

IBM IoT Exchange 2019

Unlock new value from data with AI

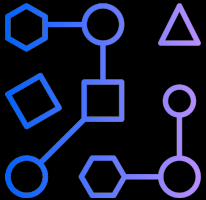
Maximo Product Roadmap

- UK/Ireland User Group meeting
- May 22, 2019

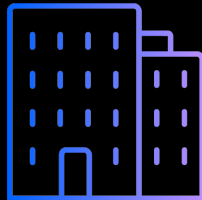
Dave Gasdia

Program Director

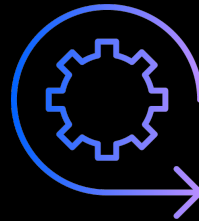
IBM Maximo EAM Offering Management



Maximo



TRIRIGA



Engineering



IoT Platform

Please note

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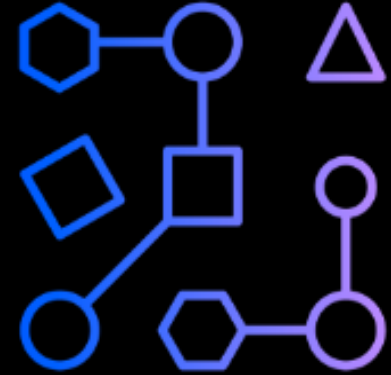
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What you'll take away from this session...

- ❖ Learn about Expanding the Maximo Portfolio
- ❖ IBM's Maximo Investment Strategy
- ❖ Key Focus Areas & Product Roadmap
- ❖ Advancing with Innovation



Maximo
Enterprise
Asset
Management

Our expanded portfolio of industry-leading Maximo solutions

IBM Maximo Solutions	<div>Enterprise Asset Management</div> <div>Keep critical assets operating at maximum efficiency.</div>	<div>Asset Performance Management</div> <div>Improve equipment performance with analytics and AI.</div>	<div>Production Optimization</div> <div>Unlock factory equipment data to maximize operations.</div>	<div>Production Quality Insights</div> <div>Identify quality defects sooner, and respond in real time.</div>	<div>Worker Insights</div> <div>Avoid devastating workplace accidents with IoT and analytics.</div>	<div>MRO Inventory Optimization</div> <div>Reduce costs and minimize asset downtime.</div>
Core Components	<div><div>– Core Enterprise Asset Management (EAM)</div><div>– EAM Industry Solutions</div><div>– EAM Scheduler</div><div>– EAM Anywhere</div><div>– EAM Health, Safety, Environment (HSE)</div><div>– EAM Spatial</div><div>– EAM Blockchain</div><div>– EAM Calibration</div><div>– EAM ERP Adapters</div></div>	<div><div>– Asset Health Insights</div><div>– Predictive Maintenance Insights</div><div>– Equipment Maintenance Assistant</div><div>– APM for Energy and Utilities</div></div>	<div><div>– Production Optimization</div><div>– Process Optimization</div></div>	<div><div>– Visual Insights</div><div>– Acoustic Insights</div><div>– Prescriptive Quality</div></div>	<div><div>– IoT Worker Insights</div></div>	<div><div>– Spare Parts Inventory Optimization</div></div>
Foundations	<div><div>Watson IoT Platform</div><div>Connect, Collect, Analyze, Optimize, Govern and Deliver</div></div> <div>Tailored insights from AI and analytics models and algorithms</div> <div>Trust and tracking within a shared Blockchain ledger</div>					
	<div><div>IBM Services</div><div>Industry, domain and IoT expertise</div></div> <div>Industry solutions with pre-integrated AI / Machine Learning capabilities</div>					

Maximo Enterprise Asset Management Portfolio 2019

Core Solution

**Maximo Asset
Management**

SaaS Solutions

**Maximo Asset
Management SaaS
Flex**

**Maximo Asset
Management SaaS
(multi-tenant)**

Industry Solutions

**Maximo for
Transportation**

**Maximo for
Nuclear**

Cal

**Maximo for
Life Sciences**

Cal

**Maximo for
Utilities**

Spatial

**Maximo for
Oil & Gas**

HS&E

**Maximo for
Aviation**

Add-on Solutions

**Maximo
Scheduler**

**Maximo
Service Provider**
(managed/internal)

**Maximo Asset
Configuration
Manager**

**Maximo
Spatial**

**Maximo
Anywhere**

**Maximo
Network on
Blockchain**

**Maximo
Augmented
Collaboration**

**Maximo
Scheduler Plus**

**Maximo
ERP Adapters**

**Maximo
Calibration**

**Maximo
Linear**

**Maximo
Archiving**

**Maximo
Health, Safety &
Environment**

**Maximo APM
Asset Health
Insights**

Integrations

**IBM
Watson IoT
Platform**

**IBM
Weather**

**IBM
Cognos Analytics**

**IBM
Watson
Conversation**

**Maximo APM
Predictive Insights**

**Maximo APM
Equip Maintenance
Assistant**

Maximo EAM Investments and Innovation

Building on the foundation of new technology for on-prem and SaaS

Augmented Reality

Augmented Collaboration



Artificial Intelligence

Equipment Maintenance Assistant



Maximo Blockchain Network

Transparency and Trust in contracts and Supply Chains



Asset Performance Management (APM)

*Maximo Asset Health Insights
Predictive Maintenance*



IBM Maximo

New User Experience



Maximo Anywhere

Mobile Asset Management



Cognos Analytics

Business Intelligence



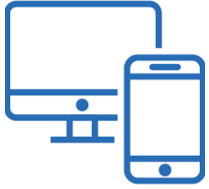
Industry Solutions And Add-ons

Expand and improve existing solutions.



Maximo 7.6.1 - Continuing to deliver on the value of EAM

Released in July
2018



Accumulation of 7.6.0 Feature Packs and Personal Data Protection app.



Modernizing the Maximo User Experience with innovative Work Centers and a new skin.



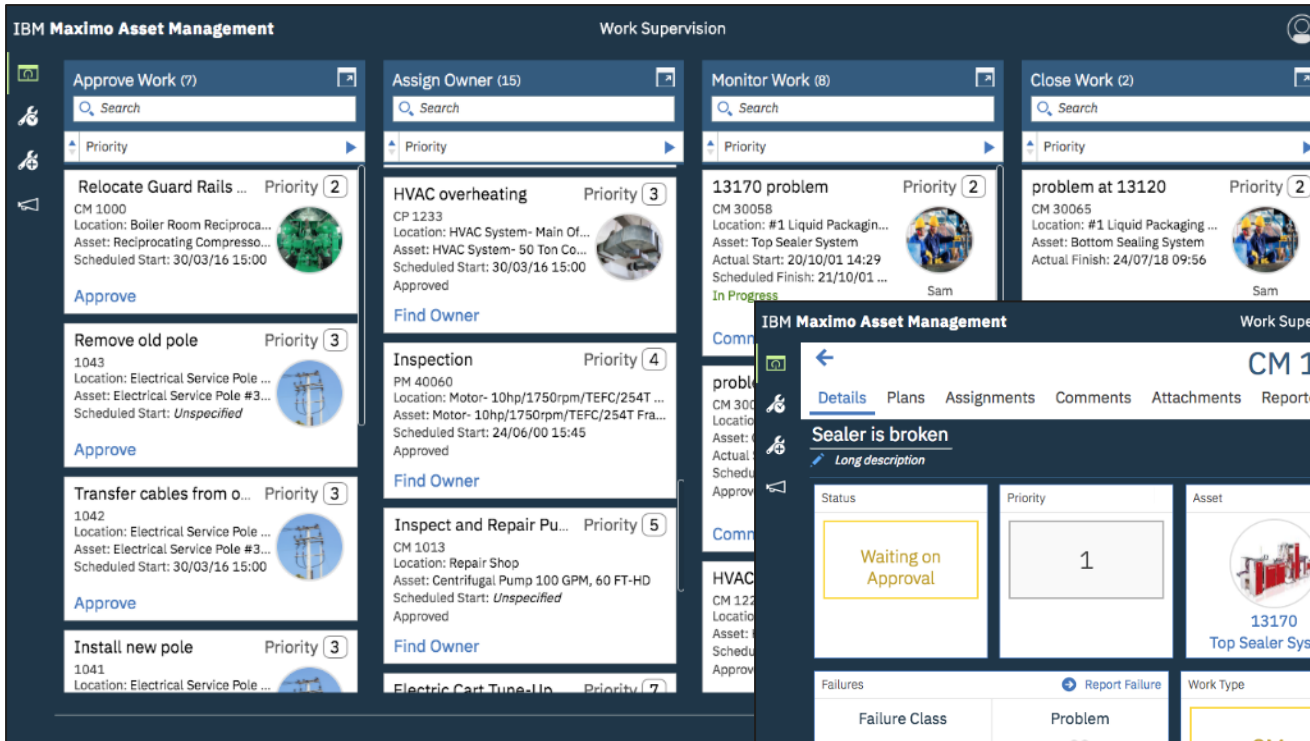
Cognos 11.0.11 Entitlement and SAP adapter support for S/4 HANA on-premise



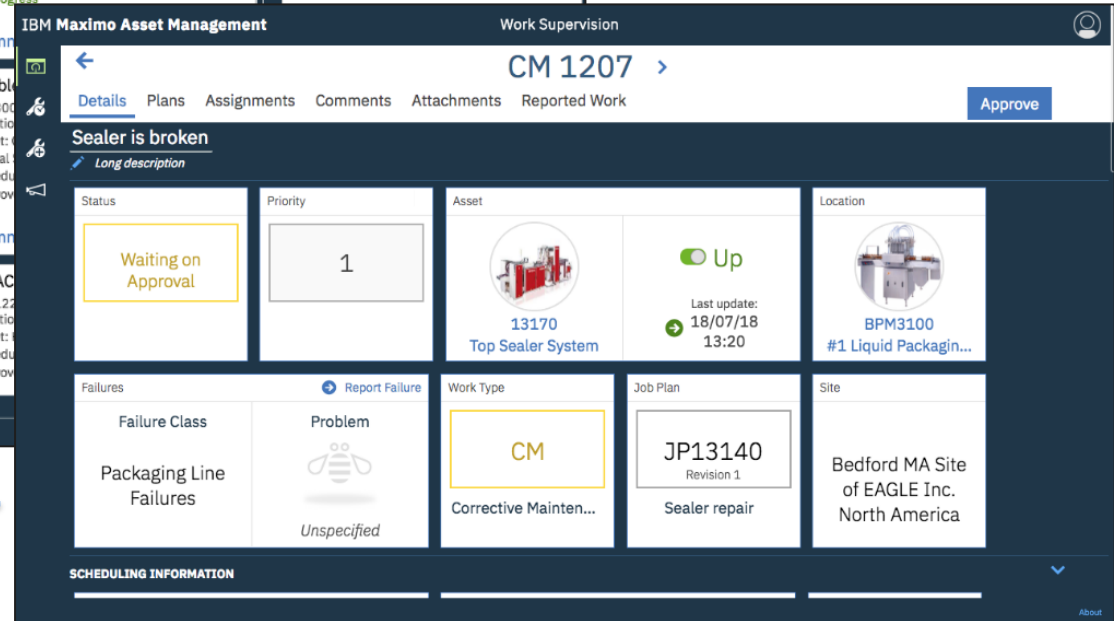
Supporting Program updates and technical improvements - Java 8, WAS 9 / WAS Liberty / DB2 11.1 (AWSE)/ MMI/Docker Containers

Maximo Work Center Examples

Quickly respond to work approval requests



Change work order information on the fly with a touch-oriented interface



Maximo IOT18 Skin

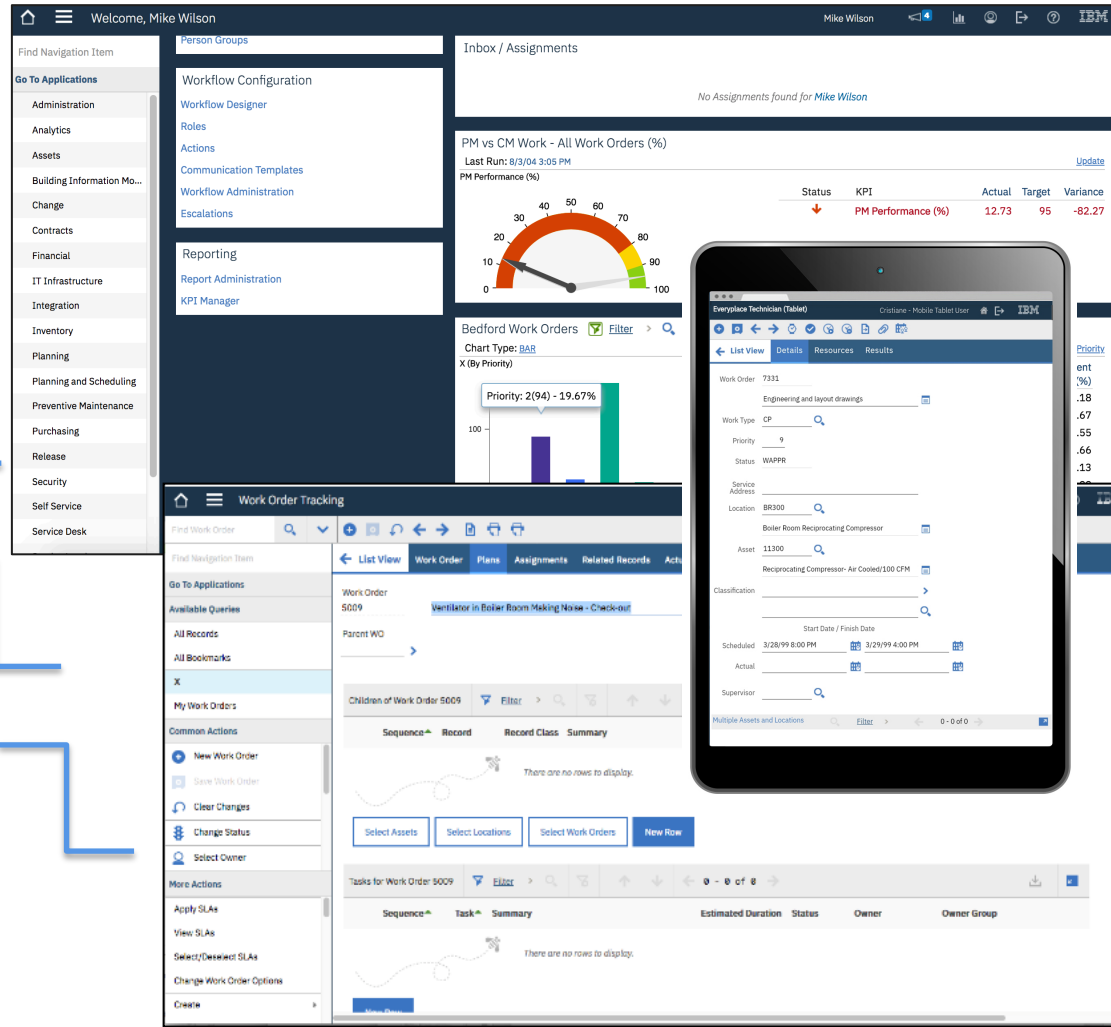
Aligns with Work Center look and feel

Dark background and tile style

Responsive UI

Uses all the real estate on the monitor for improved legibility

*Available in 7.6.1
(July 2018)*



Inspections – Manage Forms

IBM Maximo Asset Management Manage Inspection Forms

Inspection Form Library

Search inspection forms

+ Create Form

8 results

- Bridge Inspection Report 1011
Revision 1 - Thu Sep 28 2017
Active
- Daily Maintenance and Inspection Log for Work Equipment 1006
Revision 3 - Thu Sep 28 2017
Active
- Monthly Fire System Inspection 2 1005
Revision 2 - Thu Sep 28 2017
Active
- Portable Ladder Inspection 1001
Revision 3 - Thu Sep 28 2017
Active
- room inspection 1007
Revision 1 - Thu Nov 02 2017
Active
- Sampling Meter Inspection 1004
Revision 1 - Wed Nov 01 2017
Active

Response Fields

- Date Entry
 - Date only
 - Date/Time
 - Time only
- Asset Data
 - Meter Readings
- Media
 - File Upload
- Numeric Entry
 - Single Numeric Entry
- Selectable Responses
 - Single Choice
- Text Entry
 - Text Response

* Question Wind Shield (if applicable)

1. Single Choice

Description Select one Option

* Option 1 Require Action? No

Pass

Enter Message

* Option 2 Require Action? Yes

Fail

Create a Work Order for repla

Example:

- Option 1
- Option 2
- Option 3

Cancel Done

Provides capabilities to define an electronic inspection form:

- Accommodate requirements of traditional paper based inspections.
 - Group questions, mark required.
 - Attach documents, free form text, meter readings.
 - Conditional Questions
 - Colors and Icons to indicate response
- Revision control.
- Audio guided inspections and follow up actions.
- Used for Job Plans and Routes.
- PM can be set up for recurrent inspection on assets and locations.

Inspections – Conduct an Inspection

IBM Maximo Asset Management

Conduct an Inspection

Hide optional questions? No ☐ Vehicle Inspection Report ⓘ

All Incomplete Completed

Vehicle Inspection Report
VGCAR Vinicius Car

1. Interior and Exterior

2. Engine Information

2.01. Engine Oil Color ⓘ

Please inform a valid option according to the internal standards

BROWN LBROWN
CLEAR RED
DBROWN TURBID

2.02. Odometer Information ⓘ

Please read the odometer value in the vehicle dashboard and enter value in Miles ☐ Rollover

5

2.03. Engine temperature

Check the vehicle temperature with engine turned on and enter the information in degrees Fahrenheit

67

8/13 Total

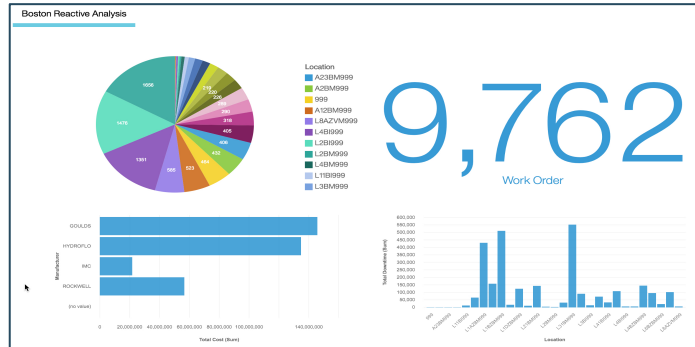
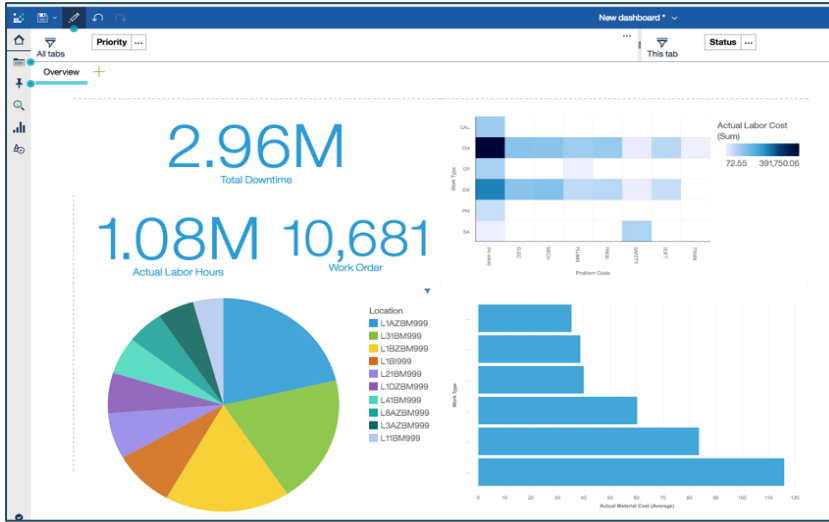
< Save and Exit Complete >

0:01 / 0:03

Leverages Watson services to conduct a hands free inspection by just using voice responses.

- Report results in a connected mobile device.
- Inspection statuses are managed automatically and differentiate pending, in progress and completed results.
- Easy and intuitive navigation to report and visualize single or multiple inspection results.
- Search and evaluate individual completed inspection results.
- Associate results to Assets and Locations, WOs and tasks.
- Historical Inspection results are presented in both Assets and Location applications.

Cognos 11 Analytics



- Extend your data analysis capabilities into the self-service reporting and dashboard features provided by Cognos Analytics.
- Create insightful reports and dashboards from packages you publish from Maximo or via new web based models.
- Visualize, explore and share insights on your Maximo data in Cognos governed environment.
- Sign up for a free trial of Cognos Analytics today <https://ibm.co/2zFQU2U>
- Demo Videos: Google Maximo 761 Cognos Analytics

What's new in Maximo 7.6.1.x

Coming 2Q 2019

Work Centers

- *Supply Chain*
 - Item Master
 - Storeroom balances
 - Reservations
 - Physical Count
- *Supervisor/Technician*
 - Configuration
 - Tools & Services
 - Quick Reporting
 - Map support
 - Barcodes/QR Codes
- *Inspections*
 - Cascade Q&A
 - Color/icon indicators
- *Administration*
 - SR Classification config., REST Configuration for API keys
- *Service Requests*
 - SR Classification config., REST Configuration for API keys

Improving the user experience

Dynamic Job Plans

- *Automatically create resource requirements using 4 new methods*
 - Static
 - Proportional
 - Level
 - Attribute

Offering new options for managing complex work

Flexible Licensing

- *Introduce Token Model for Maximo portfolio*
 - Support Express/Limited
 - Industry Solution Add-ons
 - Self Service
- *Continue to expand and improve License Tracking*

New options for procuring and monitoring licenses

Value-add Items

- *Scripting Editor plugin for developing Automation Scripts*
- *Everyplace CSS updates*
- *.xlsx download default*
- *View Health scores from APM in WOAsset/Location*

Provides an improved experience for users

Currency Updates

- *Oracle 18c*
- *DB2 11.1.4.4*
- *WAS 9.0.0.10*
- *WebLogic 12.2.1.3*

Continuing to deliver on the latest middleware

New Work Center - Manage Inventory supports Supply Chain processes

Create Items and
drill into Item
Details

IBM Maximo Asset Management Manage Inventory

All Items

Items: 84

Item set 1

Item ID	Item Description	Commodity Group	Rotating?	Status
10112	Fire Extinguisher Fluid- Ansulex	SAFETY	<input type="checkbox"/>	Active
111-3718	ENGINE FUEL INJECTOR NOZZLE	FUEL	<input type="checkbox"/>	Active
111-5797	SEAL KIT - M50A MOTOR	SEALS	<input type="checkbox"/>	Active
11241	Contactor, Renewal Kit			
11406	AC Spark Plug			
11453	Seal, Mechanical, Self Aligning- 1 In ID			
117021	Bearing, Roller, SKF- 1 In ID			
117041	Connecting Link - Repair			
117084	Shaft- 1 Inch Dia			
11R22.5-D	11R22.5-D Drive Tire			
11R22.5G3-20	11R22.5 Goodyear G362			

IBM Maximo Asset Management Manage Inventory

Back

Tubing, Copper-1 In ID X .030 In Wall

560-00

Item set 1

Details Storerooms

Units of Measure		Conversion	Status	Lot Type	Rotating Item
EACH	BOX	12.0	Active	NOLOT	No
Issue Unit	Order Unit				
Commodities		Default Vendor			
MECHANICAL		BANDAG			
MECH		Bandag Inc.			
Commodity Group	Commodity Code				

RELATIONSHIPS

Attachments

Manage Inventory – Issue and Transfer Items from Storeroom

Create, View,
Edit, Issue and
Transfer items
from a storeroom

IBM Maximo Asset Management Manage Inventory

Central Storeroom BEDFORD

Items: 133

Search

ID	Description	Bin	Lot	Balance	Available	Reserved	Staged	Shipped	Expired
61-2933	ENGINE AIR FILTER SER...	B12	Unspecified	Starting balance	- 0.00 +				
				Cost type AVERAGE	Standard unit cost (USD) - 46.00 +	Average unit cost (USD) - 46.00 +	Status Active	* Issue Unit EACH	
				Enable reordering? Yes	Reorder point - 3.00 +	Economic order quantity - 6.00 +	Lead time (days) - 25.00 +	Order Unit BOX	
				Cancel		Save			
1002	5 ft. X 6 ft. window pane			0	0	0	0	0	0
10112	Fire Extinguisher Fluid- Ansulex	B-7-3		3	3	0	0	0	0
11241	Contactors, Renewal Kit	B-9-4		6	5	1	0	0	0
11406	AC Spark Plug	A-5-6		10	10	0	0	0	0
11453	Seal, Mechanical, Self Aligning- ...			17	-2	2	0	0	17

IBM Maximo Asset Management Manage Inventory

Central Storeroom BEDFORD

Items: 20

Search 560,11

ID	Description	Bin	Lot	Balance	Available	Reserved	Staged	Shipped	Expired
10512	Fire Extinguisher Fluid- Ansulex	B-7-3		3	3	0	0	0	0
11241	Contactors, Renewal Kit	B-9-4		6	5	1	0	0	0
11406	AC Spark Plug	A-5-6		10	10	0	0	0	0
11453	Seal, Mechanical, Self Aligning- ...	G-5-3	A-431	1	0	0	0	0	1
	Seal, Mechanical, Self Aligning- ...	A-4-9	A-431	16	0	0	0	0	16
117021	Bearing, Roller, SKF- 1 In ID	C-3-6		9	9	0	0	0	0
117041	Connecting Link - Repair	A-5-2		6	6	0	0	0	0
117084	Shaft - 1 Inch Dia	C-6-2		6	5	1	0	0	0
118225-0	118225-0 Drive Tire			50	50	0	0	0	0

Edit
Issue
Transfer
Manage reorder rul...

Supports bulk issues
and issuing rotating
items

Manage Inventory - Perform Physical Counts and Manage Reservations

IBM Maximo EAM SaaS

Manage Inventory

storenew1
SITE1

Balances Counts

ID	Description	Bin	Lot	Count due	New count	Last count	Last date
ITEMNEW1	4" screw	12		3/29/19	- 1111 +	1111	3/29/19 3:44 am
ITEMNEW6	itemnew6	12		3/29/19	- 1 +	1	3/29/19 4:26 am
ITEMNEW8	itemnew8	13	14	3/29/19	- 2 +	2	3/29/19 5:18 am
ITEMNEW9	itemnew9			3/29/19	- -- +	1	3/29/19 5:24 am
ITEMNEW10	itemnew10	16		3/29/19	- 1 +	1	3/29/19 5:27 am
ITEMNEW10	itemnew10	15		3/29/19	- 1 +	1	3/29/19 5:28 am
ITEMNEW3	itemnew3						
ITEMNEW3	itemnew3						
ITEMNEW7	itemnew7						

Perform inventory counts more efficiently.

Issue or transfer from the reservation. Return issue items easily.

IBM Maximo Asset Management

Manage Inventory

Reservations Reservations Issued Items

From 4/8/18 To 10/31/19 Results: 3

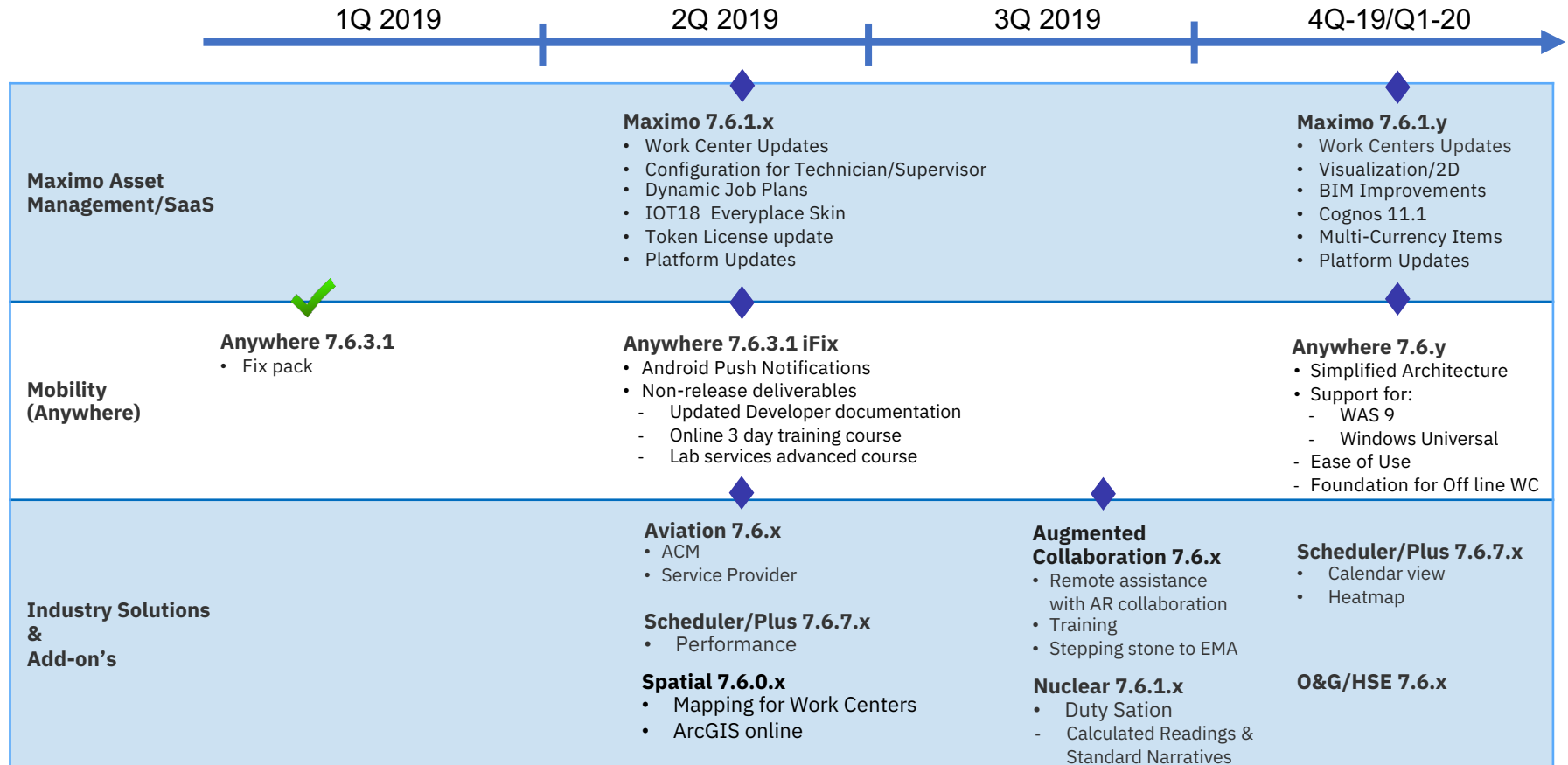
BEDFORD - CENTRAL

Type	Date	Work Order	Item	Description	Default Bin	Quantity
<input type="checkbox"/> >	APHARD	3/29/19	1224	61-2500	Filter, Secondary Air	3
<input type="checkbox"/> >	APHARD	3/29/19	1233	61-2500	Filter, Secondary Air	3
<input checked="" type="checkbox"/> v	APHARD	3/29/19	1201	PUMP100	Centrifugal Pump 100 GPM, 60 FT-HD	F-4-2 98

Asset	Task	From site	From storeroom	Item	Location
Unspecified	10	BEDFORD	CENTRAL	PUMP100	SAN101
Condition code	To site	To storeroom	Reference work order		
Unspecified	BEDFORD	Unspecified	T1074		

Edit
Issue
Delete

Maximo Enterprise Asset Management 2019 Roadmap



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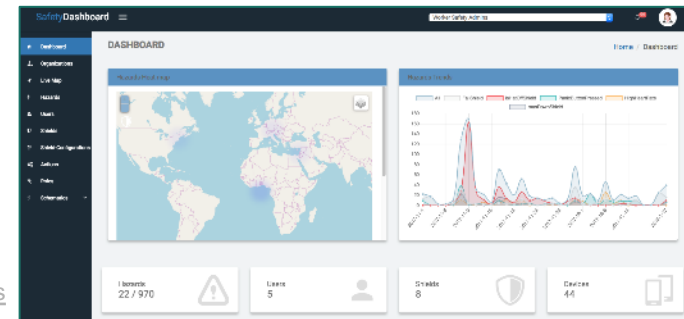
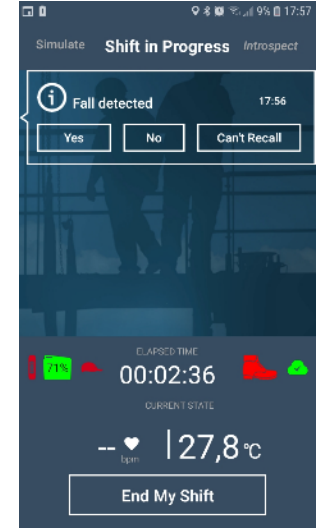
IBM IoT Worker Insights Integration to Maximo O&G/HSE



- **Visibility during hazardous conditions**
- **Traceability and notification**

Putting compliance at the center of safety, helps to identify and eliminate hazards in the workplace.

- Combining IoT data from wearables, environmental sensors and other data.
- Real-time insights, putting time and place into context, along with trending and forecasting analyses, and worker information.
- See Hazards and Notifications and trigger Incident processes in Maximo HSE.



GitHub link - Adapter for Maximo O&G/HSE

https://github.com/ibm-maximo-dev/maximo_workerInsights

Maximo Augmented Collaboration

Provide the Technician with more tools in their tool box to help them do their job.

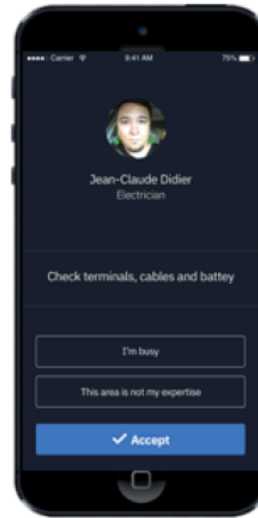
Seek Advice

Seek Advice and Launch from Maximo Work Execution center



Collaborate

Collaborate with an expert



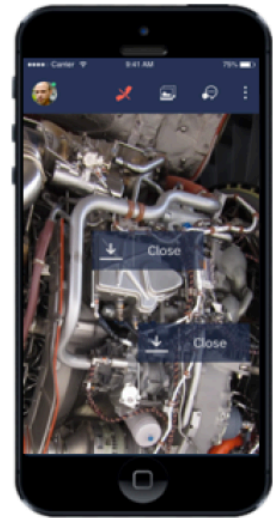
Guide

Annotate, diagnose and get guidance



Fix & Learn

Fix and Learn while saving sessions for training

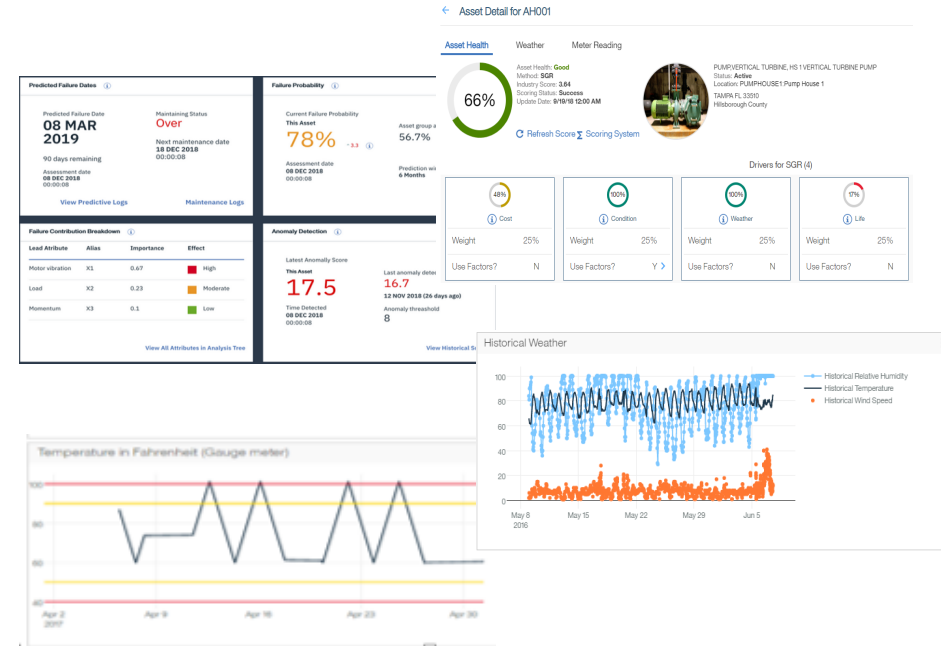
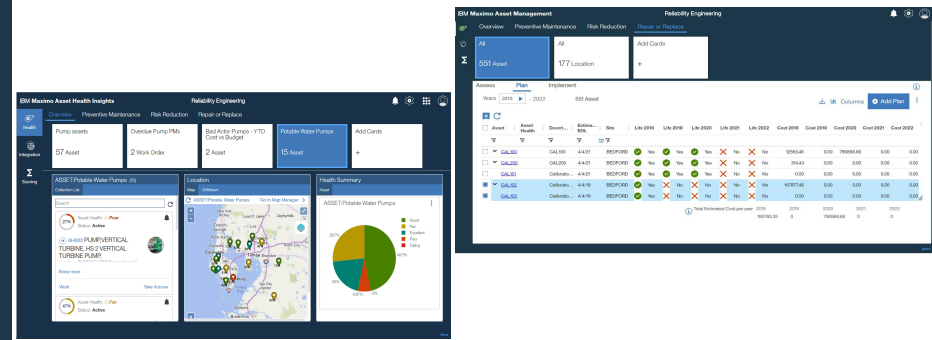


Coming 2H 2019

IBM Maximo APM

Reduces downtime and maintenance costs with asset health metrics and predictive insights

- **Asset Health Insights** – Provides asset health assessments using asset records, sensor data, and other external data to inform maintenance and replacement decisions
- **Predictive Maintenance Insights** – Predicts asset health using statistical models and machine learning. Includes failure date/probability, key drivers, degradation curves, and anomaly detection
- **Equipment Maintenance Assistant** – Delivers prescriptive repair guidance to technicians/reliability engineers
- **Asset Strategy** – Optimizes asset maintenance and replacement strategies based on asset risk and criticality



IBM Maximo MRO Inventory Optimization

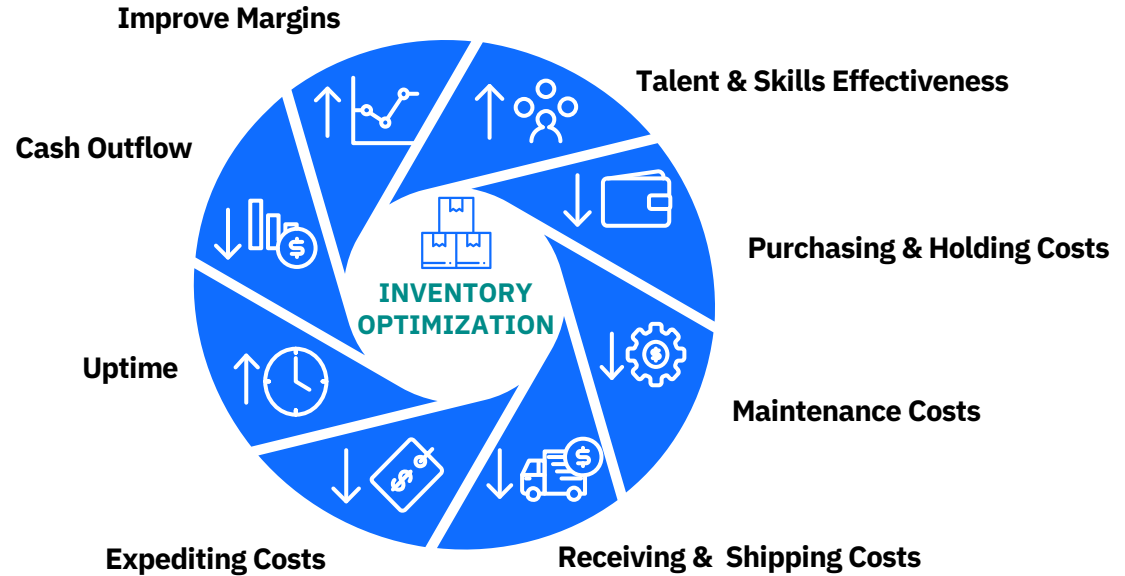


Addressing key operational challenges



Delivering rapid payback to fund broader transformational operations initiatives

*Typical implementation is 3-5 months
Payback period typically <1 year*



Up to 50% reduction in
unplanned asset downtime



20-40% reduction
in inventory costs



15-35% savings
in maintenance budgets



10-25% increase
in service levels



3 Take Away's...

- ❖ Continued Investment in Maximo
- ❖ Expanding beyond EAM
- ❖ Modernization & Innovation

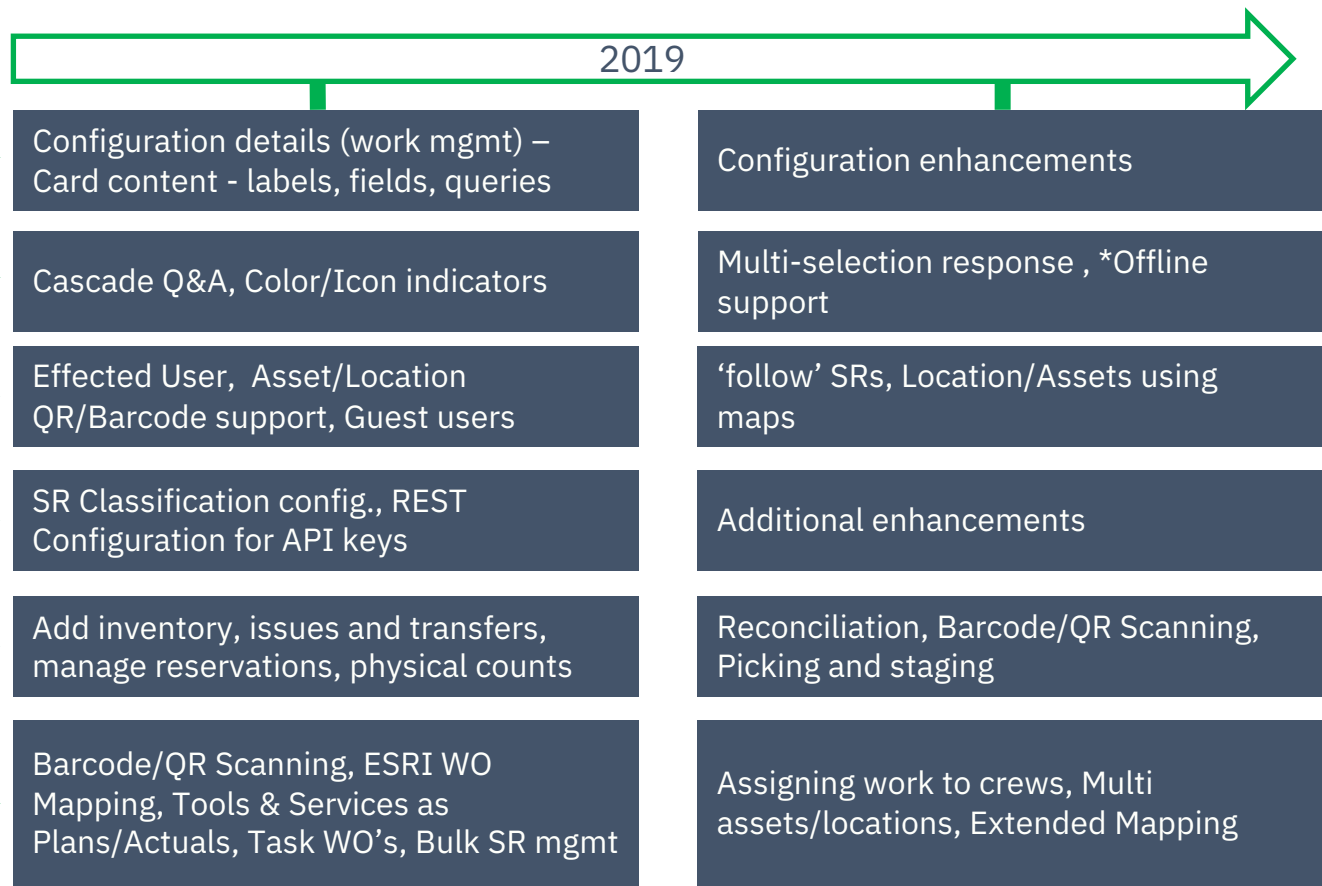


Thank you

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Work Center Roadmap



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* - License required

Maximo Anywhere Strategic Direction

Simplify

Preserve
Investment

Grow Platform



Anywhere is a Critical component of the Maximo portfolio and strategic direction

Address key areas

- ✓ Continued updates to Anywhere applications and platform
- ✓ Support the increasing demand for off-line Maximo Work Centers (e.g. Inspections)
- ✓ Deliver new capabilities and application functionality
- ✓ Improve the end user experience

Evolving mobile technology and platform

- ✓ Simplify - Remove dependency on MobileFirst
- ✓ Extended architecture to support current Anywhere application
- ✓ Off-line Work Centers will be supported with Anywhere
- ✓ Deliver Anywhere UI Configuration features

Plans for initial release of additive capabilities and technology in 2020+