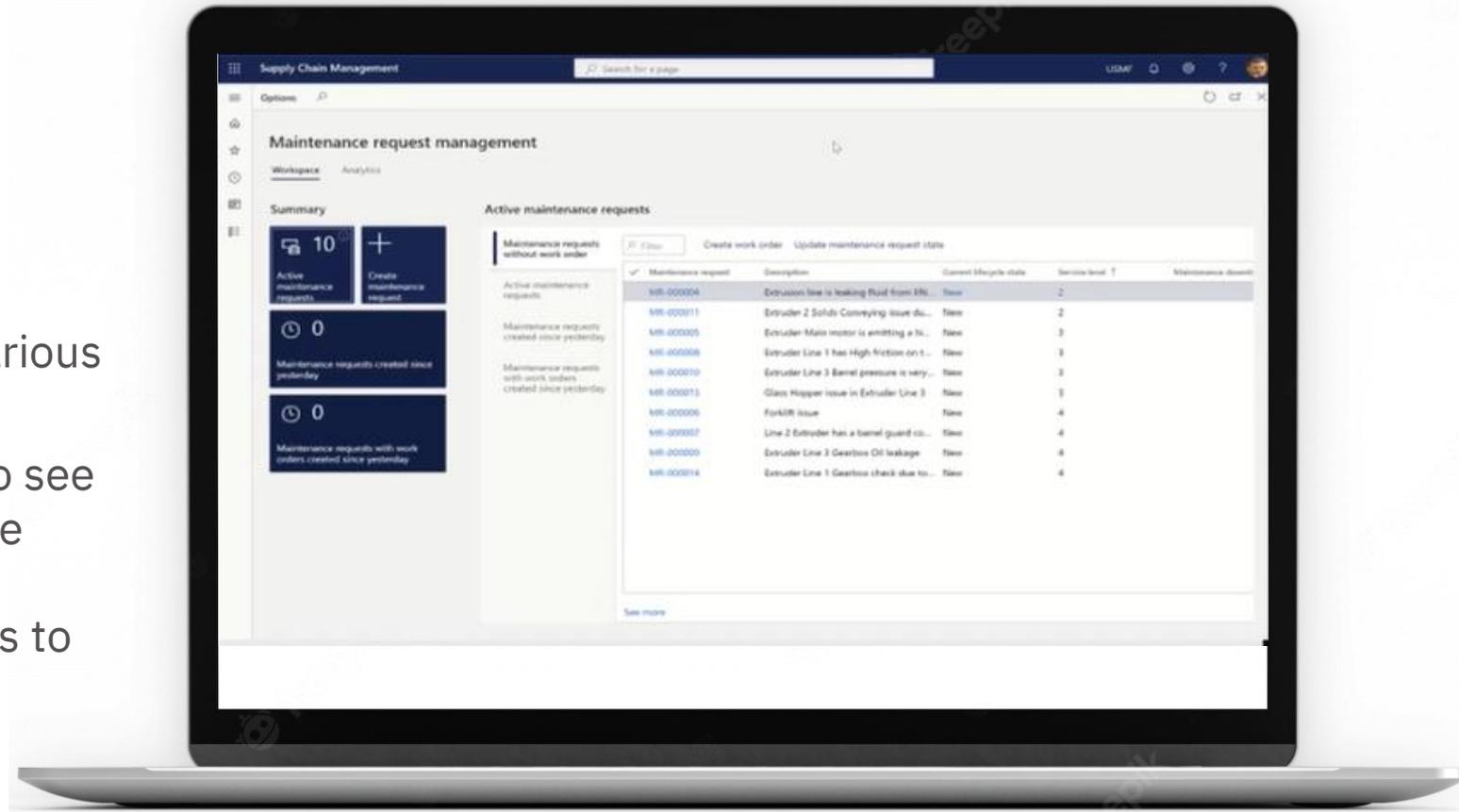


# Preventive Maintenance



## Meet asset useful service life

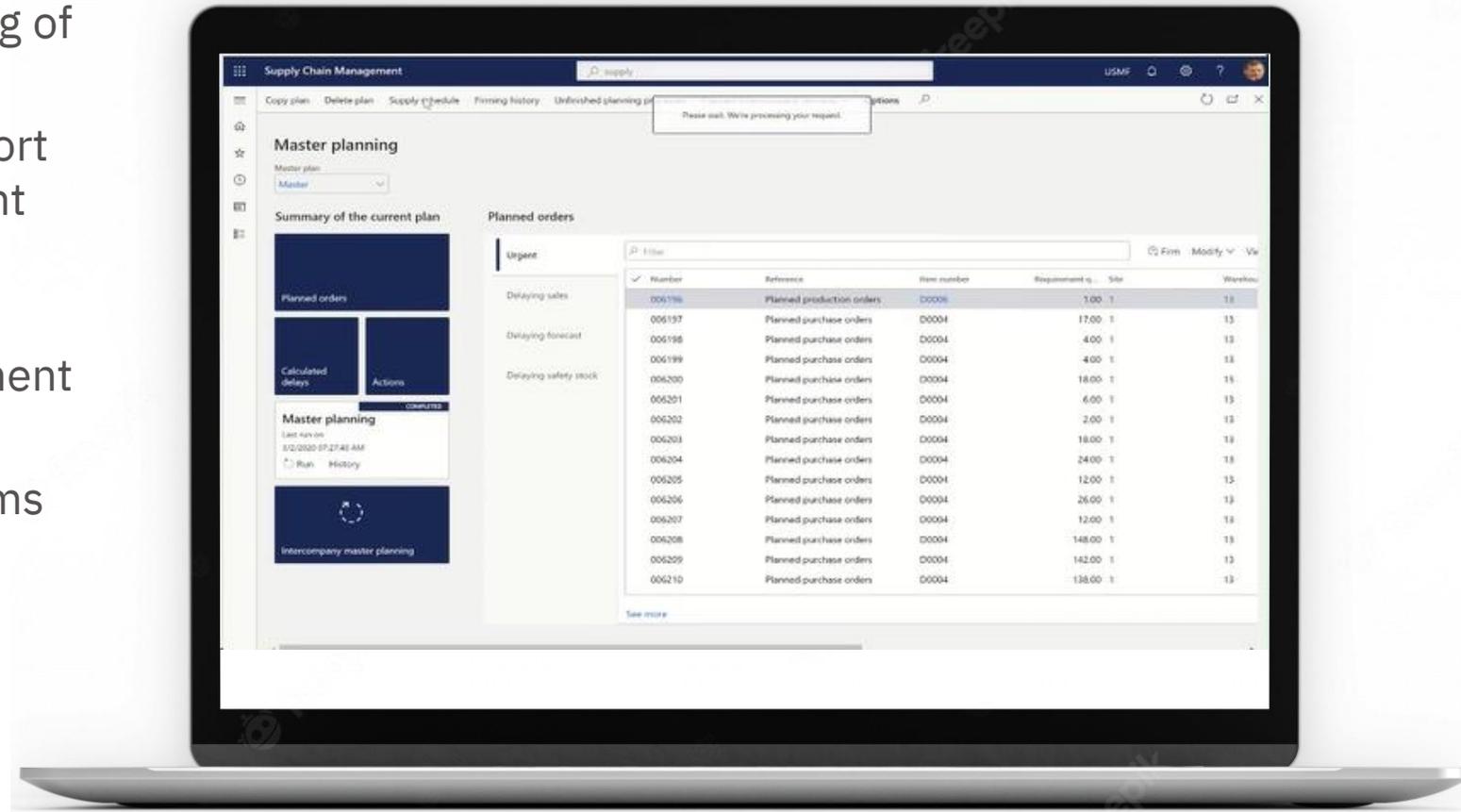
- Schedule Maintenance with work orders
- Plan for spare parts procurement
- Reduce asset downtime
- Reduces unplanned downtime
- Create maintenance rounds for various assets
- View the maintenance schedule to see a list of all the expected preventive maintenance plans, maintenance requests, and maintenance rounds to be carried out



# Preventive Maintenance

## Efficiently manage spare parts

- Fully integrated inventory planning of spare parts
- Flexible and configurable to support various inventory and procurement policies
- Supports shared services vs decentralized inventory management
- Power automate/RPA based integration to procurement systems



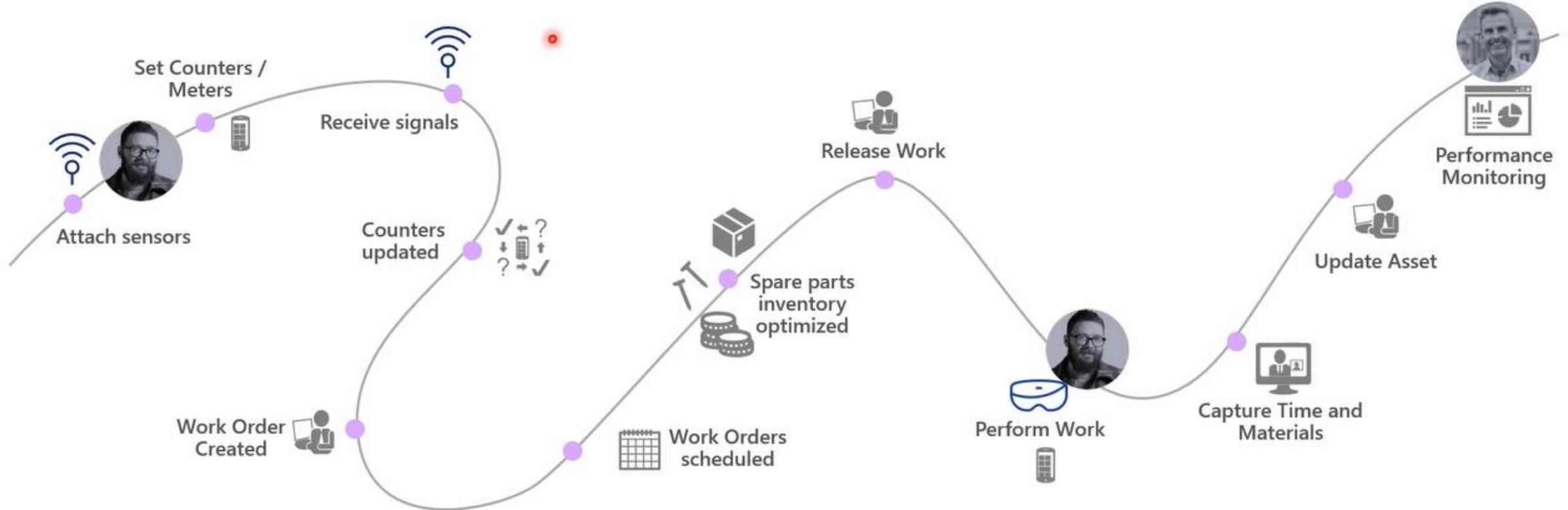
# Business Benefits of Preventive/Scheduled Maintenance

- Improve workforce safety with handsfree delivery of work instruction
- 8% to 12% maintenance cost savings over a reactive maintenance program (IDC)
- Increase asset life span
- Reduces unplanned downtime
- More efficient use of energy and resources



# Connected Maintenance (Condition-Based & Predictive)

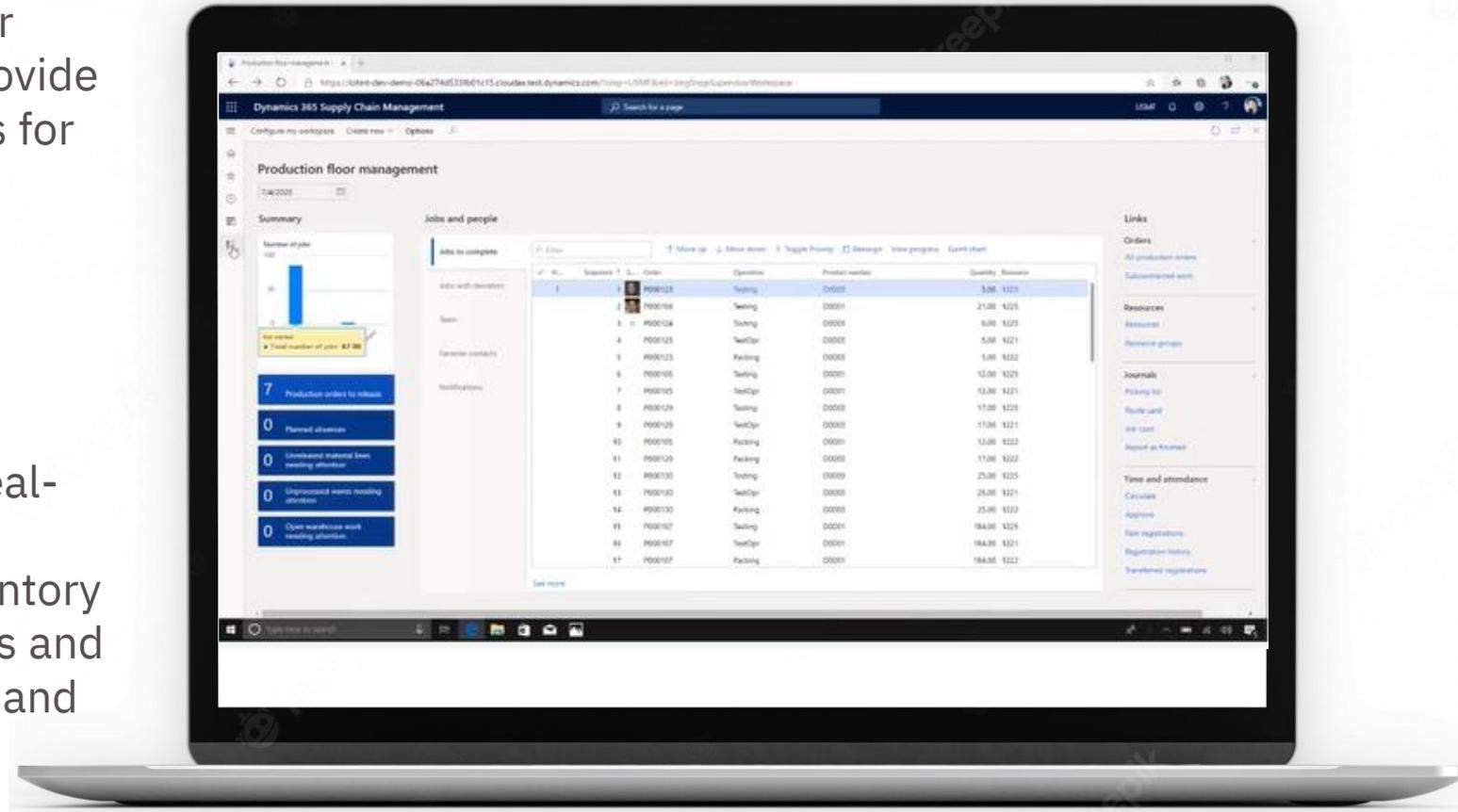
## Preventive Maintenance



# Connected Maintenance

## Increase useful service life

- Ingest parametric data and sensor telemetry via Azure IoT Hub to provide contextual visualization and alerts for maintenance scenarios
- Implement condition-based maintenance alerts to eliminate machine down-time and increase throughput
- Monitor production flow in near real-time to eliminate waste and unnecessary work in process inventory remotely, using temperature limits and other settings to conserve energy and reduce costs

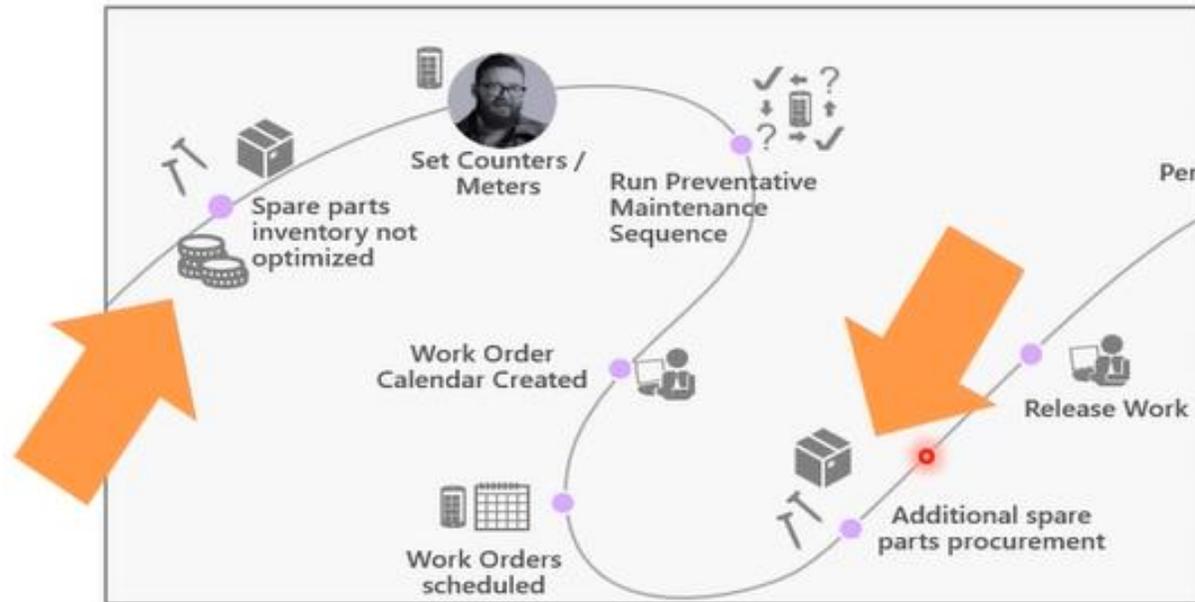




# Connected Maintenance

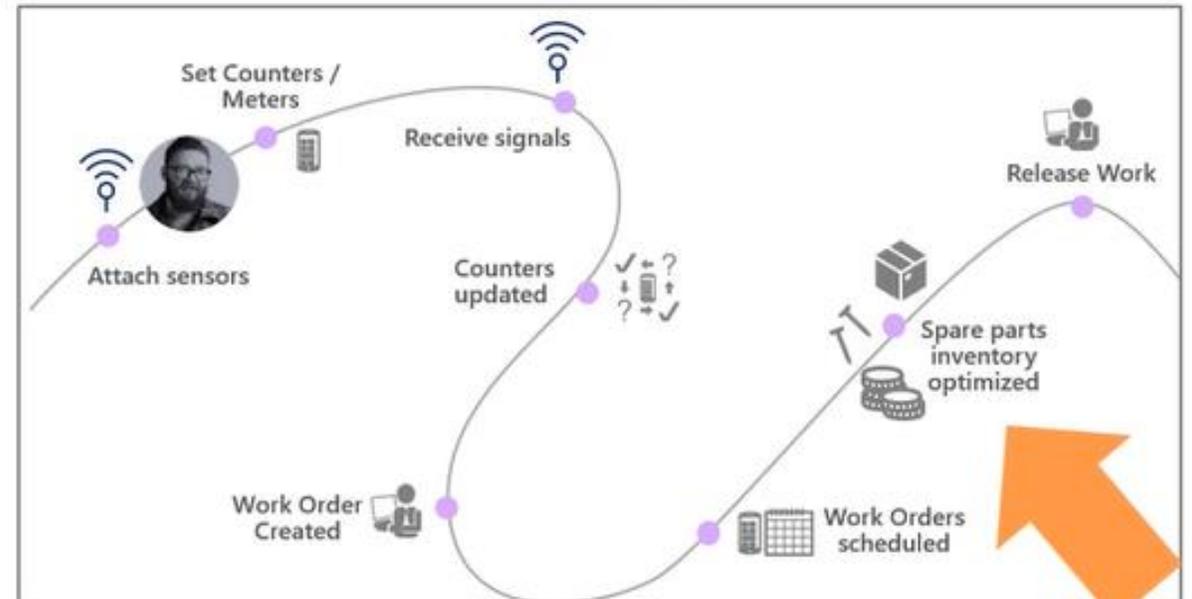
## Efficiently Manage Spare Parts

### Scheduled



Inventory On Hand

### Connected

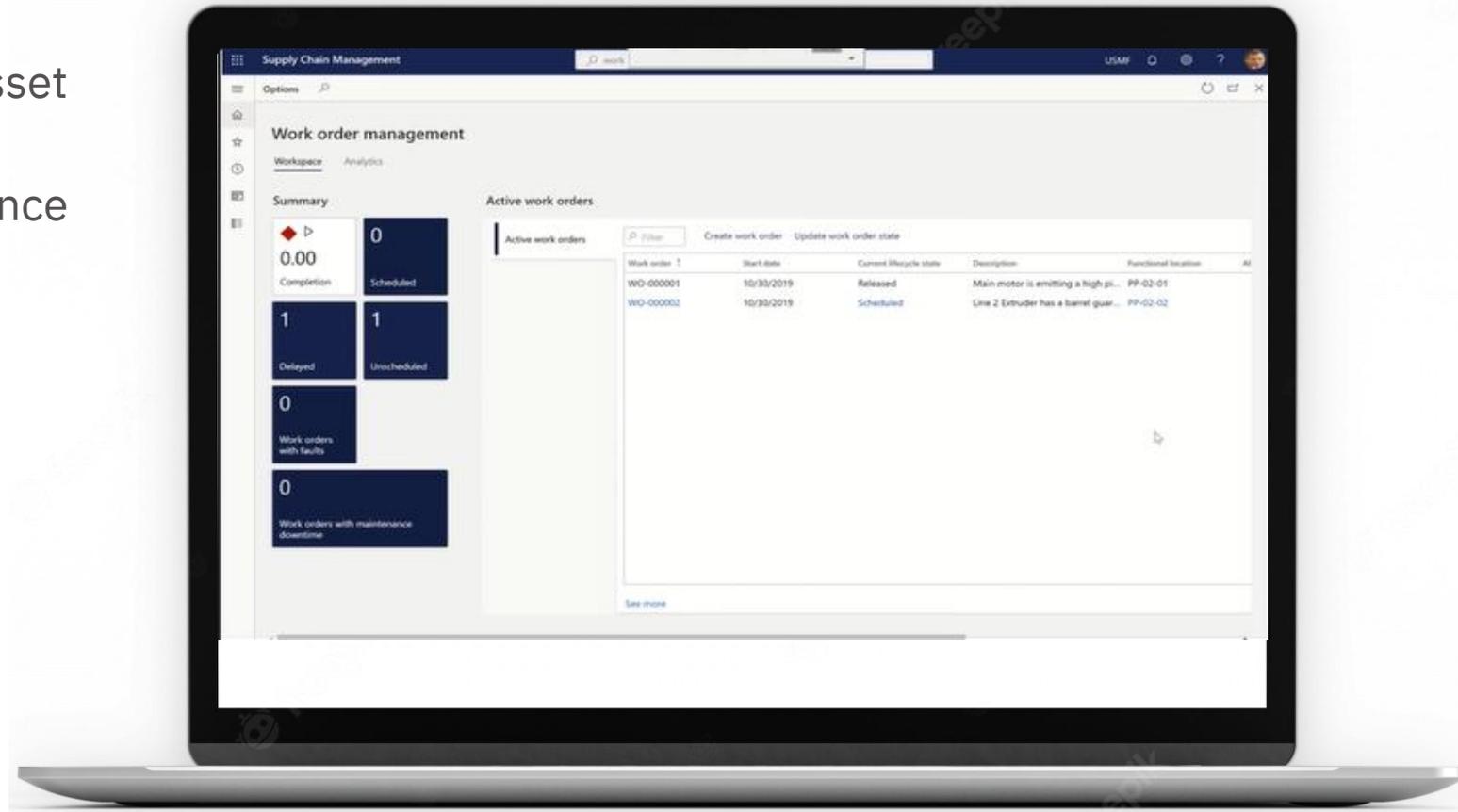


Inventory On Hand

# Connected Maintenance

## Improve throughput, quality and uptime

- Track assets with an enterprise asset management system
- Collect asset usage and maintenance data real-time
- Sense failures
- Plan maintenance

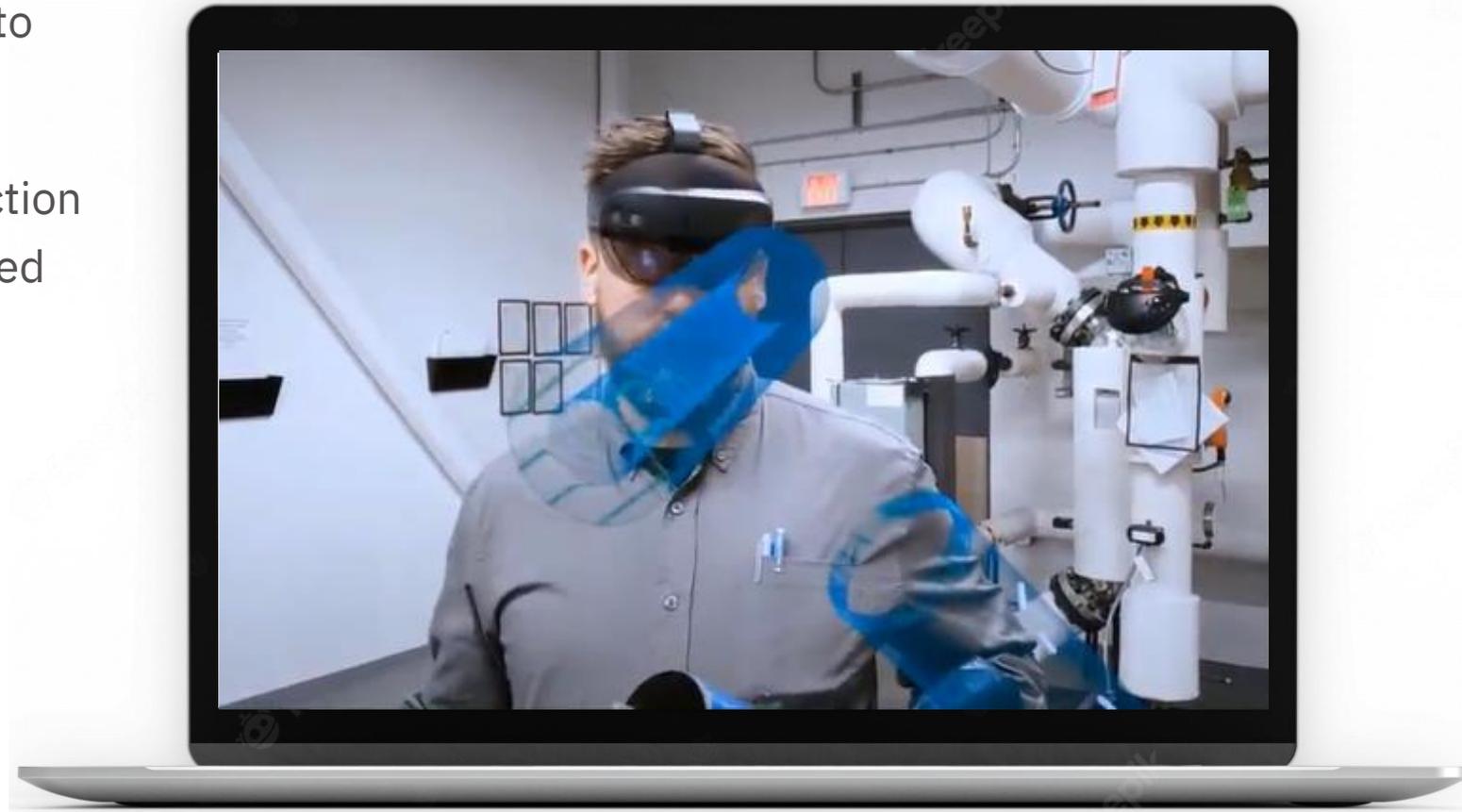


# Connected Maintenance



## Transform your workforce

- Enable frontline workforce adapt to increased business complexity
- Improve workforce safety with handsfree delivery of work instruction
- Eliminate costly errors with detailed work instructions
- Increase workforce efficiency

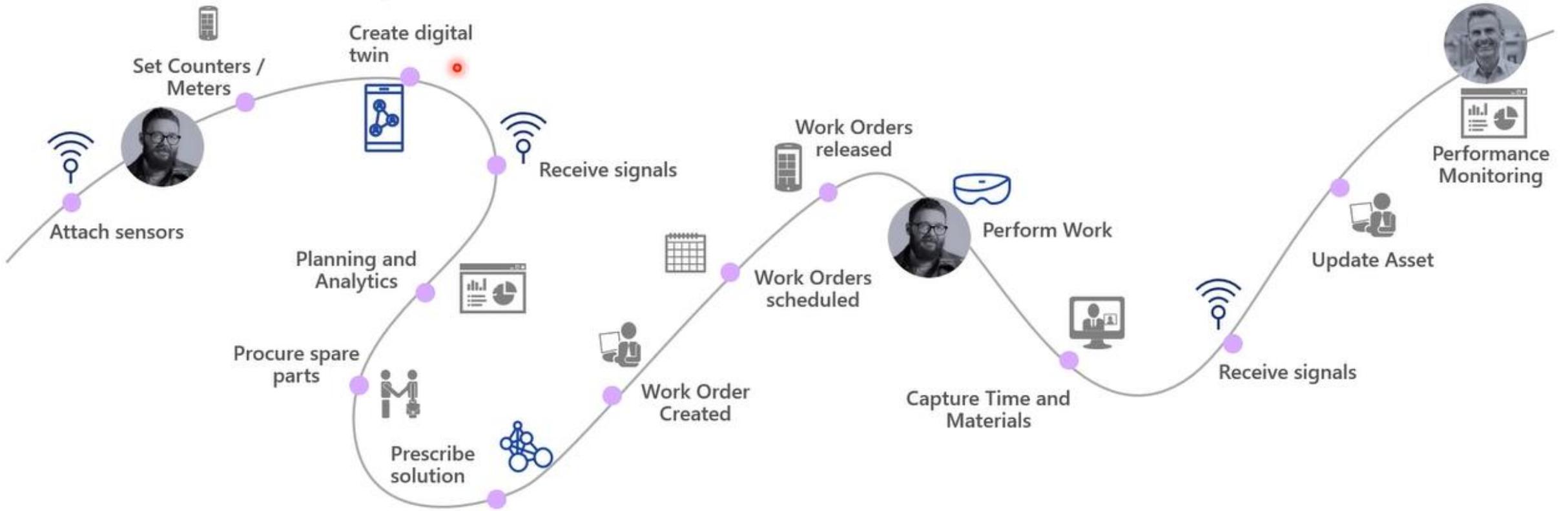


# Business Benefits of Connected Maintenance

- Reduce machine downtime by 30-50%
- Increase machine life by 20-40%
- Embedding new technology, such as augmented reality (AR), into the maintenance processes can reduce maintenance related expenses by 10-15%
- Impact on the following KPIs
  - Return on investment – 10 times
  - Reduction in maintenance cost – 25-30%
  - Elimination of breakdown – 70-75%
  - Reduction in downtime – 35-40%
  - Increase in production – 20-25%



# Prescriptive Maintenance

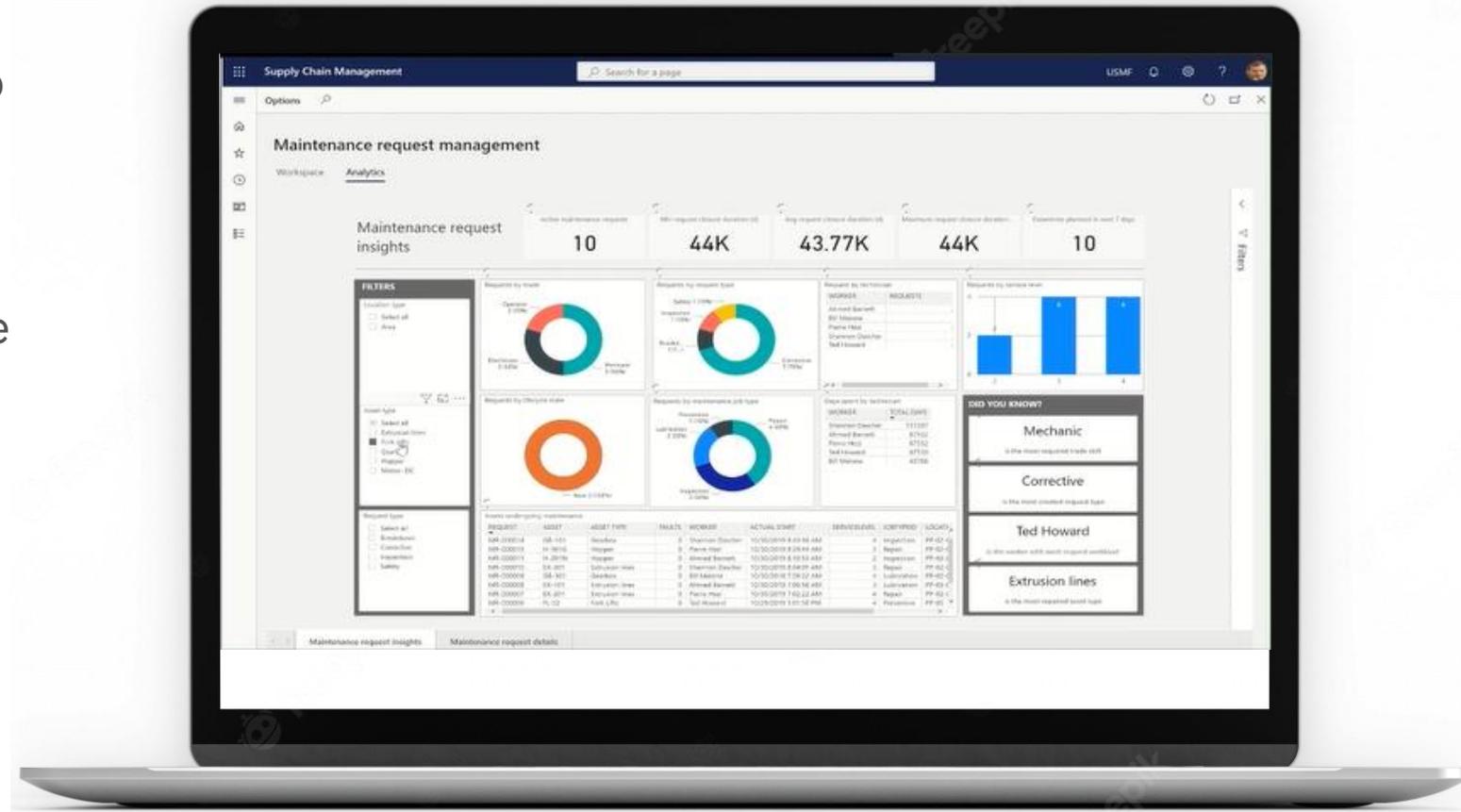


# Prescriptive Maintenance



## Maximize service life and reduce costly machine failures

- Move from predicting problems to prescribing solutions
- Leverage sensors and advanced analytics
- Integrate assets and maintenance systems

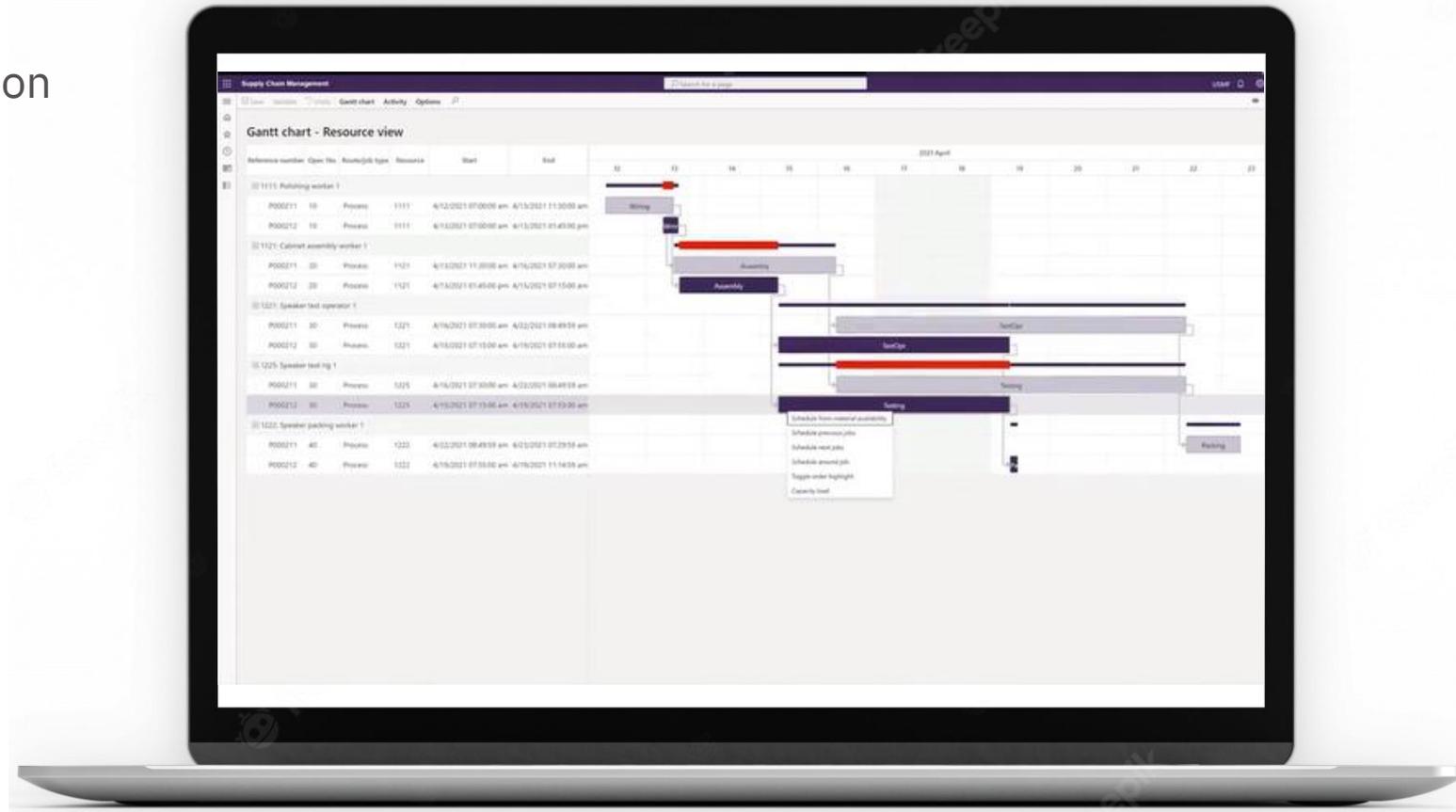


# Prescriptive Maintenance



**Improve throughput, quality and uptime**

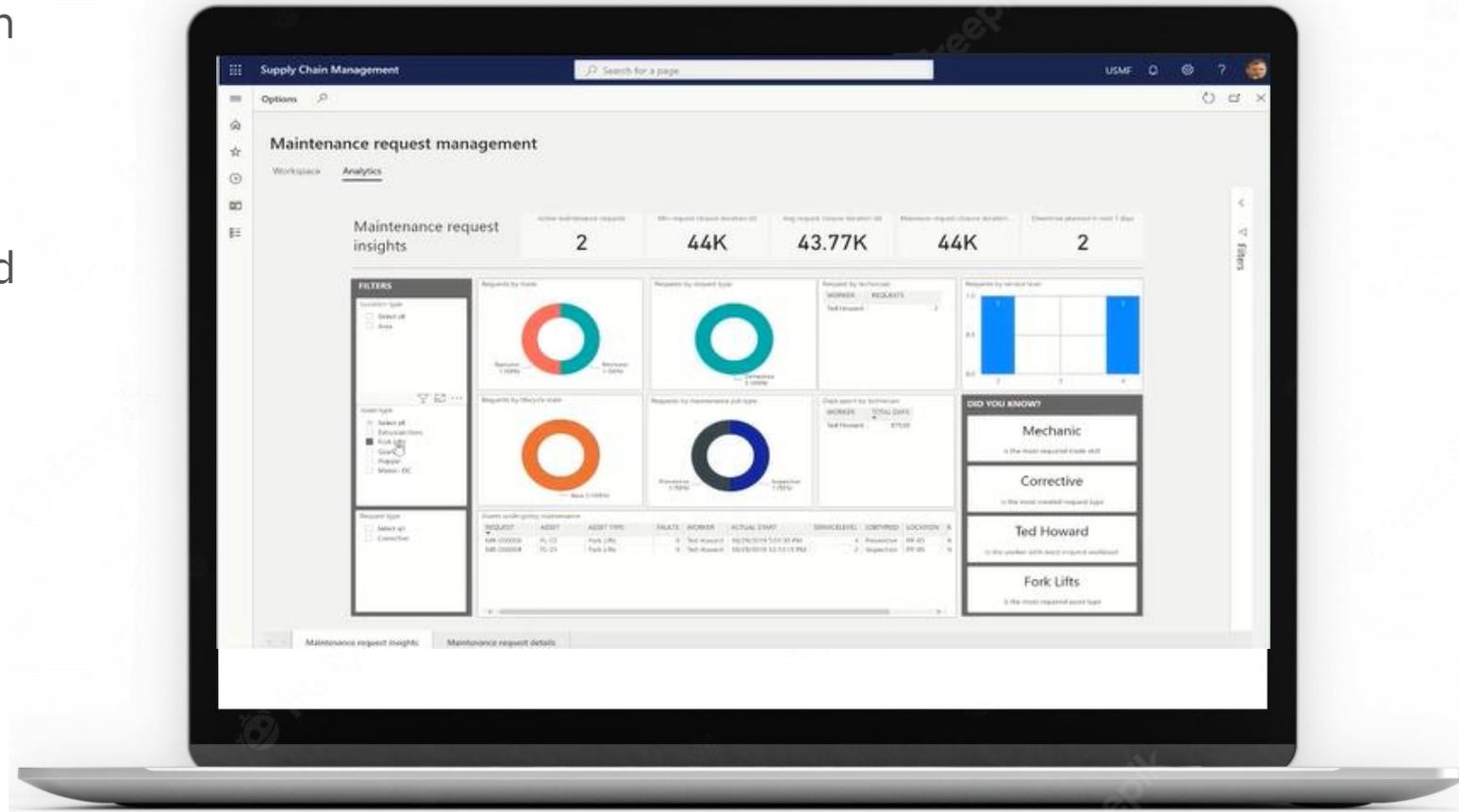
- Leverage the right scheduling option
- Optimize resource assignment
- Leverage real-time inventory management



# Prescriptive Maintenance

## Maintenance Insights

- Order the correct spare part just in time for maintenance
- Eliminate costly machine failures
- Transform the workforce with increased efficiencies, accelerated learning and worker safety





# Business Benefits of Prescriptive Maintenance

- Minimize equipment failure
- Reduce service cost
- Enable integration of maintenance data with quality and engineering data to enable key stakeholders make critical decisions
- Ensure appropriate resources are available while keeping costs to a minimum



# Enable organizations to create a resilient supply chain with Dynamics 365

Dynamics 365 provides the capabilities to enable organizations to create a resilient supply chain by enhancing visibility, gaining planning agility and maximizing asset uptime to operate profitably during disruptions.



## Asset productivity

Evolve asset maintenance



## Intelligent Manufacturing Operations Management

Streamline production lifecycle  
Innovate with intelligent Manufacturing operations



## Intelligent fulfillment

Automate and optimize fulfillment  
Automate & Simplify returns

Manage the entire cycle in supply chain via Control tower

# Intelligent manufacturing operations management



## Track the entire production lifecycle

- Manage the steps required to manufacture products—from creation to when a product is ready for shipment
- Integrate with production control modules to improve accuracy and efficiency of production, planning, and reporting
- Combine discrete, process, and lean sourcing with mixed mode planning and model your supply chain based on the material flow
- Easily create a production order, batch order, or Kanban manually, or configure the system to generate them based on various demand signals

The screenshot displays the Dynamics 365 Supply Chain Management interface. The main area shows a table of production orders with columns for Production, Item number, CW quantity, CW unit, Quantity, Report remain., Delivery, Status, and Remain status. The table lists various production orders, with the first one (P003586) highlighted. To the right, there are panels for 'Related information' (Production order details like Start date, End date, Delay, Priority) and 'Item details' (Product name: Cabinet, Item group: Audio, Coverage group). Below the table, the text 'Dynamics 365 Supply Chain Management' is overlaid.

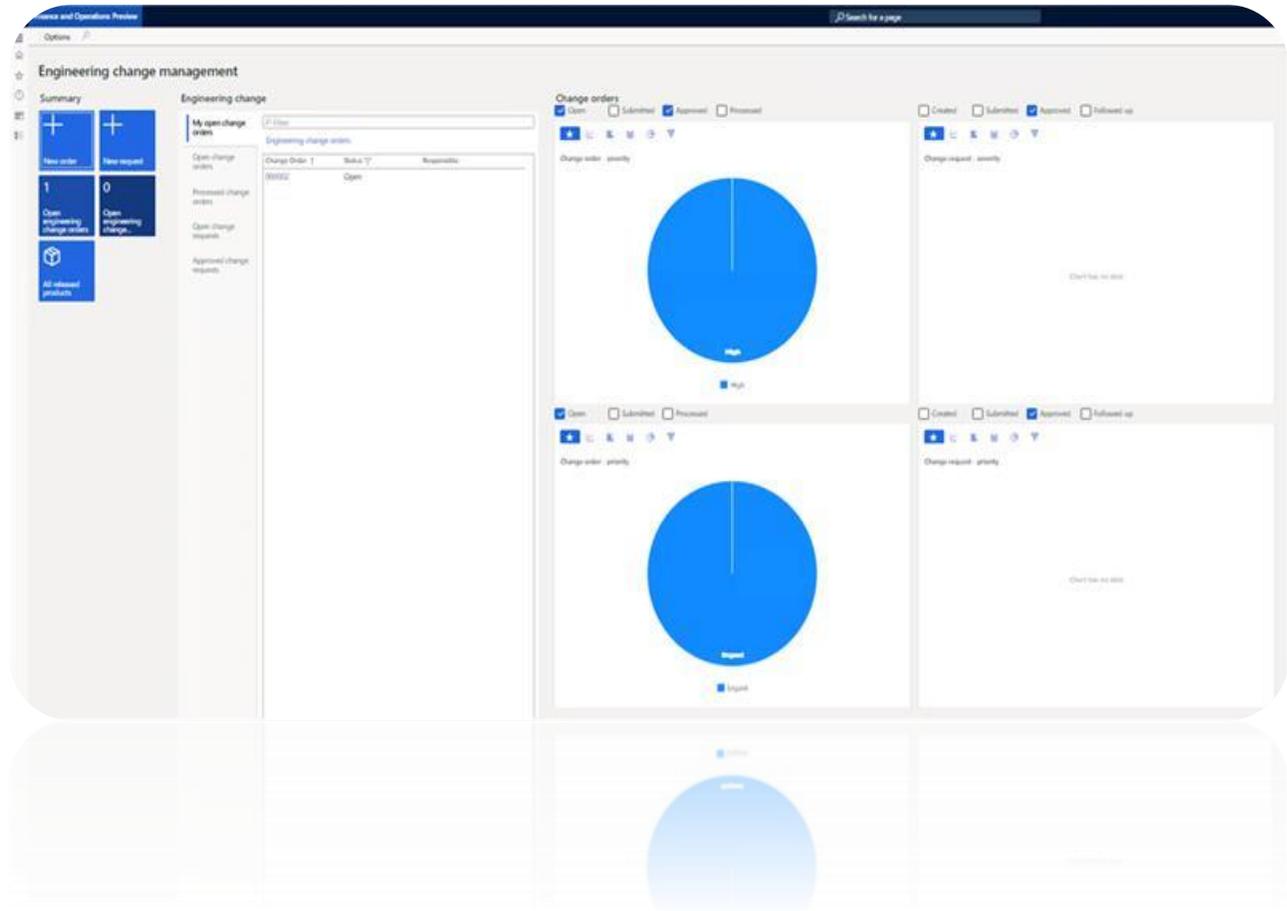
Production	Item number	CW quantity	CW unit	Quantity	Report remain.	Delivery	Status	Remain status
P003586	SP-DCM1000			2.00	2.00	6/17/2020	Created	
P003561	3D-P2000			1.00		6/4/2020	Reported as finished	Ended
P003560	3D-P2000			1.00	1.00	6/4/2020	Started	Route consumption
P003551	D0002			100.00		1/10/2020	Reported as finished	Ended
P003550	D0002			100.00		1/11/2020	Reported as finished	Ended
P003549	D0002			100.00		1/12/2020	Reported as finished	Ended
P003548	D0002			100.00		1/13/2020	Reported as finished	Ended
P003547	D0002			100.00		1/14/2020	Reported as finished	Ended
P003546	D0002			100.00		1/15/2020	Reported as finished	Ended
P003545	D0002			100.00		1/16/2020	Reported as finished	Ended
P003544	D0002			100.00		1/17/2020	Reported as finished	Ended
P003543	D0002			100.00		1/18/2020	Reported as finished	Ended
P003542	D0002			100.00		1/19/2020	Reported as finished	Ended
P003541	D0002			100.00		1/20/2020	Reported as finished	Ended
P003540	D0002			100.00		1/21/2020	Reported as finished	Ended
P003539	D0002			100.00		1/22/2020	Reported as finished	Ended
P003538	D0002			100.00		1/23/2020	Reported as finished	Ended
P003537	D0002			100.00		1/24/2020	Reported as finished	Ended
P003536	D0002			100.00		1/25/2020	Reported as finished	Ended
P003535	D0002			100.00		1/26/2020	Reported as finished	Ended
P003534	D0002			100.00		1/27/2020	Reported as finished	Ended
P003533	D0002			100.00		1/28/2020	Reported as finished	Ended
P003532	D0002			100.00		1/29/2020	Reported as finished	Ended

# Intelligent manufacturing operations management



## Engineering change management

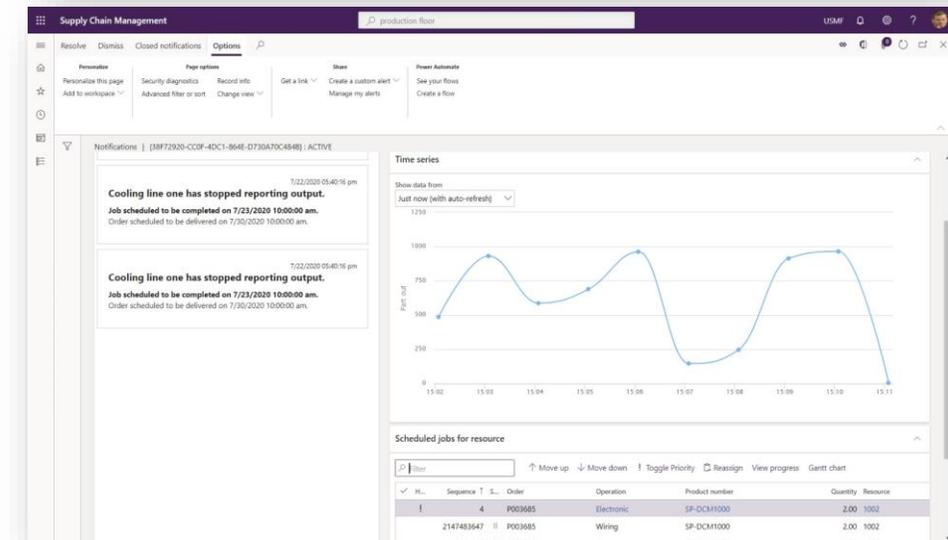
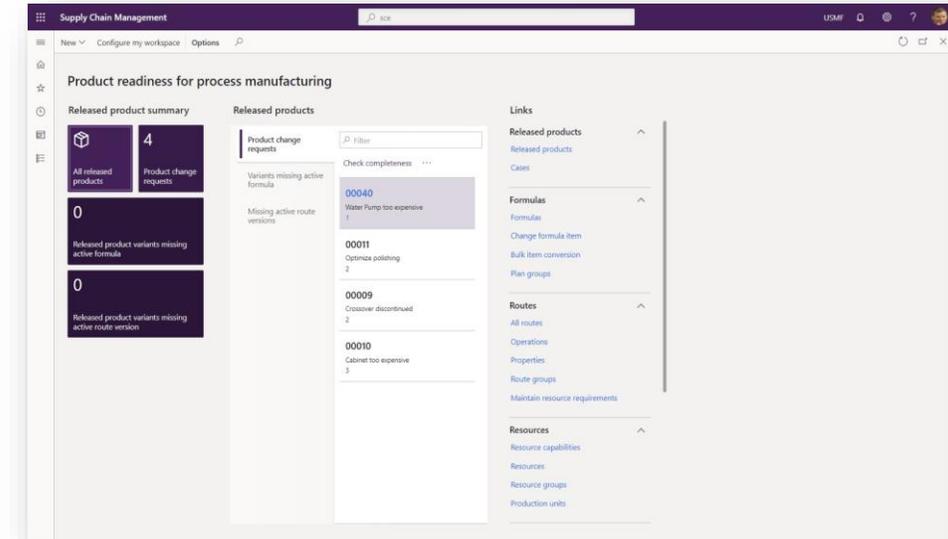
- Overcome disruptions due to quality issues and obsolete parts by responding to quality issues faster
- Document and assess the impact of applying engineering changes through the entire lifecycle of the product
- Eliminate manual errors setting up BOMs and inventory when new parts are activated and old are depreciated or obsolete
- Easily collaborate with manufacturing engineers, project managers, and materials managers when aligning on ECOs or write off non-conforming inventory
- Improve visibility on the production floor
- Ensure compliance with regulatory and safety standards



# Innovate with intelligent Manufacturing operations

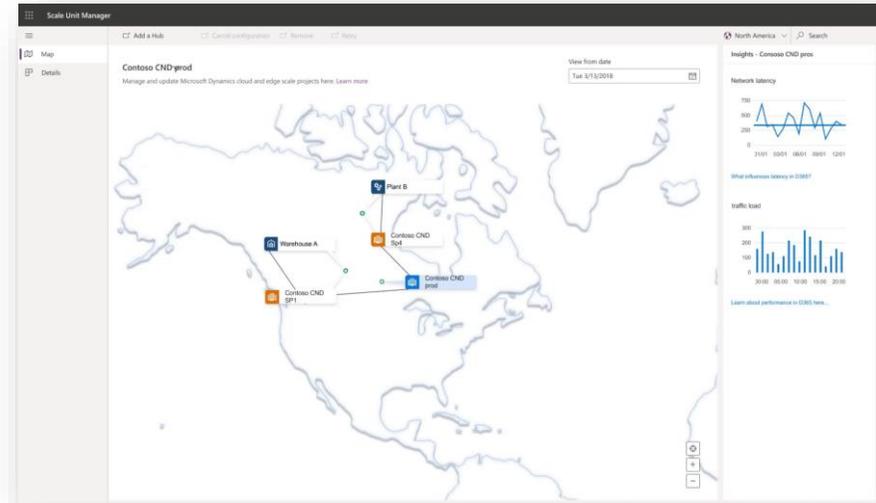
Support discrete, process, and lean manufacturing with make-to-stock, make-to-order, configure-to-order, and engineer-to-order strategies

Implement sustainable and adaptable manufacturing processes that use AI, the Internet of Things (IoT), and mixed reality to accelerate time to market for new products

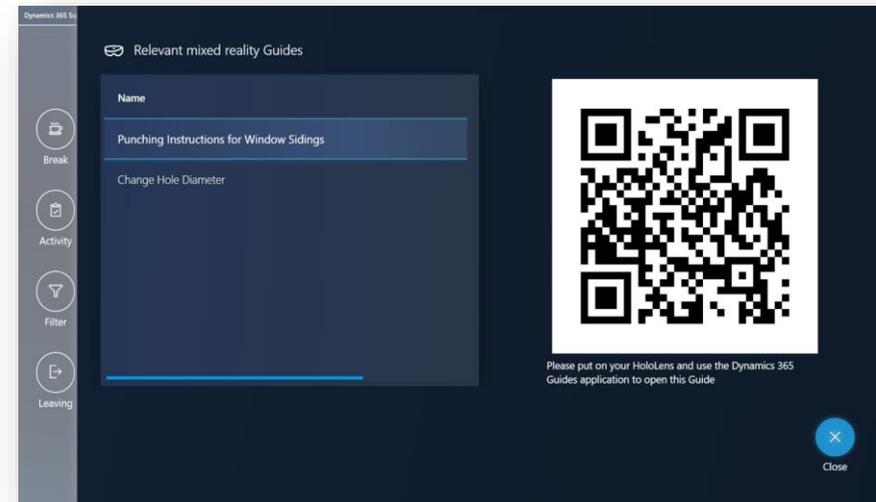


# Innovate with intelligent Manufacturing operations

Keep critical manufacturing processes running at high throughput on the cloud or at the edge in a distributed model and ensure business continuity in remote locations when disconnected from the cloud.



Improve safety, increase efficiency, and reduce errors by using the interactive holographic experience in Dynamics 365 Guides.



# Enable organizations to create a resilient supply chain with Dynamics 365

Dynamics 365 provides the capabilities to enable organizations to create a resilient supply chain by enhancing visibility, gaining planning agility and maximizing asset uptime to operate profitably during disruptions.



## Asset productivity

Evolve asset maintenance



## Intelligent Manufacturing Operations Management

Streamline production lifecycle  
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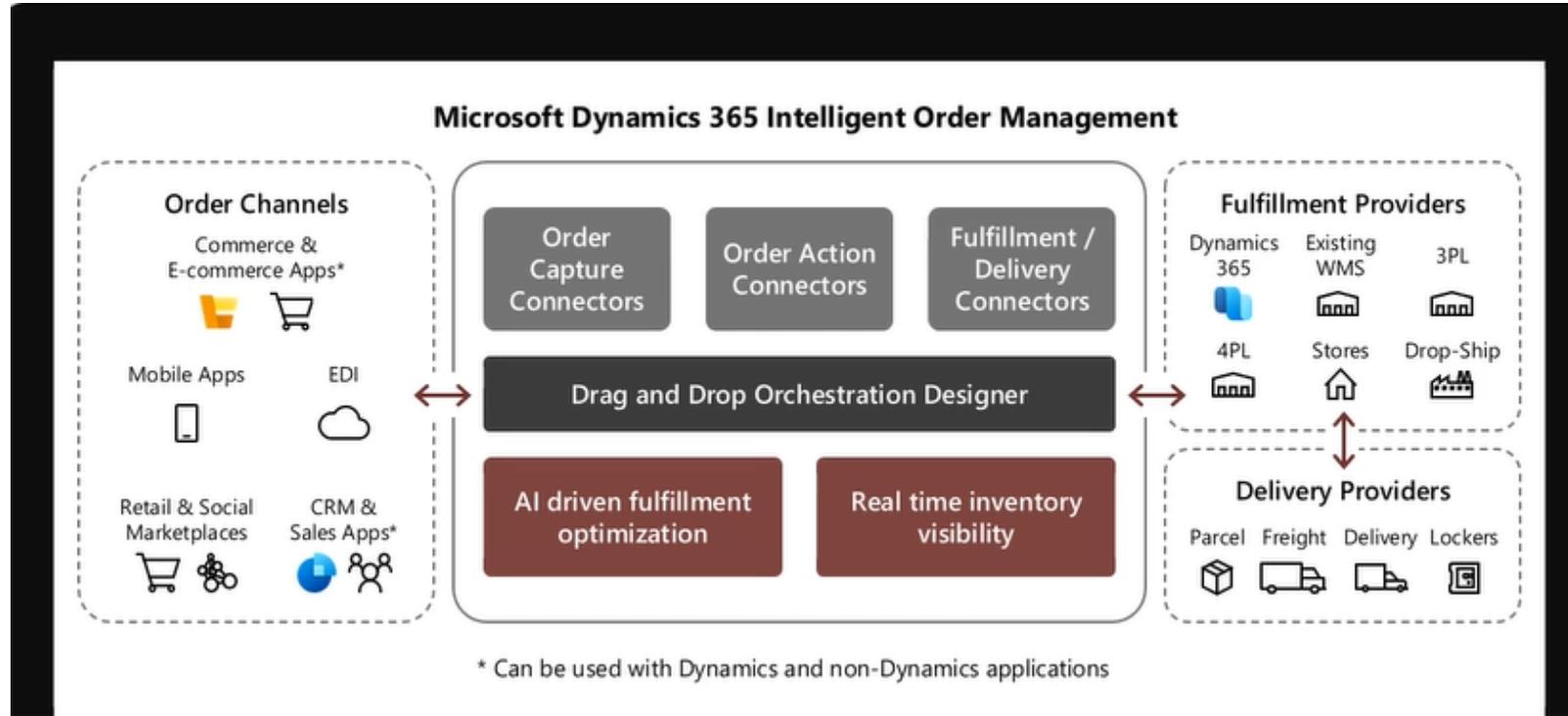
## Intelligent fulfillment

Automate and optimize fulfillment  
Automate & Simplify returns

Manage the entire cycle in supply chain via Control tower

# Intelligent Fulfilment

Dynamics 365 for Intelligent Order Management provides a powerful platform to automate and optimize fulfilment, manage the entire order lifecycle, enhance customer experience while enabling organizations to adapt quickly to changing business models.



## Modern Open Platform

Pre-built Platform connectors  
Existing enterprise system integration  
No-limit cloud scalability

## Intelligent Fulfillment

Event driven orchestration AI & rules-based fulfilment  
Streamlined return management

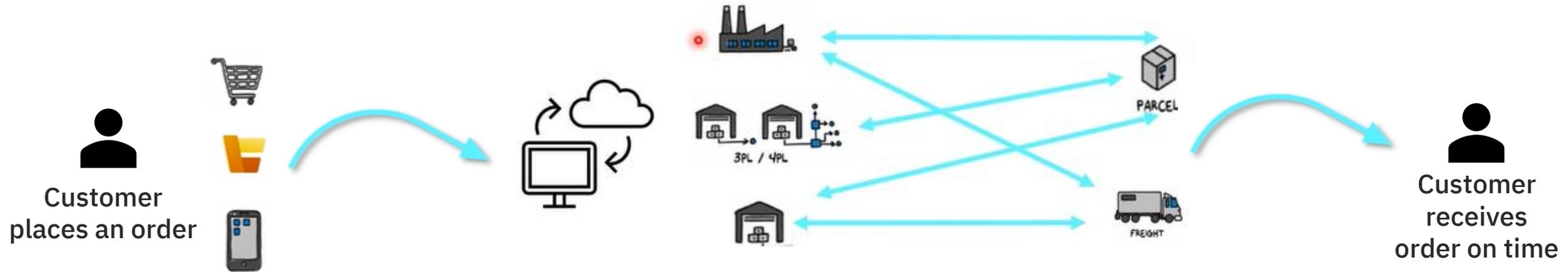
## Real-time Visibility

Actionable fulfilment insights  
Omnichannel inventory data Cross-organization single order view



# Automate & Optimize Fulfilment

The application provides enhanced capability to automate and optimize fulfilment. It reviews all the inventory positions across enterprise, considers the delivery methods, considering both cost and transit time for each option and then selects an appropriate retail location.



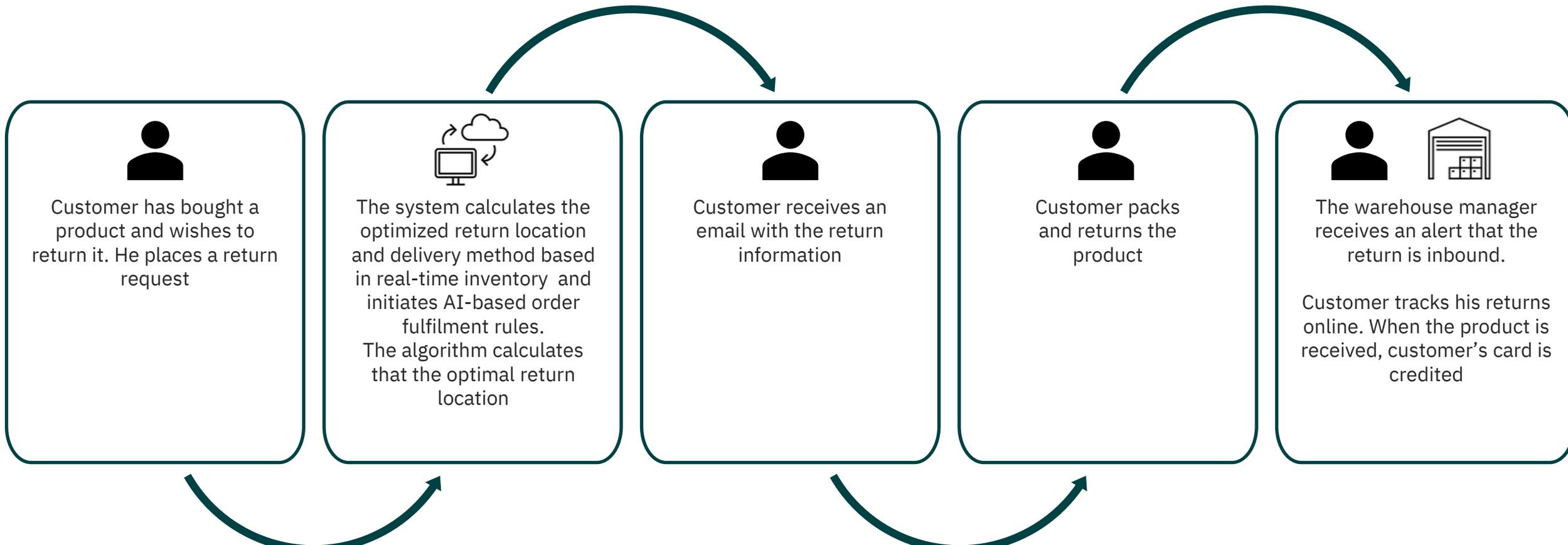
System reviews all the inventory positions across enterprise, considers the delivery methods, considering both cost and transit time for each option.

System calculates an optimized order promise date and updates the order real-time.

# Automate & Optimize Returns

**Reduce the cost of returns by streamlining them using Intelligent Order Management.**

With many teams involved in managing the process, the information has to be available in a way that's digestible and actionable for each decision maker. Dynamics 365 consolidates all the details from multiple fulfilment centres, shipping carriers and suppliers and uses AI algorithms to streamline the process.

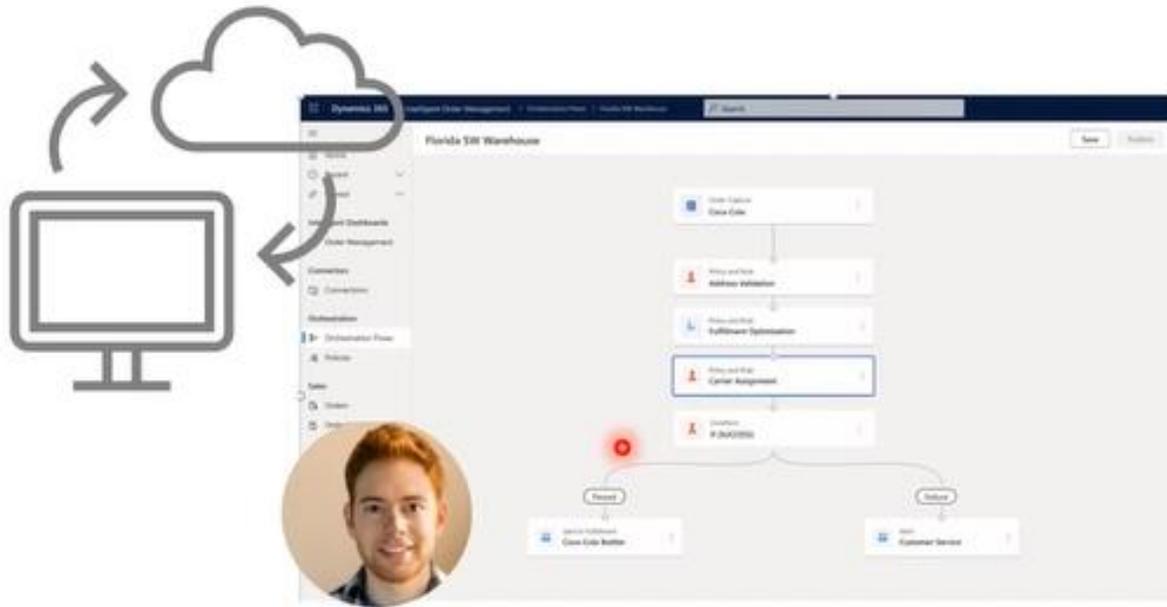


# Adapting to changing business models

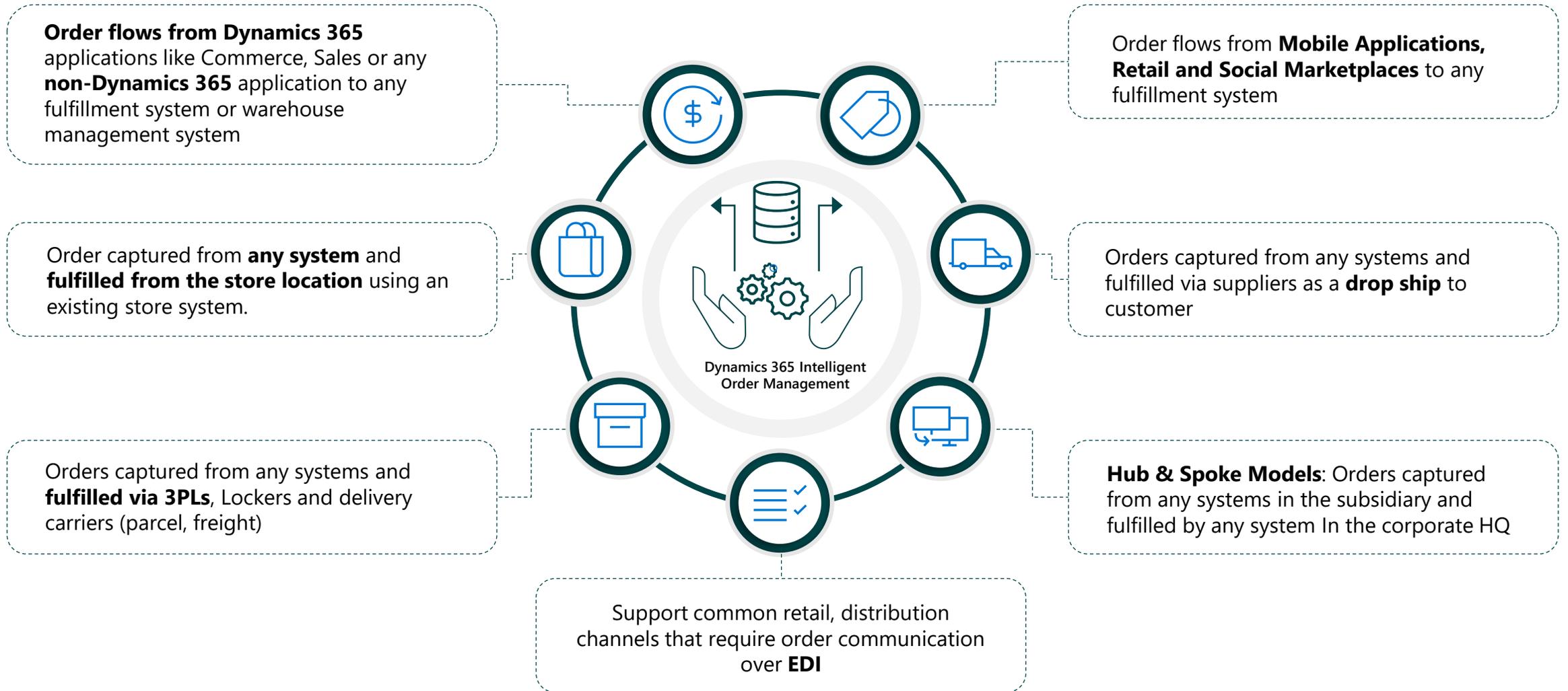
It enables the users to model the journey for the entire enterprise and configure rules-based exceptions in response to order fulfilment constraints with an easy-to-use journey orchestration designer tool.

The algorithm leverages machine learning to monitor the human responses and to build automated responses for future disruptions.

The model provides no-touch orchestration for complex omni-channel supply chains.



# Use cases / Possible Models



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# Business Benefits of Intelligent Fulfilment

## Increase Revenue

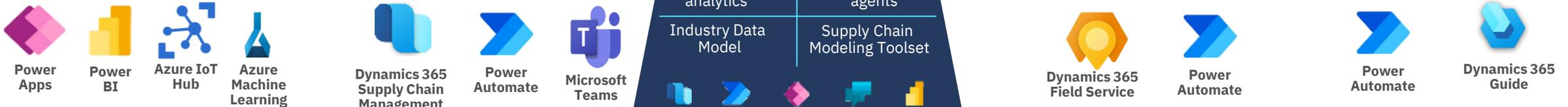
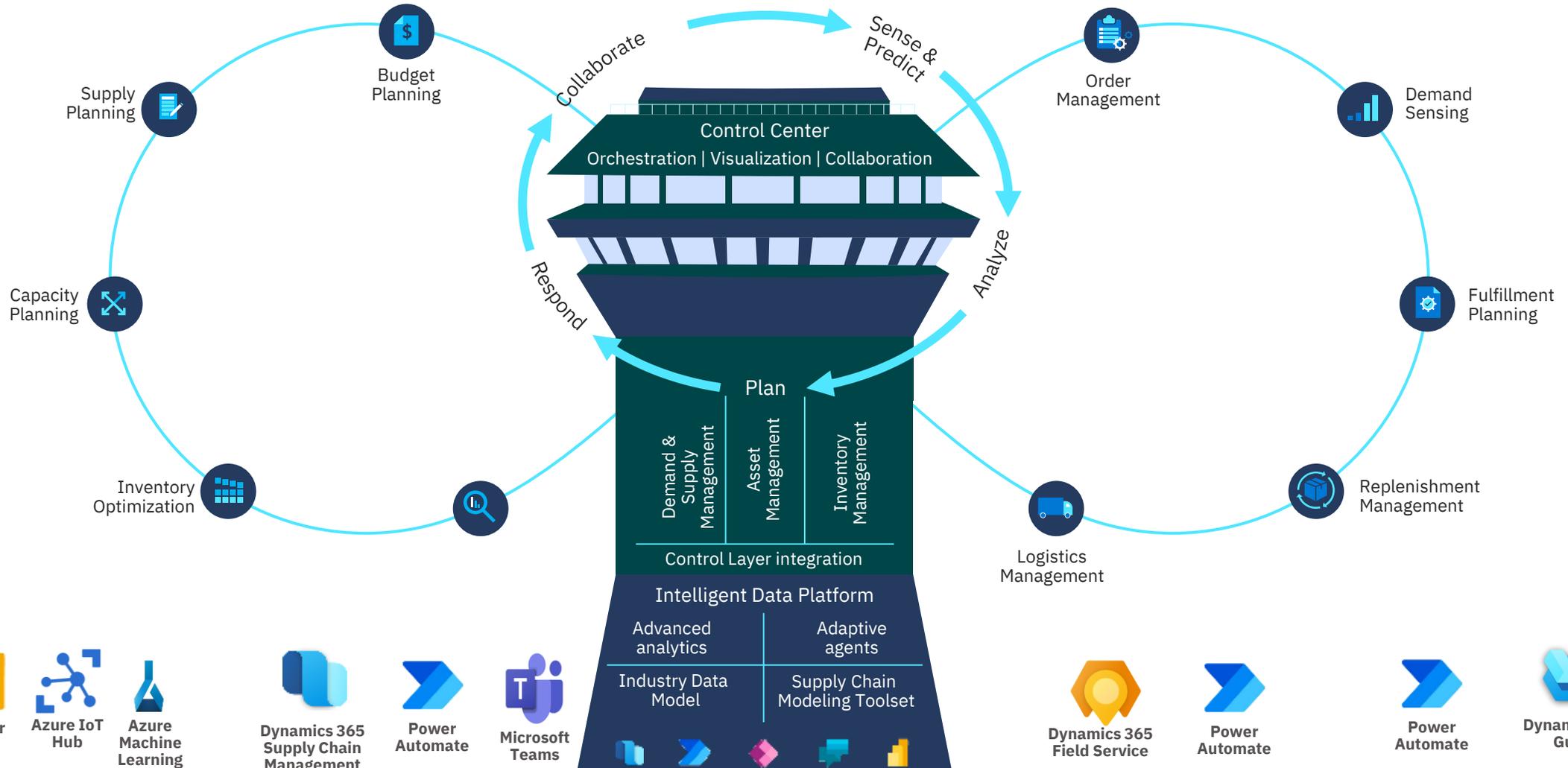
- Increase cashflow with better OTIF
- Easily add new order channels to expand market share
- Increase product margins with streamlined operations
- Enhanced customer experience and increased customer retention

- Efficient supply chain processes decrease operational costs
- The ability to model the order journey to address disruptions reduces expediting
- Reduced carrying costs
- Real time inventory and order tracking
- Improved forecasting and automated reporting

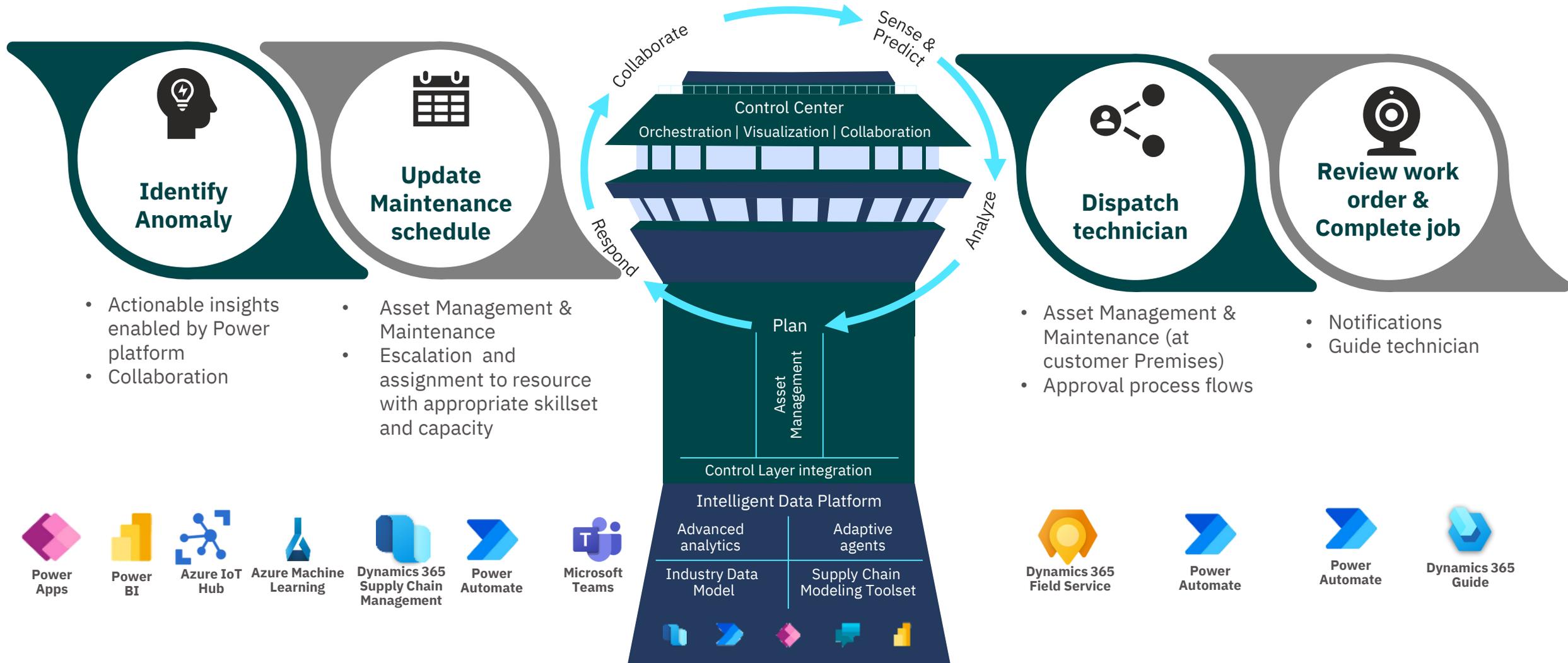
## Decrease costs

# Supply Chain Control Tower

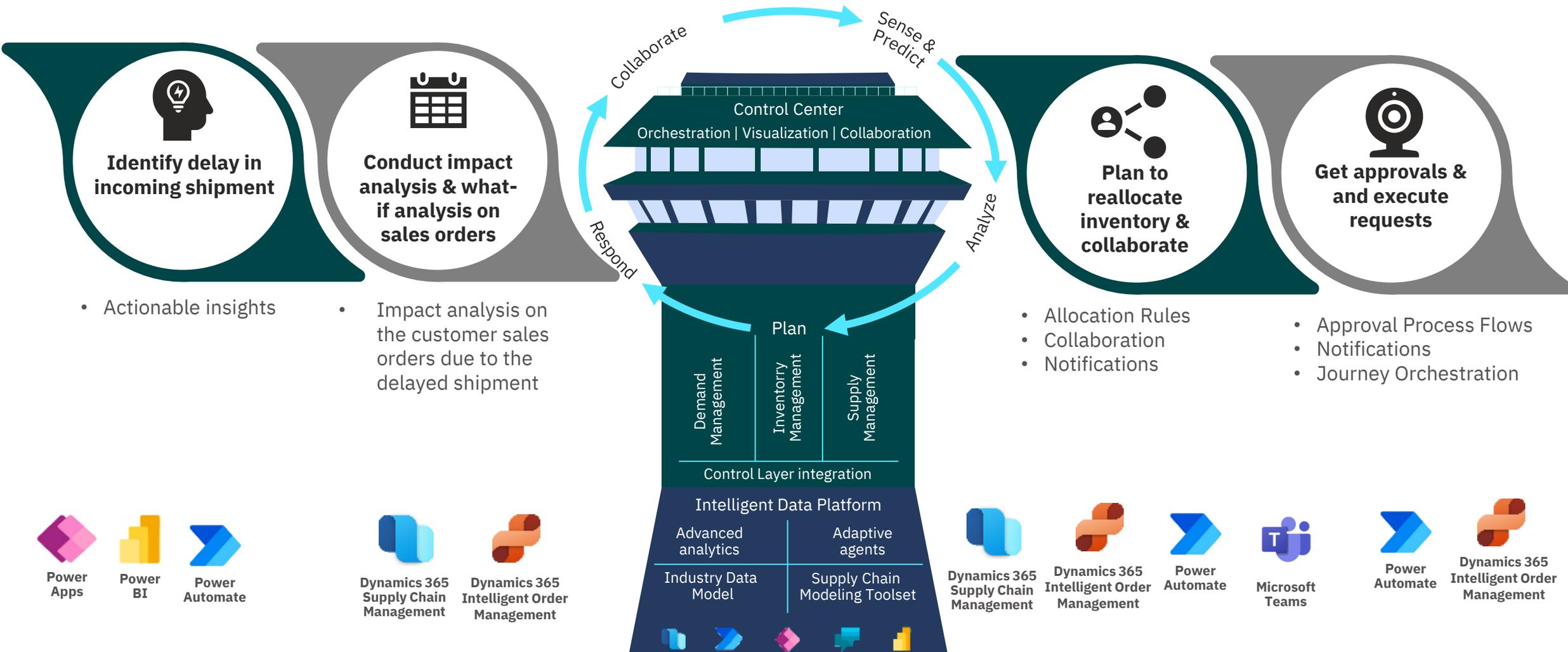
Enhance end-to-end visibility of your supply chain to become more agile by quickly sensing, analyzing and responding to upstream and downstream disruptions to stay profitable, increase market share, and reduce costs.



# Example - Control Tower for Asset Management



# Example - Control Tower for Fulfilment



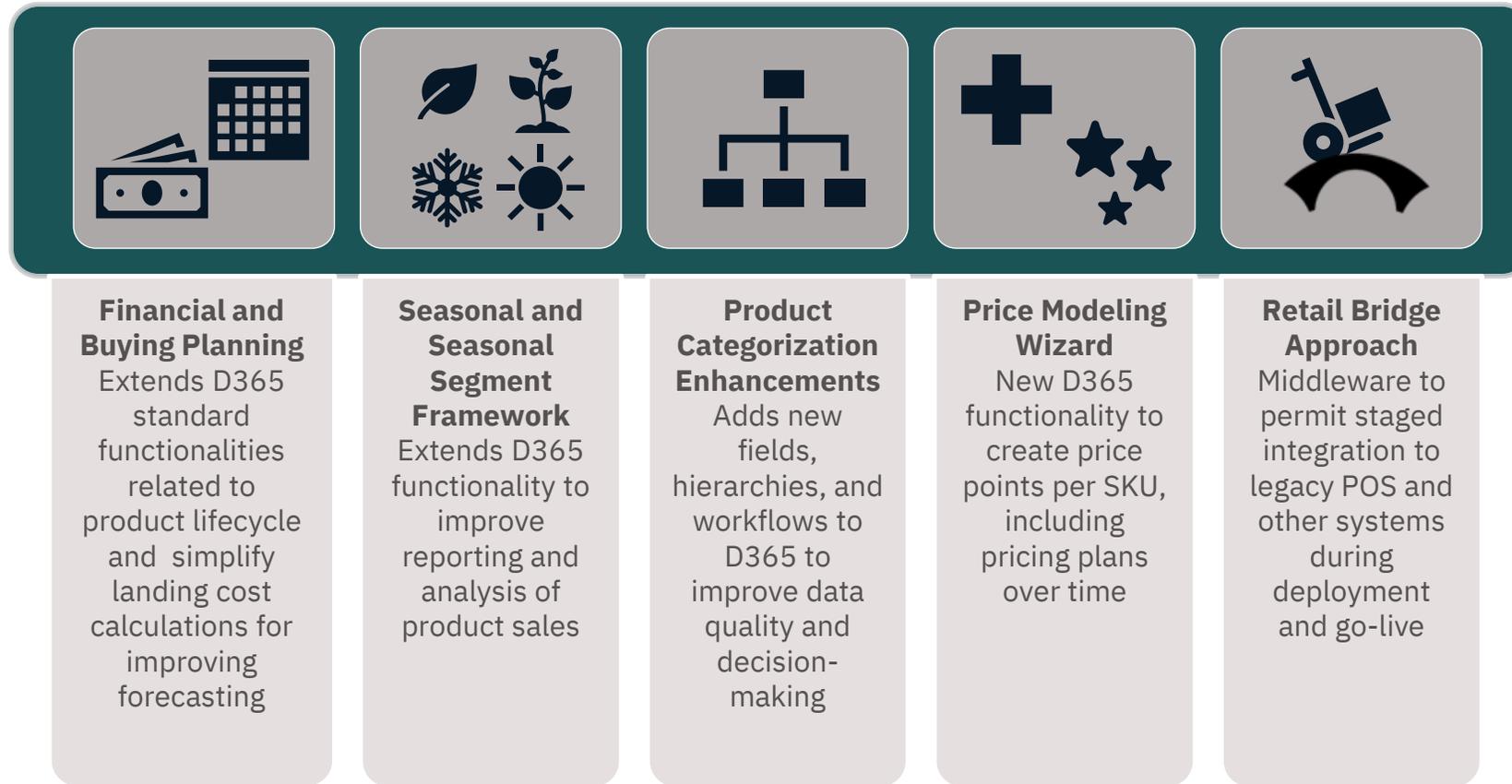




# IBM Differentiators driving Supply Chain Transformation

# IBM D365 Accelerators for Supply Chain transformation

With our unparalleled understanding of Microsoft technologies and deep industry experience and expertise, we have developed **best-in-class accelerators** (based on Dynamics 365) for transforming supply chain. They help enable the organizations to **accelerate implementation**, improved user efficiency and **enhanced user experience**.



# Financial & Buying Planning

The solution extends existing Dynamics 365 to **improve forecasting, budgeting and inventory management**, and to enable better reporting and analysis of product aging.

These enhancements help you make data-driven decisions that can not only **increase operational efficiency and profitability**, but also enable you to compete better with online retailers.

## Key capabilities:

- Simplified landing cost calculation
- Product Lifecycle enhancements
- Reports for European timber regulation
- Tracking Make to Order
- Track VAT group and commodity codes at product variant level



# Seasonal and Seasonal Segment Framework

Enhance the standard limited functionality by:

- Ability to hold a season against a product at variant level
- Ability to define milestones and geography groups
- Ability to define a trading season and an original season in order to track the age of a product



# Product Categorization Enhancements

The solution provides product categorization enhancements, which allows you to add new fields, hierarchies and workflows to the Dynamics 365 platform. This helps **improve the quality and availability of product information** and can, as a result, enhance the customer journey. It also helps you manage the product mix better, while enabling analytics for continuous improvement.



# Price Modelling Wizard

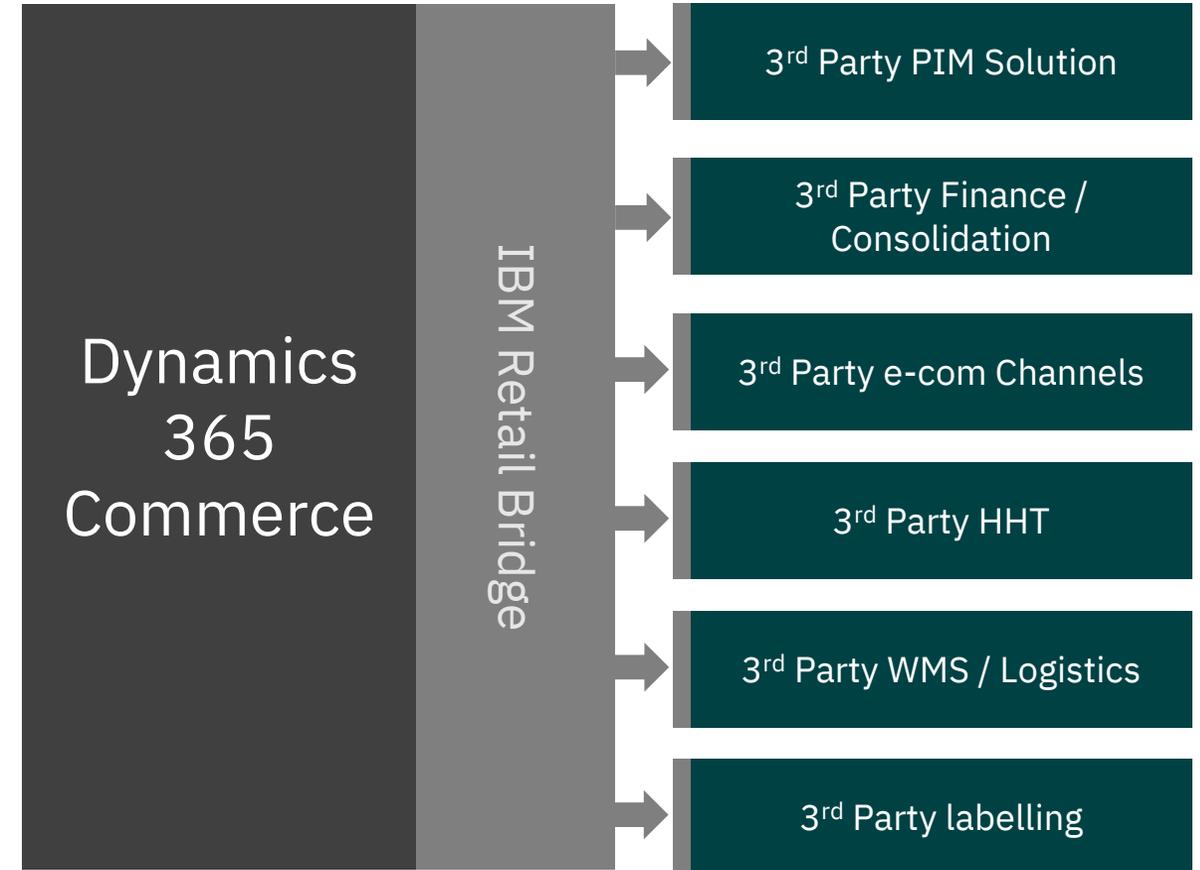
The price modelling wizard helps optimizing pricing mixes and creating price points based on SKU information.

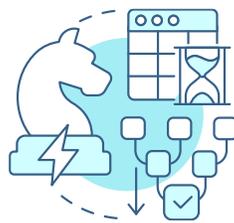
This simplifies and streamlines the process of creating or importing prices, markdown values into Dynamics 365 for Finance and Operations, by providing a series of screens in the form of a wizard. The user has the ability to query a selection of products and change and provide a price change directly into the wizard or via an Excel template.



# The IBM Retail Bridge Approach

- This is key in mitigating risks during implementation and roll-out
- Allows for a staged solution adoption, while still realising the benefits of the Dynamics 365 for Finance and Operations platform
- Safeguards current investment in supporting solutions during transformation
- Supports adoption in large organizations with geographically disparate stores





# Value Propositions

IBM understands retailers' pain points and has committed to solving them through product investment. It provides a consistent foundation for implementation success today and beyond.

Lowers effort at project start-up

Repeatable proven approach

Lowers risk due to clear implementation process

20 – 30% reduced implementation time

Reduction in day-to-day maintenance

Brings best practice to your business



# Next Steps...

# Our accelerated approach enables rapid Supply Chain transformation

We combine the pervasive end-to-end nature of our delivery methods with the ability to scale in all places; people, skills, research, platforms, solutions, all while imparting culture on clients that lasts beyond the individual engagement.

## Supply Chain Transformation

### **IBM Garage**

Our primary way that clients co-create, co-execute and cooperate with IBM's teams. This enables a consistent and visible interaction with the user-centric, multidisciplinary squads

### **Dynamic Delivery**

IBM's deep offshore and nearshore capability provide dynamic delivery models equipped to deliver value, speed, and quality at a scale that is unmatched.

### **Unique Industry Expertise**

With our deep industry experience and expertise, we have developed best-in-class industry solutions to help clients achieve business goals, get useful insights across all organization departments & drive operational efficiency

The co-creation journey to **Supply Chain Transformation** can begin anywhere...

## Strategize



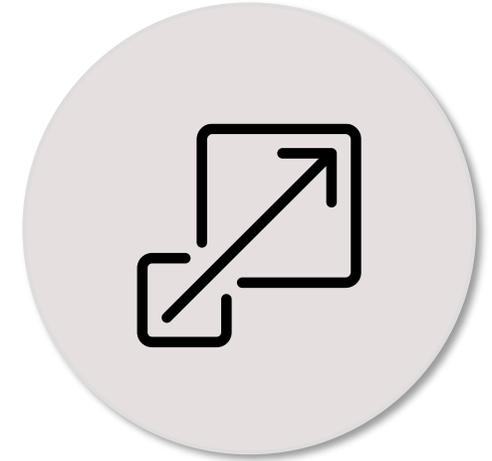
Envision the future

## Solve



Test and measure to get it right

## Scale



Activate finance and operations transformation

...let's identify the best entry-point together

**IBM Garage** is a bold, comprehensive approach to innovation and transformation that **quickly creates and scales new ideas that dramatically impact your business**

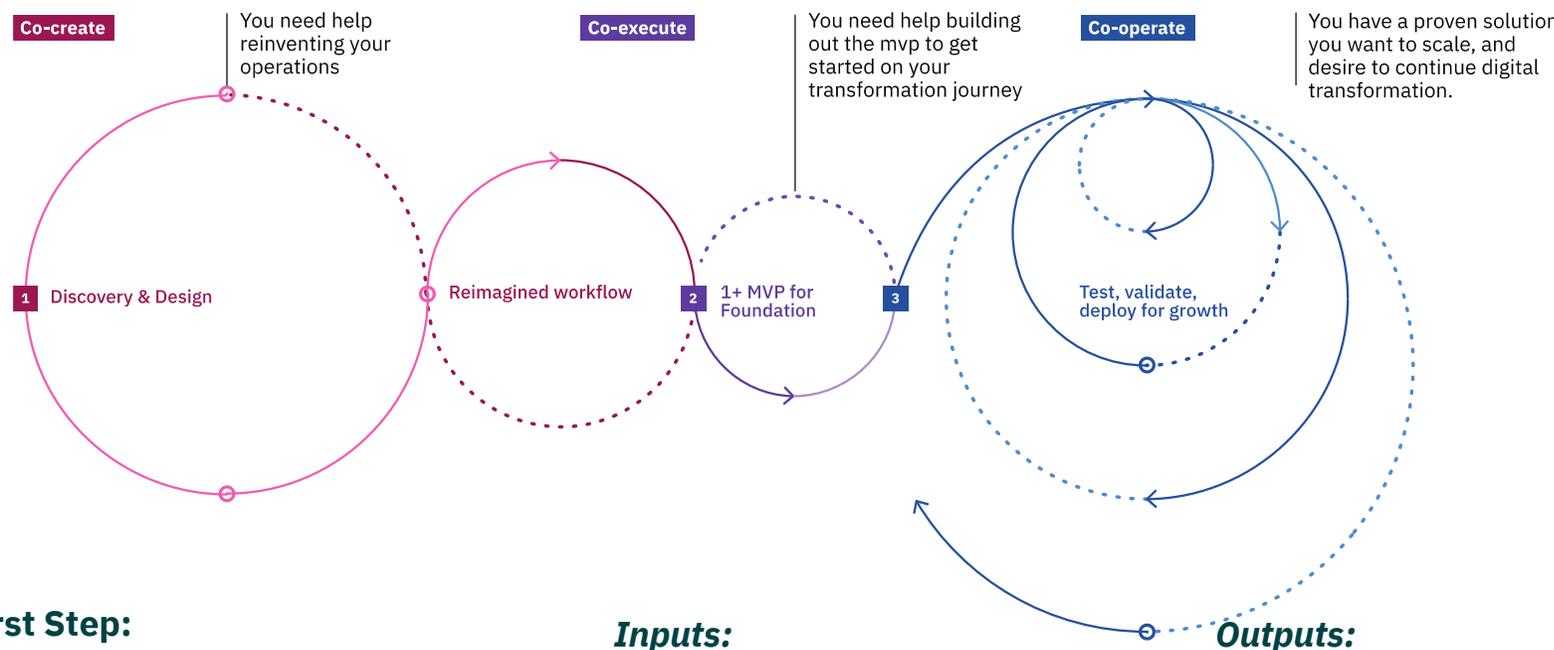


- + De-risk innovation by starting with strong business outcomes and ruthless prioritization
- + Focus on what is essential to realize impactful benefits
- + Fully integrated solutions created by experts; yours and ours

# IBM Garage accelerates time to value

Maximize **financial return** while gaining **operational agility, intelligence, and resiliency** with a processed, technology-enabled digital transformation

Redefine how work gets done with an iterative framework that guides you from ideation, to build, to scale.



**First Step: IBM Garage Jumpstart**

One-day Garage workshop bringing together your key stakeholders to begin envisioning your desired future state (North Star), identify current challenges against that North Star, and determine key enablers – Technology, Data, People, Process

**Inputs:**

- Best in Class Intelligent Workflow Designs**
- Design & Enabler Accelerators**
- Industry Leading POVs**

**Outputs:**

- North Star vision and recommendations
- High-level prioritized view of areas with highest business value
- Benchmark assessment
- Business case inputs



Co-create across stakeholders to define vision.



Co-execute using a fast, scalable, iterative approach

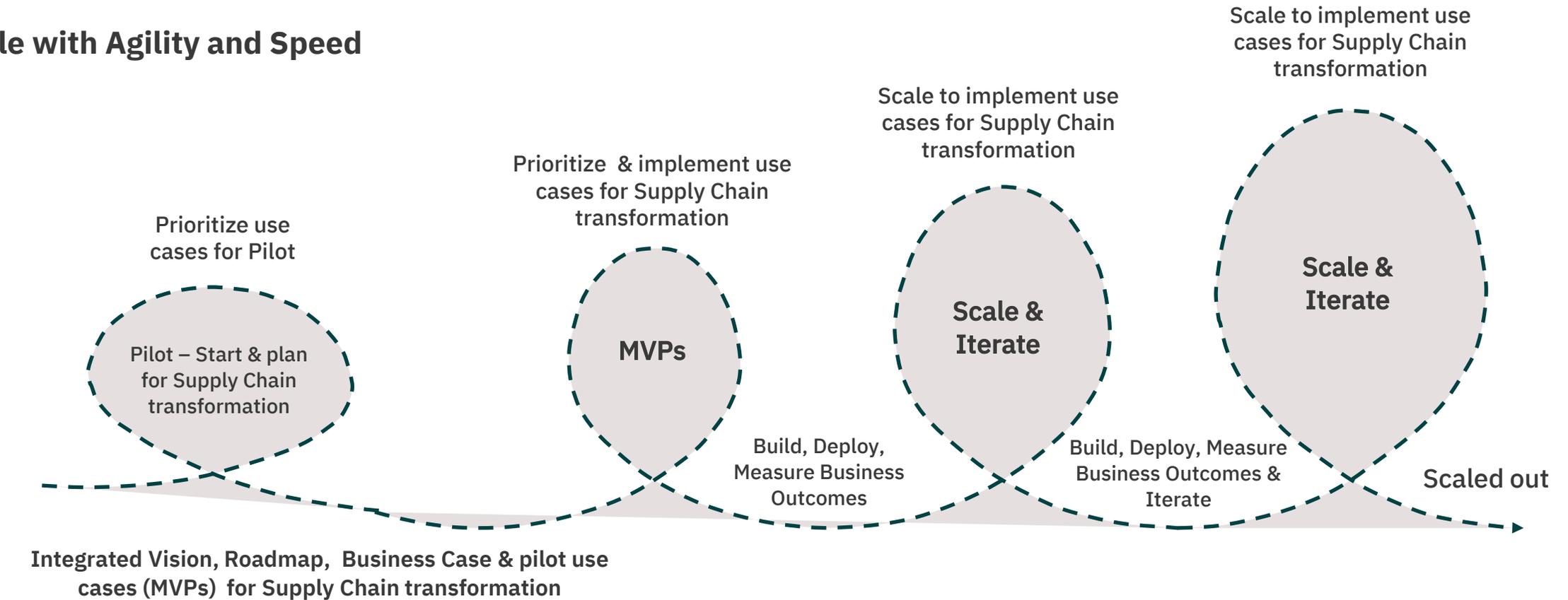


Co-operate scales your solution & team's capabilities.



# Engagement Model: Garage Method

## Scale with Agility and Speed



\*Depending upon scope & complexity



Co-create across stakeholders to define vision.



Co-execute using a fast, scalable, iterative approach



Co-operate scales your solution & team's capabilities.

