

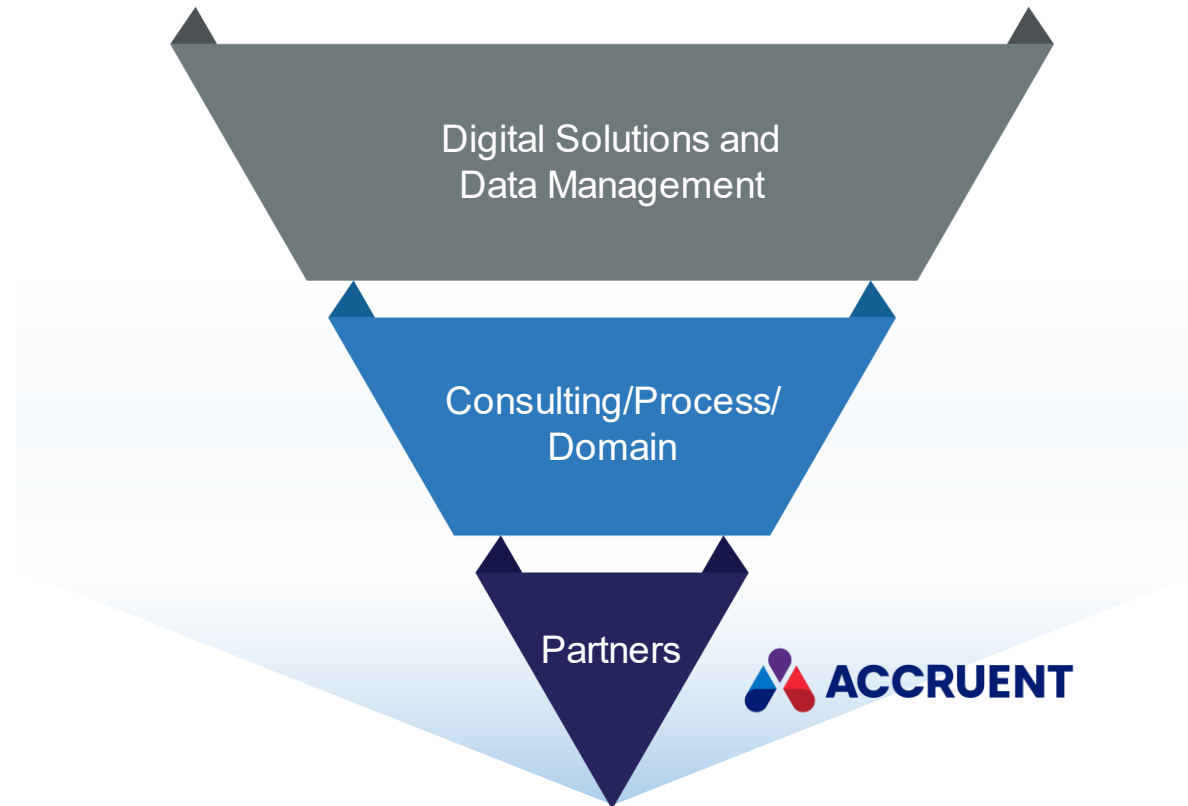


Woolworths & Sutherland

Optimizing In-Store Service Repair and Maintenance



Our Sutherland engagement Model creates synergy of effort and dramatic results



Impact: Scalability that drives: Cost containment, Revenue growth and operational efficiency and effectiveness



We Re-imagine And Transform Your Processes To Offer Next-gen Experiences



Customer
Success



Digital
Transformation
-as-a-Service



Digital Sales,
Marketing &
Loyalty



Automation-as-
a-Service



Content
Management



Revenue
Acceleration



Strategy,
Research &
Innovation



AI, Big Data &
Analytics



IT – Cloud



IT –
Infrastructure
Management



Future of Work



Legal Process
Outsourcing



Facilities
Management-
as-a-Service



Finance &
Accounting,
Procurement



Human Capital
Management /
HR



Supply Chain
Management



B2B Technical
Support/
Implementation



Cost Takeout



Our Understanding of Woolworth's Challenges and Objectives

Service Repair and Maintenance

Challenges / Objectives



Challenge 1: Need to enhance the visibility and actions based on refrigeration assets working parameters through available data

- a. Alerts, Alarm Management, and Priority Assignment
- b. Management of Threshold Settings
- c. Defrost settings / Energy Settings to maximize savings
- d. Remote monitoring of Controller and IoT Applications; Review and Report on bad operational practices in stores



Challenge 2: Improved Field performance (1st time fix levels) by better fault description, cause and remedy moving from reactive to condition based maintenance.

- a. Analyze Ticket Data / Categorizing into Malfunction, Poor Workmanship, and/or Planned Preventive Maintenance
- b. Pre Ordering of Parts against known faults and Estimated Timing
- c. Data driven Scheduling and Dispatch of Technicians
- d. Create Technician and Issue Scorecard



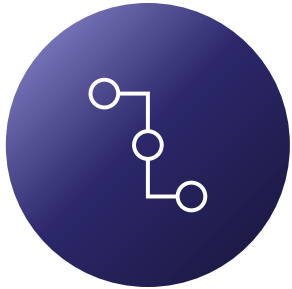
Challenge 3: Deliver new and enhanced Analytics driven Insights for Refrigeration Repair and Maintenance

- a. Improve Service Ticket Data Reliability, Optimize Spare Parts Usage, Limit Repeat Tickets
- b. Business Impact driven Prioritization of Service Tickets
- c. Smarter Preventative Maintenance & Predictive Maintenance
- d. Increase Sales through Cooler settings, Improve Technician and Issue Scorecards



Challenge 1 : Need to enhance visibility of refrigeration assets working parameters

Provide remote monitoring and control of multiple equipment types, delivering maintenance and energy efficiencies. Business rules engine provides real-time alerting; alarm management/triage for optimized reactive maintenance and analytics.



CONNECT

- Hardware agnostic
- Many existing integrations
- Connection to the physical controller on-site
- Creating a digital version
- Dedicated virtual private network



MONITOR

- Ingestion of alarms
- Alarms-based workflows
- Prescriptive maintenance
- Advanced alarm triage
- Priority based workflows
- Manage to resolution



PREDICT

- Telemetry data-based anomaly detection
- Data normalization
- Predictive rules engine
- Predictive-based workflows
- Condition-based maintenance



CONTROL

- Global set point changes
- Global schedule changes
- Precision maintenance
- Remote diagnosis & fix
- Rule based control



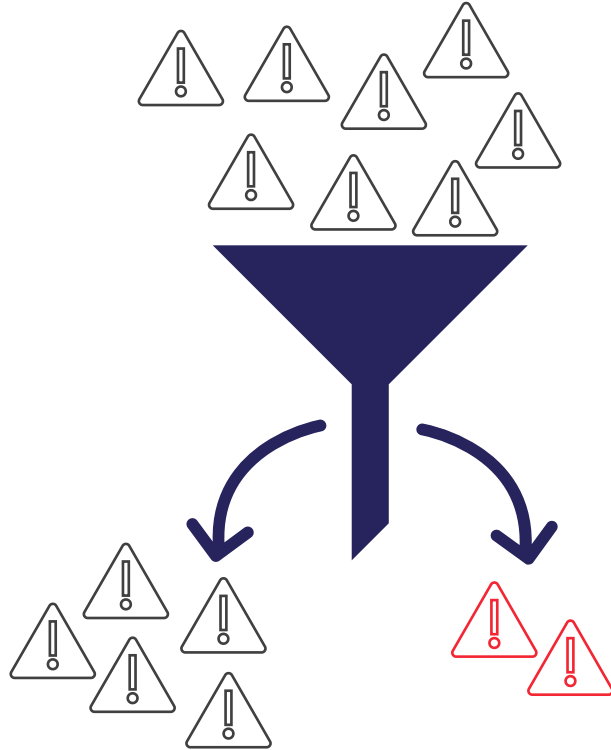
Vx Observe: A transformational IOT remote monitoring system

- Remote monitoring
- Control of equipment
- Alarm management
- Business rules engine
- Comparative Data
- Maintenance & energy efficiencies

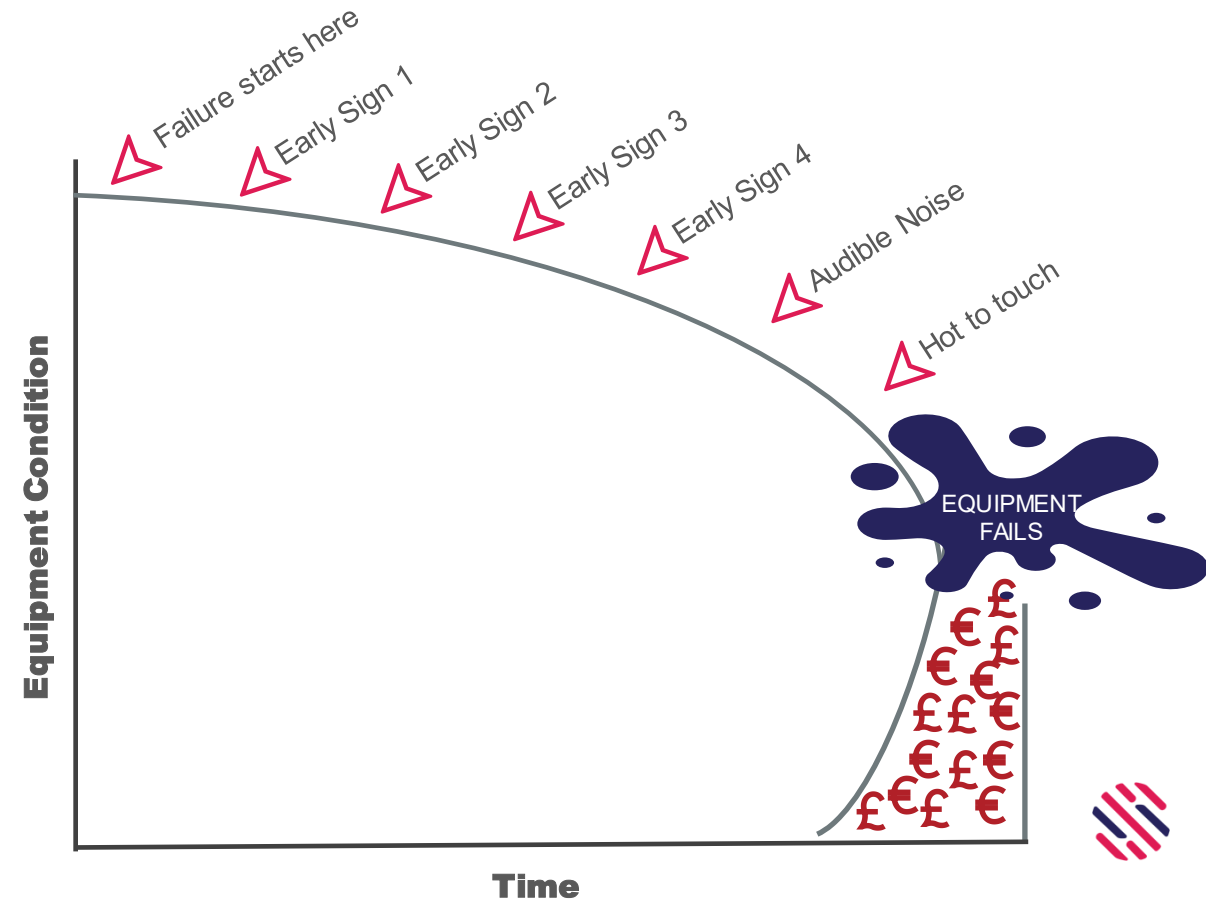


Goal: Help accelerate transformation towards even greater Proactive/Predictive Maintenance Regime

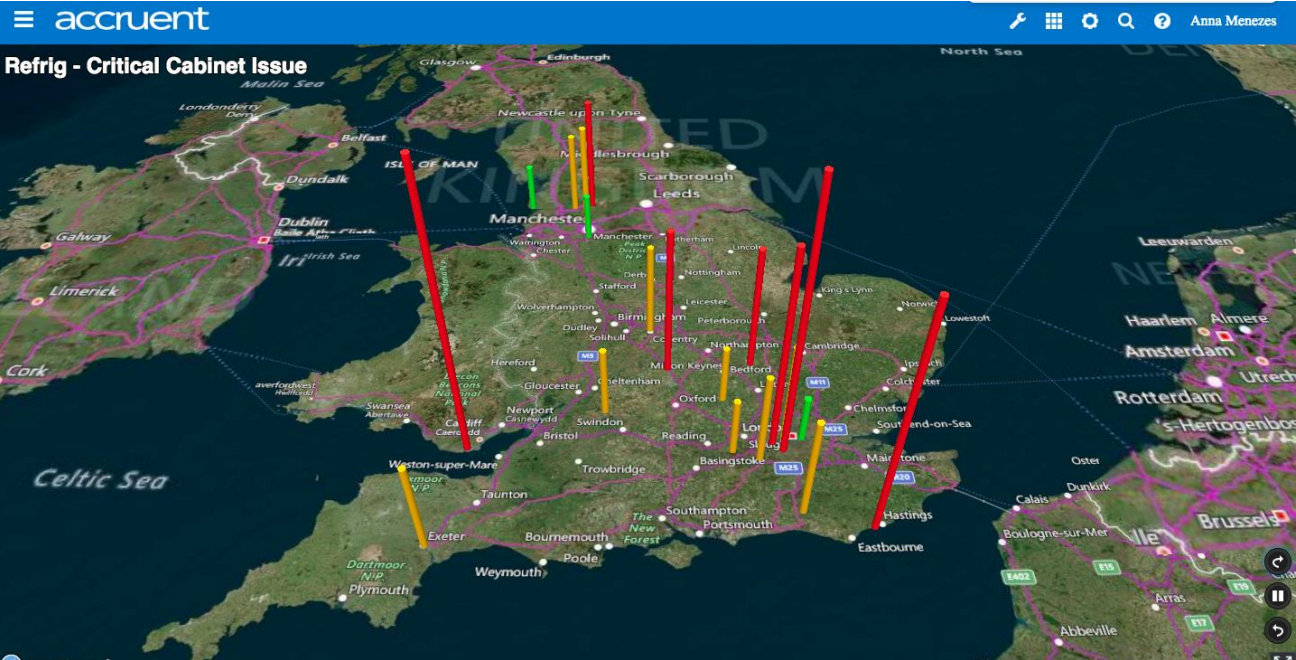
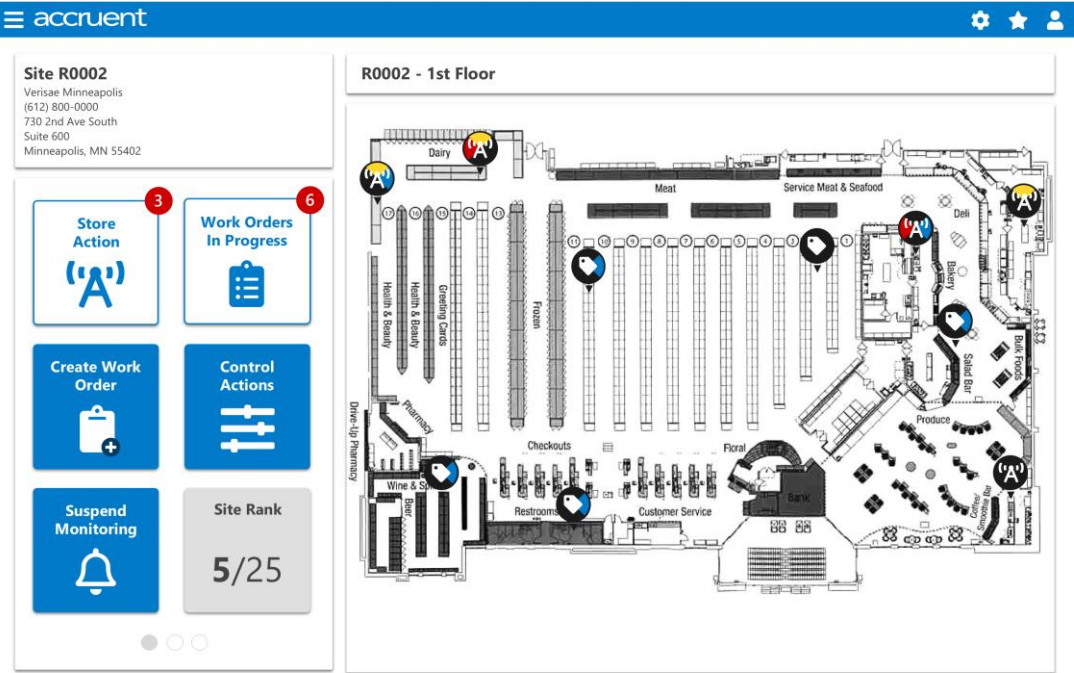
Better Quality Reactive Response



Move to Condition Based Maintenance (Proactive/Predictive)

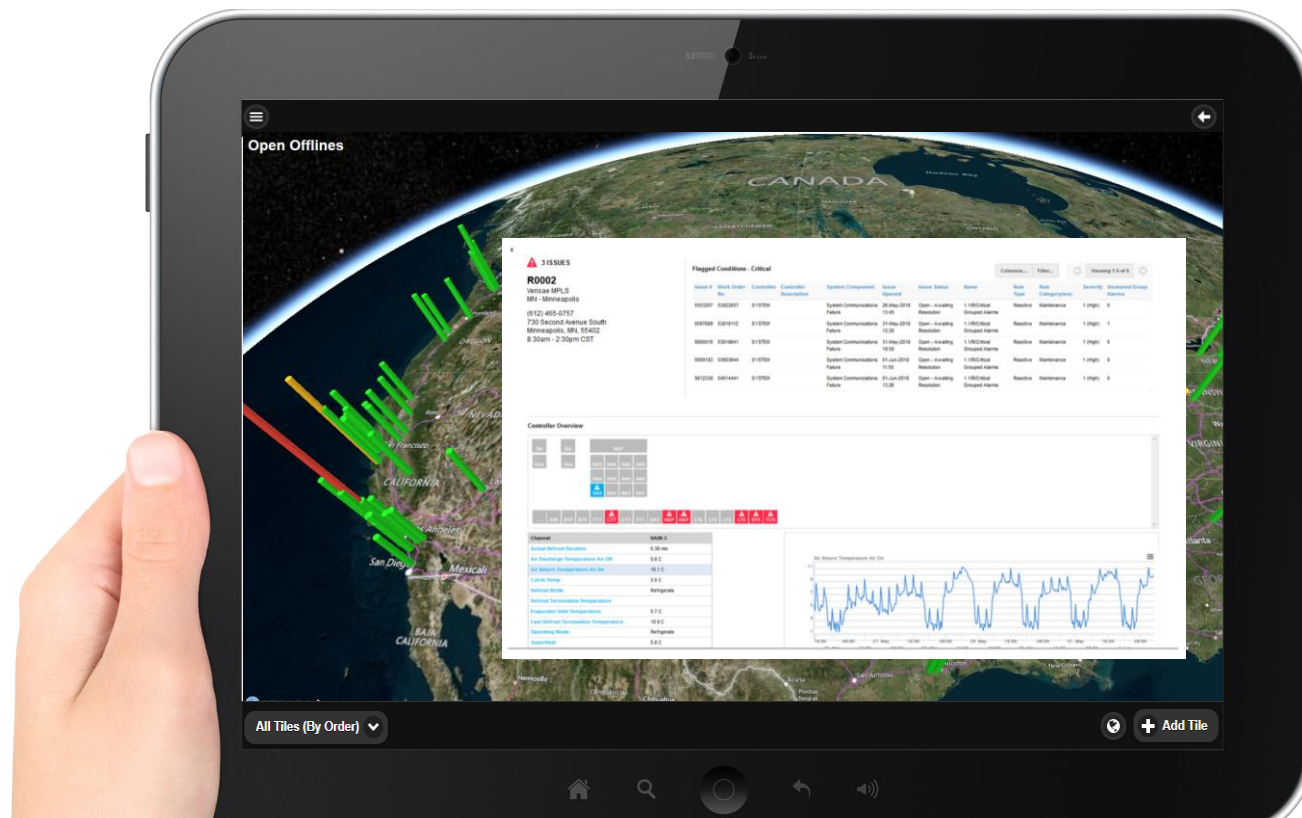


VX Observe: Alerts, Alarm Management, and Priority Assignment capabilities



Automatically identify exceptions and create repeatable workflow rules to help reduce alarms

- Ingest data from across your enterprise to identify anomalies quickly
- Create workflows that ensure issues are managed to desired resolution
- Rules utilize all available data to directly compare sites, assets, baselines etc.
- Alert duplication and priority management
- Workflow can integrate with CMMS systems to complete workflow
- Drastically reduce work orders



345 BILLION
telemetry points annually

204 MILLION
kWh entries per year

25,000
meters monitored

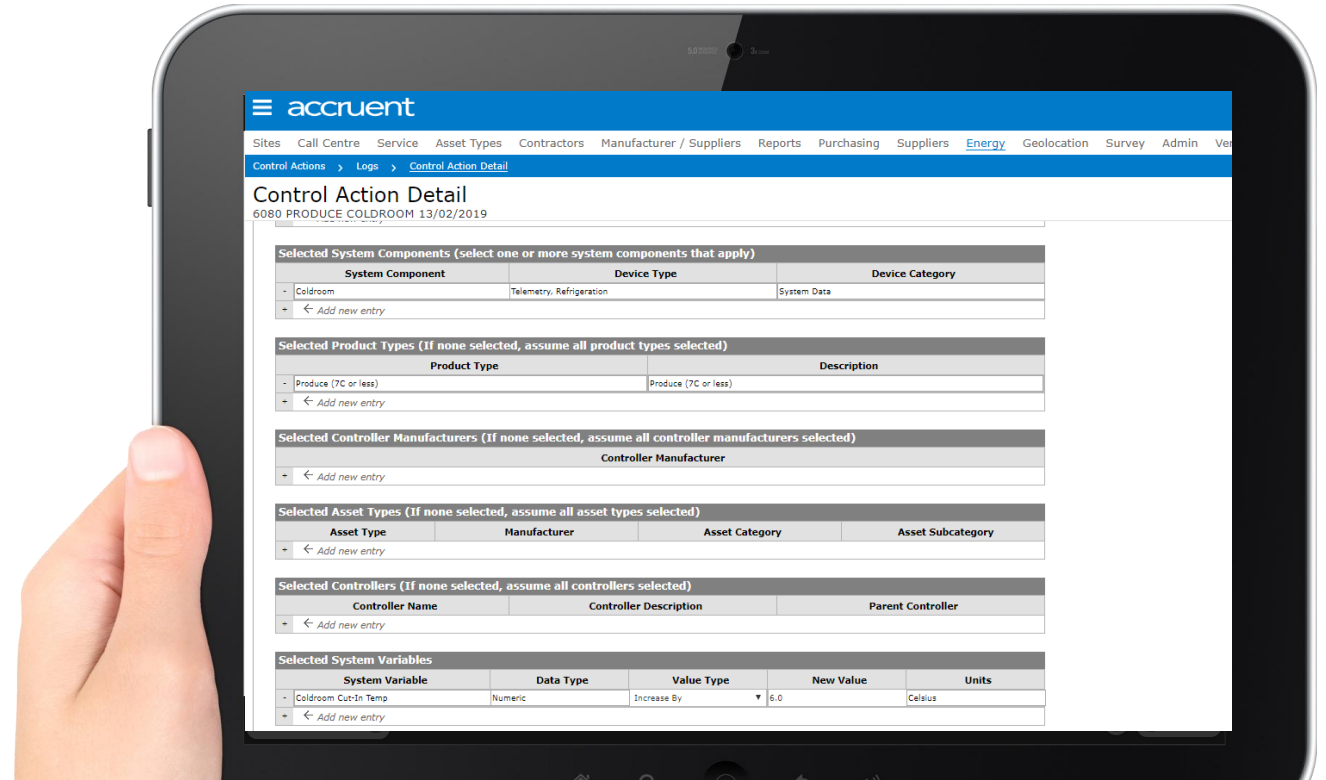
REAL TIME & DELAYED monitoring



Enable real-time Management of Threshold Settings

Control energy spend through global day-level set point changes for enterprise compliance

- Demand response
- Load shedding
- Global set point and schedule changes
- Automate identification and correction of inefficient assets
- Validation and logging of all issued commands
- Automatic Monitoring and Targeting



345 BILLION

telemetry points annually

204 MILLION

kWh entries per year

25,000

meters monitored

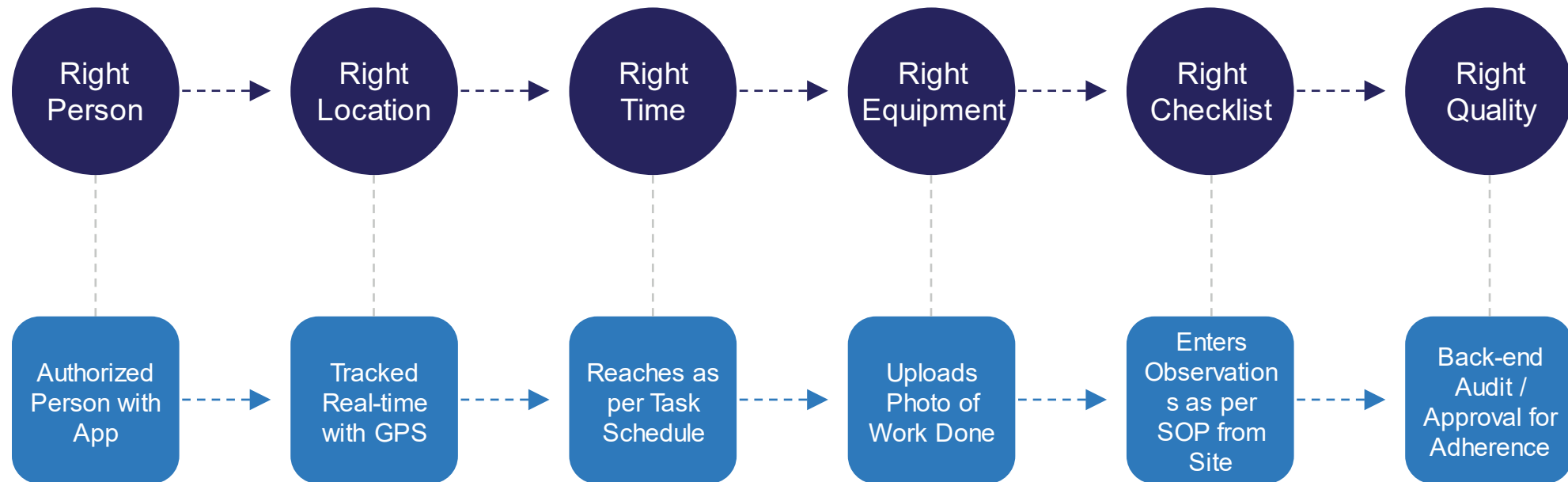
REAL TIME & DELAYED

monitoring



Challenge 2 : Improve Field Workforce Productivity of Repair & Maintenance Technicians

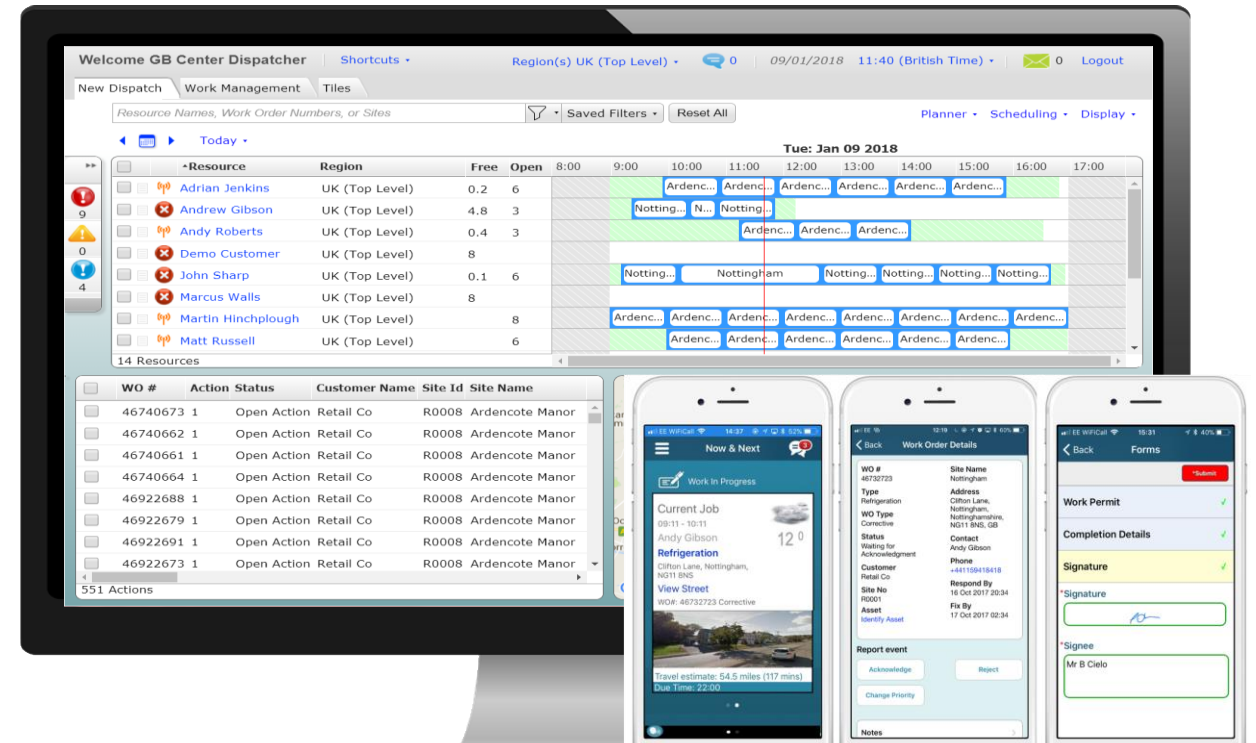
Field workforce management provides end-to-end service delivery functionality to optimize the performance of simple and complex field service work in line with your business objectives. The solution delivers intelligent work allocation, optimized resource scheduling and dispatch, performance management and fully integrated parts and inventory management.



Vx Field: Creates a capability to optimize resources, drives decisions and improve productivity

Schedule, Dispatch & Optimization

- Efficient matching of resources to work to maximize utilization & minimize travel.
- Automated scheduling & dispatch, reducing dispatcher ratios
- Apply objectives & priorities
- Optimize/re-optimize resource allocation in response to ongoing changes



75k

technicians scheduled and dispatched

2.3 million

service calls

40%

Increase in productivity

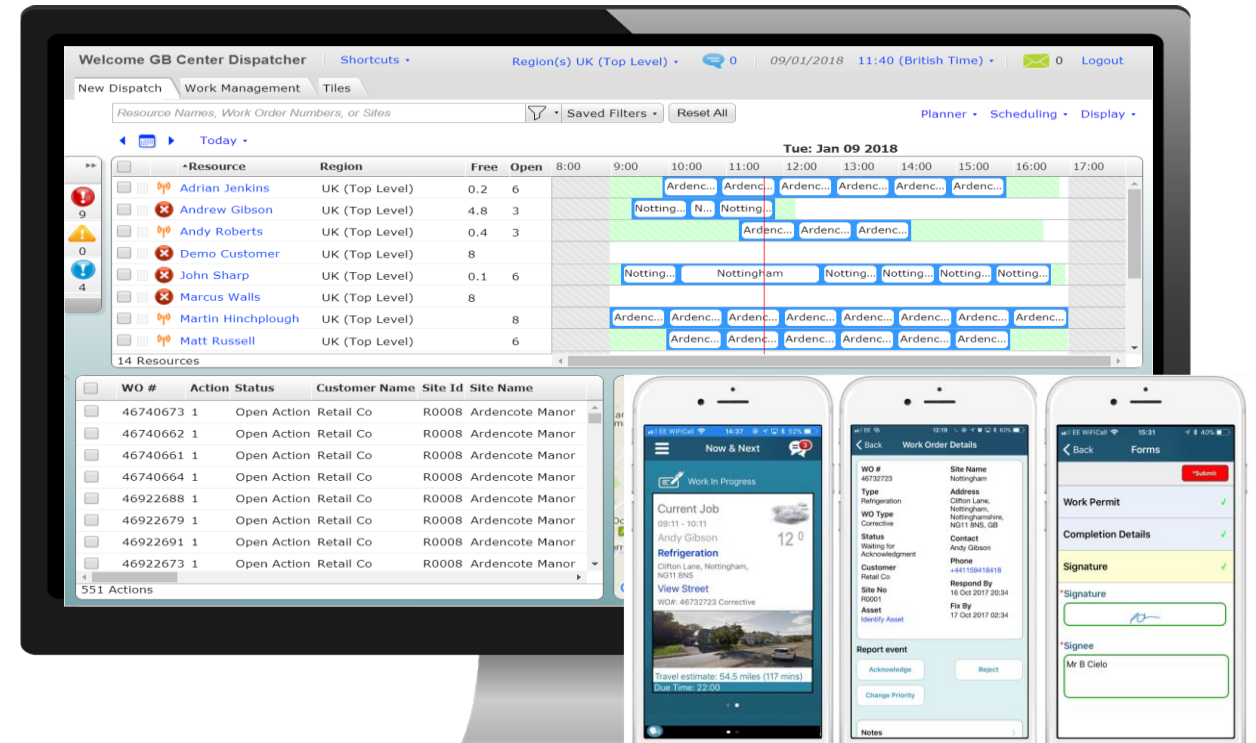
10-20% savings

field operations costs



Vx Field: Engages Field based Service Technicians with actionable management

- Intuitive mobile apps (Android/iOS) to aid field operations & SLA achievement
- Efficient Parts & Inventory management
- Utilisation tracking/reporting & timesheets
- Actionable Management Info



75k

technicians scheduled and dispatched

2.3 million

service calls

40%

Increase in productivity

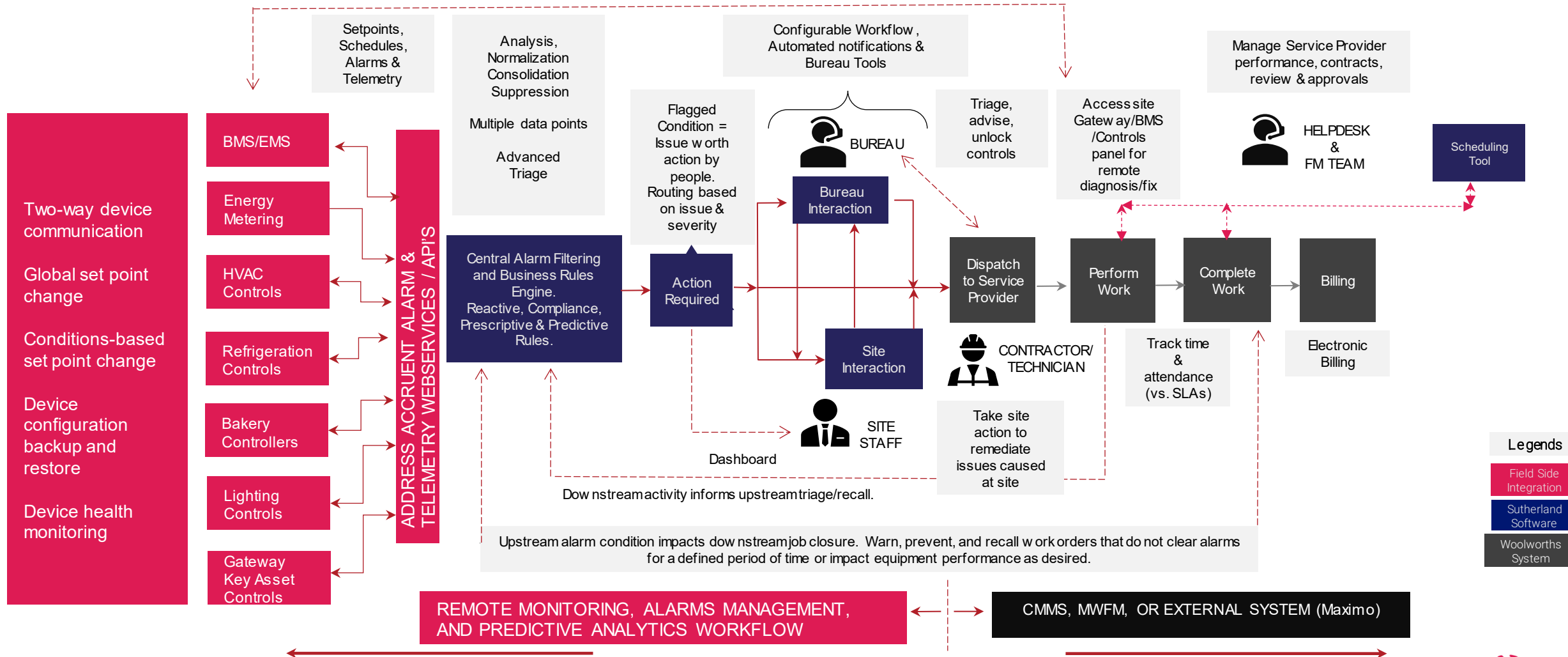
10-20% savings

field operations costs

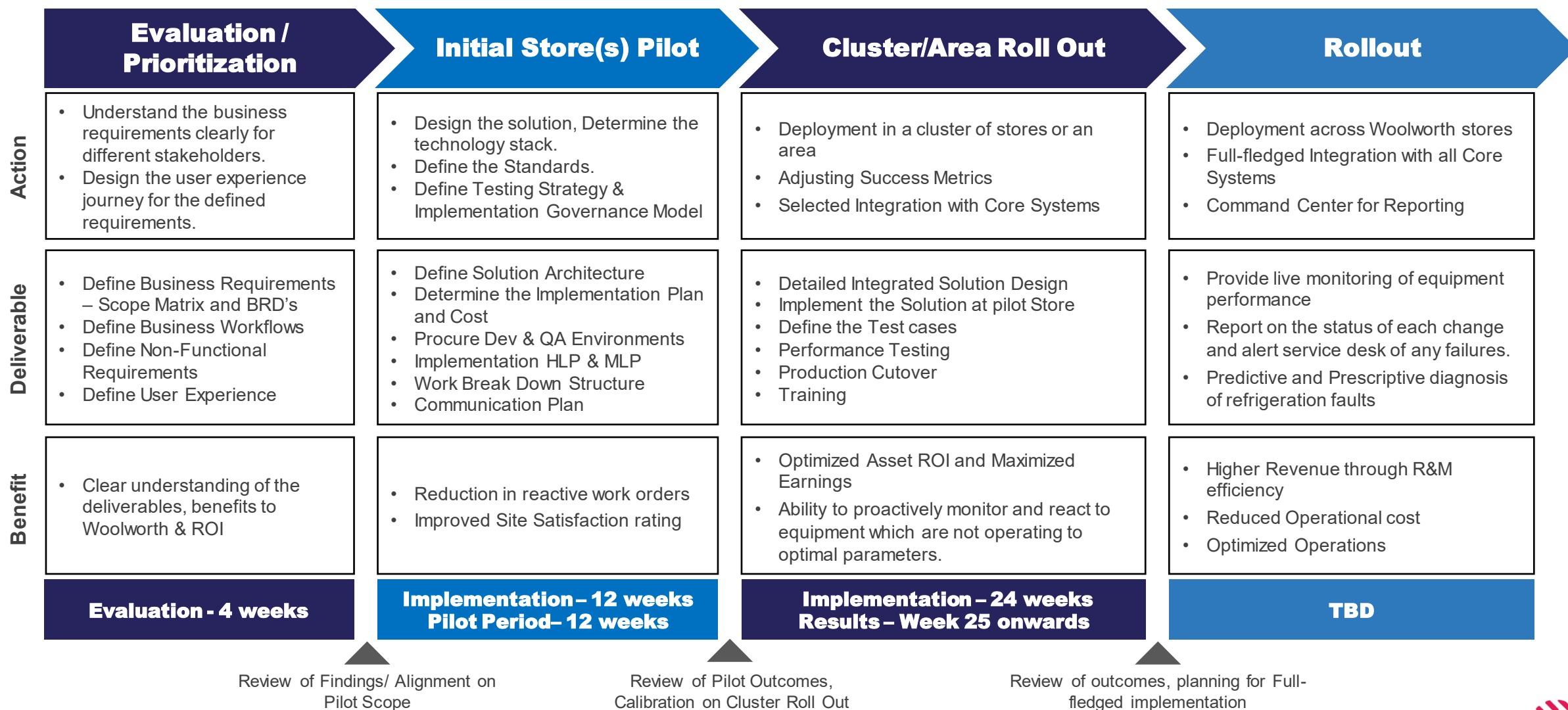


Digital Transformation Process View

End-to-end process & workflow with multi-party interaction & visibility on common integrated platform



Our Recommended Engagement Approach



Challenge #3 : Deliver New and Enhanced Insights for Refrigeration Repair and Maintenance

Create an Analytic Environment to continuously analyze data from Repair Tickets, Sales, Coolers / Controllers, Parts Inventory, External Sources, and eventually IoT applications with the overall objective of utilizing Prescriptive / Predictive Analytics to become more efficient with Inventory Management, Service Technician Assignment, and Sales Enablement



Capture / Utilize Data

- Ingest Sales, Ticket/Remedy, External, Controller / Cooler, and other IoT data
- Create AI/ML models for Predicting R&M Needs based on prioritized Use Cases
- Generate 360 Degree Business Insight



Actionable Analytics

- Accurate and Timely Preventive Maintenance Suggestions
- Additional Repair / Maintenance suggestions to maximize Technician visit
- Recommendations for increasing Asset ROI and reducing Lost Revenue / Expenses



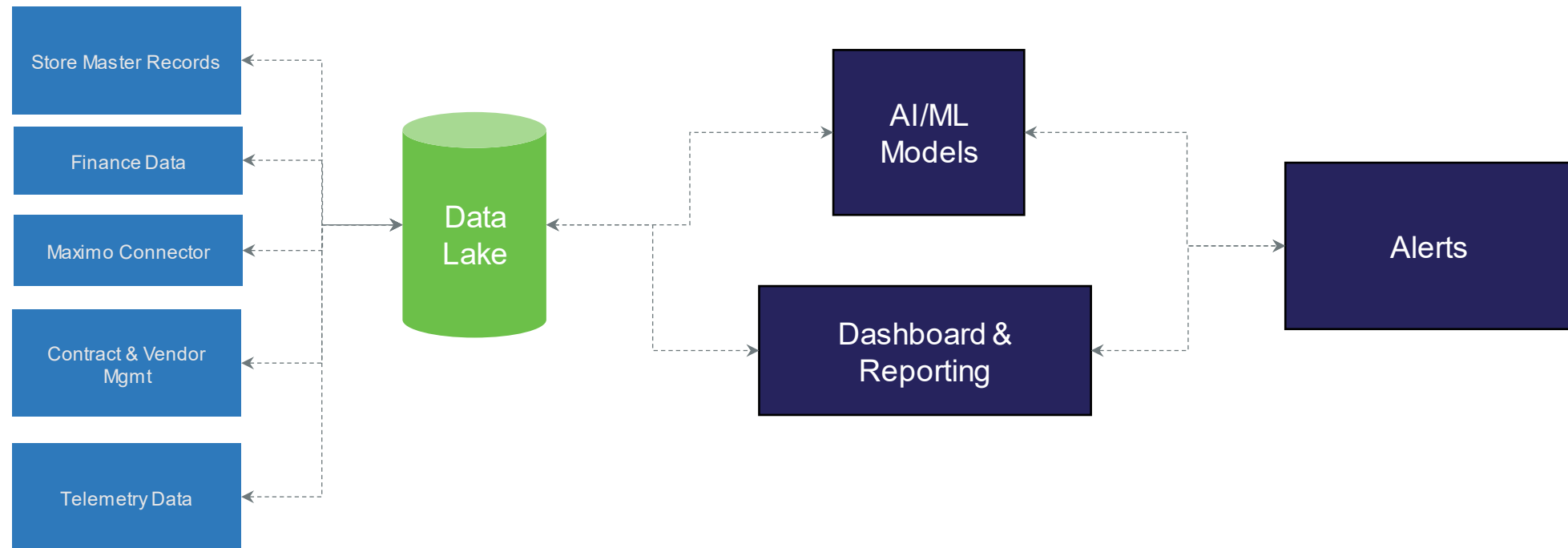
Monitor

- Deploy Data-Driven, Real-Time Alerts
- Alarms-based workflows
- Priority based workflows
- Utilization of AI/ML models as Alerts and Alarms are created



Digital Transformation Process View –Sutherland Analytics

Utilize all available and pertinent data to create AI/ML models and Dashboard Reporting with Model Scores / Actions sent back to corresponding modules and Alerts delivered as needed



Analytics to optimize Operational Goals

Optimize Spare Parts Usage Limit Repeat Tickets

Goals

- Create reason/issue codes to 'required parts' mapping
- Identify other parts that should probably be replaced during the same visit

Outcomes Enabled

- Identify ticket/technician part usage outliers
- Improved visibility and control of spare parts and hence lower repair costs
- Improve repair cost forecast and spare parts inventory forecast (i.e., lower inventory costs)
- Improve Service Ticket Data Reliability

Data

- Last 12 months of service tickets & associated parts usage, service ticket and parts costs

DnA Approach

- Cluster and Correlation Analysis, NLP

Business Impact driven Prioritization of Service Tickets

Goals

- Analytics led prioritization of service tickets (vs. the current process of contact center agent determining priority)

Outcomes Enabled

- Optimal utilization of available resources
- Minimize wastage/spoilage and/or lost sales

Data

- Last 12 months of service tickets, store/SKU level wastage/spoilage data (along with date ranges), store location which is then used to look at local weather conditions/trends

DnA Approach

- Technician level profiling of success/failure rates for different kinds of issues
- Profiling of dollar impact on store through wastage and/or opportunity lost (using indicators like foot traffic/overall store sales analysis)
- Segment issues by variables like asset age, historical failure rates – and create thresholds by segment

Smarter Preventative Maintenance & Predictive Maintenance

Goals

- Build store/equipment/weather segment/cluster based preventative maintenance schedule vs. a one-size fit-all
- Leverage sensor/usage data along with external data to assess & deliver 'need' based i.e., predictive maintenance

Outcomes Enabled

- Minimize/eliminate downtime
- Need based visits vs. 'unnecessary' service call

Data

- Last 12 months of service tickets, cooler sensor data and/or SKU sales data plus cooler – SKU mapping by store location, and local weather conditions/trends

DnA Approach

- Store/SKU Segmentation based on Failures
- Build a correlation model between door open/close cycle count plus door open time, weather conditions and occurrence of issue
- Leverage correlation to then predict likelihood of failure based on ongoing sensor/sales data



Analytics to optimize Operational Goals

Increase Sales

Goals

- Determine optimal cooler conditions (SKU temperature, luminosity, etc.) that drive sales

Outcomes Enabled

- Incremental cooler SKU sales

Data

- Pilot in 'like' stores to gather cooler conditions
- Cooler / Controller Data and Sales data from the same stores

DnA Approach

- Promotion/Lift analysis to determine incremental impact of cooler conditions

Technician Scorecard

Goals

- Reporting technician success/failure rates, accuracy rates for completing ticketing information, parts consumption rates
- Trends/outlier analysis
- Comparison of technicians across similar store segments

Outcomes Enabled

- Improved Technician training
- Improved Service Quality
- Minimize/eliminate downtime

Data

- Last 12 months of Technician Service Records

DnA Approach

- Build a reliability-based maintenance technicians' Performance Model to optimize workload & productivity levels.

Issue Scorecard

Goals

- Dashboard that summarizes issue counts, frequencies, parts consumption rates i.e., cost of resolving, impact of issue (wastage etc.)

Outcomes Enabled

- Reducing cost, improving efficiency, quality, and achieving Predictive Diagnostic services
- Identification of Anomalies

Data

- Last 12 months of Technician Service Records

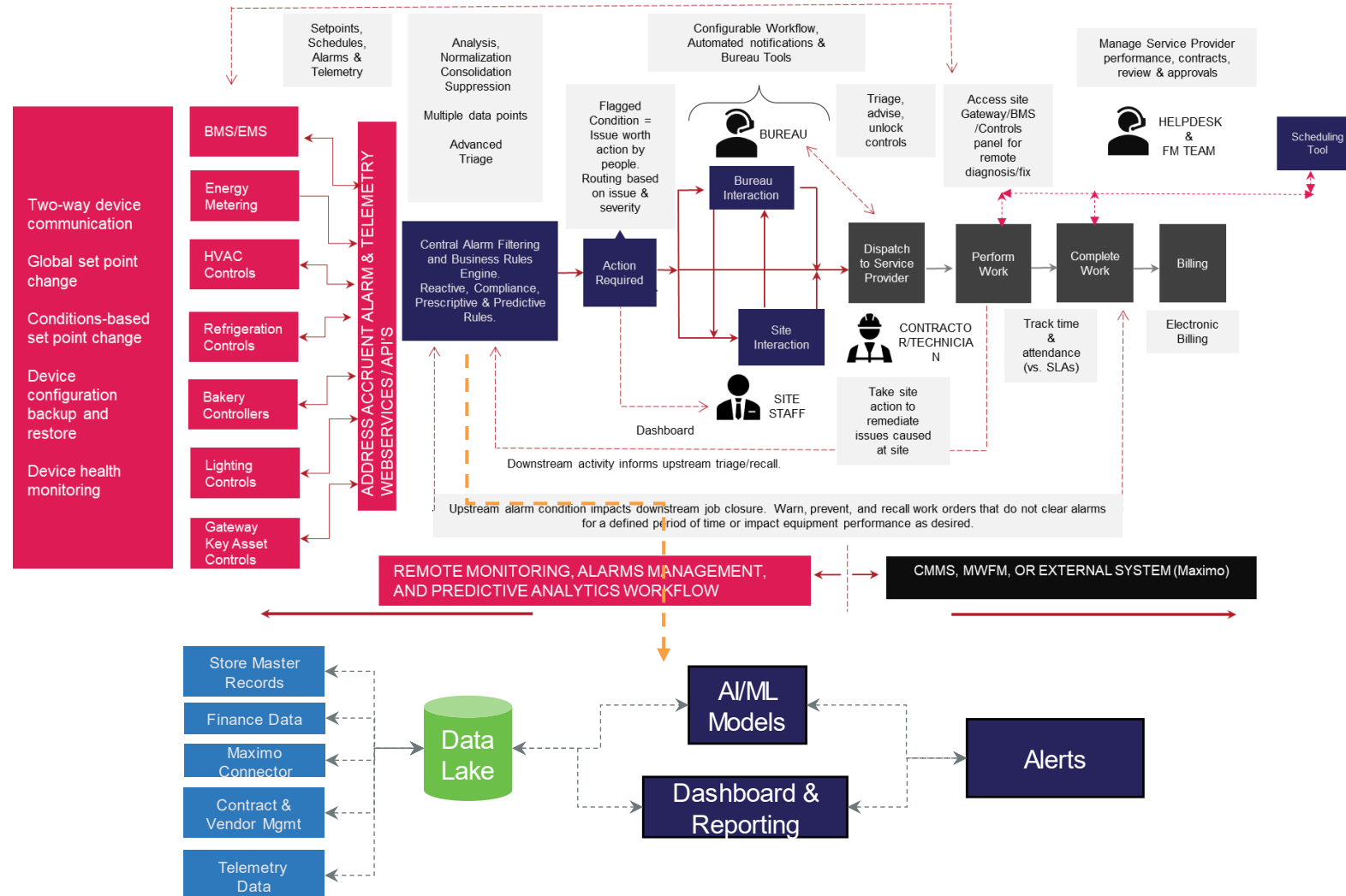
DnA Approach

- Issue/Store segmentation
- Driver Analysis to identify significant issues, areas and factors of inefficiencies.

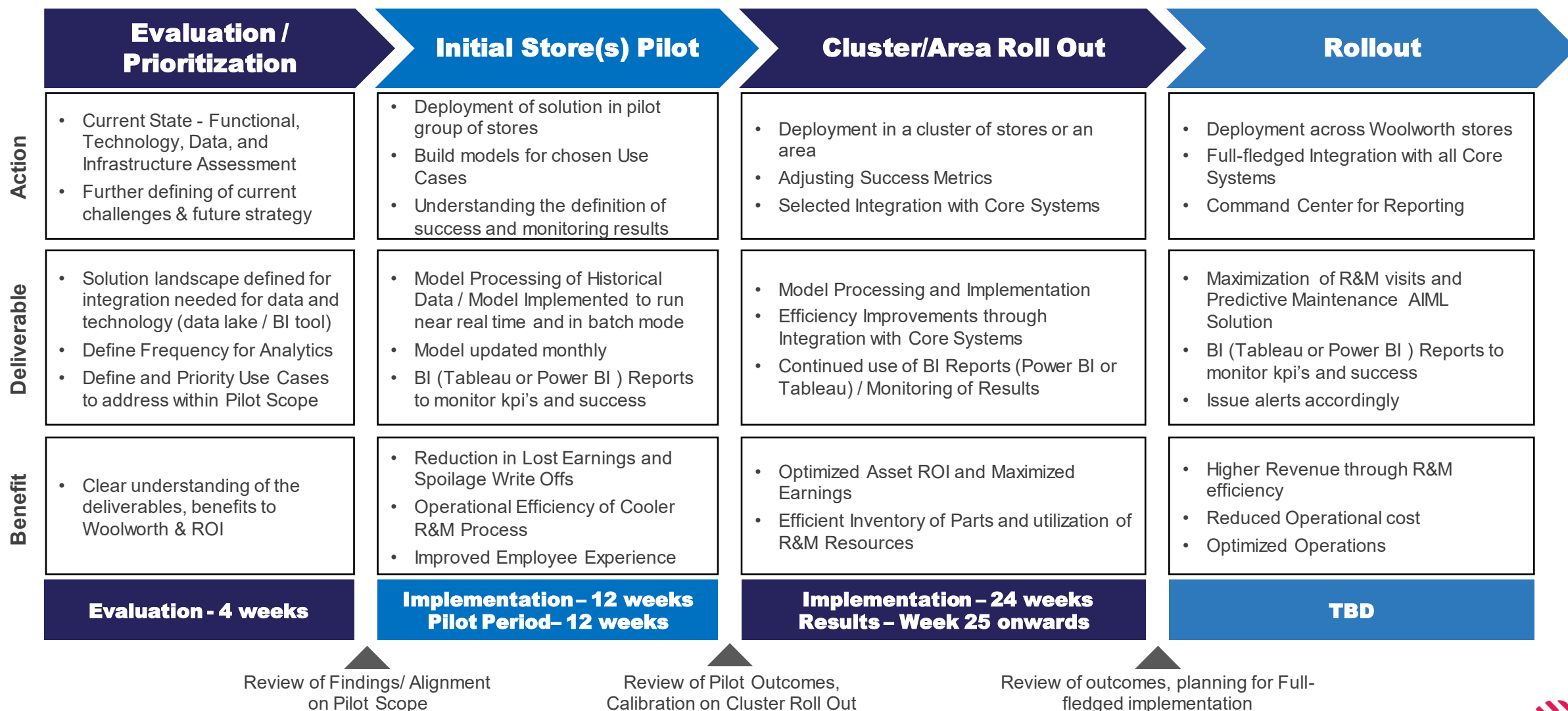


Digital Transformation Process View

End-to-end process & workflow with multi-party interaction & visibility on common integrated platform



Our Recommended Analytics Engagement Approach



Summary of Value Creation and Benefits

Challenge 1 Key Benefits

1. 87% Alarm Reduction per site
2. 30% reduction in WO creation
3. 40% of site Energy is used on refrigeration ~ 12% Refrigerant Energy Saving
4. 30 - 50% reduction of Stock Loss / Wastage
5. Reduction in lost sales due to reduced equipment down time (quicker response SLA)

Challenge 2 Key Benefits

1. Improve Technician Labour Efficiency (26% in overall efficiency and reduced idle time by 31% with Accruent Service Solutions)
2. Improve Technician Labour Efficiency (Overtime Labour Rates) (Best of class companies achieve a 25% – 45% reduction on overtime)
3. Improve First Time Fix Rate (Reduce Return Visits) (Best of class companies achieve 10% - 25% increase in first time fix rate)
4. Reduce Revenue Leakage (Accruent client - Turnover increased by 26%)
5. Better Pricing through Better Visibility, Volume Purchasing, and Re-use (2% reduction in inventory costs through a better more centralised purchases process.)

Challenge 3 Key Benefits

1. Reducing the lost earnings, reputational damage, and write off amounts from food spoilage
2. Optimize Spare Parts Usage and Minimize Fraud
3. Smarter Preventive and Predictive Maintenance Schedule
4. Data-Driven Strategy for Technician and Remedy Management
5. Increase / Drive incremental sales through optimal cooler conditions



ROI is real....

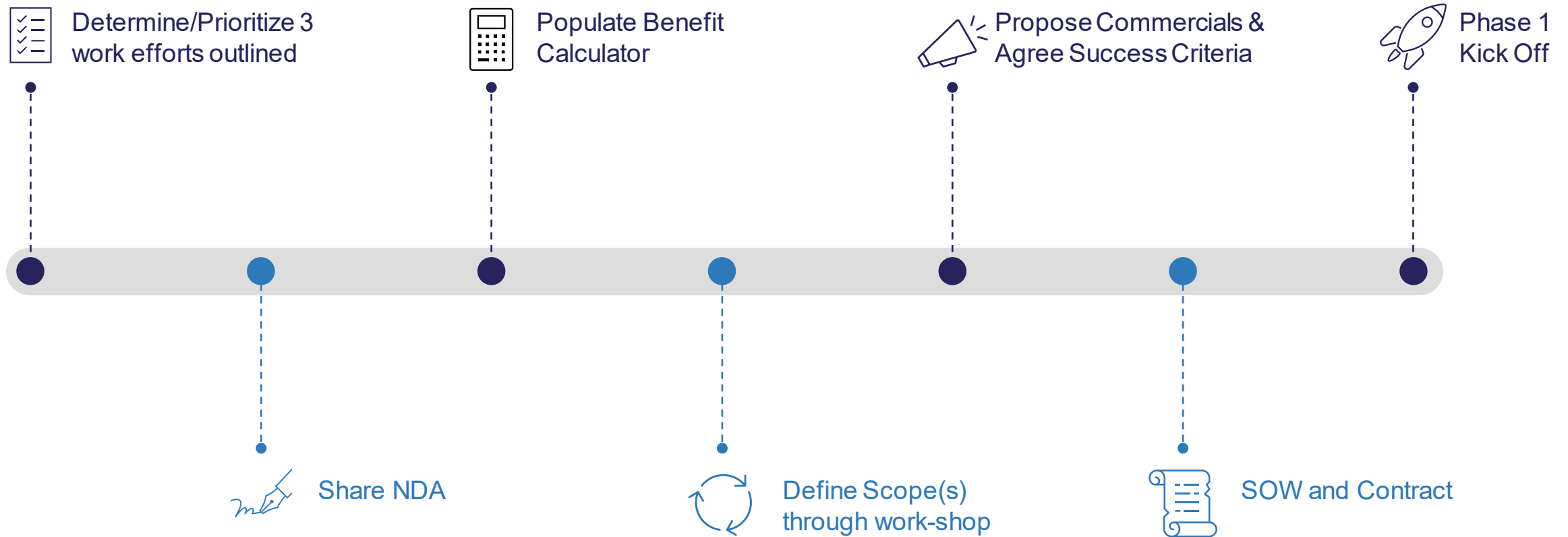
Calculator Requirements

- Number of sites
- Total Refrigeration Energy Spend
- Maintenance Spend
- Energy cost per kWh
- Total cabinets, cold rooms
- Any stock loss figures
- Food temperature logging, as a system of record.
- Manual time spent temperature testing per day.

		Mitigation Factor			Projected Benefit		
		Expected	Optimistic	Pessimistic	Expected	Optimistic	Pessimistic
Work Order Reduction	Calculated Saving						
Alarm Filtering/Flagged Conditions	\$ 2,951,808.60	65%	80%	50%	\$ 1,918,675.59	\$ 2,361,446.88	\$ 1,475,904.30
Level 3 Monitoring	\$ 2,361,446.88	65%	80%	50%	\$ 1,534,940.47	\$ 1,889,157.50	\$ 1,180,723.44
					\$ -	\$ -	\$ -
Work Order Reduction Total	\$ 5,313,255.48	65%	80%	50%	\$ 3,453,616.06	\$ 4,250,604.38	\$ 2,656,627.74
Energy	Calculated Saving						
Control Actions Refrigeration - Cut in Temp	\$ 4,822,560.00	90%	95%	80%	\$ 4,340,304.00	\$ 4,581,432.00	\$ 3,858,048.00
Energy Total	\$ 4,822,560.00	90%	100%	80%	\$ 4,340,304.00	\$ 4,581,432.00	\$ 3,858,048.00
Catastrophic Failure	Calculated Saving						
Stock loss - Freezer - Cabinet	\$ 25,000.00	65%	80%	50%	\$ 16,250.00	\$ 20,000.00	\$ 12,500.00
Stock loss - Chiller - Cabinet	\$ 300,000.00	65%	80%	50%	\$ 195,000.00	\$ 240,000.00	\$ 150,000.00
Stock loss - Freezer - Cold-room	\$ 100,000.00	65%	80%	50%	\$ 65,000.00	\$ 80,000.00	\$ 50,000.00
Stock loss - Chiller - Cold-room	\$ 64,000.00	65%	80%	50%	\$ 41,600.00	\$ 51,200.00	\$ 32,000.00
Temp Freezer hire	\$ 72,000.00	65%	80%	50%	\$ 46,800.00	\$ 57,600.00	\$ 36,000.00
Temp Chiller hire	\$ 24,000.00	65%	80%	50%	\$ 15,600.00	\$ 19,200.00	\$ 12,000.00
Total	\$ 585,000.00	65%	80%	50%	\$ 380,250.00	\$ 468,000.00	\$ 292,500.00
Averted Revenue Impact	Calculated Saving						
Averted Lost Revenue due to Availably	\$ 320,913,000.00	50%	65%	35%	\$ 160,456,500.00	\$ 208,593,450.00	\$ 112,319,550.00
Labour Savings	Calculated Saving						
Reduction in Manual Monitoring	\$ 2,252,596.50	50%	65%	35%	\$ 1,126,298.25	\$ 1,464,187.73	\$ 788,408.78



Next Steps and sequence





Thank You!



We leverage third Party Integrations to deliver cost effective, timely and impactful results

Controller Integrations



EMS/BMS integrations



CMMS integrations



Three focus pillars of Integrated Solution to help address Woolworth needs, underpinned by Insights



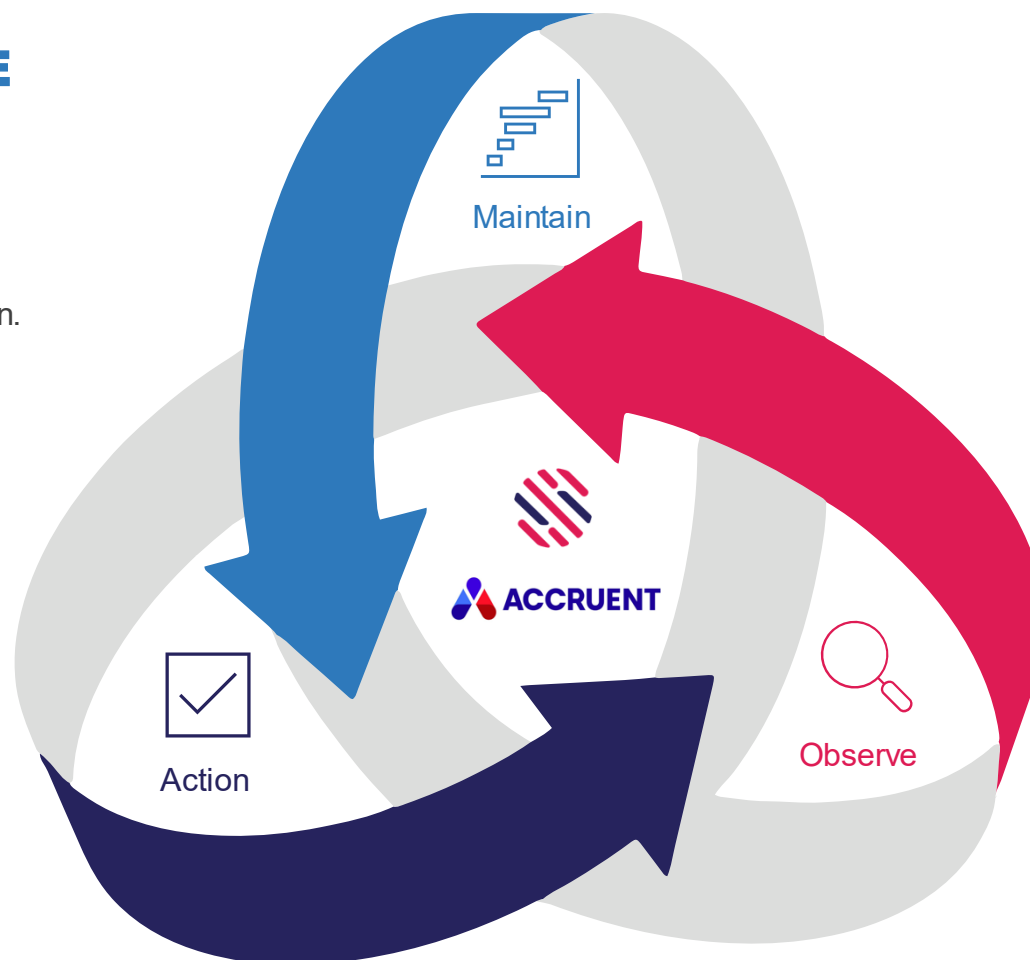
ASSET MAINTENANCE MANAGEMENT

Manages the full workflow related to reactive and planned preventative maintenance activities, from work order creation and dispatch to completion, invoicing, approval and financial system integration. Control over assets, and contractors, as well as managing compliance and related documentation.



MOBILE WORKFORCE MANAGEMENT

End-to-end service delivery functionality to optimise performance of simple and complex field service work. Intelligent work allocation, optimised resource scheduling and dispatch, performance management and fully integrated parts and inventory management.



EQUIPMENT REMOTE MONITORING & CONTROL

Provides remote monitoring and control of multiple equipment types, delivering maintenance and energy efficiencies. Business rules engine provides: real-time alerting; alarm management/triage for optimised reactive maintenance and analytics.



Sutherland IOT Asset Management Case Study

Move from Equipment guarantee to Outcome guarantee



Case Study: A Leading global food and beverage firm

Challenge: Minimize assembly line downtime while maximizing sustainability

Solution: Leveraged Sutherland Big Data Analytics Platform to perform structural equation modeling to understand the impact of various combination of factors on downtime across multiple dimensions. Performed Survival Analysis to analyze the end time of the machines.

Identified impact of equipment (reliability), product/packaging (quality), process engineering (efficiency), and technology (innovation) attributes on productivity, time, and sustainability opportunity.

These insights were leveraged for production switching scheduling

Case Study: A Leading healthcare OEM

Challenge: Reduce unplanned maintenance downtime by enabling remote support / preventive maintenance for Imaging devices

Solution: Collect data from the medical imaging devices logs in near real time. Analyze device data with machine learning models to predict potential failures and identify need for preventive maintenance. The solution leverages public and private cloud infrastructure to meet availability and scalability needs. The solution was developed to support the CT Scans, MRI and Digital Xray product lines



Defrost settings / Energy Settings to maximize savings

Develop sound understanding of consumption data for better facilities management decisions

ADVANCED BASELINE FUNCTIONALITY	AUTOMATED METER ANALYSIS & REPORTING
ACTIVELY MANAGE ENTERPRISE	ADVANCED RULES & WORKFLOW ENGINE
DEFROST CONFIGURATION	
UNIFIED REMOTE MONITORING	



Remote monitoring of Controller and IoT Applications

Pack WO's (High and Medium)

1 ISSUE

A0814
BRADFORD
Region N08
01274621948
760 Harrogate Road
Greengates
BRADFORD, West Yorkshire, BD10 0QF
8:00am - 10:00pm GMT

Pack WO's (High and Medium)

Columns... Filter... Viewing 1-1 of 1

Work Order No.	Status	Tags	Contractor	Problem Type	Priority	Category	Sub Category	Asset Number
53797779	Service Incomplete	0	KB (Carters)	Other	Standard SLA	REFRIGERATION	REFRIGERATION PACK	SSL00568447

Controller Overview

Device List - Internet Explorer

https://rmstage.verisae.com/j2ep/dm567744462/cgi-bin/cgi.cgi?ShowLayout=13930972600155889

DataManager Device List

Devices Reports Alarm Log Gp Run-On Service

Device	Description	Value	Status	Pack	TPI
001.2	1095111 Freezer Full Hgt Cabinet	-25.6	Normal	1	1.0
002.2	1095112 Freezer Full Hgt Cabinet	-26.2	Normal	1	1.0
003.2	1095113 Freezer Half Glass Door	-23.3	Normal	1	1.0
004.2	1095114 Freezer Well	-18.5	Defrost	1	5.1
005.2	1095115 Freezer Glass Door/Well	-23.6	Normal	1	1.0
006.2	1095116 Freezer Glass Door/Well	-23.1	Normal	1	1.0
007.2	1095117 Freezer Glass Door/Well	-26.0	Normal	1	1.0
008.2	1095118 Freezer Glass Door/Well	-27.2	Normal	1	2.6
009.2	1095119 Freezer Glass Door/Well	-23.4	Normal	1	1.0
010.2	1095120 Freezer Half Glass Door	-22.6	Normal	2	1.0
011.2	1095121 Freezer Well	-17.2	Defrost	2	7.5
012.2	1095122 Freezer Glass Door/Well	-23.0	Normal	2	1.0
013.2	1095123 Freezer Glass Door/Well	-20.8	Normal	2	1.0
014.2	1095124 Freezer Glass Door/Well	-20.3	Alarm	2	1.0
015.2	1095125 Freezer Glass Door/Well	-19.2	Normal	2	5.5
016.2	1095126 Freezer Glass Door/Well	-20.3	Normal	2	1.7
017.2	1095127 Freezer Full Hgt Cabinet	-20.2	Normal	2	2.4
018.2	1095128 Freezer Full Hgt Cabinet	-20.3	Normal	2	1.8
019.2	1095129 Freezer Full Hgt Cabinet	-19.6	Normal	2	4.0
020.2	1095130 Freezer Full Hgt Cabinet	-18.5	Normal	2	5.7
021.2	1095131 Freezer Full Hgt Cabinet	-19.9	Normal	2	1.7
022.2	1095132 Freezer Full Hgt Cabinet	-25.8	Normal	1	1.0

19:27 22/02/2014
00002 Current Alarms
155 Online / 000 Offline

