



Connected Field Service

Microsoft Dynamics 365 for Field Service

Ben Vollmer
Global Field Service Lead



What is Field Service?



Installation



Maintenance



Break/fix

Non-traditional

What is the value?



Decrease in average travel time by scheduling jobs to closest technicians saves time and reduces fleet maintenance costs



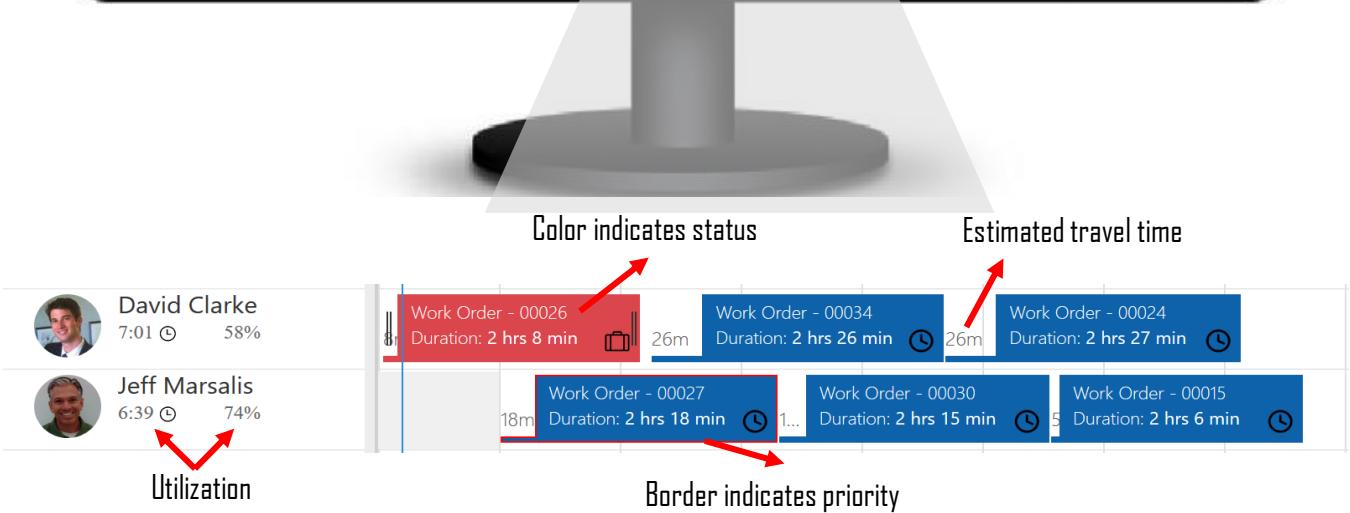
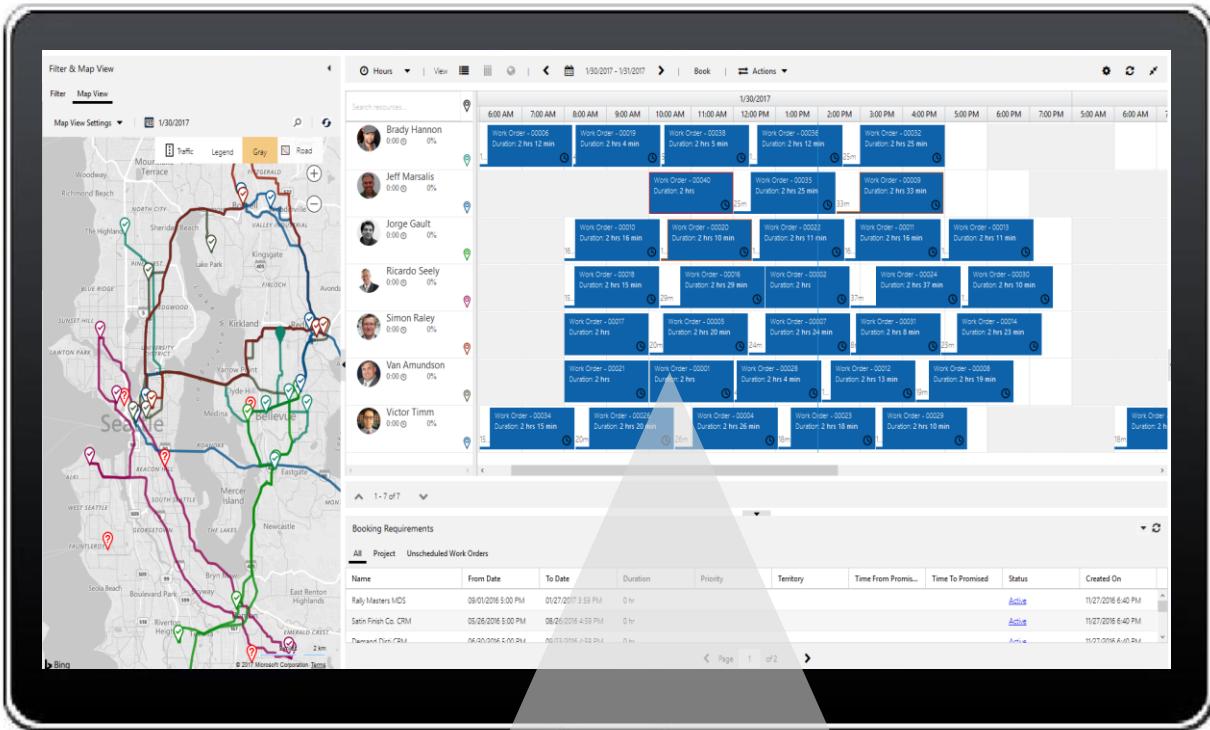
Improved first time fix rate from always having the part, instructions, and skills to succeed before arriving onsite



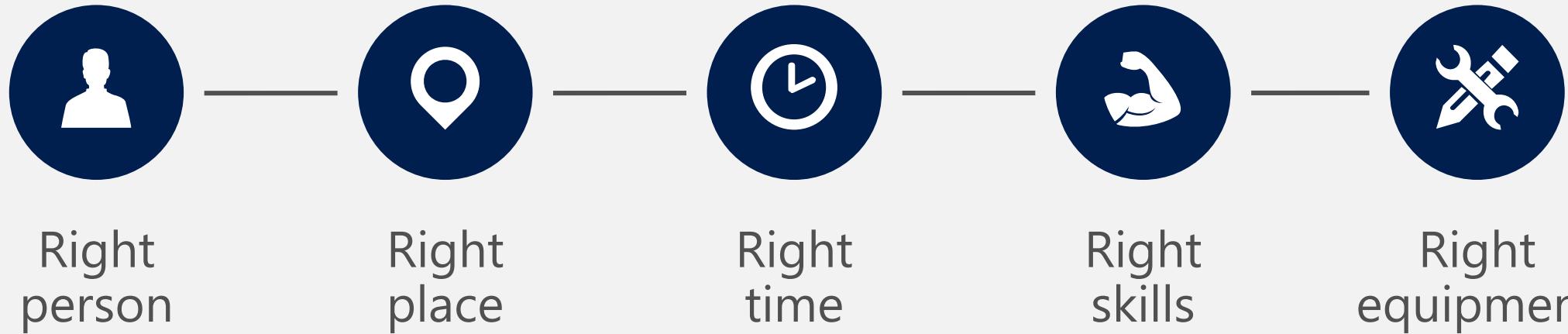
Increased customer satisfaction due to more accurate arrival times, transparency of work performed, and preventative maintenance.



Increase service calls per technician with optimized schedules and standardization and measurement of onsite visits

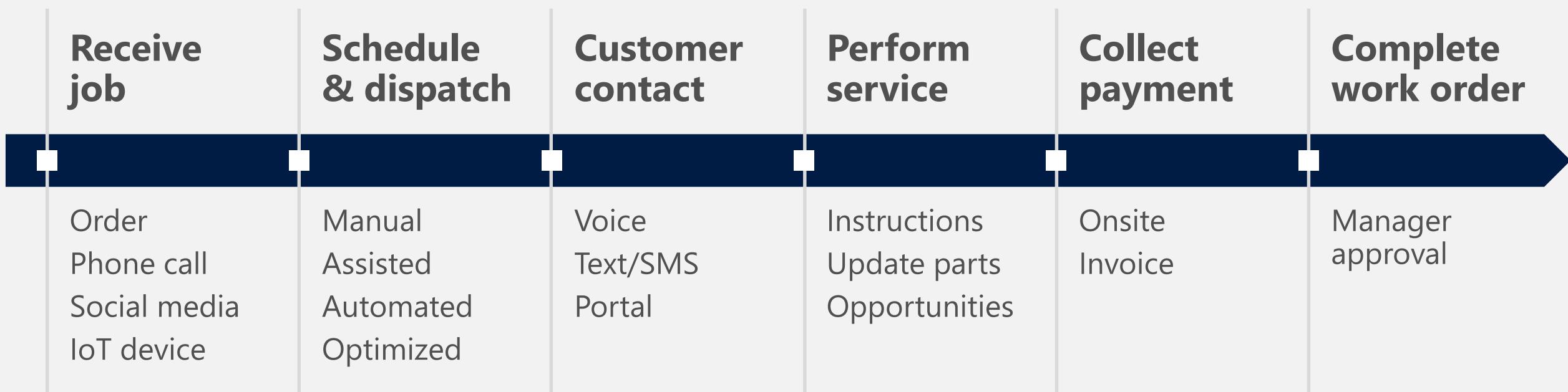


Why Field Service management?



Better customer satisfaction
Better resource productivity

Field service workflow



Improve satisfaction and productivity

73%

of consumers say valuing their time is the most important thing a company can do to provide good service.¹

65%

Of incoming service requests require field visits and of those service visits,²

26%

require secondary or follow-up visits.²



1. Forrester Research's Trends 2016: The Future Of Customer Service
2. Source: Field service automation trends: Best-in-Class - Aberdeen Group, Dec,2015

Business Applications Market Opportunity

\$72 Billion

Sales: \$7.1B

Customer Service and Support: \$12.3B

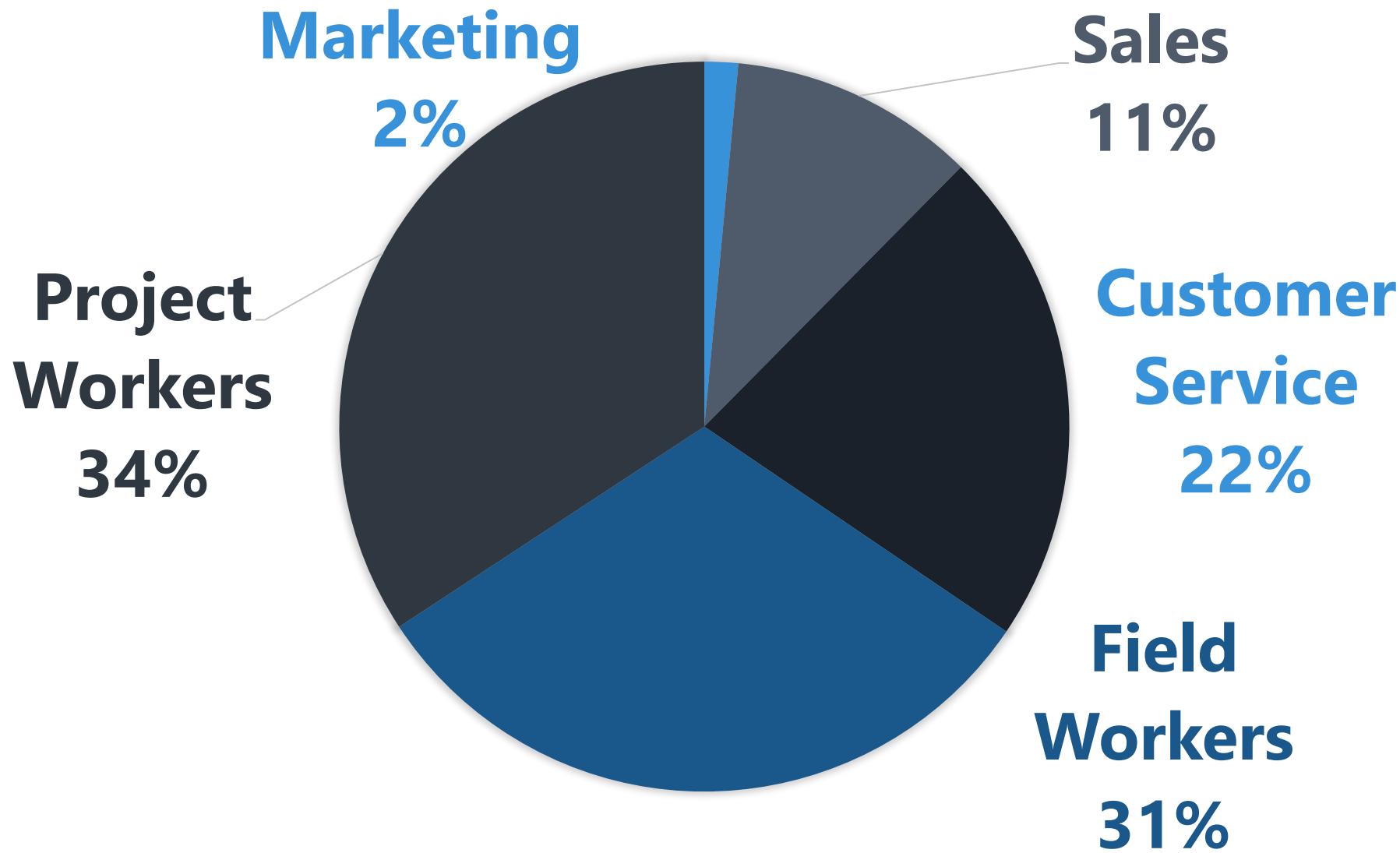
Digital Commerce: \$5.1B

Marketing: \$7.3B

Operations: \$30B

Human Capital Management: \$10B

Where are people in the workforce?



Outcome driven

Engagement in a service economy



Labor Marketplaces -
Subcontracting

On-Demand Capacity

Selling Services &
Outcomes



New Business Models



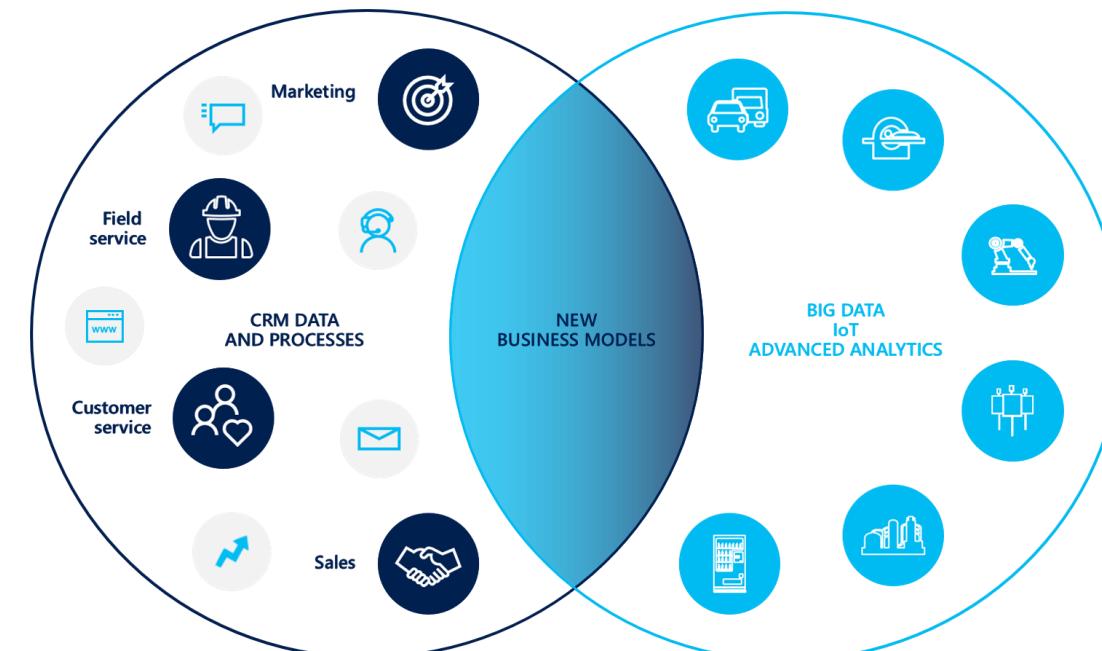
Connected Devices



Right Resources
Across all Work



Digital Transformation in the service economy



Traditional models

Service economy

Sell products and services separately



Sell products, services and outcomes

One and done, transactional



Relationship, Customer lifetime value

Company employees do majority of work



"Uberization" of resources

Primarily human interactions & reactions

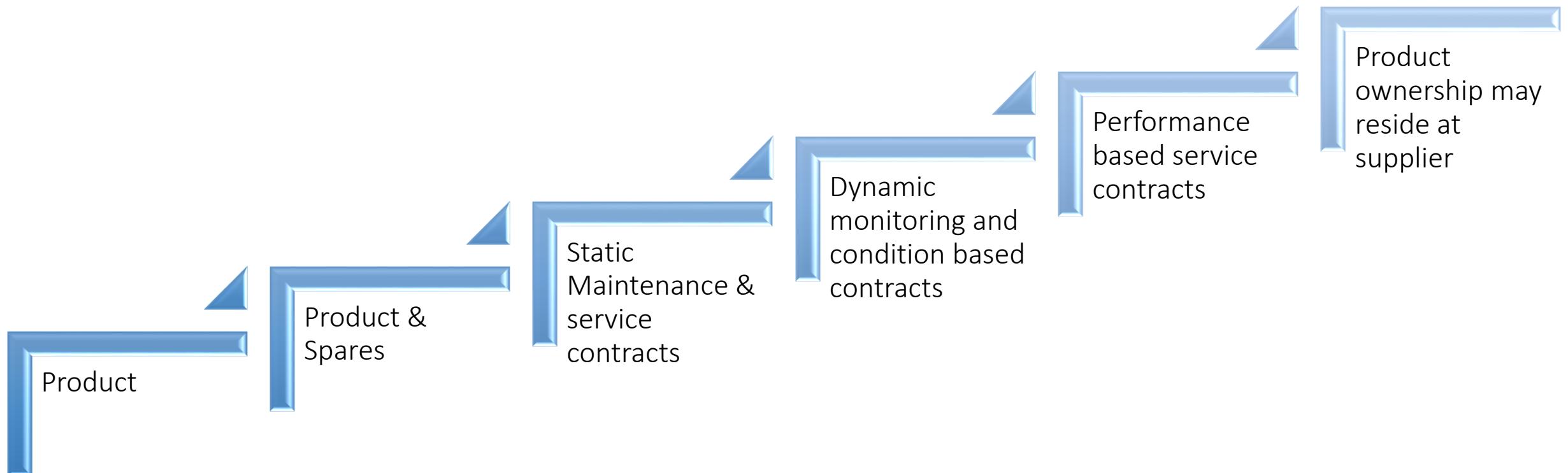


IoT to detect, predict, and drive action

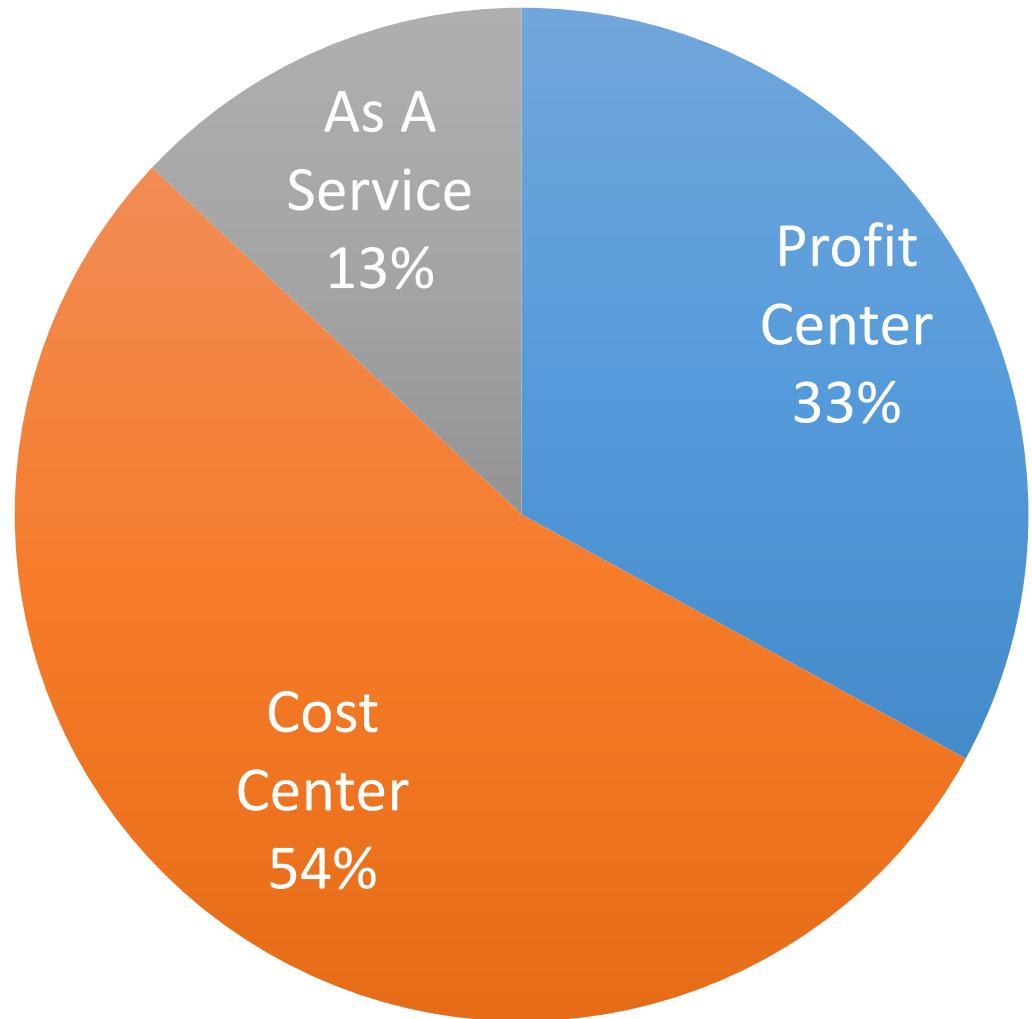
As A Service

- The **Everything As A Service of products** describes the strategy of creating value by adding services to products or even replacing a product with a service. Selling maintenance contracts for capital goods is an example of a service being added to a product.

Stages of Everything As a Service



The Field Service Maturity Model



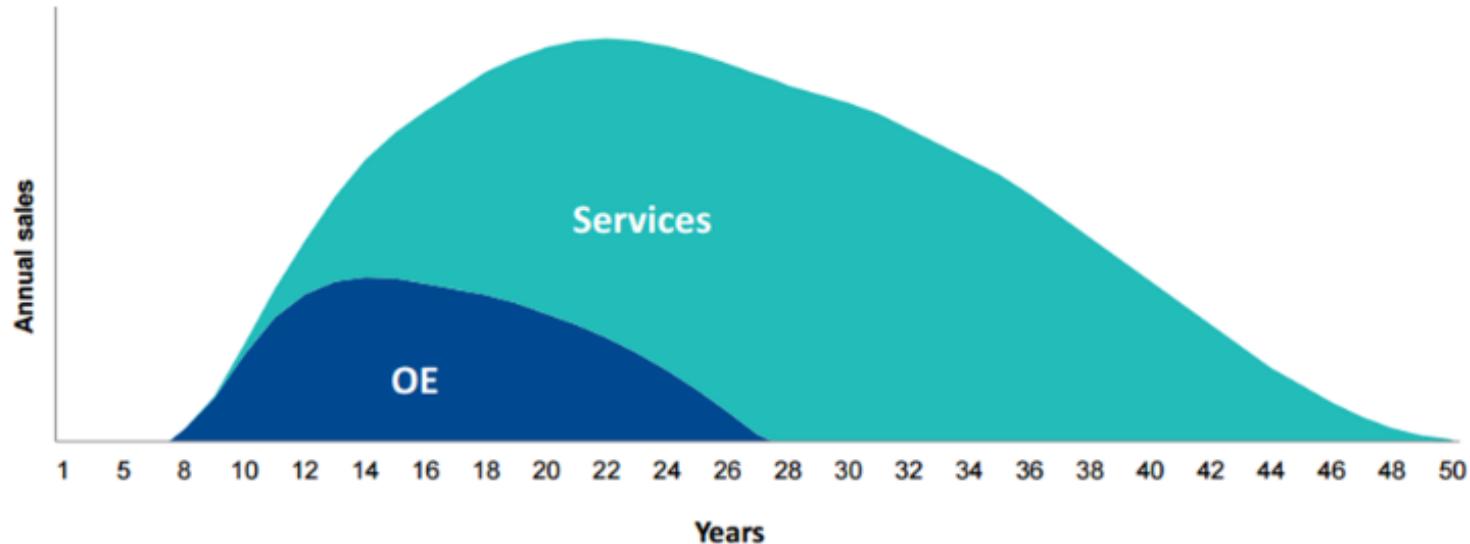
Organizational Considerations	Cost Center	Profit Center	As-a-Service
Financial Focus	Cost Control	Optimize Service Margin	Customer Profitability/ Product Pull-Through
Pricing	Cost Plus	Fixed Pricing	Outcome/ Consumption Pricing
Charter	Break/Fix	Differentiated FS Offers	Adoption/Expansion/ Renewal
Spare Parts and Supply Chain	Supply Chain	Supply Chain, Dotted Line to Services	Services, Dotted Line to Supply Chain
Governance/ Reporting	Sales Executive	Service Delivery Executive	C-Suite
Connected Products	Service Efficiency	Proactive Support	Customer Optimization /Outcomes



Rolls-Royce

Typical programme life cycle

Services revenue is at least 4 times net OE selling price



Trusted to deliver excellence

4

Rolls-Royce

<http://www.rolls-royce.com/~media/Files/R/Rolls-Royce/documents/investors/results/presentations-and-briefings/2014-totalcare-tony-wood-tcm92-57735.pdf>

Giving the world's cities a lift with IoT



Challenge

Service maintenance was performed reactively not proactively

Service outages required days to fix

Complex systems reported data in separate modules

Strategy

Solution that securely connects thousands of sensors and systems in its elevators that monitor everything, to the cloud with Microsoft Azure IoT.

Field technicians view same live data as support centers

Results

Improved customer satisfaction and drove brand loyalty

Predict issues and perform repairs before a breakdown.

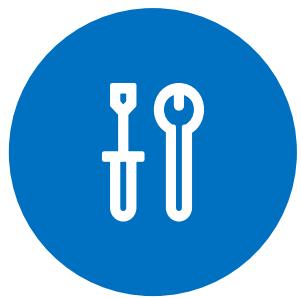
Reduced support incidents and outages

"We wanted to go beyond the industry standard of preventative maintenance, to offer predictive and even **pre-emptive** maintenance, so we can guarantee a higher uptime percentage on our elevators."

— Andreas Schierenbeck, CEO, ThyssenKrupp Elevators

What is the Internet of Things?

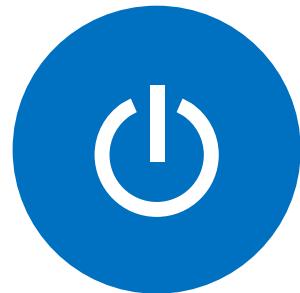
Build
Things



30B

connected devices
by 2020

Control
Anything



\$1.5M

average increase in
operating income for
digitally transformed
enterprises

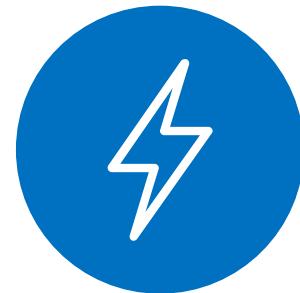
Gain
Insights



10%

of the data on earth
will come from IoT
by 2020

Take
Action



\$10B

market for business
process automation
tools by 2020

The Internet of Things can seem...



Gartner

FORRESTER

Google

IBM

ORACLE

IDC
Analyze the Future

intel

ge

cisco

...big

So many devices and so much data

...noisy

So many options

...confusing

So many possible decisions

How (where) do we get started?

Who can really help us?

Do we need to start over?

Should we wait?

What technology do we need?

Bringing the Internet of Things to life

You have things...

Windows devices



Other devices & line-of-business assets



Things produce data...



10101
01010
00100

Services help you make sense of the data:

Microsoft Azure IoT services

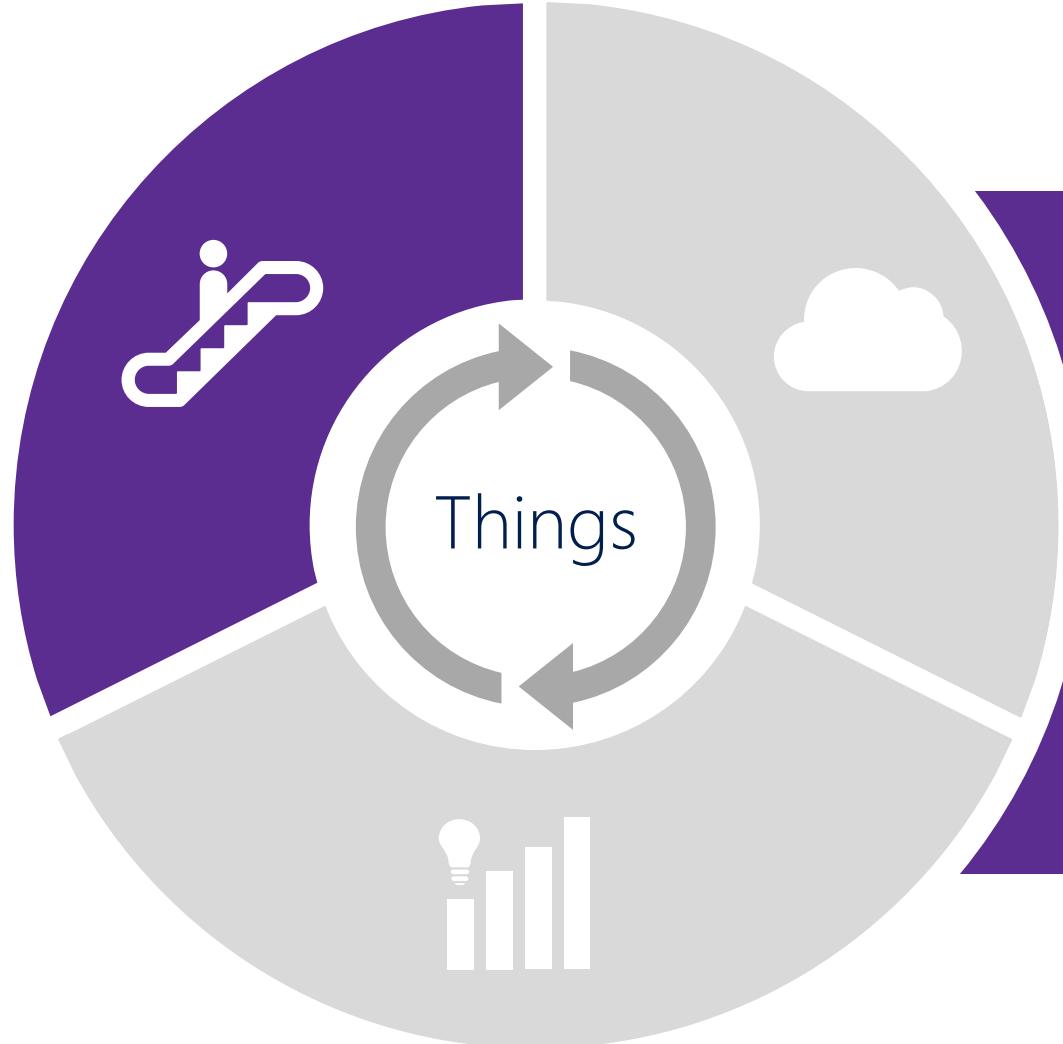
Azure Machine Learning | HDInsight | Power BI

Microsoft Dynamics

Office 365



Improve efficiency

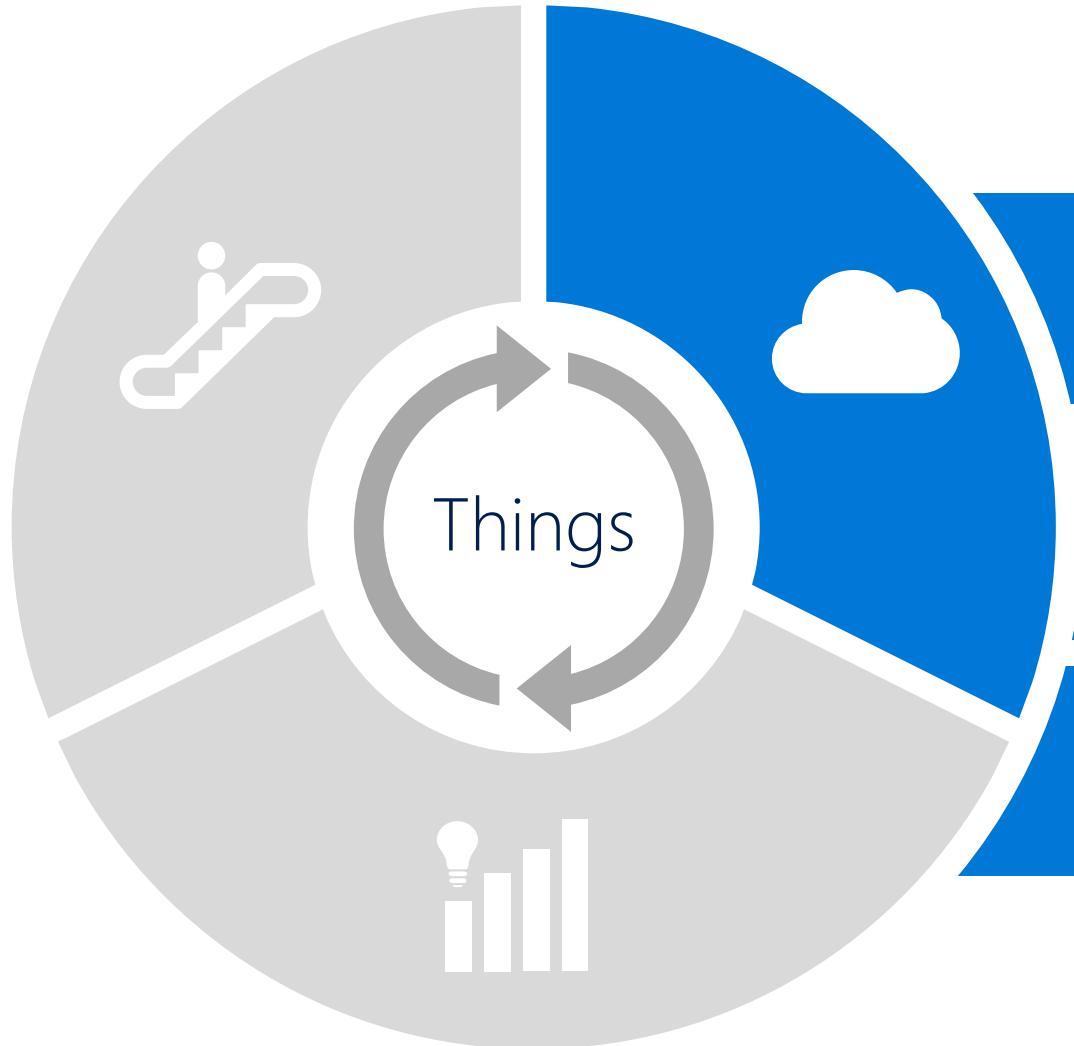


Connect disparate line-of-business assets to automate and improve business processes

Monitor and track the health of your assets to reduce costs

Collect and secure large amounts of data from your assets in the cloud for analysis

Enable innovation

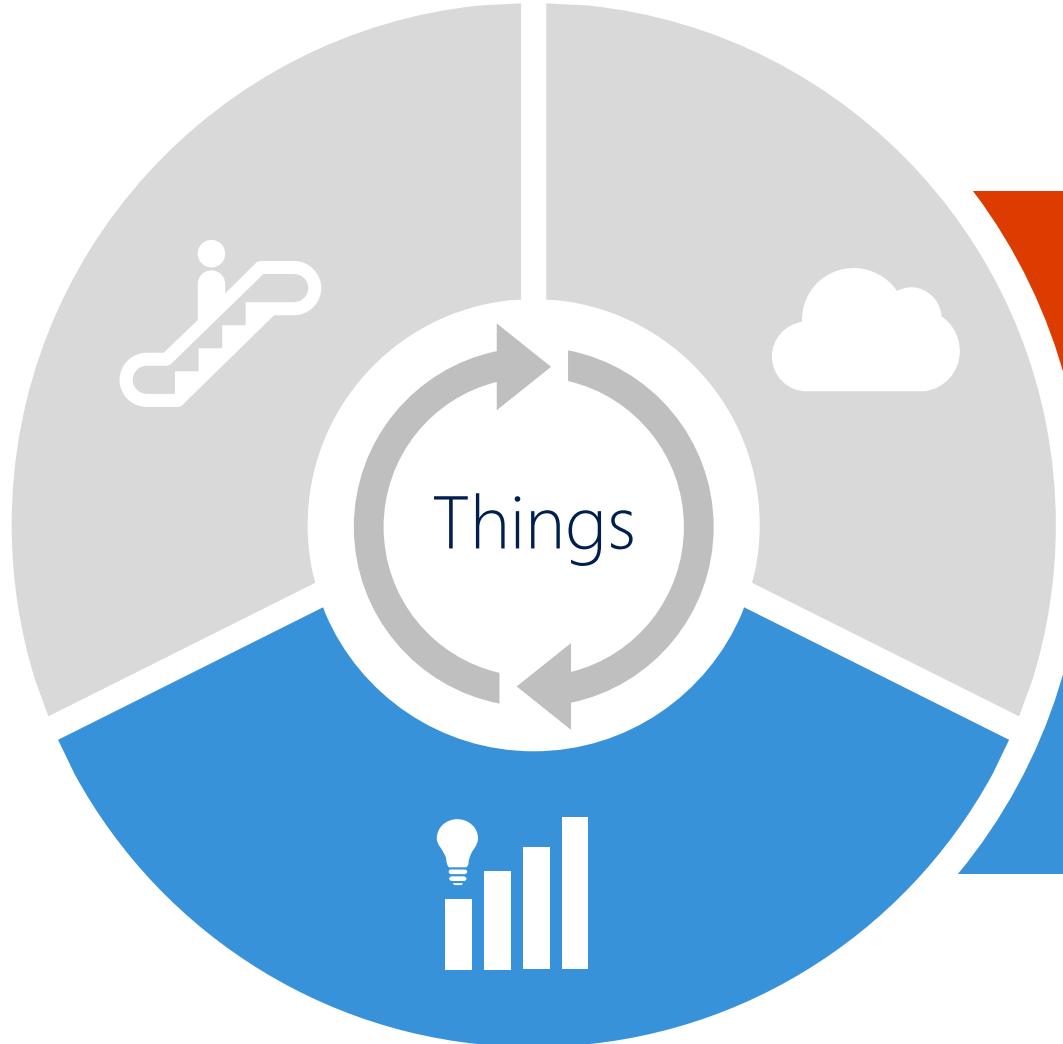


Analyze data from multiple sources in near real time to drive revenue

Apply historical data to new problems to successfully predict future behavior and trends

Create operational intelligence to improve performance and decision-making

Transform your business



Convert the raw data from your “things” into actionable insights and business results.

Create insights for the right people in your company to access and act on

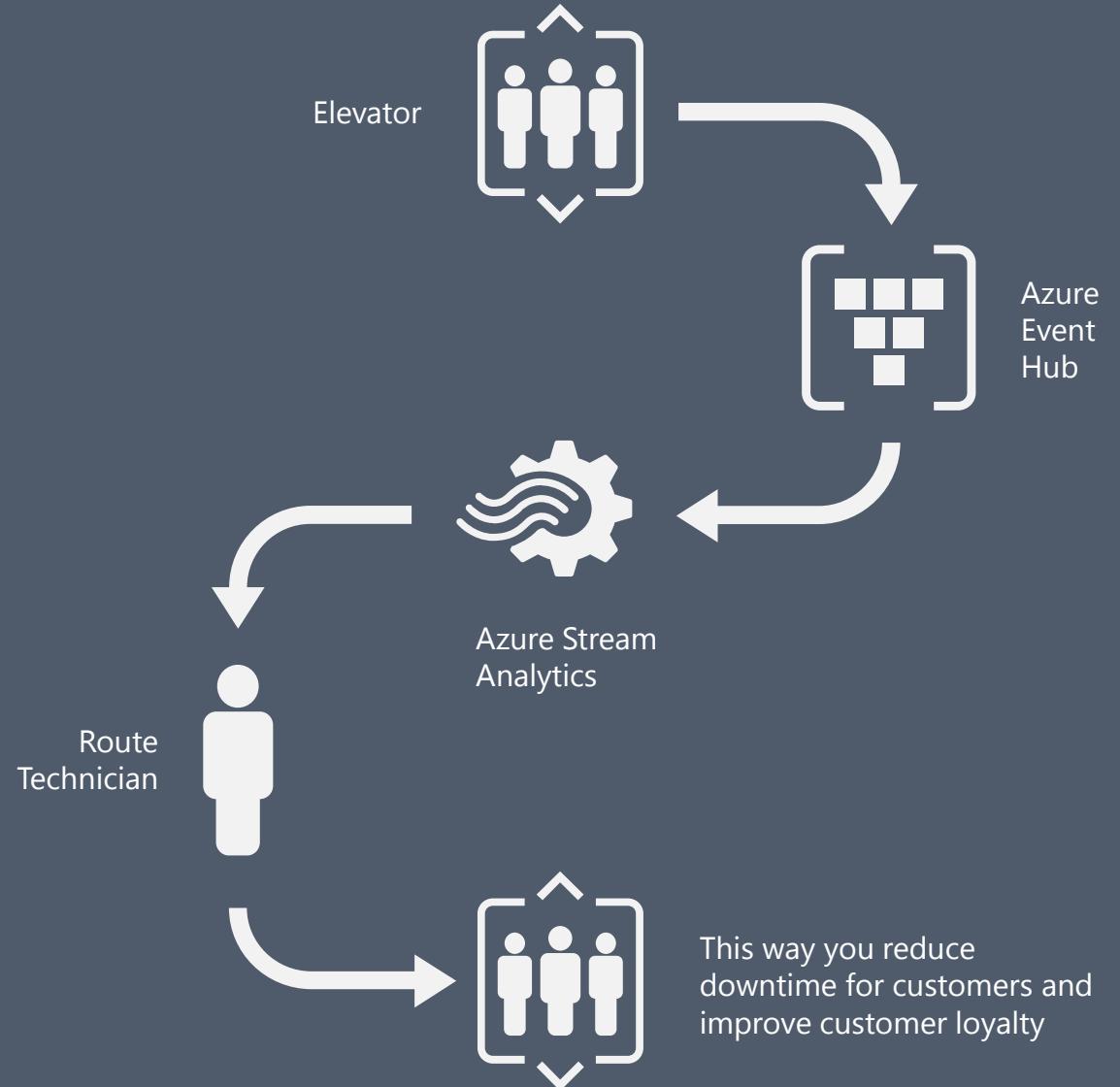
Leverage advanced analytics to create new business models and revenue streams

Asset Monitoring

Improve efficiency

Enable innovation

Transform your business

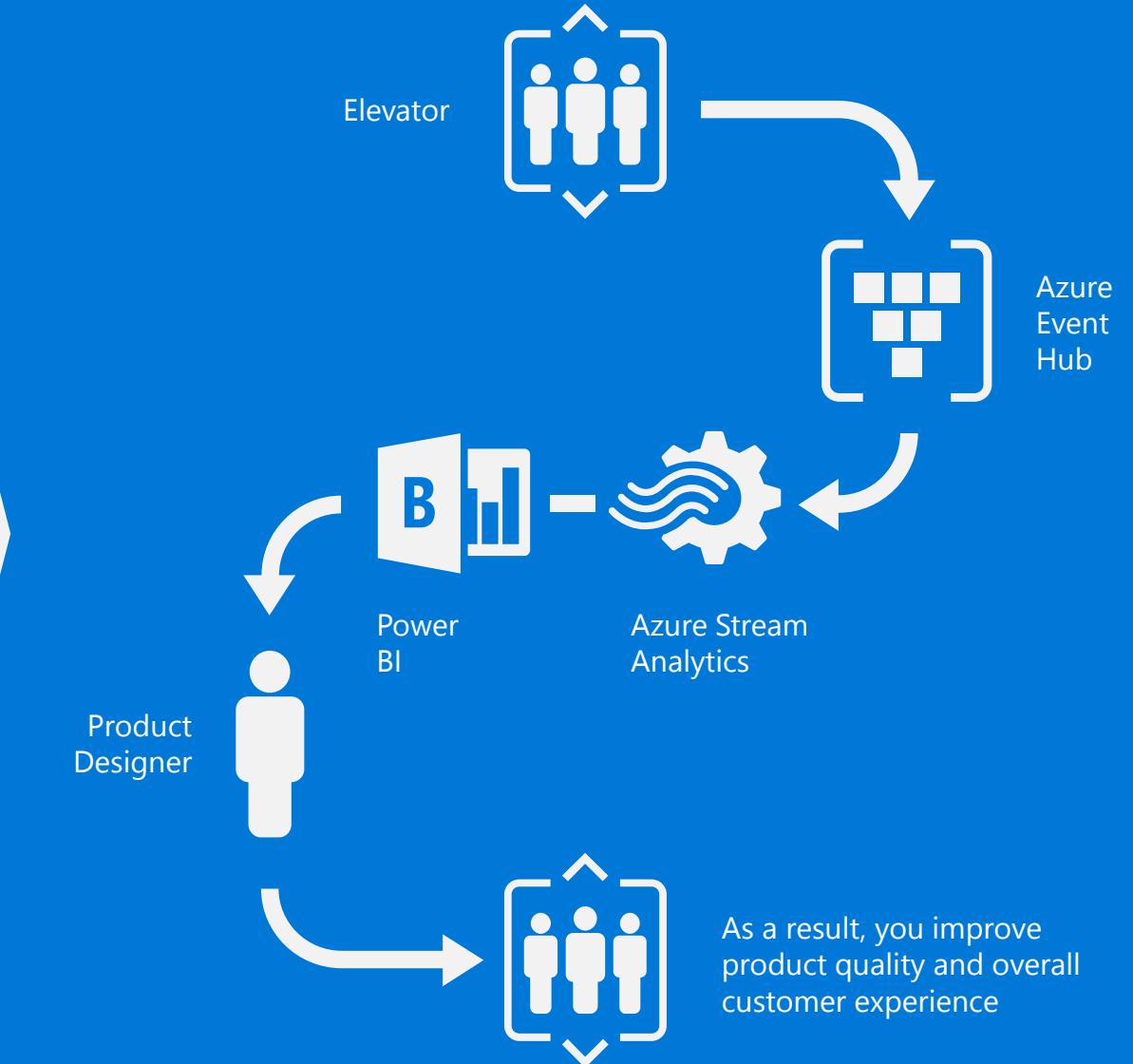


Product Improvement

Improve efficiency

Enable innovation

Transform your business



Transform your business

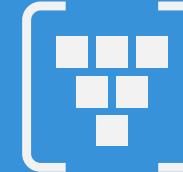
Enable innovation

Improve efficiency

VP of
Services

New Services

Elevator



Azure
Event
Hub



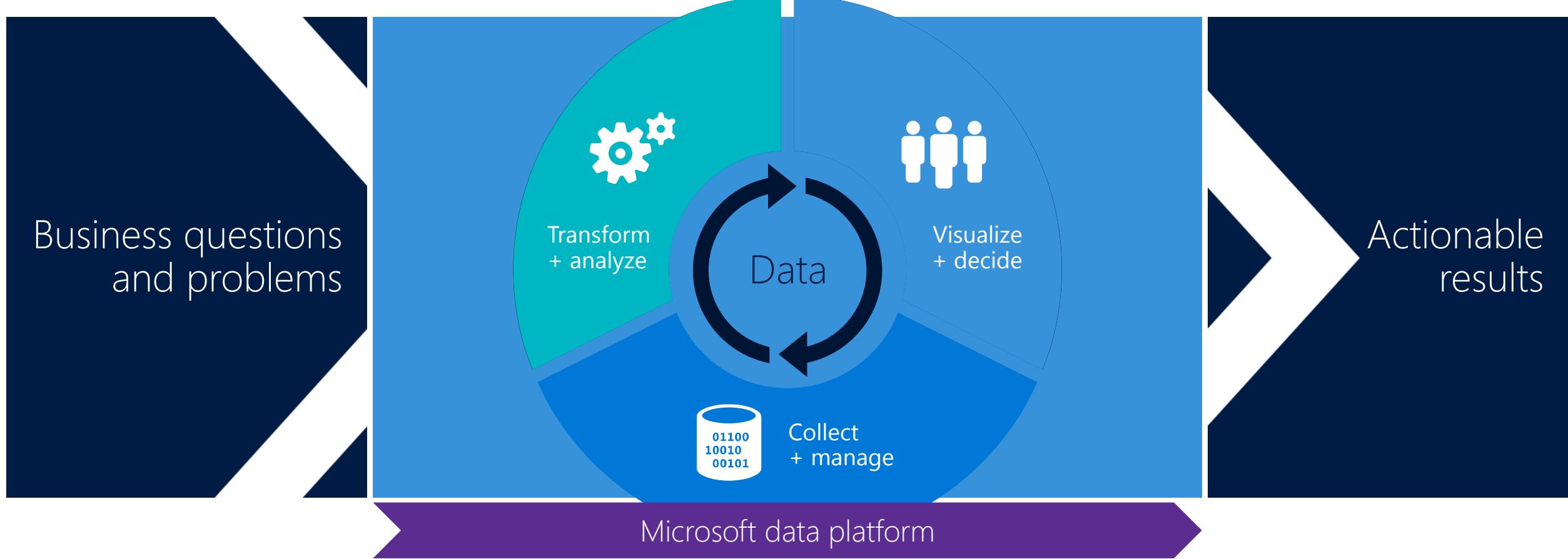
Machine
Learning
(predictive
analytics)



Azure Stream
Analytics

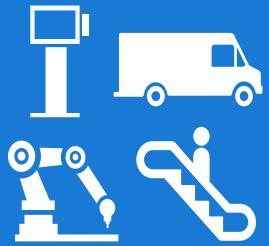
As a result, proactively minimize unscheduled elevator downtime, increase customer satisfaction, and develop a new source of revenue

Transform your business with Microsoft's end-to-end data solutions



What is the Internet of Things (IoT)

Things



Connectivity



Data

10101
01010
00100

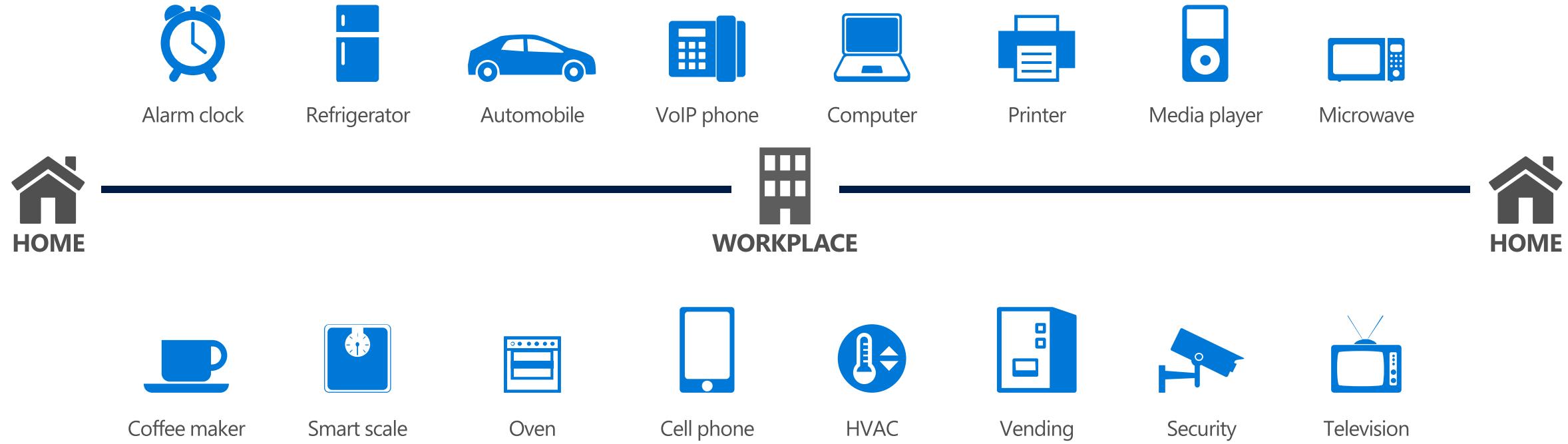
Analytics



Action



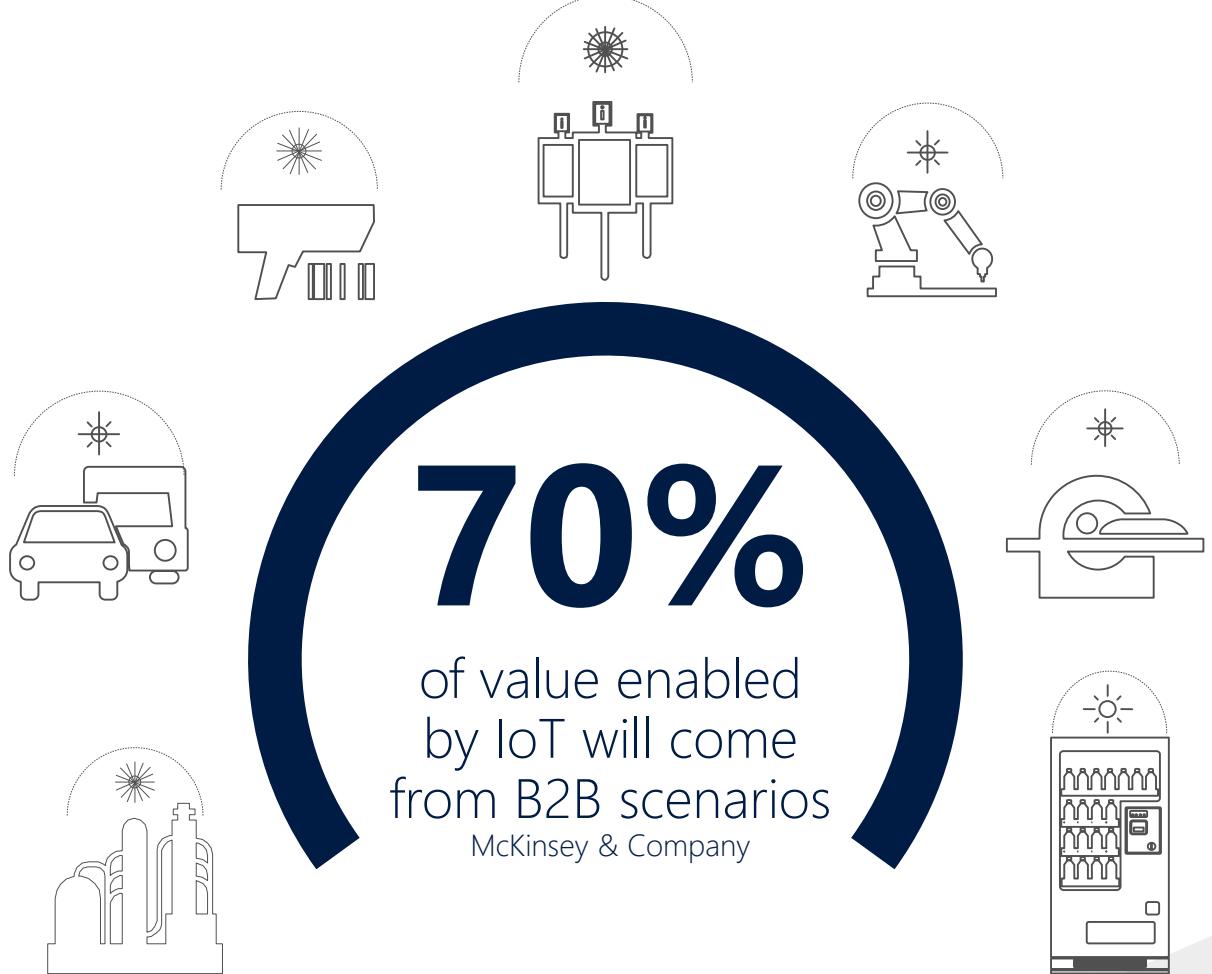
IoT 2010



IoT 2016



Internet of Things opportunity



25 billion
Connected “things” by 2020
—Gartner

\$1.7 trillion
Market for IoT by 2020
—IDC

Capitalizing on IoT in your business

Business transformation



Reduce cost
Connect devices

Innovation



Improve offerings
Enable insights

Add new business models

Engage advanced analytics

The Internet of Things is the key to digital transformation

According to a recent IoT survey...

73%

Of the companies surveyed are currently active in IoT

60%

Of those working on IoT are aiming to grow revenue and profits

50%

Reduction in downtime with predictive maintenance



IoT is already delivering tangible results

Schlumberger

iau
automotive
eng'neering

Johnson Controls

Chillers now run 9x faster
than unconnected equipment,
avoiding more than \$300,000
in hourly downtime costs

g-paws 

M-KOPA SOLAR

SATALYST

NAV CANADA

GRUNDFOS 

LIEBHERR

coop

Mondelēz International

JABIL

FUJITSU

CAT

Henry Mayo Newhall Hospital

WEIR

SoftBank

CAN TELEMATICS
EVOLVING VISIBILITY 

**URBAN
INSTITUTE**

ELEVATE • THE • DEBATE

Rolls-Royce

Cutting fuel usage by 1%
could save \$250,000 per
plane per year

SANDVIK

Schneider Electric

**MITSUBISHI
HEAVY INDUSTRIES, LTD.**

thyssenkrupp

Gathers data from sensors and
systems to create valuable
business intelligence and
reduce downtime by 50%



jtc
Breaking New Ground



Purell

esri

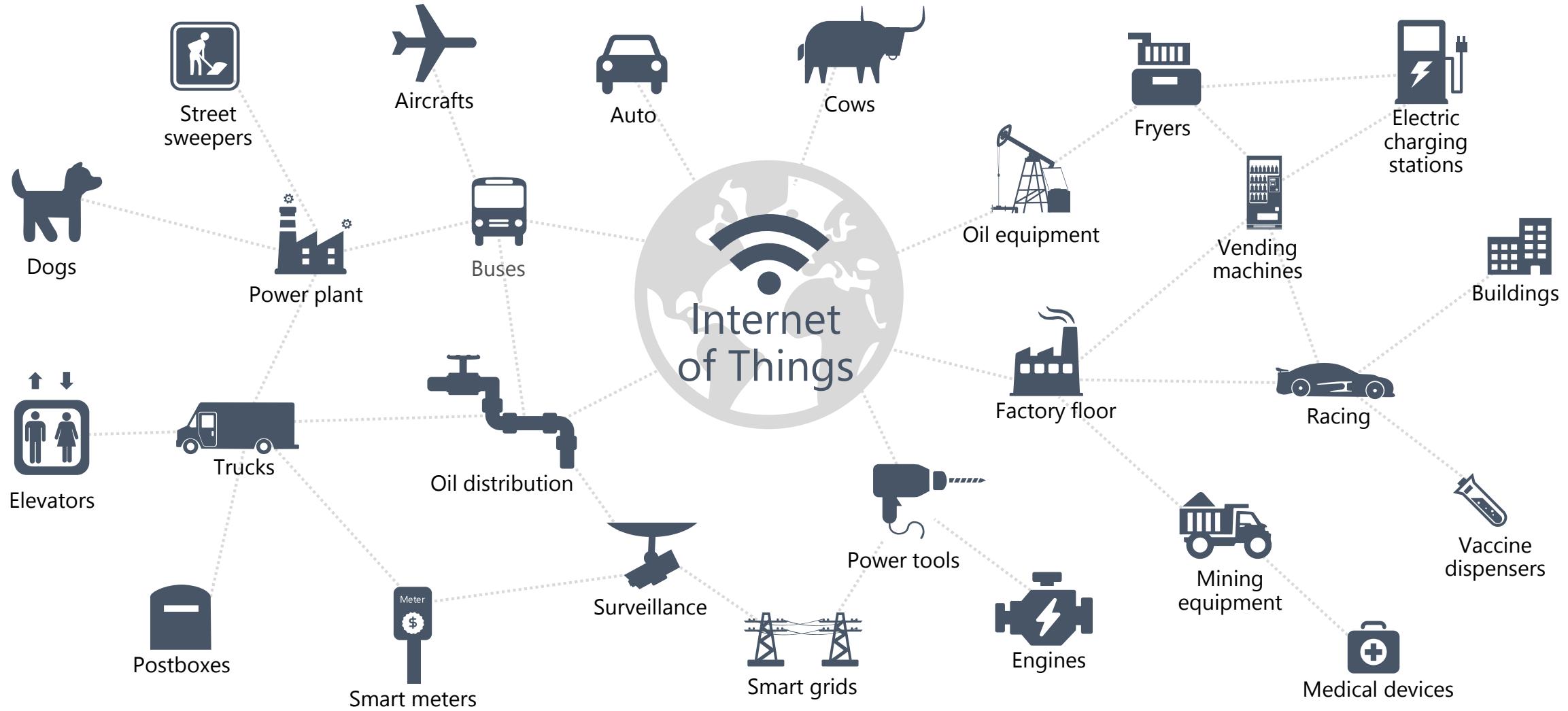
**Rockwell
Automation**

Improves **access** to production
and supply chain **data**
worldwide, reducing downtime
costs by as much as **\$300,000
per day**

3M

GOJO

Innovation at work – real world IoT use cases



IoT is already delivering tangible results across industries



Diebold reached **99% uptime rates** for their highest level service agreements and are pursuing 100% uptime



A single pump failing in an offshore rig can halt operations and cost the company \$100,000 to \$300,000 a day in lost production



Cutting fuel usage by 1 percent could save **\$250,000 per plane per year**



Hand washing **increased by 92%** during the study period

The Impact of digital transformation

95%

Top 100 enterprise software companies will integrate cognitive technology into their products by 2020

- Deloitte, 2016

80%

Margin driven by apps, analytics, and services in 2020

- McKinsey & Company

\$100M

Average increase in operating income among the most digitally transformed enterprises

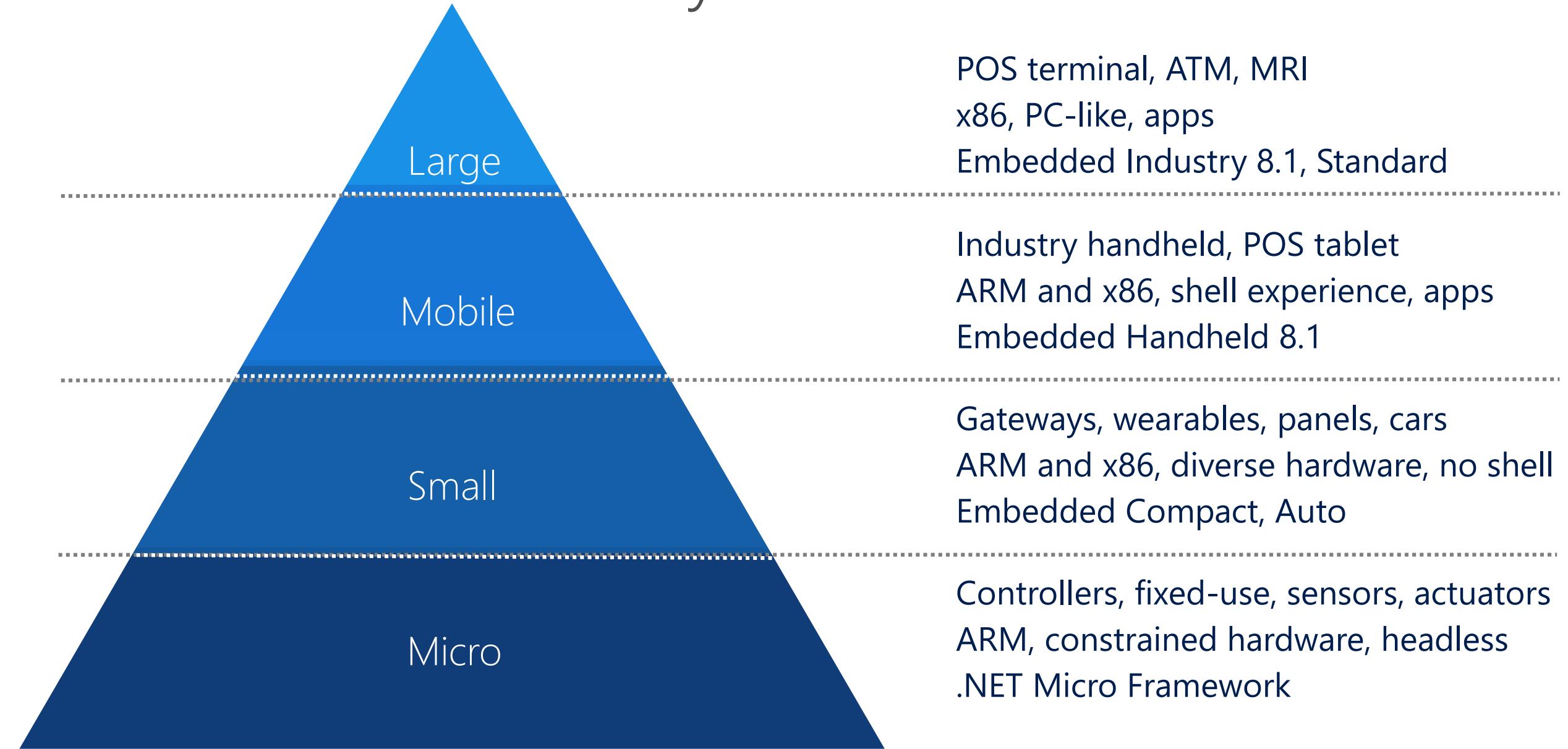
- Keystone Strategy, 2016

55%

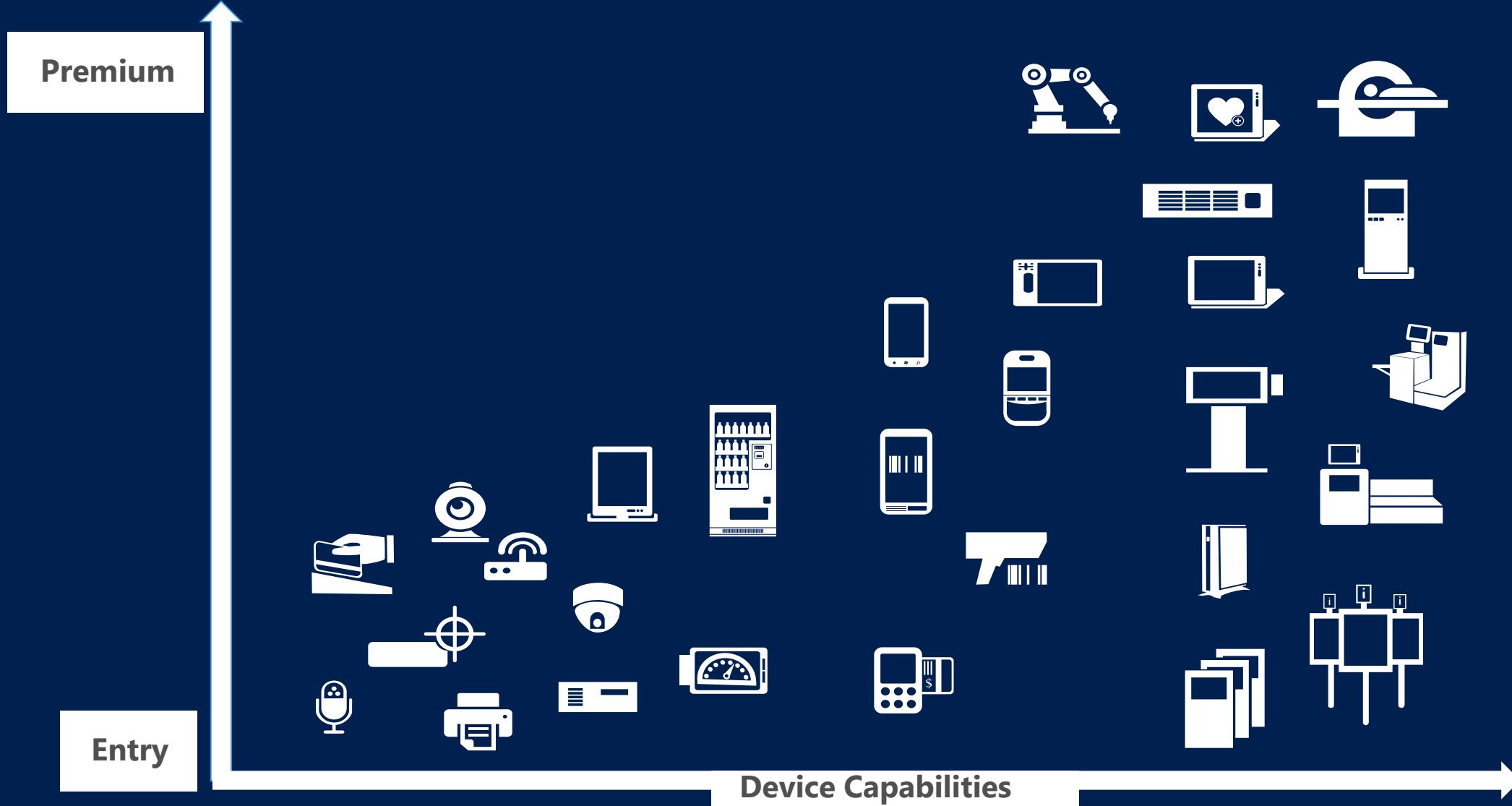
Average gross margin among organizations with leading data and analytics capabilities

- Keystone Strategy, 2016

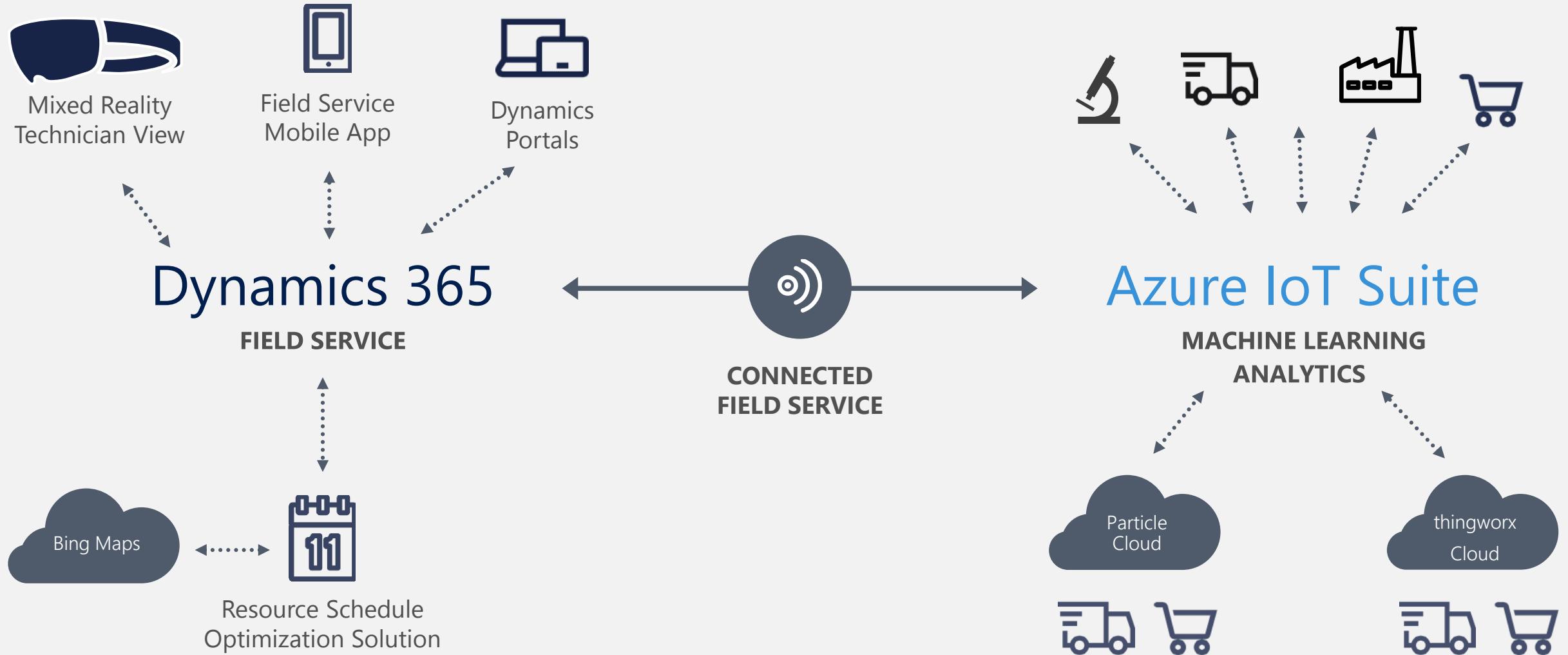
IoT Device Taxonomy



Wide Range of IoT & Industry Devices



Microsoft Dynamics 365 for Field Service





"[Field Service Organizations] now want to create a long tail of services that capitalizes on internet-enabled devices, involves intricate levels of services, and goes beyond fix-it-when-it's-down...."

Connected field service

Anomaly detection with IoT

Detect, troubleshoot, and resolve issues remotely before the customer knows of an issue and dispatch a technician only when necessary.

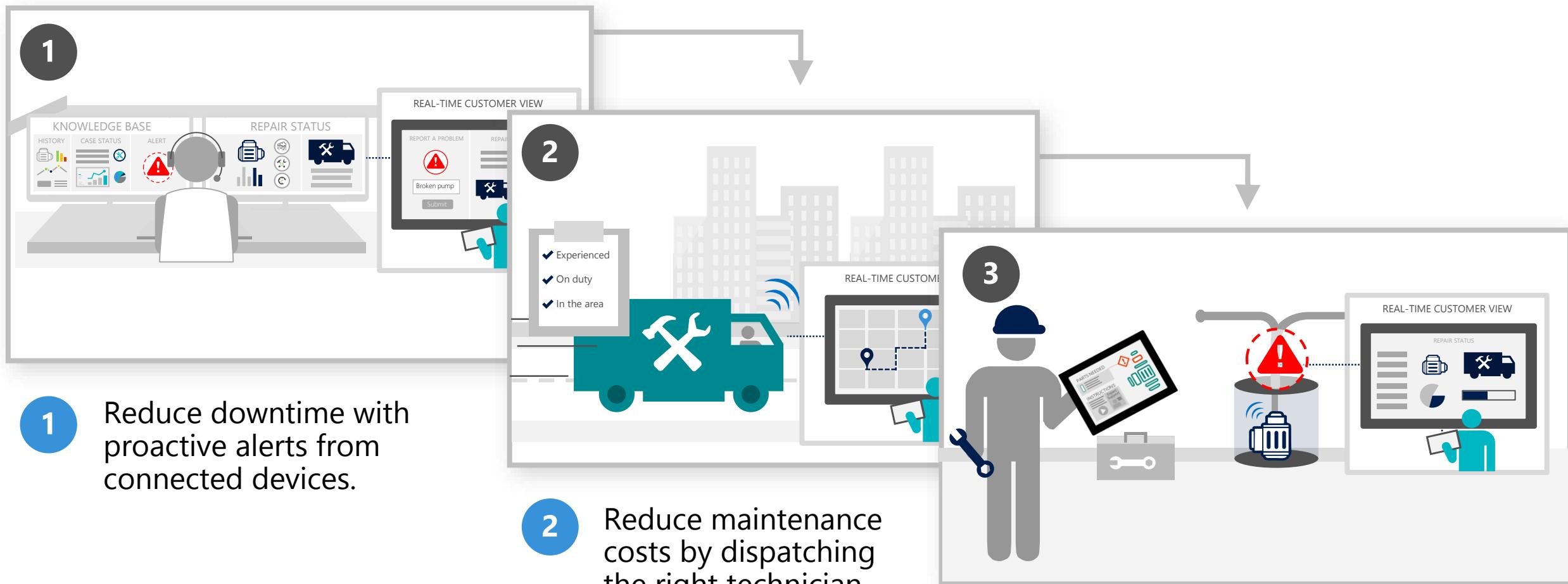
Predictive maintenance

Repair, clean, or replace parts when needed instead of on a preventative maintenance schedule.

Work order creation

Automate work order creation when self-healing steps don't resolve the problem. Automatically dispatch the best technician.

Connected Field Service

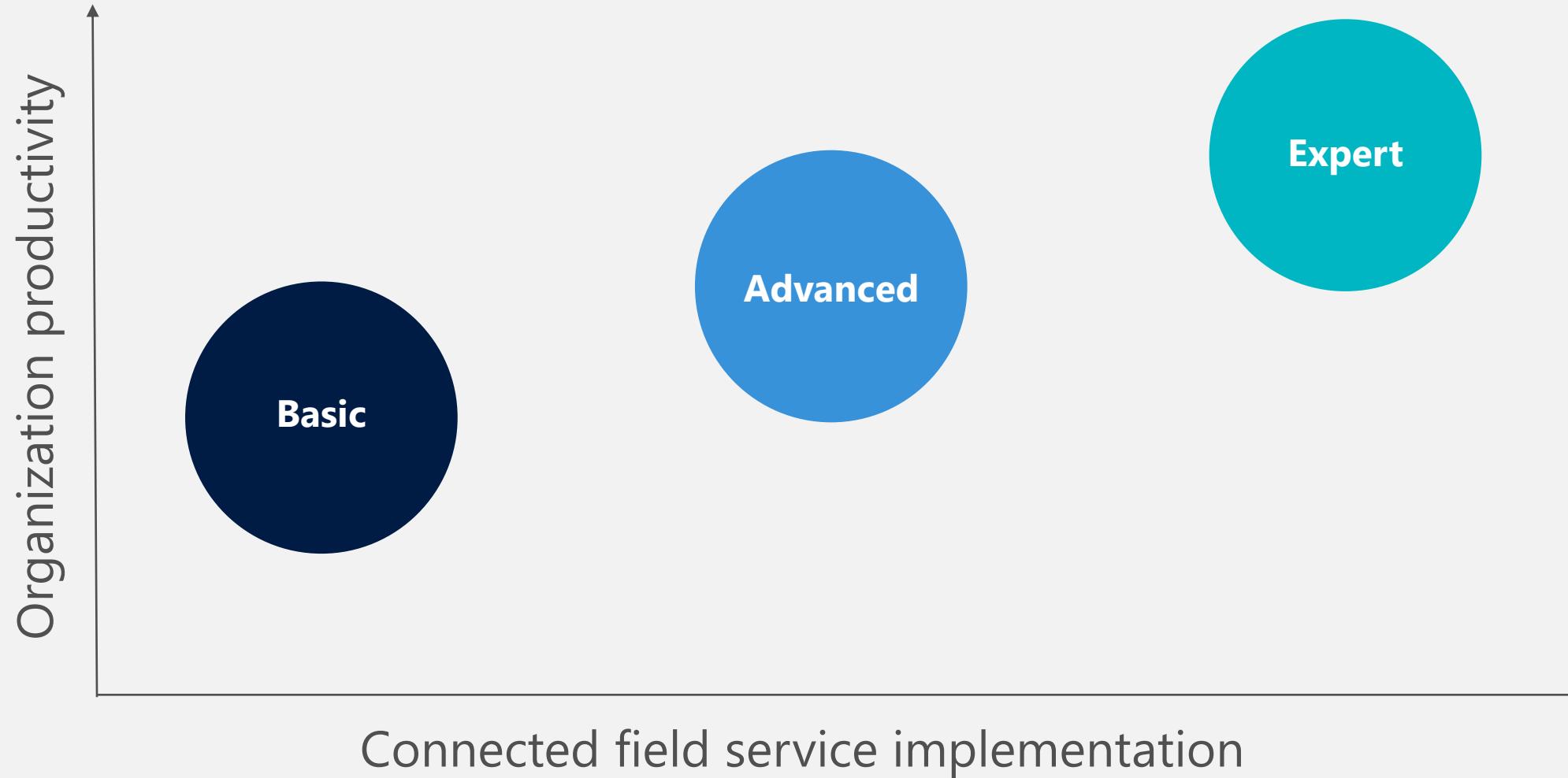


1 Reduce downtime with proactive alerts from connected devices.

2 Reduce maintenance costs by dispatching the right technician only when needed.

3 Ensure your service techs are fully equipped to deliver a first-time fix.

Break-fix to never fail:



Preventative maintenance



Scheduled

Regular intervals
on a time-bound
schedule

VS.



Just-in-time

As needed,
based on
consumption

Benefits of remote monitoring and self-healing

- Decrease number of repair appointments
- Identify and fix problems before customers are aware
- Solve issues before failure
- Identify underperforming products
- Perform “just-in-time” preventative maintenance



Field Service Sales Scenarios

Manufacturers

Service Providers

Internal Asset Management



Geotab GO Device

- Inexpensive and reliable
- Most capable & advanced GPS
- Simple plug-&-play installation
- Most complete data from vehicles
- IOX expandable

Breakthrough Technology

- Curve algorithm for data recording
- Features controlled at server
- Accident reconstruction
- Reverse & harsh brake detection
- 3-wire tracking
- Dual protocol support
- Remote scan tool
- Compatible with all vehicles



IOX Expandability

- Unlimited flexibility to address changing fleet needs
- Add one, or daisy-chain more as needed:
 - GO Talk: intelligent driver coaching
 - NFC Driver ID and/or immobilization
 - North America: Android and iOS applications for HOS and DVIR
 - Europe: Vehicle inspections, Duty of Care, personal vs. business use
 - Garmin for dispatching and messaging
 - Iridium Satellite - safety backup
 - Auxiliaries - 2 sets of 4 digital inputs
 - External serial interface (RS232)
 - CAN - Valor & Mobileye



Case Studies

Creative Exteriors – 40 units. Using Geotab to improve driver behavior, the company can track hard-braking, how well drivers are stopping when pulling a trailer, and other actions that could be potential safety hazards. CreativeXterior immediately talks with the driver when they see a regular bad habit occurring.

DM Bowman Inc.- 325 units. Since they began using Geotab two years ago — and with the addition of a number of safety programs that D.M. Bowman put in place last year to continue to diminish unsafe driving — the company has seen a 20% reduction in accident costs.

Boston Pizza - 15 drivers, 5 Smart Cars. The challenge was to keep track of drivers and deliveries. The solution with bonuses has been, improved driving behavior, less down time on deliveries and business began to grow. The ROI has far surpassed the Initial outlay.



WHOLESALE DISTRIBUTION

RETAIL

311 SERVICE CENTER

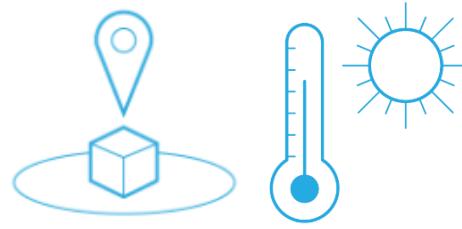


Microsoft
Dynamics CRM



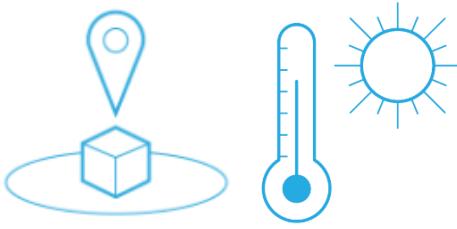
Particle

Maintaining the Cold Chain



- Wholesale distribution is a critical link in the sales chain of perishable items such as food and pharmaceuticals. Temperature fluctuations can affect the safety, efficacy, quality, and taste of food and drugs; void shipments; and result in millions of dollars in lost sales.
- Low margins and tight time lines means there is no "acceptable loss."
- Increases in sophisticated therapies and the globalization of the pharmaceutical industry means a greater need for a controlled and reliable cold chain.
- "In the food industry, the big trend is an increased focus on quality, health, and integrity. To win the repeat business of fickle and demanding consumers, manufacturers must ensure an optimal experience with the brand."¹
- Stricter regulations complicate compliance efforts, adding complexity and cost
- End customers are more aware of temperature importance and demand temperature indicators.

Opportunities for Manufacturers / Brands



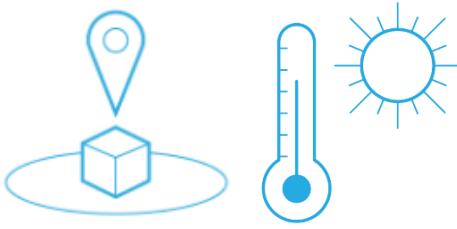
Increase top line

- Improve customer experience with complete temperature indication
- Strengthen brand value perception by providing a quality assured product

Reduce costs

- Automate compliance with regulatory agencies
- Mitigate risk of spoiled product

Opportunities for 3PL / Service Providers



Increase top line

- Capture market share by providing differentiated service
- Increase wallet share by offering value-added services

Reduce costs

- Automate compliance with regulatory agencies
- Mitigate risk of voided shipment

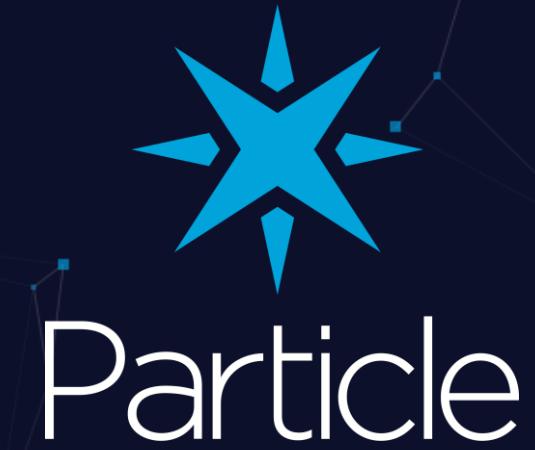


Microsoft
Dynamics CRM

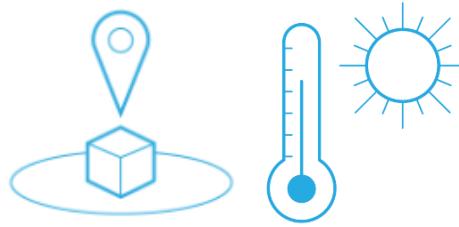
WHOLESALE DISTRIBUTION

RETAIL

311 SERVICE CENTER



Increasing sales of Cold goods



- From convenience stores to specialty retailers, many sales are dependent on goods being available at the appropriate temperature.
- It is impractical to update all cold case equipment, but adding connected sensors can maximize the sales from existing equipment.
- Manufacturers could incentivize retailers to install sensors and share temperature information to ensure their brand values are maintained and improve their relationship with retailer.
- These companies are already using CRM en masse, cold case sensor data merges seamlessly to augment and improve actionable systems.

Opportunities to Increase revenue

- Increase conversion by always offering a quality product at the right temperature.
- Accelerate the maintenance-service process to increase uptime of cold cases, improving their sales effectiveness.
- Increased repeat sales by building strong brand trust and loyalty.

Opportunities to Reduce costs

- Reduce shrinkage due to spoiled product.
- Reduce time required for maintenance and clean up by catching problems right away.
- Reduce energy usage and costs by identifying poorly insulated or poorly performing equipment early.
- Reduce compliance costs by easing the preparation of the tedious documentation requirements.



Microsoft
Dynamics CRM

WHOLESALE DISTRIBUTION

RETAIL

311 SERVICE CENTER

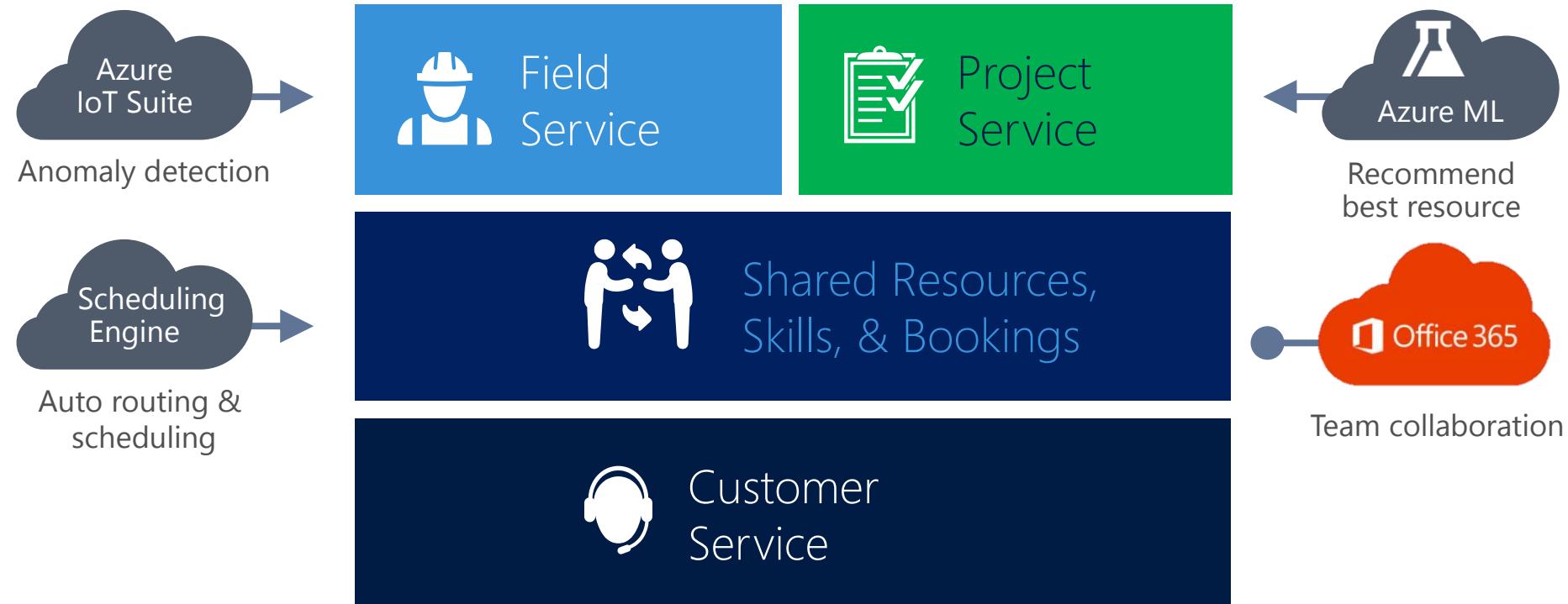


Particle

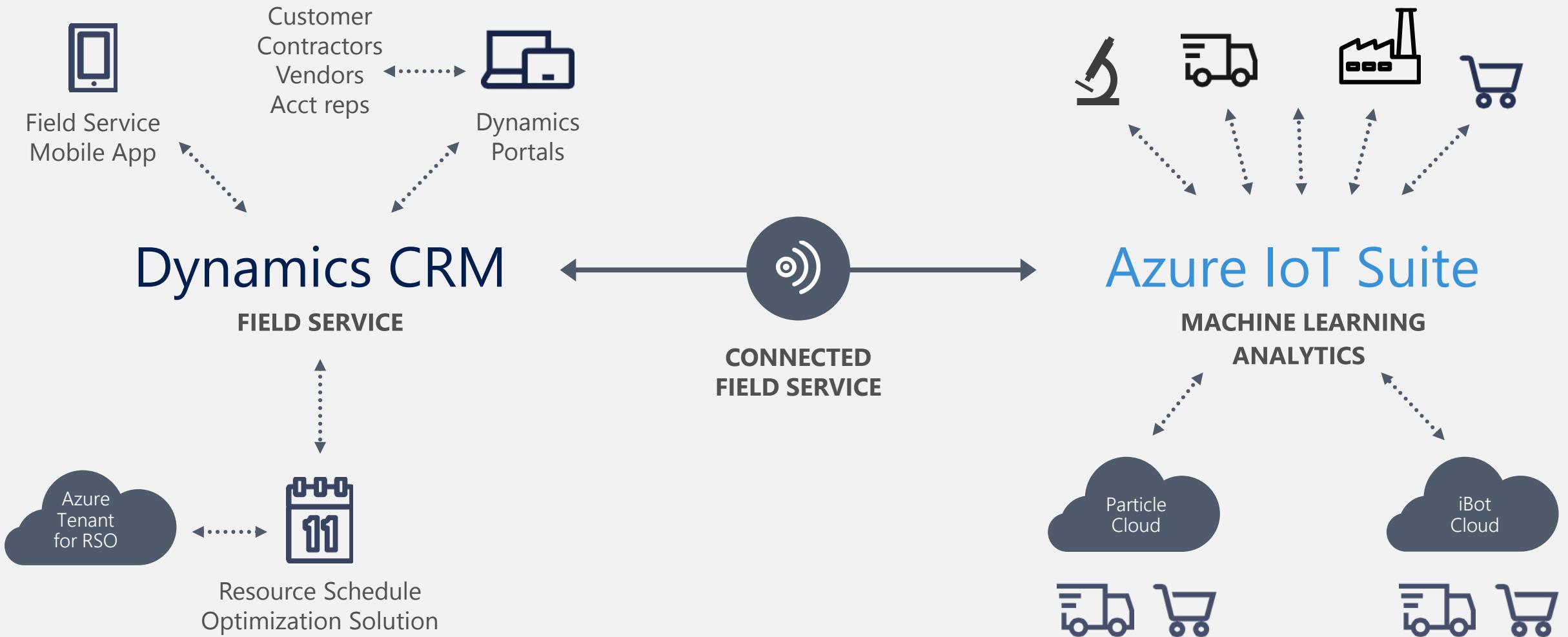
Improve 311 Service Center Functionality

- Under pressure to provide better service and transparency, Governments are turning to Microsoft's 311 Service Center to provide a citizen services framework.
- Connected sensors can easily and automatically feed data into these dashboards to improve transparency, reduce reporting time, and add context to citizen reports.
- Cities can use IoT sensors to monitor air quality, water quality, light pollution, sound pollution, and more. By constantly monitoring these indicators, cities can proactively respond to situations before they become big enough to attract the attention of citizens. Their proactive efforts (with the transparent data to back it up) can build trust with the community.
- Connected sensors can also improve reactive communication by providing data that the problem was solved, reduce documentation time, and providing a richer experience for citizens.

Unified Service Delivery with Dynamics CRM

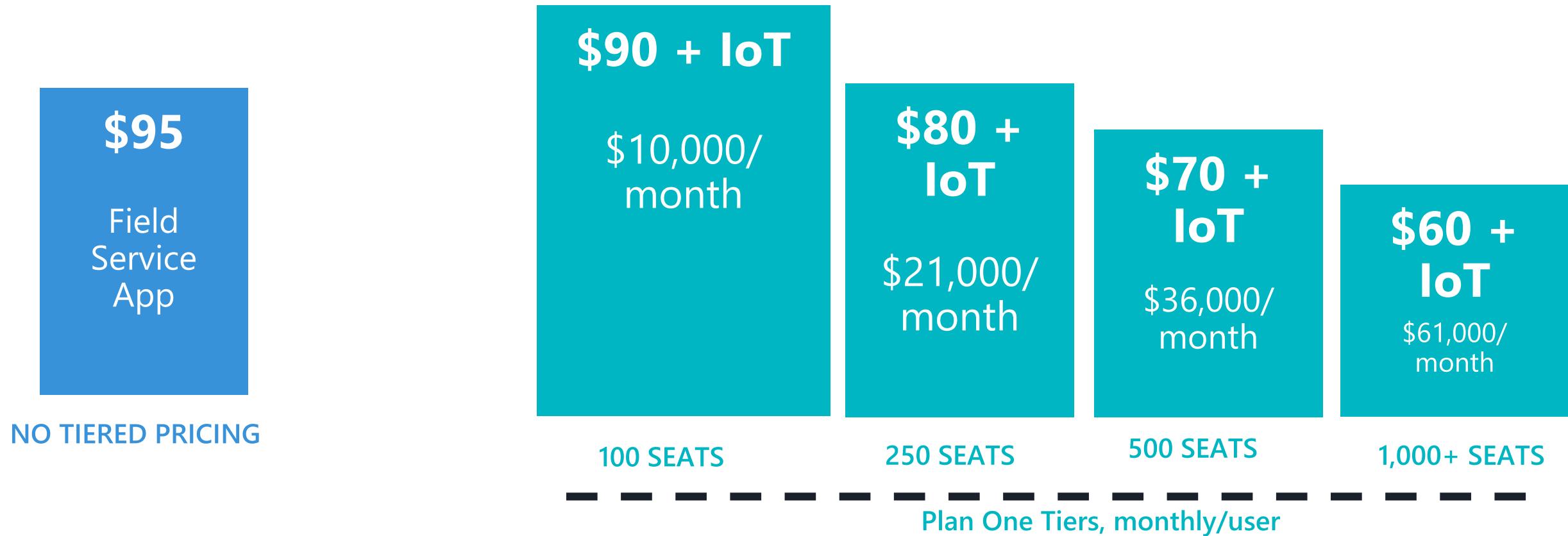


Microsoft Dynamics 365 for Field Service



Dynamics 365 for Field Service with Connected Field Service

Enterprise Edition Plan 1 Pricing Tiers



IoT (sold separately)

\$1,000/month: 6 million messages/day
\$9,000/month: 300 million messages/day

Azure IoT Suite – VL pricing*

Remote Monitoring



Plan 1

\$1000 / month**

6M
messages/day

Plan 2

\$9000 / month**

300M
messages/day

Predictive Maintenance



Plan 1

\$2000 / month**

6M
messages/day
+
Predictive Analytics

Plan 2

\$10,500 / month**

300M
messages/day
+
Predictive Analytics

Surpassing the capabilities of other IoT providers

Do they have a comprehensive IoT offering?

Do they have the necessary experience?

Can they scale?

Are they open?

Do they accelerate time to market?



Why Dynamics 365 for Field Service

Purpose-built



Scales to your
business size and
maturity

Productive



Get the most out of
your time spent
working

Intelligent



Move from being
reactive to proactive
and predictive

Adaptable



Explore new lines of
business through
profitable service offerings

