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AccreteSolutions
VISION. VALUE. DELIVERED.

Reimagine Service Delivery using IOT and Artificial Intelligence

November 15th 2018

Agenda

- Service Challenges & Complexities
- AI/IOT/ML Solutions
  - Spare Parts Planning
  - Problem Identification
  - Predictive Maintenance
- AI/ML/IOT integration with ERP and CRM
- Customer Case Studies
  - ✓ ARCA's experience with IOT/AI Service
  - ✓ Case Study – Industrial Equipment
  - ✓ Case Study - Medical Devices
- Questions

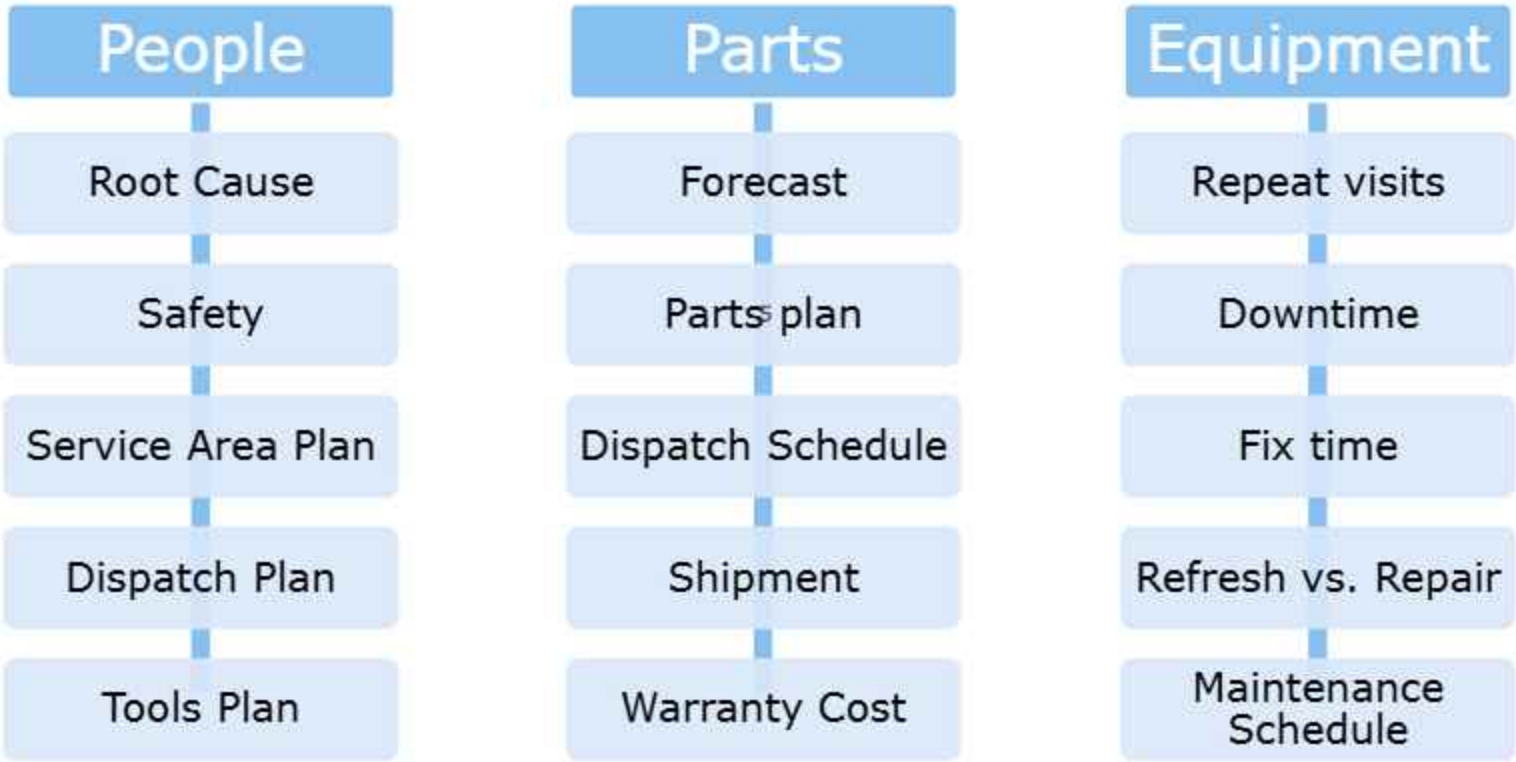
Service - Customer Relationship

$1 Trillion is spent in United States alone every year on Devices already owned!

Service Challenges

Service Leaders need Intelligence driven technology

Service Complexities

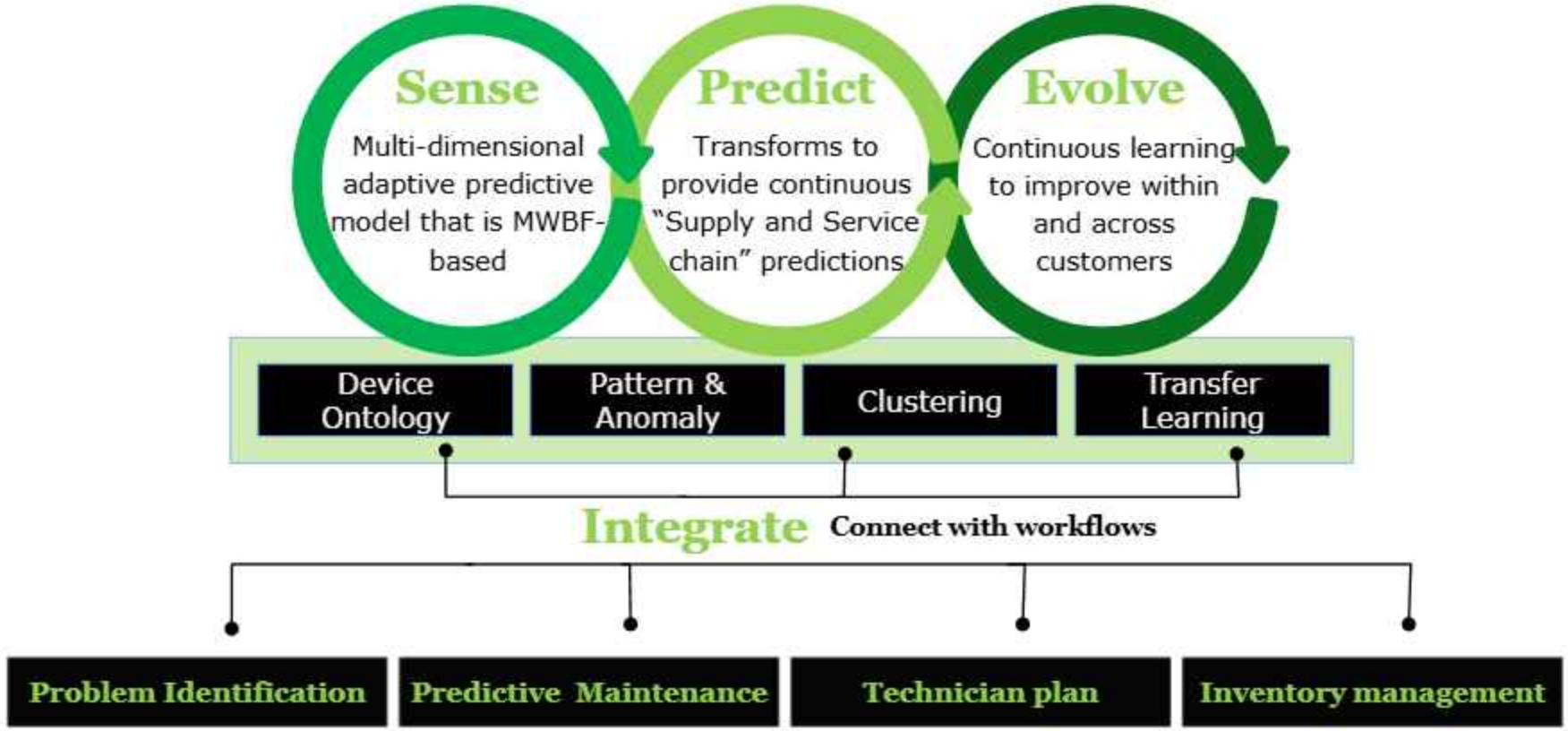


AI/ML for Service

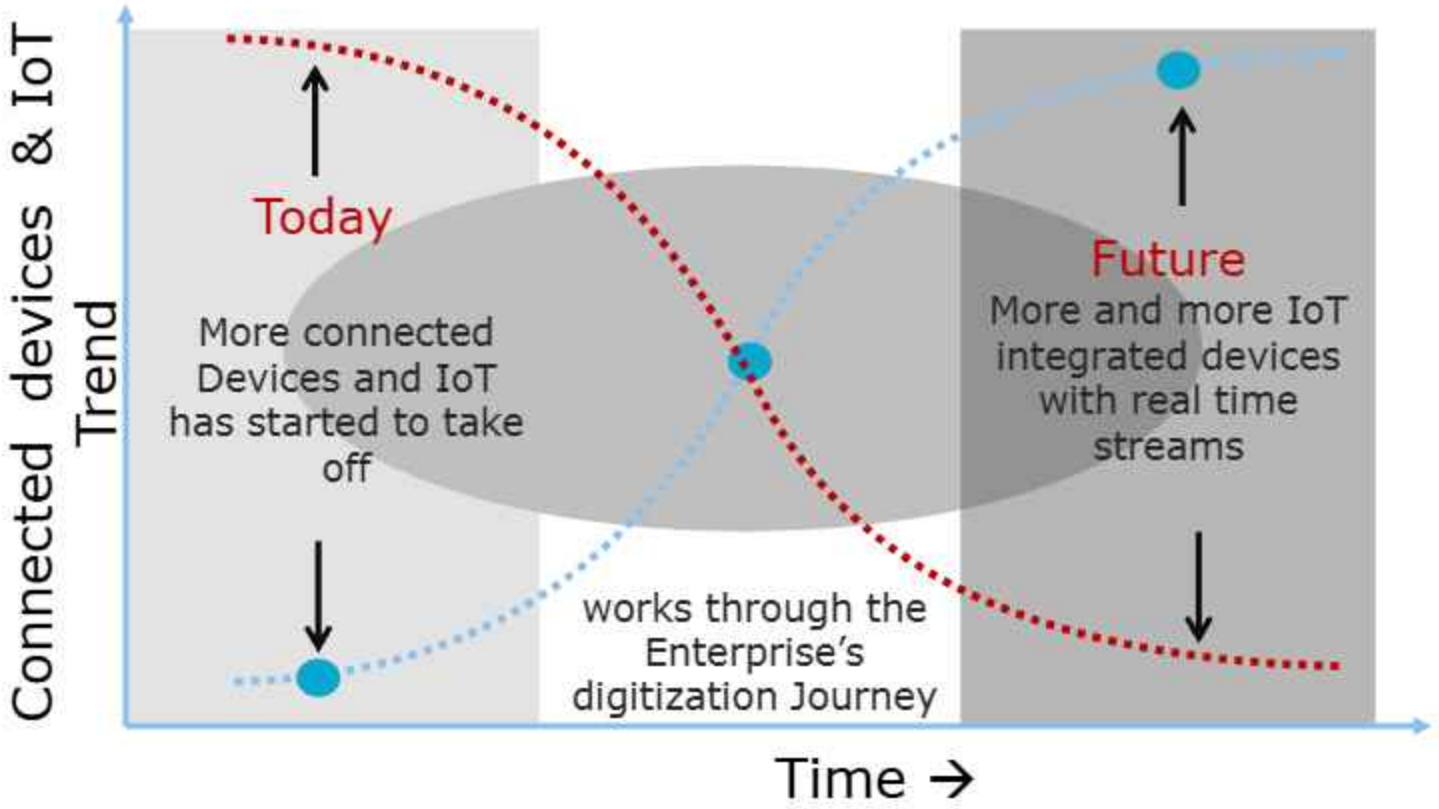
Integrated Predictive Model

- Use the field data and look for predictive signals to understand the failure pattern and anomaly
- Create forecast from these signals and by applying learning method; proactively address problems; Predict parts in time t is for the demand in time t+L+R to account for Lead and Receive times
- Account for variance by testing the data and adjust for the install base changes
- Integrate and provide visibility to see the impact at P&L level to make proactive operational decisions

AI/ML/IOT Technology



Ready to be deployed and works through the emerging IoT trend

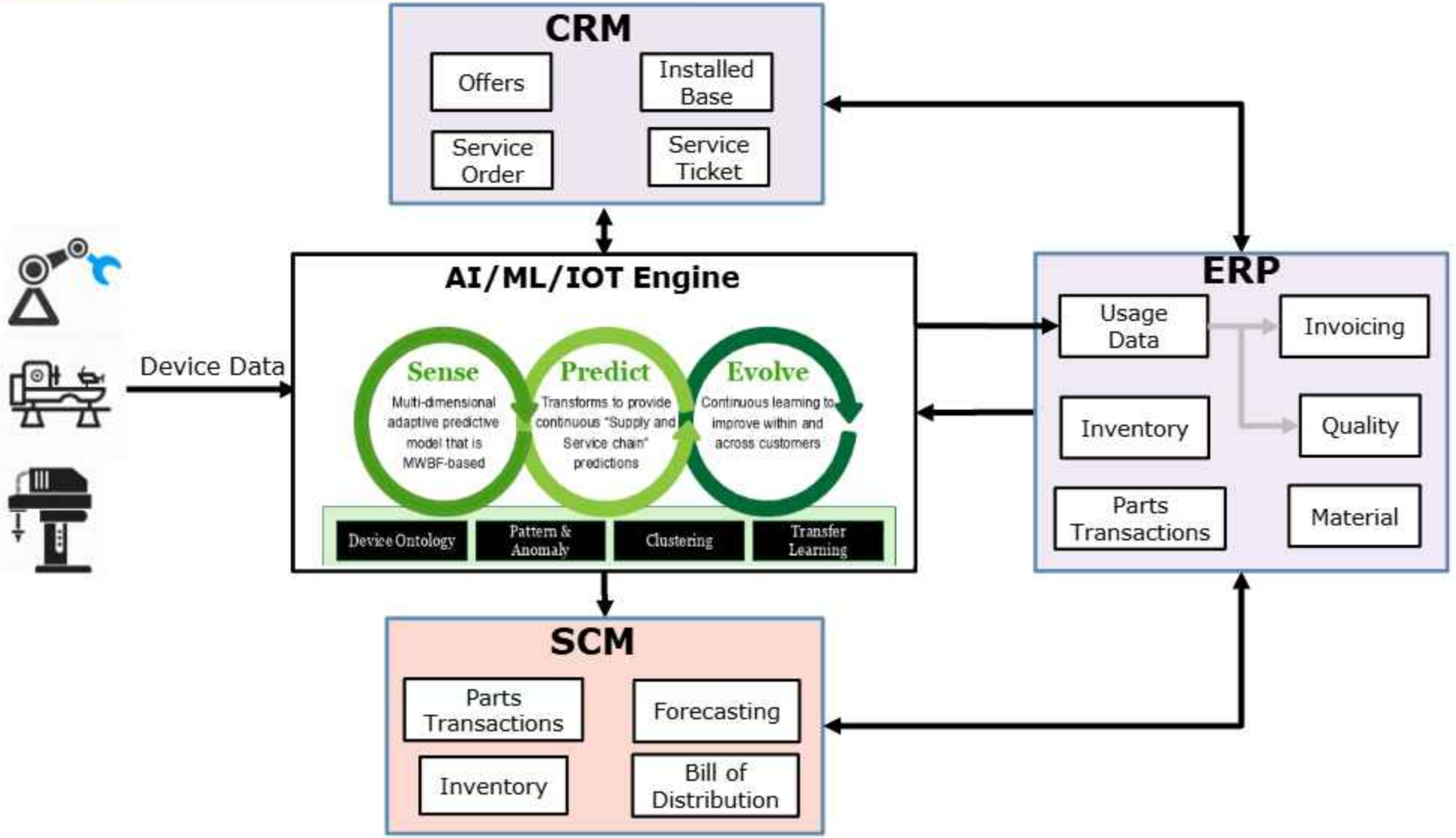


Service Planning Solution: Differentiators

	Traditional	Prescriptive
Optimize Services operations based on device usage patterns and machine learning	○	●
Provide early warning of an impending parts, assets, tools inventory problem	◔	●
Gain more accurate P&L impact based on future part demand prediction	○	●
Gain comprehensive understanding on technician and tools projections based on predictive models	○	●

Prescriptive Service Modules

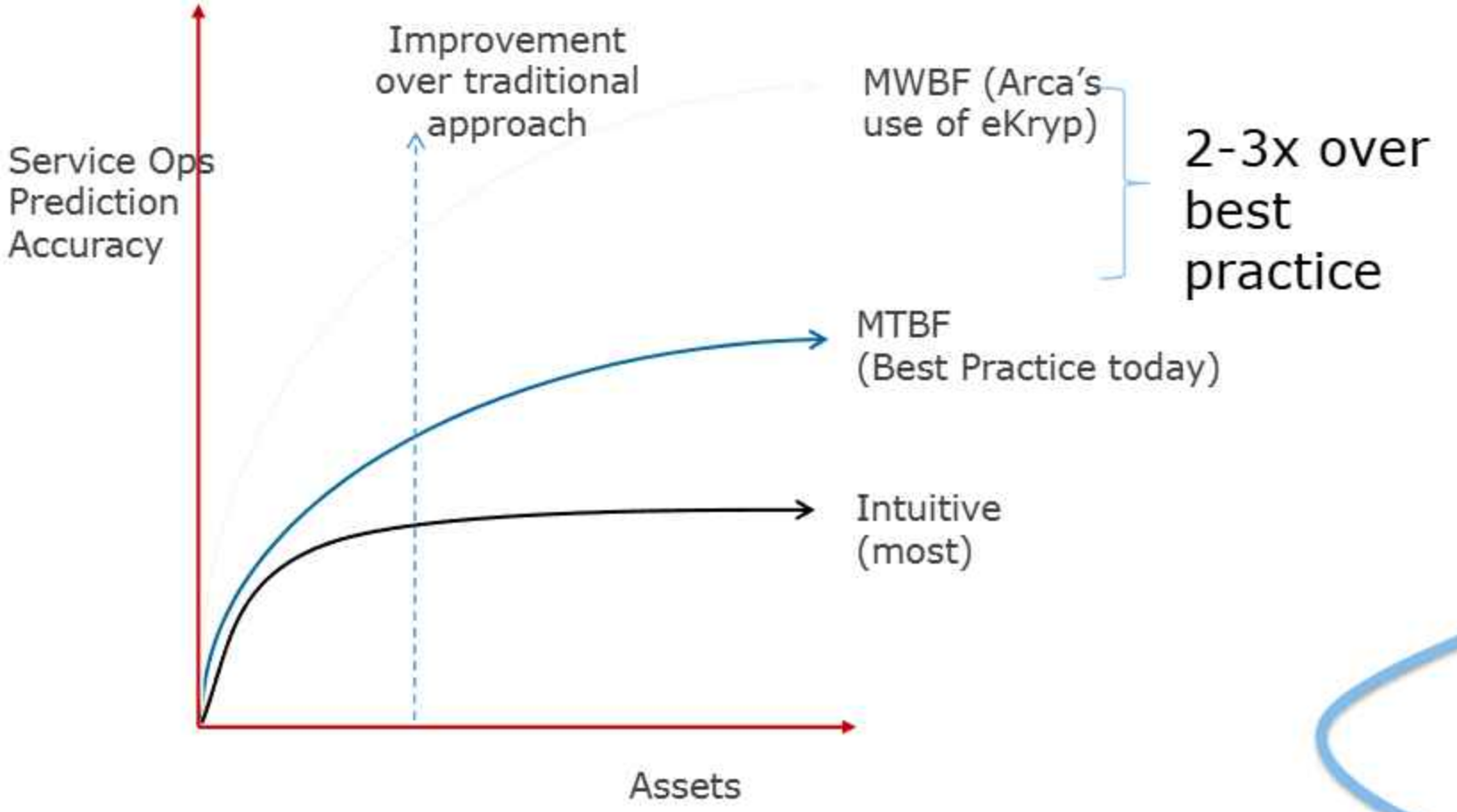
IOT/ML/AI integration with ERP & CRM



ARCA – Company Overview

- Global cash automation company headquartered in North Carolina
- Celebrating 20 years in 2018
- Most widely deployed cash recycler in the world (CM18)
- Operating in Financial, OEM, and Retail channels
- US Service footprint covering all 50 states with a network of 600+ certified field technicians
- Full service installations and technical support maintaining approximately 6,000 contracted units

Arca's advanced model is multiple times better than industry standard



Today's best practice is based on time and use(notes) whereas Arca is using multi dimensional model for much better predictability

$6.3M
increased value by Arca's customers

Example Customer Downtime Analysis

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Track Jam Example

REPAIR OPPORTUNITY

Do PM with a Purpose
2 Hrs Scheduled Downtime

REPAIR AT FAILURE

Dispatch 4 hrs plus
Potential Parts (additional 2 hrs)

Realized Downtime: Downtime + Dispatch + Part replacement

Potential value

Feb

Mar

PREDICTION WITH DETAILS

04Feb - Device Failure Prediction with Confidence level and potential root cause

$ MAR Unscheduled DOWNTIME (plus Dispatch hrs)

EXPANDED POTENTIAL VALUE

222 DEVICES
Based on Top 50 Prediction in Feb

6-8 HOURS
Unscheduled Downtime Avoided

1,822 Hours
Unscheduled Downtime Avoided

22,824 potential downtime hours avoided in one year

Large Contract Manufacturer involved in Flow Manufacturing

Case Study: Industrial

Solution

eKryp Device prediction and Incident Insight modules to enable the Contract Manufacturer to increase Overall Equipment Effectiveness (OEE

Modules Used

eKryp Device Service Intelligence
eKryp Real Time Streaming Connector
eKryp Real Time Alert and Notification

Analysis of **Sensor** data in real time

5% increase in OEE

Use machine learning to predict potential anomalies from the sensor data and provide alerts to machine operators and shift manager to prevent downtime

40% increase in operator efficiency

2x improvement in PM schedule and operations

Medical Device maker of high end scanning systems

Case Study: Medical Equipment

Solution

eKryp Device, Parts and Incident modules to enable the large provider of high end scanning machines to increase speed to resolve complex field issues, predict upcoming device downtime, and provide advanced service parts plan

Modules Used

eKryp Incident Categorization
eKryp Device Service Intelligence
eKryp Service Parts Planning
eKryp Data Integration Connector

Analysis of **5+ years** of field data on devices

3+ hours reduction in issue resolution time

Use machine learning to predict potential device anomalies, automatically categorize incoming issues to potential solution areas, and create service parts demand

97% accuracy in service part demand

3x faster warning during warranty period

Questions?

Thank You

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