



FMMUG Kansas City Welcome

September 20, 2023

Harvard University Mobile Transformation Use Case



HARVARD
UNIVERSITY

Est. 1636

13,000 faculty & staff

21,000 students





25M Square Feet



350 Acres



24 / 7 / 365





HARVARD
UNIVERSITY

Starting Point

2017



No Maximo - No Mobile
Everything on Paper



Skeptical User Community
Unionized Workforce



Uneven History
Project Paybacks



Management Commitment
Operational Efficiency



HARVARD
UNIVERSITY

Results

First 5 years



1 Million

Paper Forms Removed



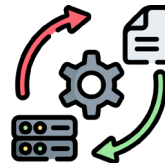
100%

User Adoption



< 2 Years

Full Project Payback



Transformed

Operational Efficiency

Paper to Digital

- ✓ Work Orders / Assignments
- ✓ Time Card Creation
- ✓ Time Card Approval
- ✓ Materials Requests / Approvals
- ✓ Stockroom Returns
- ✓ Time Off Requests
- ✓ Overtime Initiation
- ✓ Overtime Offers / Responses
- ✓ Asset Data Collection
- ✓ LOTO Tracking Logs
- ✓ Operator Log Books

Tools Help

HARVARD
Campus Services

Wayne Carbone

- Field Sensitive Help
- Display Error Message
- Display Functions
- Display Alternate Panel
- Exit Program
- More Details
- Update with Redisplay
- Unscheduled Maintenance
- Toggle Start Date and Y
- Work Order Summary View
- Equipment Workbench
- Summary Capacity Mes
- Estimated and Actual A
- Toggle Start Dates/Com
- Category Code Analysis
- Clear Screen
- WFO Activity Rules

48201
Scheduling Workbench

Action Code	Job or BU	Parent W.O. No.	Originator	Assigned To	Originator	Supervisor	Search X-Rc	Category Co
F		501	Potomac					

REQUIRED OVERTIME REPORT

HARVARD UNIVERSITY FND MEMS
OVERTIME REQUIRED REPORT
FOR EACH TRADE

TRADE CLASS:	209 -	209-Plumber			
RID AREA:	ALL -	ALL SERVICE AREAS			
Offered Hours To Date	Overtime Refused To Date	Overtime Accepted To Date	Expt	Last Name	First
0.00	0.00	0.00		Kelly	Robert
9.00	0.00	9.00	203172020	Bonner	Michael
12.00	0.00	12.00	202242480	Feeney	Robert
15.00	0.00	15.00	5002789	McCollan	Douglas
20.00	0.00	20.00	60724296	Davis	Jeffrey
25.00	0.00	25.00	104473550	Adams	David
30.00	0.00	31.50	840494350	Towner	Bruce
35.00	0.00	35.00	70475065	Hein	David
40.00	0.00	40.00	10996465	Abram	David
45.00	0.00	45.00	70547201	Charlet	Demetri
50.00	0.00	64.00	80784201	Nadosta	Anthony
55.00	0.00	64.00	9083623	Gibbs	John
60.00	0.00	65.00	6996628	Coughlin	Kevin
65.00	0.00	61.50	10734215	Mollynuckdy	Mark
70.00	0.00	69.50	80784074	Lepany	Frank
75.00	0.00	105.50	20751244	DeCort	Matthew
80.00	0.00	130.50	20876134	Mazulis	Matthew
85.00	0.00	155.50	30634635	Anger	Chris
90.00	0.00	169.00	80657739	Lane	Timothy

Opt: 14WD

The image is a collage of several documents and logos. At the top left is a 'UOS Daily Activity Sheet' form. It includes fields for 'Employee Name', 'Date Worked (month/year)', 'Supervisor Approval', and 'Date Approved (month/year)'. Below these are sections for 'Employee Signature' and 'Time' (Start, Break, End). The top right shows a '2015 Building Operator Log' form. It includes fields for 'Employee Name', 'Date Worked (month/year)', 'Supervisor Approval', and 'Date Approved (month/year)'. Below these are sections for 'Employee Signature' and 'Time' (Start, Break, End). The center features the Harvard University crest and the text 'HARVARD UNIVERSITY' and '2015 Building Operator Log'. The bottom left shows a list of employees and their roles, including '209 - 209-Plumber'. The bottom right shows a 'Collection' label.

[illegible]

	Y/N		Specific Location in Bldg
	Y/N		General Specifications:
	Y/N		Serial Number
	Y/N		Model Number
	Y/N		Manufacturer
	Y/N		Valve Specifications:
	Y/N		Valve Type
	Y/N		Valve Size
	Y/N		Valve Material
	Y/N		HVAC Specifications:
			Refrigerant Type
			Filter Size
			# of Filters
			Belt Model
			# of Belts
			Fuel Type
			Power Specifications:
			Voltage Rating
			Ampereage Rating
			Number of Phases
			Horsepower Rating
			Motor Frame Size
			Number of Breakers
			Data Collected by:

UOS PROCUREMENT SERVICES	
RETURN AUTHORIZATION FORM	
NAME: _____	DEPT: _____
WORK ORDER: _____	PO#: 1800 _____
ITEM DESCRIPTION: _____	QUANTITY RETURNED: _____
_____	_____
_____	_____
_____	_____
REASON FOR RETURN: _____	CREDIT: _____ REPLACE: _____
_____	REPLACE WITH: _____
_____	_____
COMMENTS: _____	_____
_____	_____
_____	_____

[illegible][illegible]

Key Elements of Success

- Concepts of Design
- Mobile Work Process Re-design
- User Experience
- Leveraging Partners



SME's Design



Track the Plan



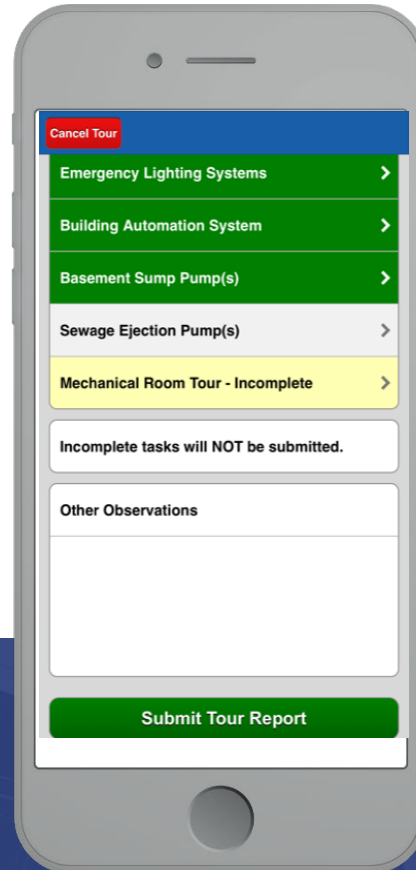
No Surprises

Concepts of Design

Extended Functionality

No Duplicate Entries

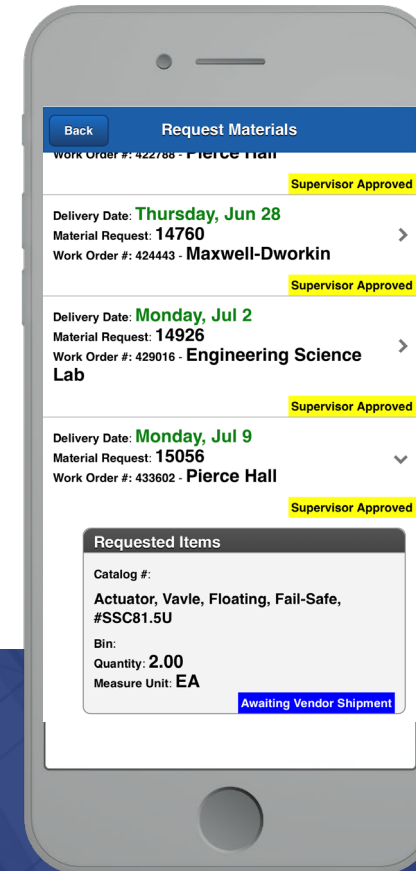
Only Ask for New Information



Expanded Awareness

Access Empowering Information

Leverage Vendor Relationships

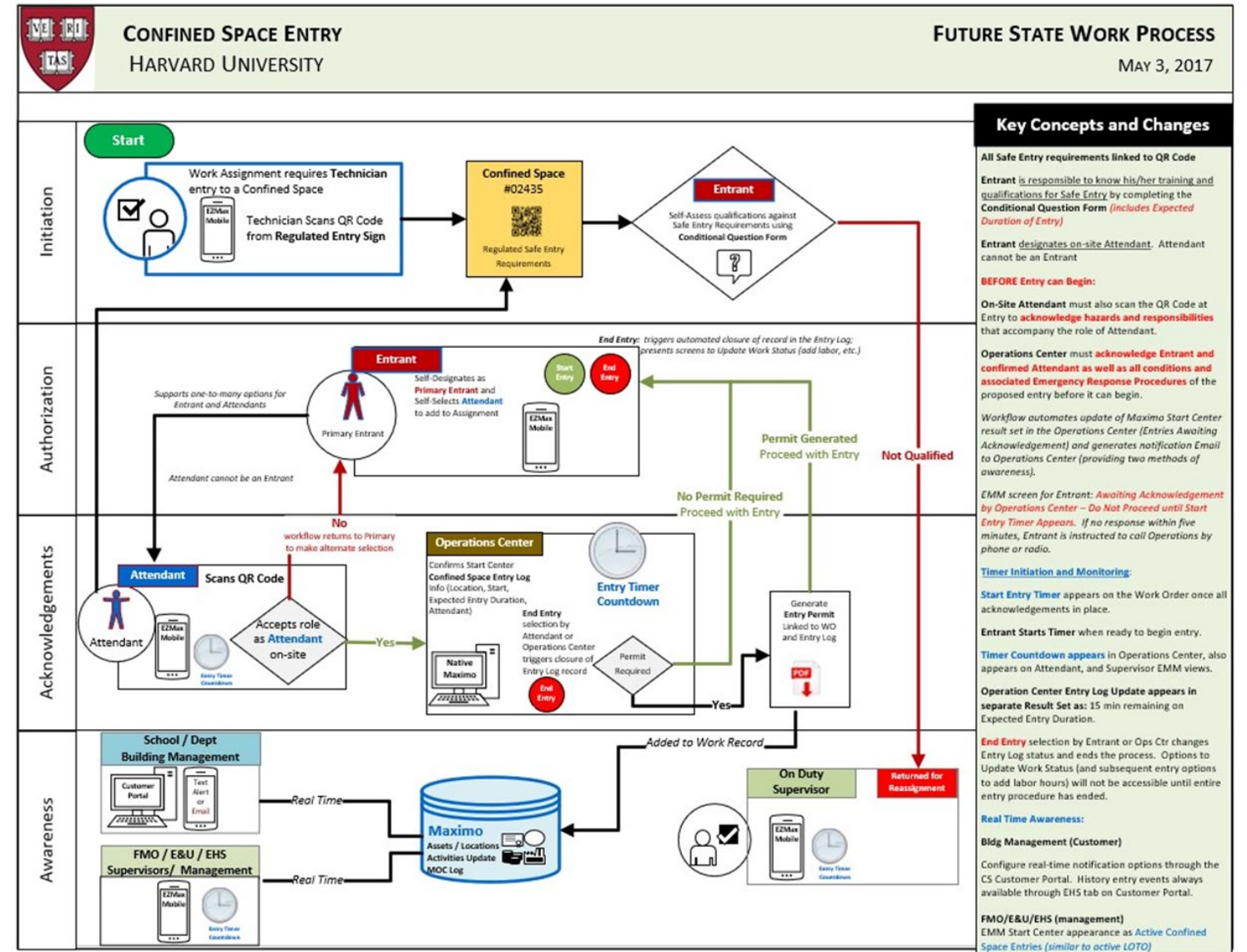


Everything Can Be Mobile

Mobile Work Process Redesign

Most Overlooked Step

- Pinpoint the Method of Movement
- Capture Pain Points & Opportunities
- Confirm and Reconfirm with Others
- Redesign to Eliminate Leaks
- This is your Guidebook!



User Experience

“Bring them Real Information”

Pulldowns vs freeform text

“Stacking versus Packing”

Reminders and Guides

9:41 Mon Jun 3 100%

< Cycle Count

Look for the asset number, asset name, other... Sort By: Select Value

Items Per Page: 4 1 - 4 of 16

ER-22715 Ballast, ICF, 10W Type A

Brand: Advance; Spec: Compact Fluorescent

Storeroom: Central Location: Aisle 4 Shelf 3 Bin 77

New Count For May 4, 2023: Insert the number...

Ends in 3 days # ER-24664 Circuit Breaker, B-Frame Type A

Brand: Square D; Spec: Molded Case

Storeroom: Central Location: Aisle 4 Shelf 3 Bin 16

New Count For May 4, 2023: Insert the number...

PR-64883 Gloves, Arc Flash Resistant, Leather Type A

Brand: Mechanix Wear; Spec: NFPA 70E Compliant

Storeroom: Central Location: Aisle 1 Shelf 4 Bin 10

New Count For May 4, 2023: Insert the number...

GR-40951 Roller Bearing, Spherical, Steel Type A

Brand: SKF; Spec: Alloy Steel 1.35 kg

Leveraging Partners

"Vendors know what they sell ... and are willing to work to sell it"

Let them make OUR data perfect

Let everything happen in real -time

Opportunities



86%
Transactions

78%
Spend

12
Vendors

Request / Requirements

Commit and Fill

Real-Time Tracking



HARVARD
Campus Services

Welcome, Patrick Doherty

Log out

Information Request

Purchase Order

Received Status

Invoice Status

Information Request
1855

Questions?

Call: Michael Sieminski 617-945-6139

Edit ALL to MATCH YOUR CATALOG EXACTLY

Do Not Fill or Ship
Until Purchase Order is Received

Harvard Work Order # 2574-1

Ludcke House

Delivery Requirements:

46 Blackstone Street, Cambridge, MA , 02139

Delivery Date: Friday, February 23

Line #	Vendor Catalog #	Item Description	Quantity	Unit of Measure	Unit Price (\$)	Line Cost (\$)	Commit	Can't Commit Reason	Estimated Delivery Date	Memo
1		Faucet, T&S 8 Wall Mount L/SPT #T&S-BO230LN	1	EA	\$124.95	\$124.95	<input checked="" type="checkbox"/>	Please select...		
						Total Cost	\$124.95			

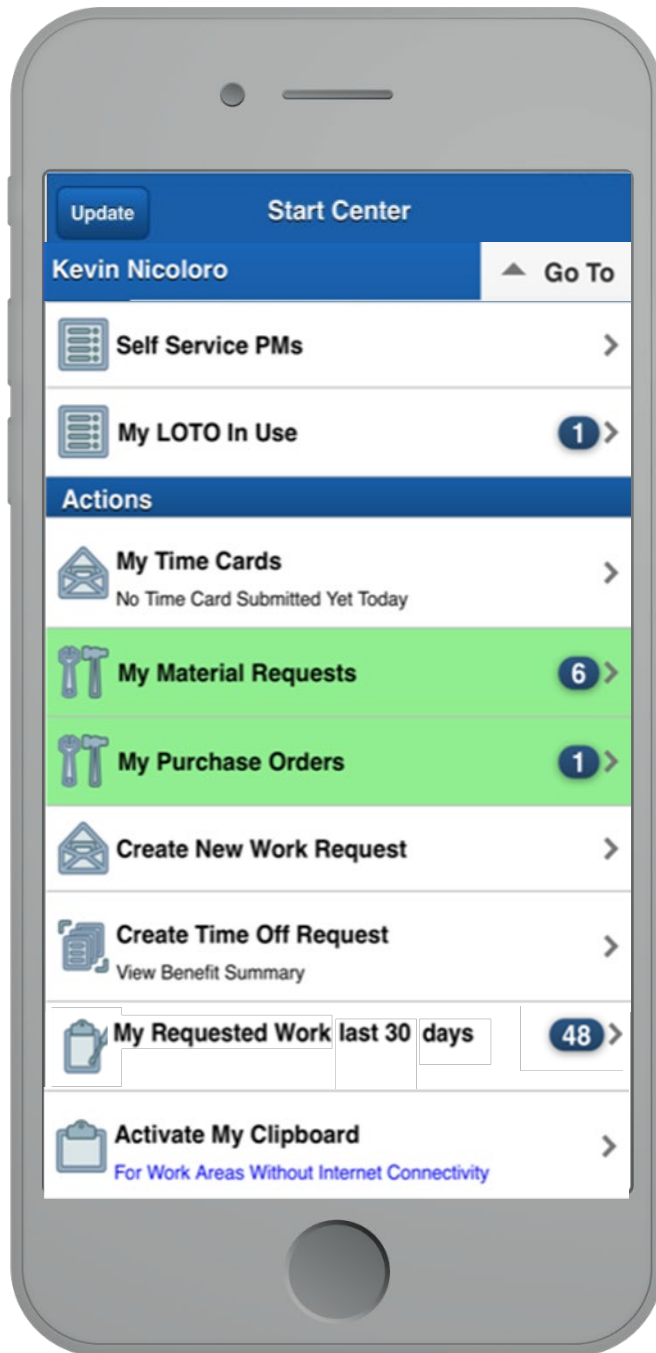
Add Line Item

Print

Back

Submit

Technician Workforce



Extended Functionality

Self Service PM Work

Lock Out Tag Out Activation and Tracking

Time Card Creation and Management

Materials Request and Tracking (full cycle)

New Work Request Creation

Time Off Request Creation and Management

Full Off-Line Functionality

Materials Request

Extended Functionality

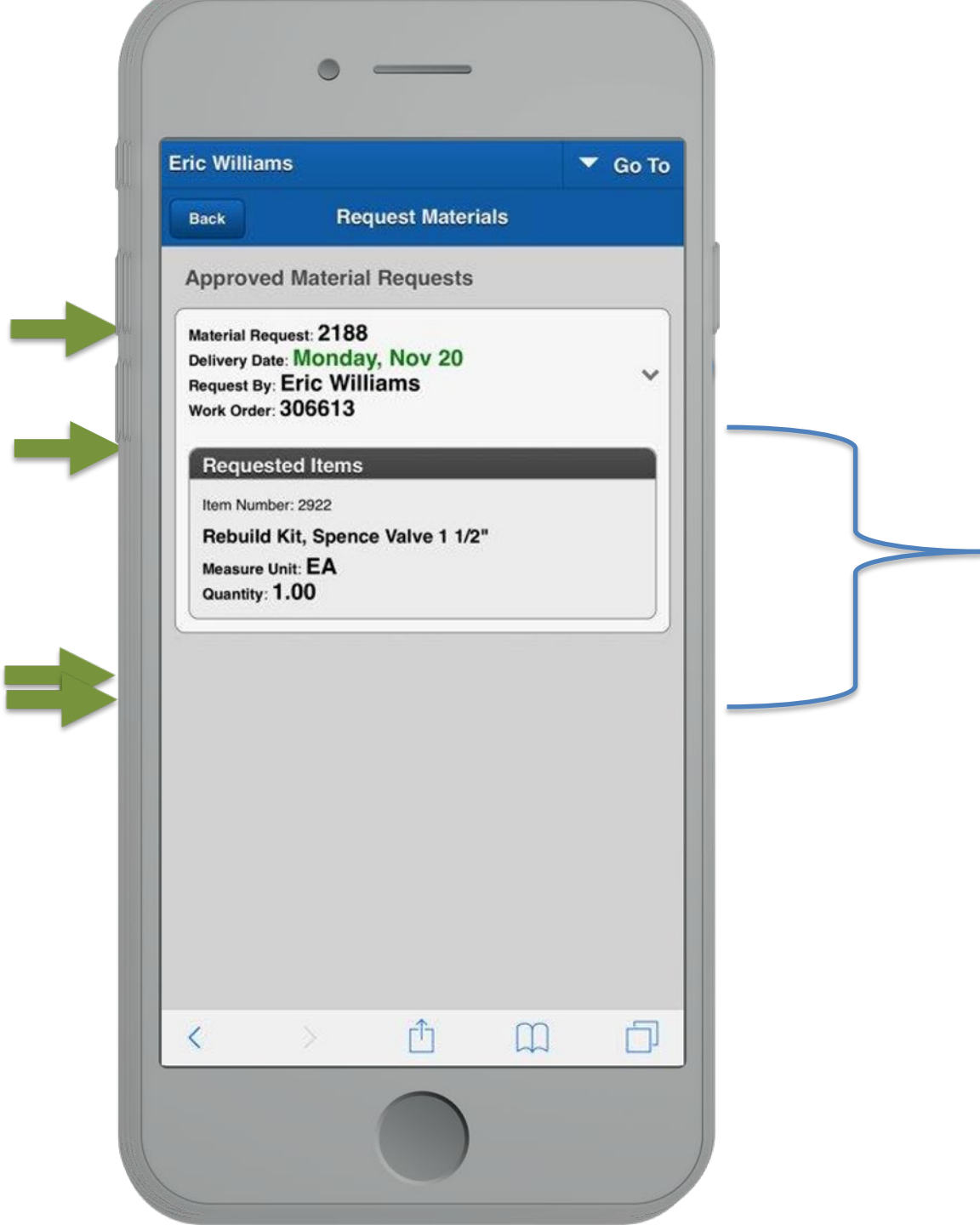
Self – Service Request

✓ **Supply House Format**
Personal Purchase History

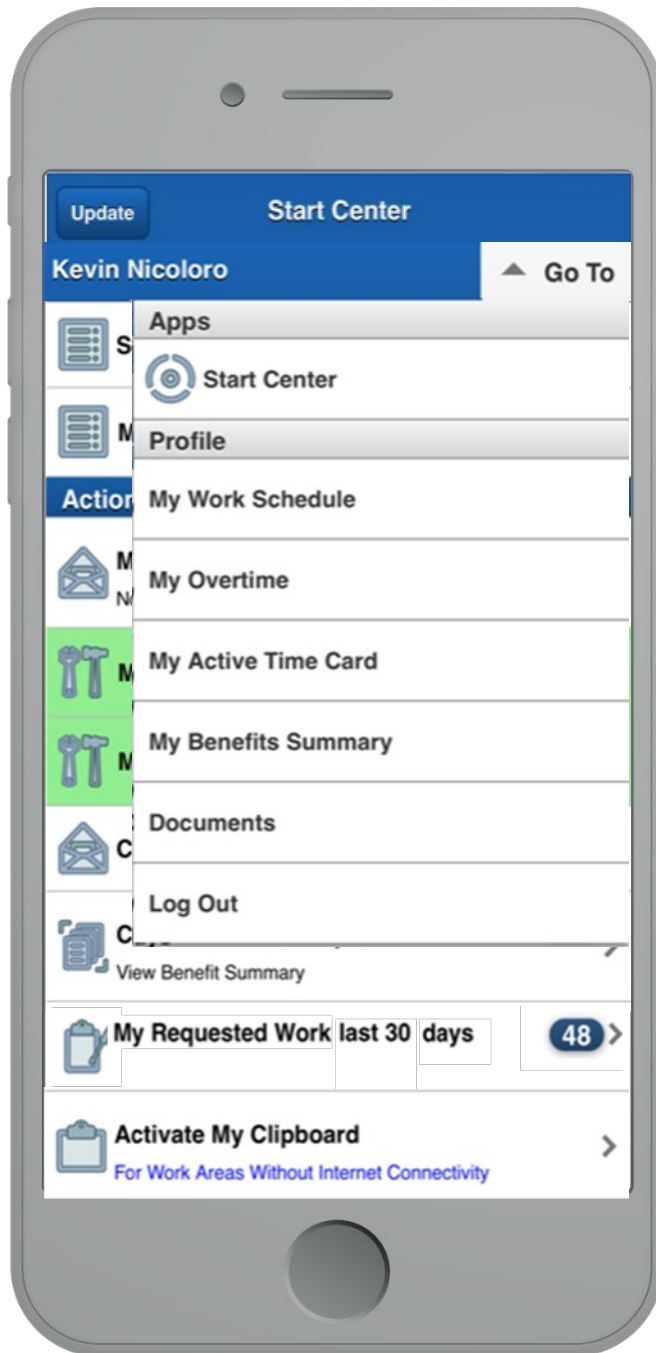
✓ **Full User Control**
Asset Parts and Materials History
Category Search

✓ **Transparent Approval / Fulfillment**
Universal Search

✓ **Continuous Awareness**



Technician Workforce



Expanded Awareness

Work Schedule

Overtime Management (My History, Entire Crew)

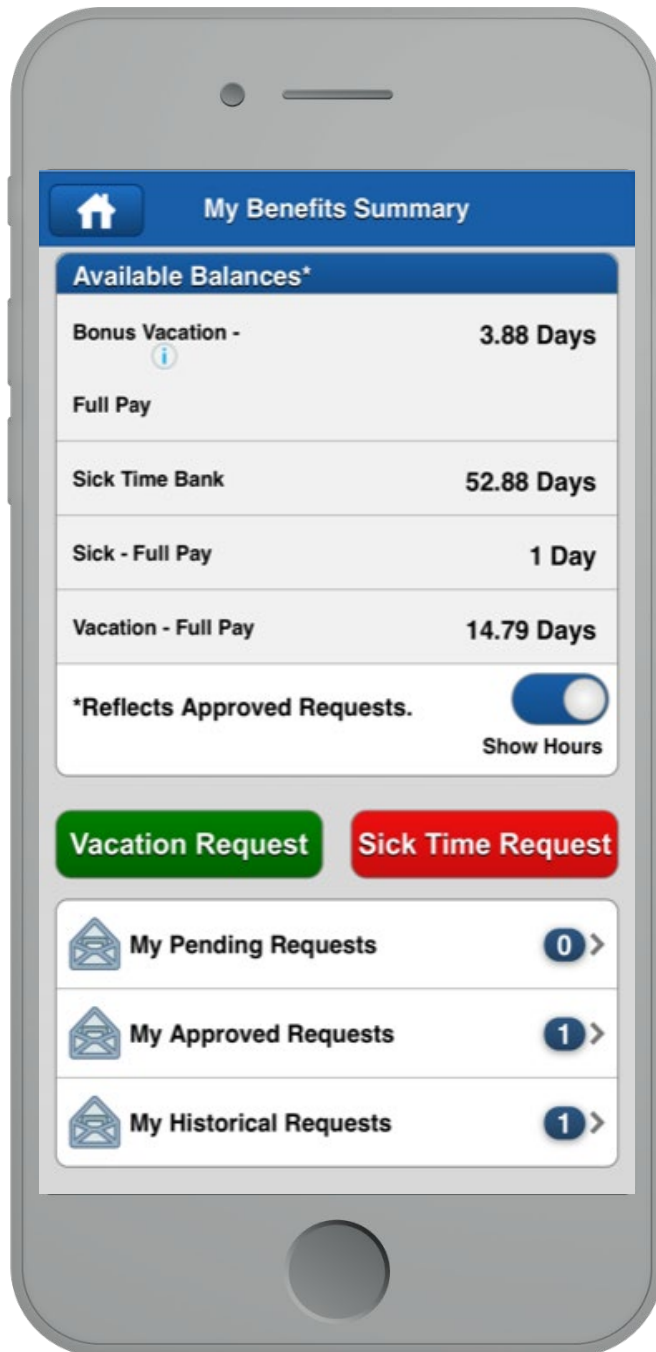
Active Time Card (ongoing creation)

PTO Benefits and History

Documents (Union Agreement, Department Policies)

Tracking My Requests

Time Off Management



Expanded Awareness

Banked Time

Sick Time Available

Vacation Time Available

Days or Hours Display

Request Time (Vacation or Sick)

Request Tracking (Pending, Approved, Historical)

Real-Time Integration to PeopleSoft HR System

Supervisors and Managers



Extended Functionality

Work Order Tracking (Dept, Crew, Team, Technician)

Preventive Maintenance (Active, Look Ahead)

Lock Out / Tag Out (All Active, Direct to WO)

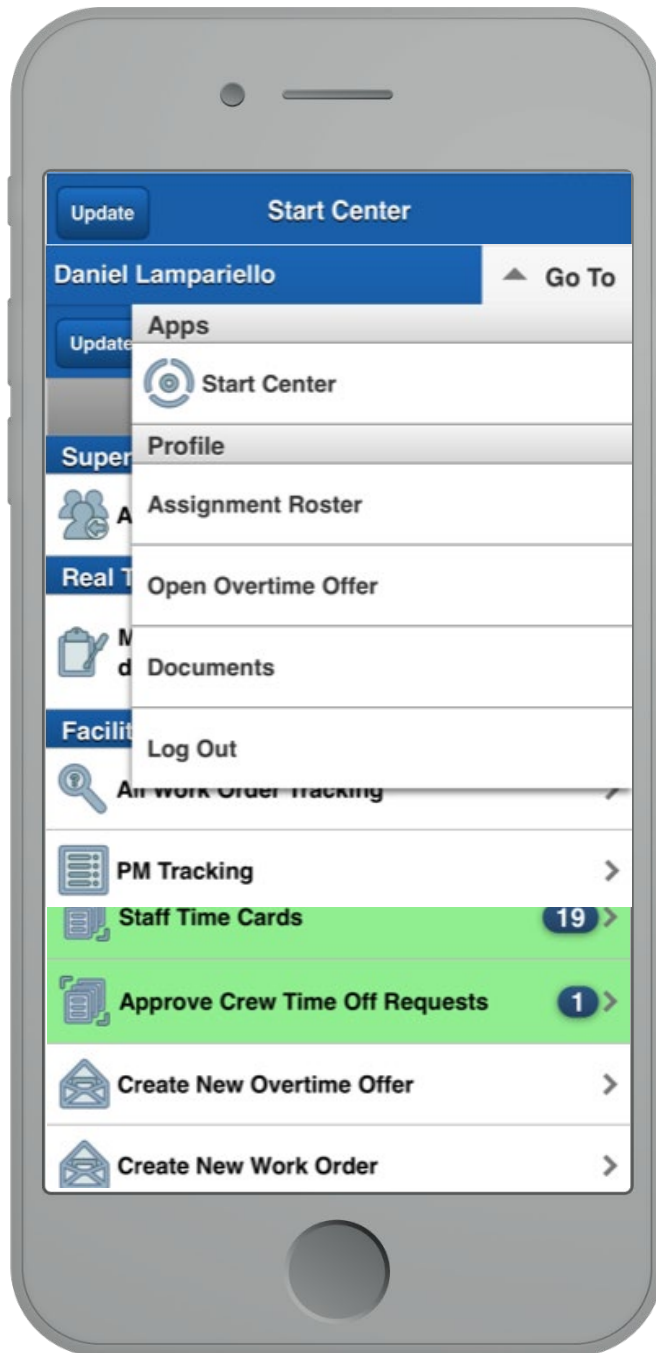
Review / Approve Time Cards (Real-Time)

Review / Approve Time Off Requests (Real-Time)

Creating Overtime Offers

Creating New Work Orders

Supervisors and Managers



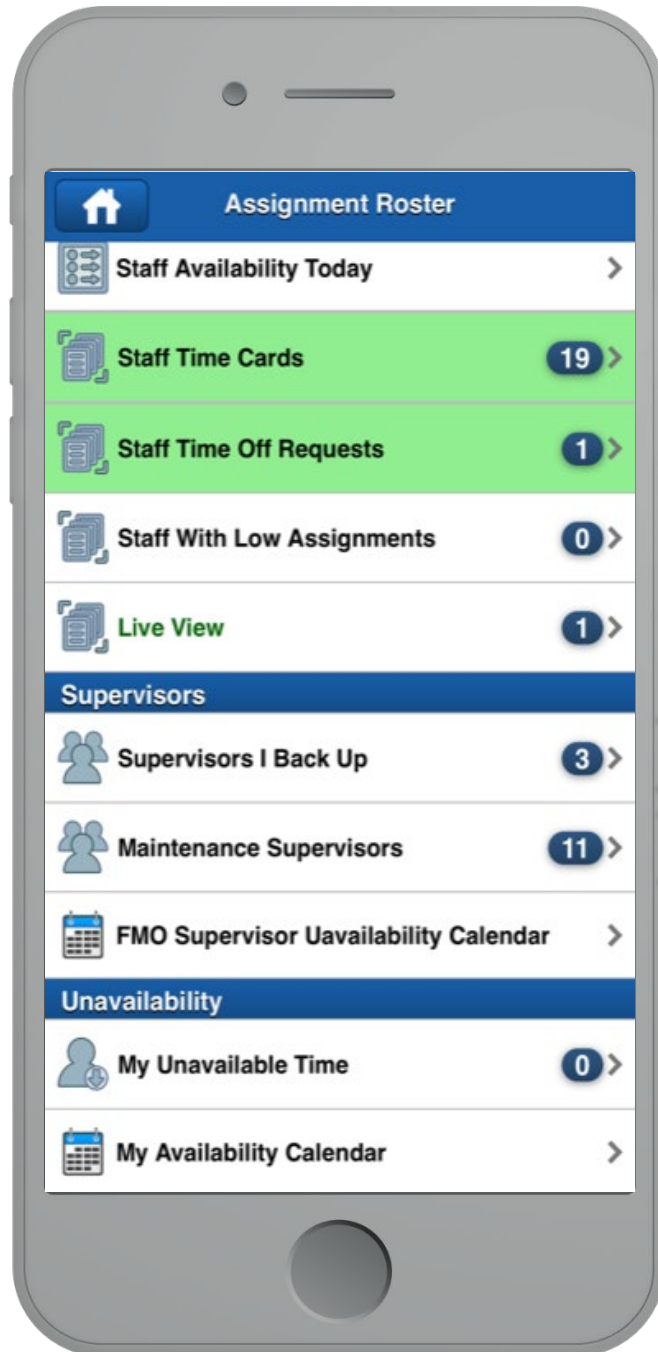
Expanded Awareness

Assignment Roster (My Crew, All Crews)

Overtime Management (Open Offers)

Documents (Union Agreement, Department Policies)

Supervisors and Managers



Expanded Awareness

Who is Here TODAY



Who Needs MORE Work

What Work is Happening RIGHT NOW

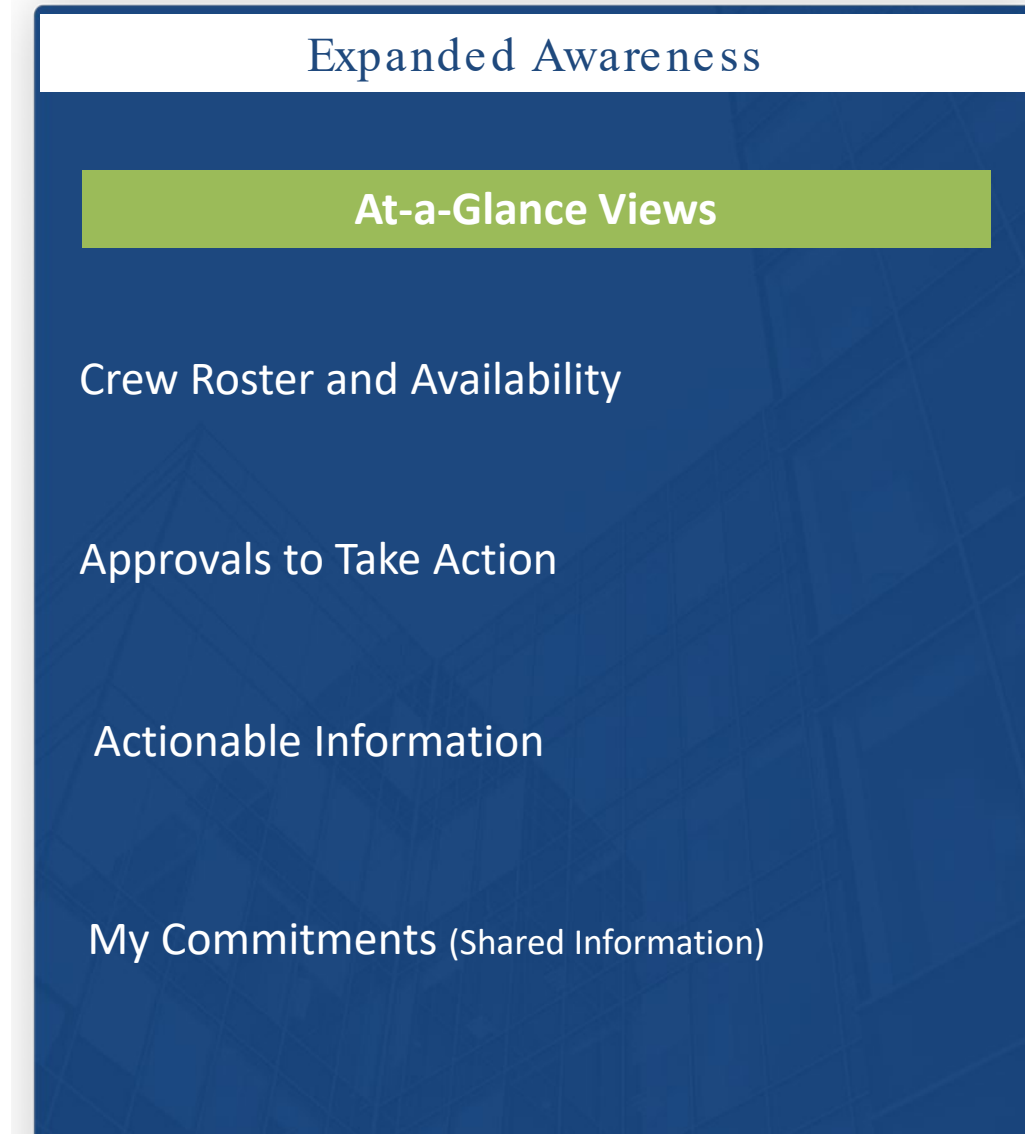
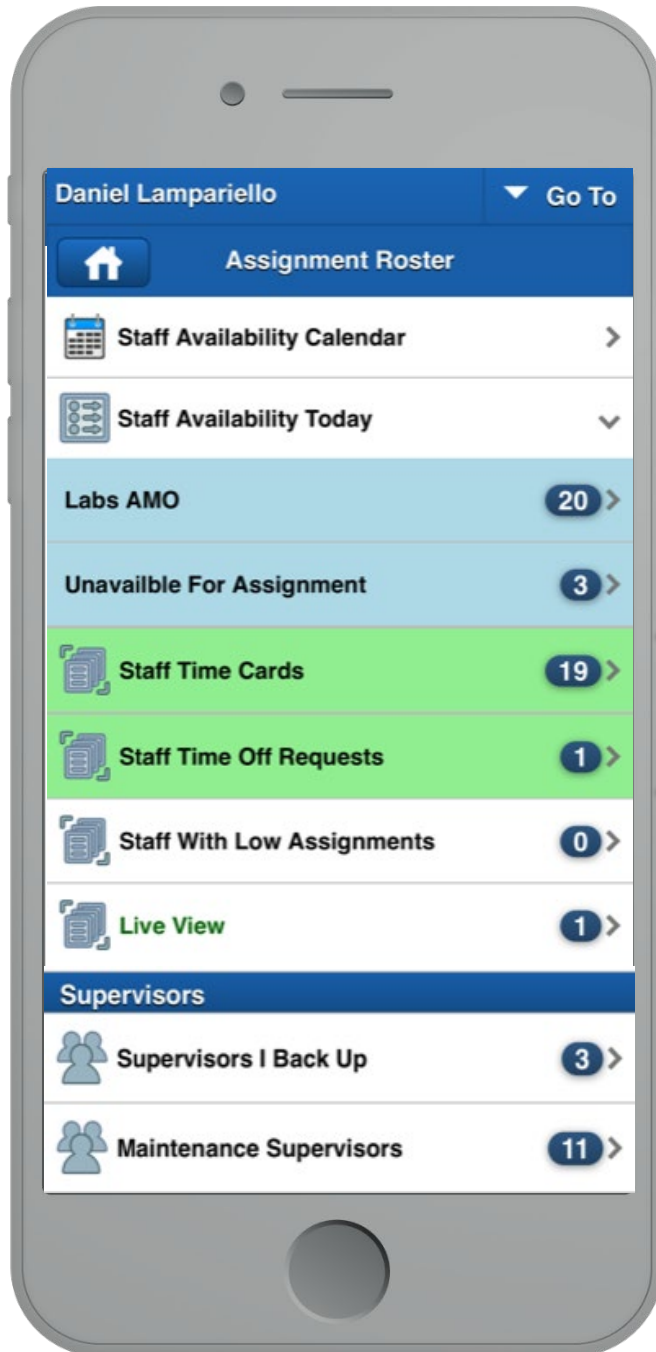
Who Am I Expected to Backup

All Other Supervisors and Work

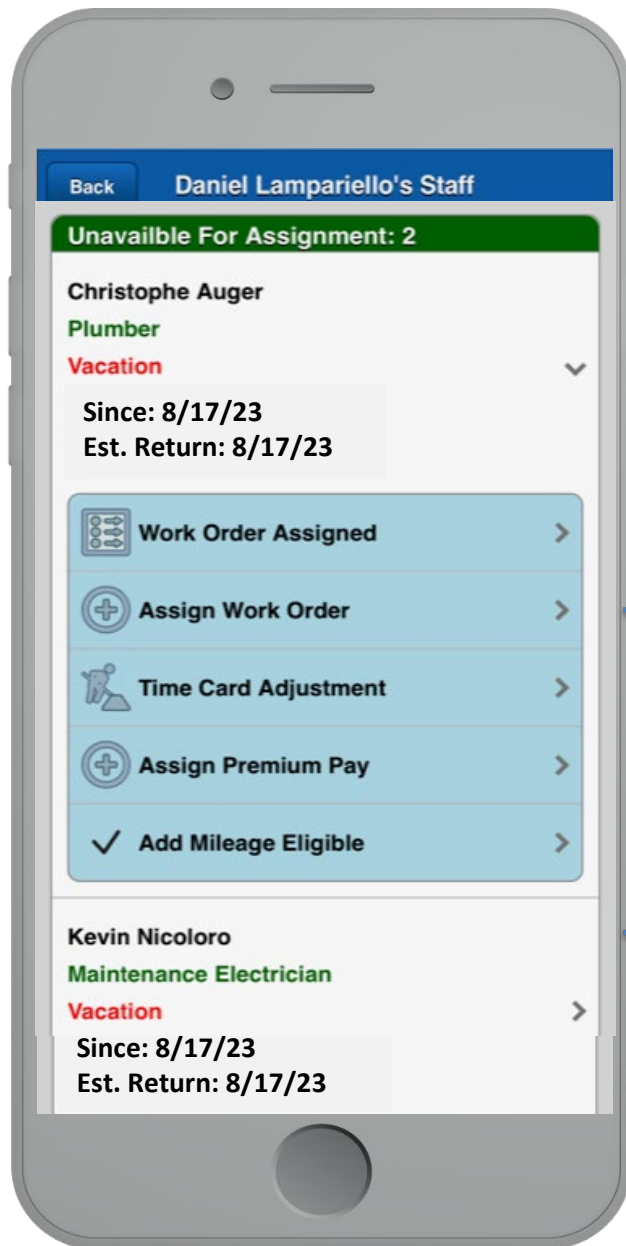
Which Supervisors are On-Site vs Unavailable

My Own Availability (Shared Information)

Supervisors and Managers



Roster Management



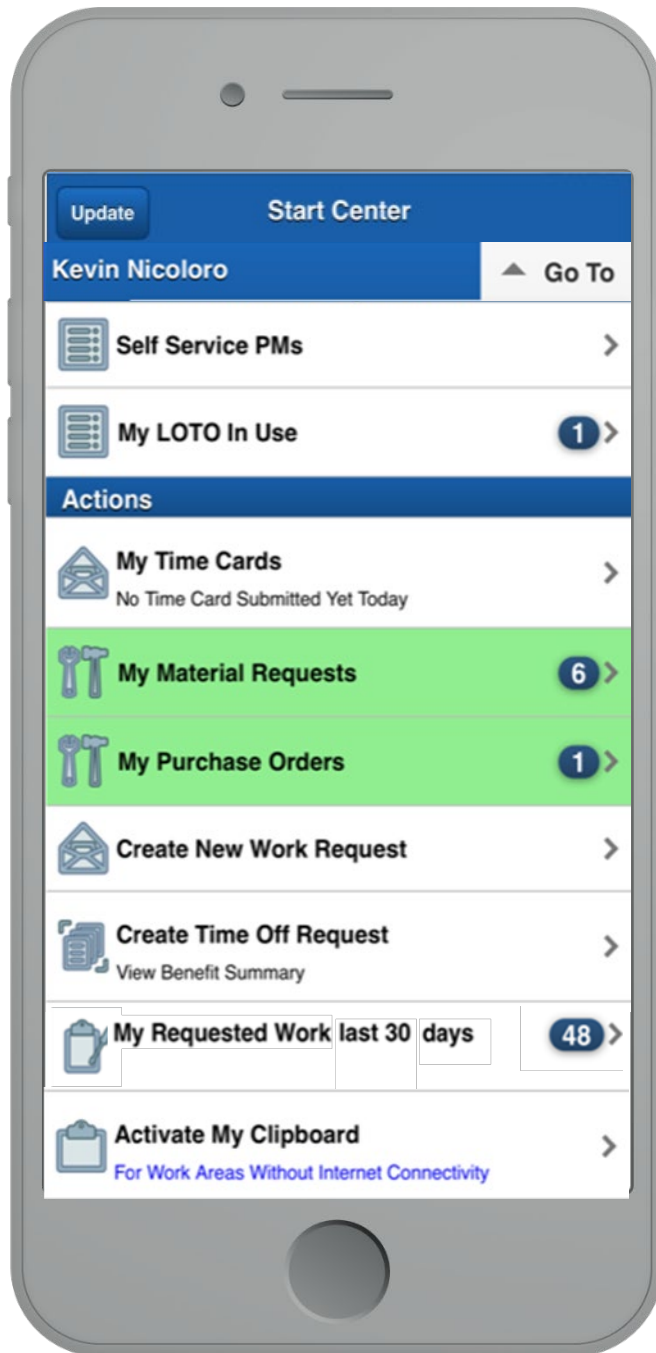
Staff Views and Calendars

Visual Cue; Green is All ... Red is 1 or More

Summary and Drilldown Details

Options to Reassign or Reprioritize

Technician Workforce



Extended Functionality

Self Service PM Work

Lock Out Tag Out Activation and Tracking

Time Card Creation and Management

Materials Request and Tracking (full cycle)

New Work Request Creation

Time Off Request Creation and Management

Full Off-Line Functionality

Return on Investment

Money	Time	Capacity
\$600K	8K HRS	300%
Annual Operating Costs	Administrative Staff	System Functionality



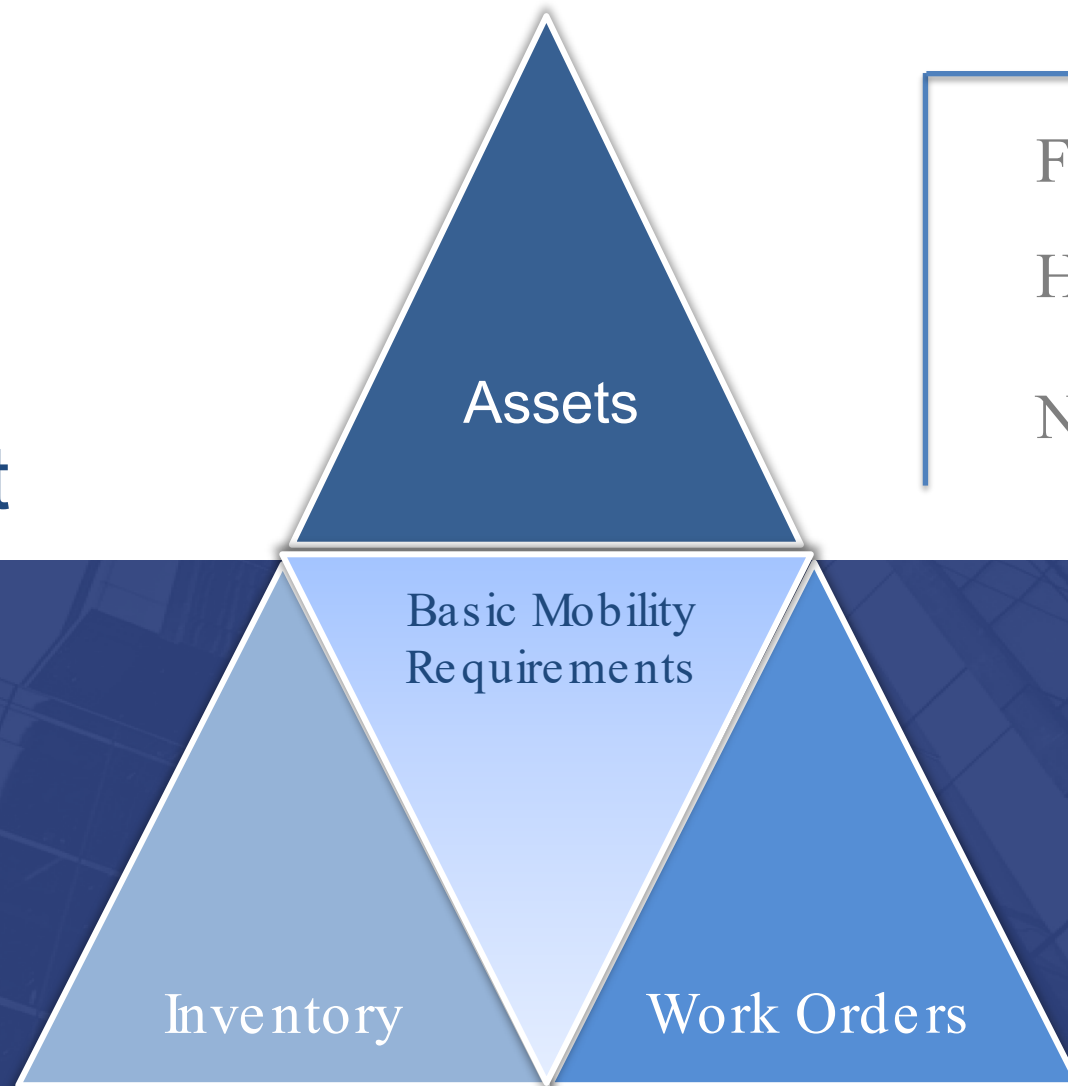
Continuous Improvement



HARVARD
UNIVERSITY

Pyramid of Mobility

Starting Point



Familiar

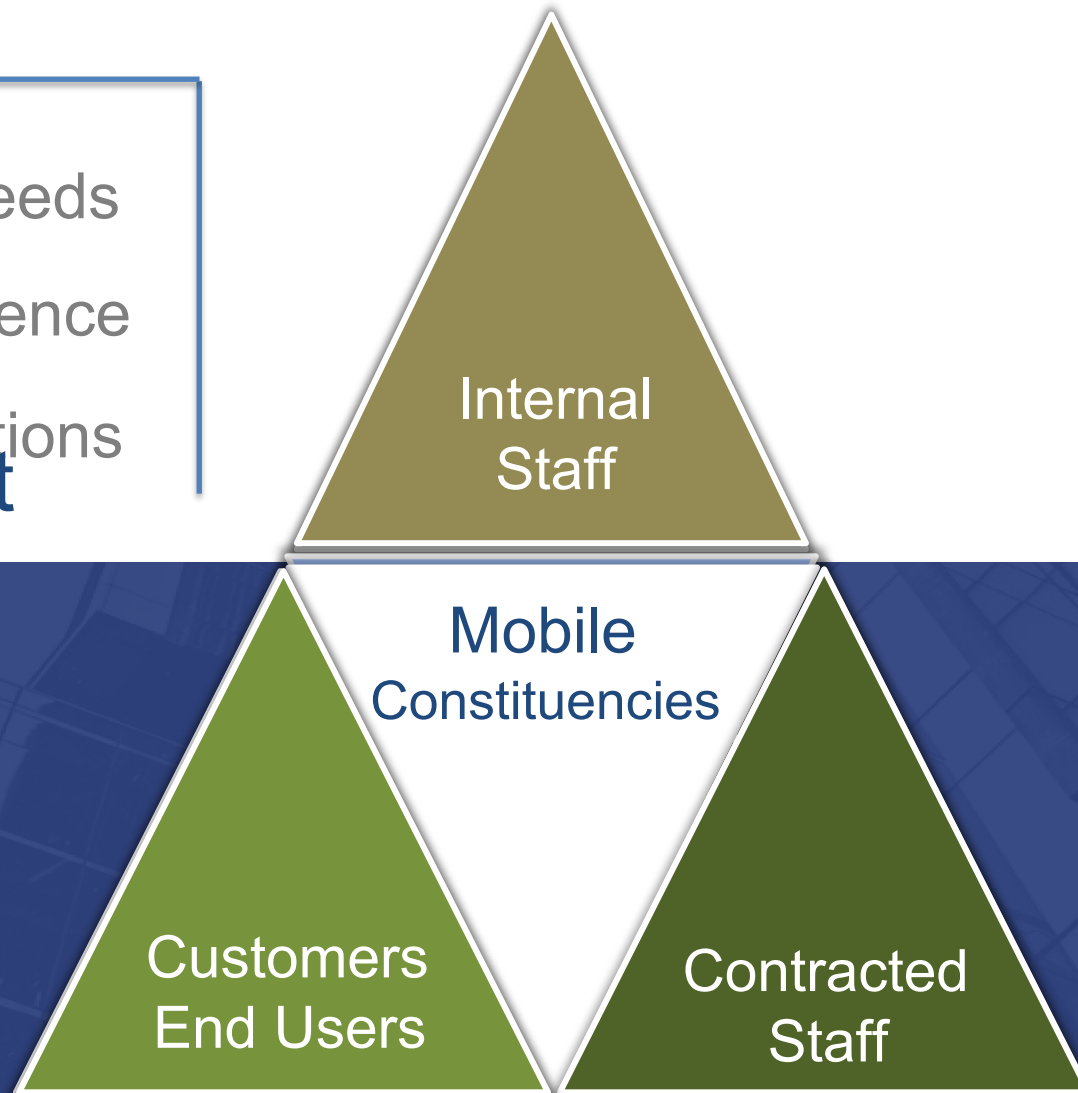
High Value

Near Universal Use Cases

Extending Mobility

Unique Needs
Connected Experience
Optimized Operations

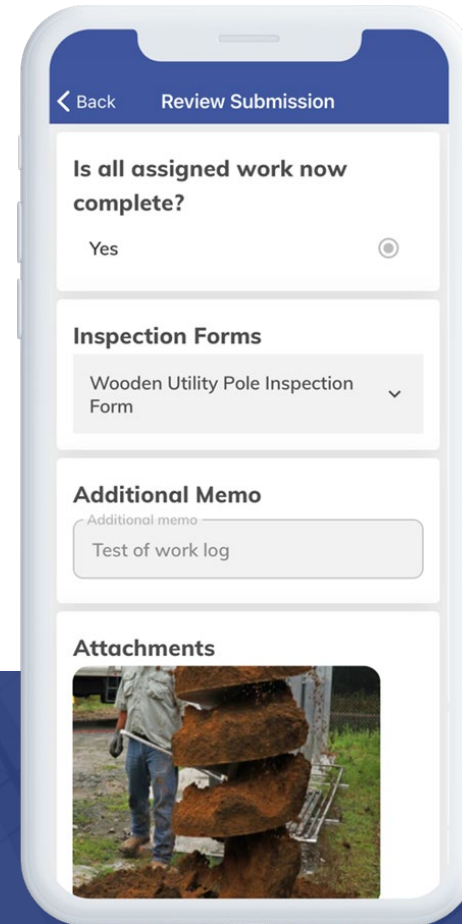
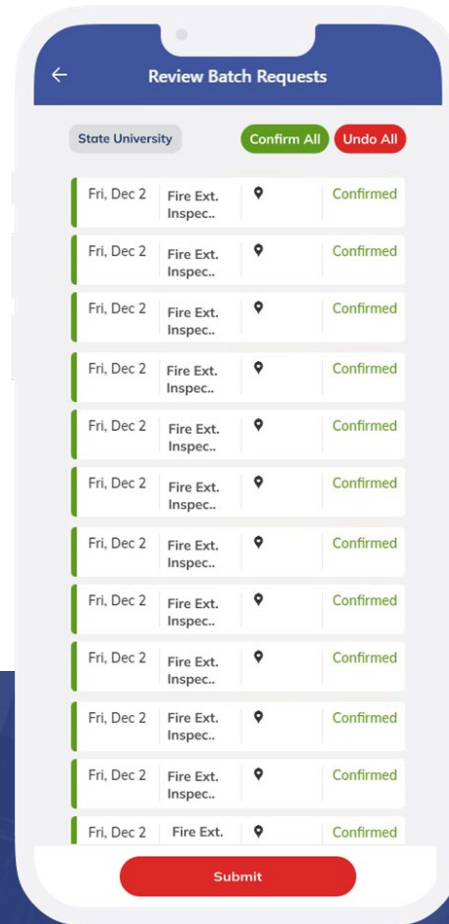
Starting Point



Shift the Focus

Field Service Vendors

Needs Functionality



Managed Security

Expectations Alignment
Continuous Awareness
Fully Leverage Maximo
EZMaxMobile for Vendors

No Access to Maximo
or our Network

Can't Manage User
Level Credentials

Unique Challenges

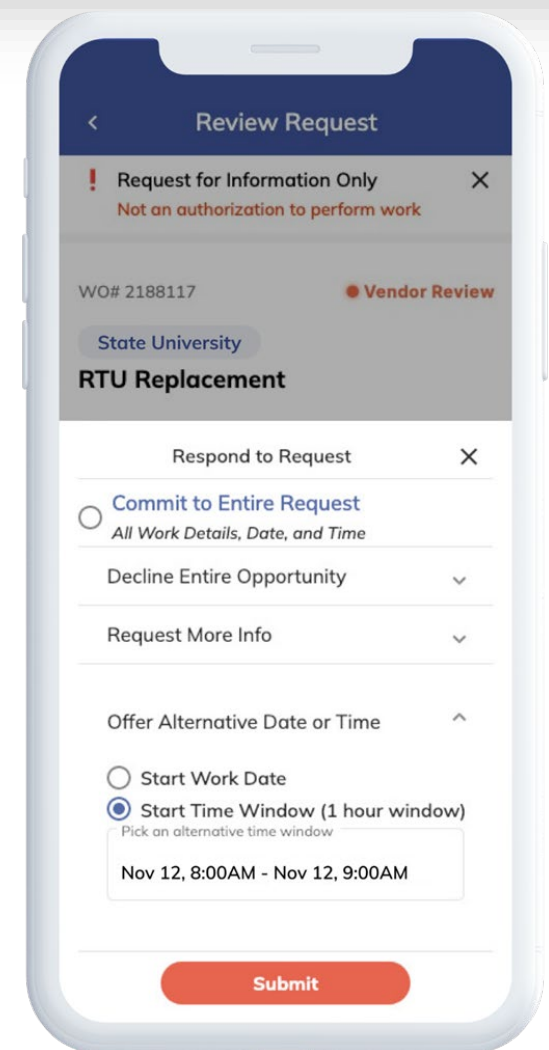
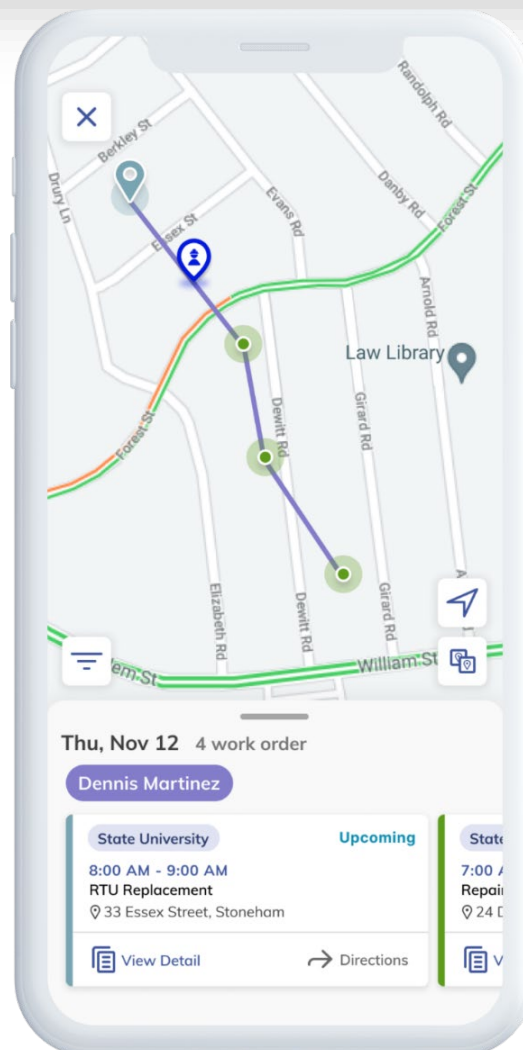
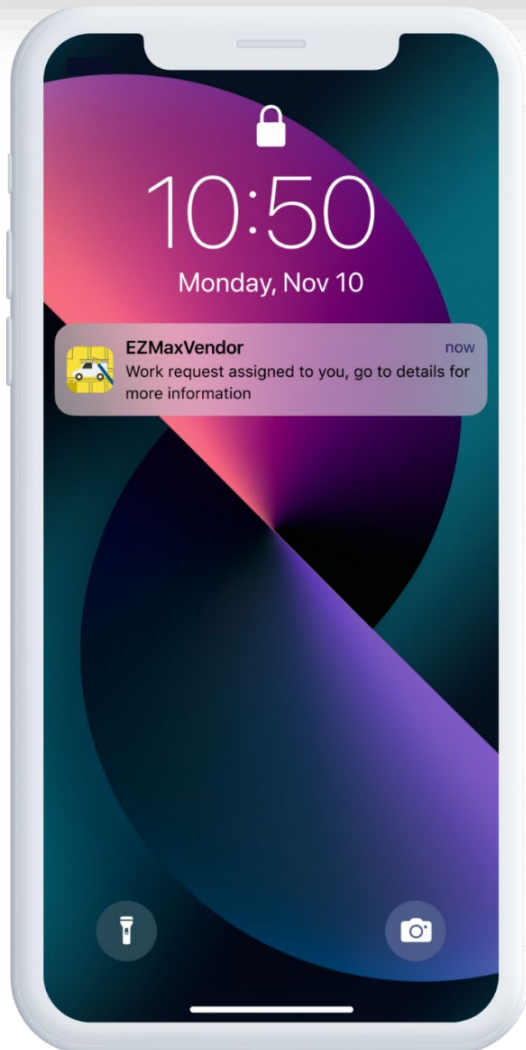
Push Notification



See it On a Map



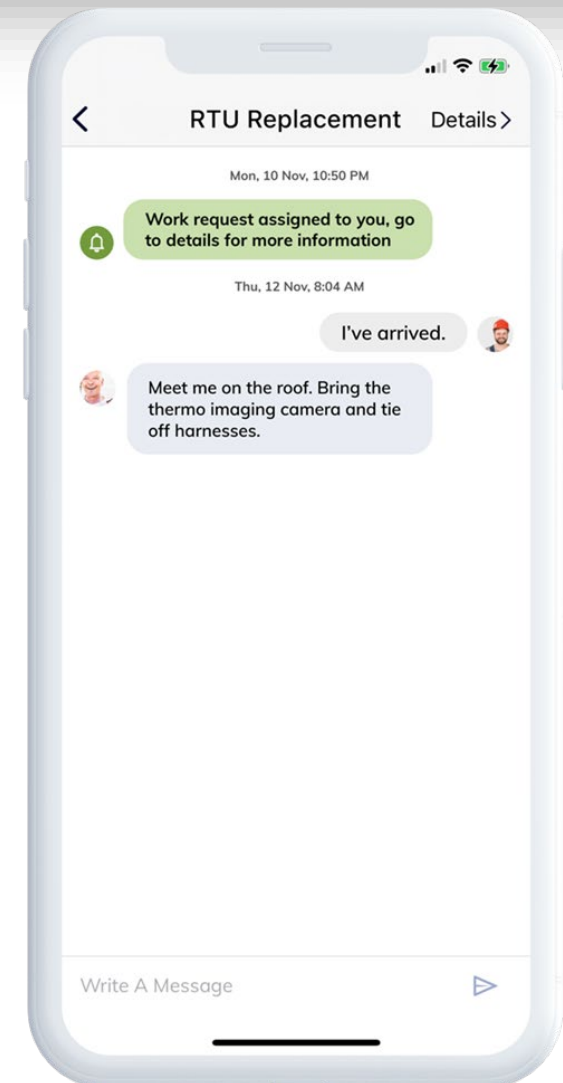
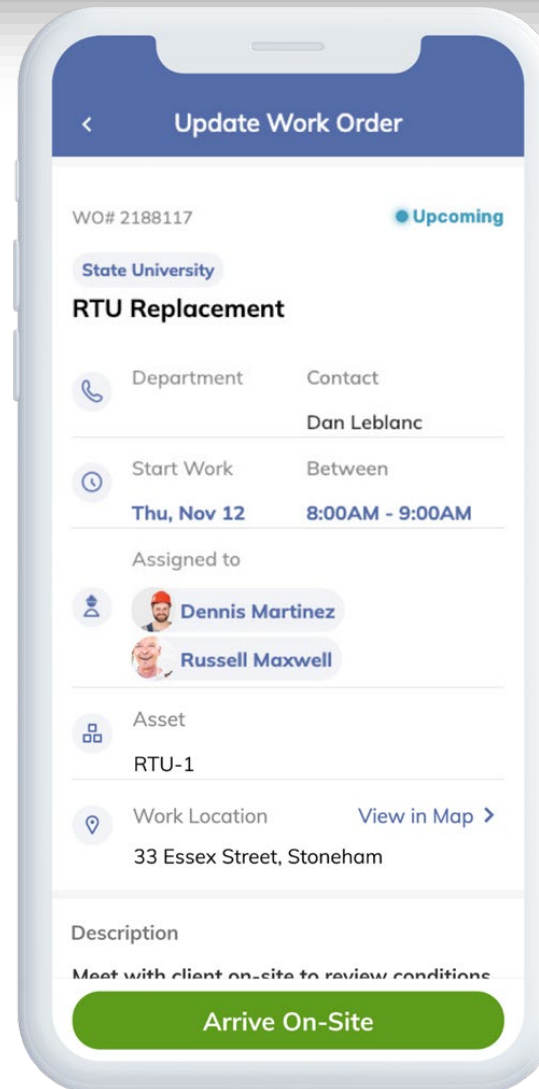
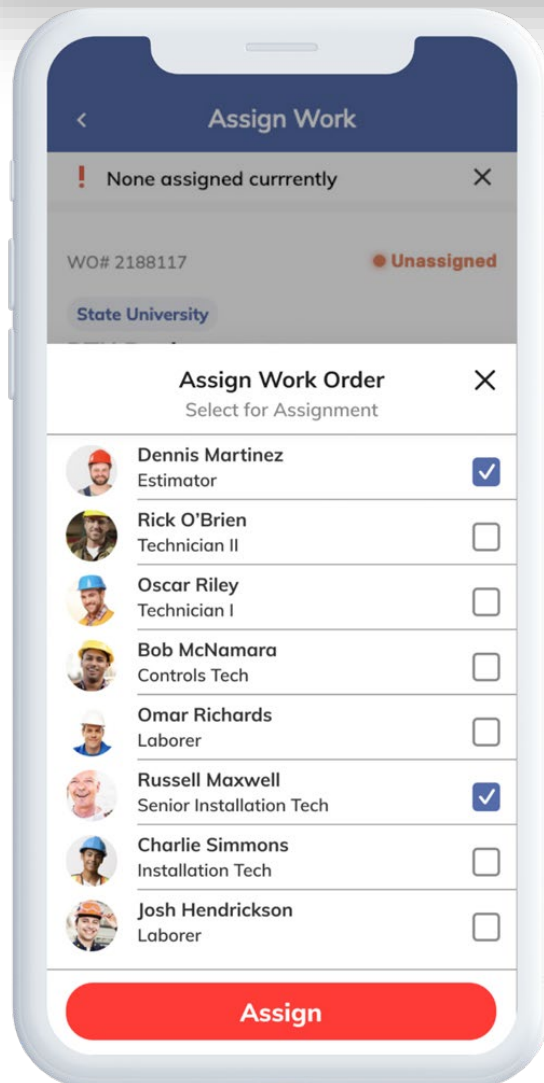
Respond / Commit



Assignment Tools

Arrive on Site

Chat with Co-Workers




Attach Photos
and Documents

Complete Maximo
Inspection Forms

All Data flows
to Maximo


Update Work Status

West Exposure



Description

South Exposure



Preliminary cost estimate.pdf

Description

Preliminary cost estimate

Add Attachments

Submit

Update Work Status

Proposal represents entire scope of requested services

Yes

Add/Alt options included

No

Additional comments or observations

None

Date and Time of Completed Walkthrough

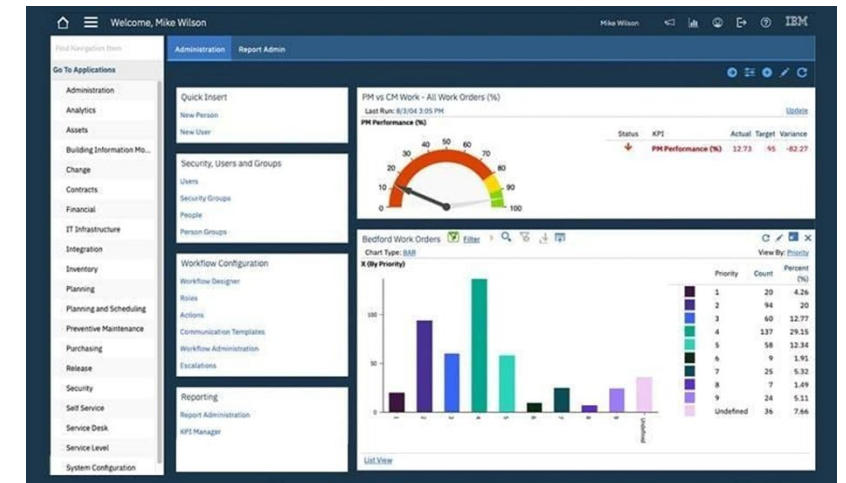
Nov 12, 9:55 AM

Signature *

Dennis M

Dennis Martinez

Submit



IBM
maximo

Launch in Context link to EZMV Cloud

Home

Menu

EZMaxVendor Work Orders

Sam Yang

Alerts

Reports

Users

Settings

Help

IBM

Query

Find Work Order

Select Action

+

📄

↶

↷

🚦

👤

👤

🔄

🔄

🔄

✓

🕒

✕

📄

🔗

List View

Work Order

Plans

Assignments

Related Records

Actuals

Safety Plan

Log

Data Sheet

Failure Reporting

Specifications

Service Address

Map

3D View

Work Order: 41821

Quarterly Emergency Generator Inspection

📄

Vendor: SIMPLEX

➤

Location: 69 W EMERSON

➤

69 West Emerson St

📄

Asset: 11230

📘

➤

Emergency Generator

📄

Classification:

➤

Class Description:

🔍

Repair Facility:

➤

📄

Repair Facility Site:

Latitude(Y): 42.460066639

Longitude(X): -71.042232673

Send to Vendor

Site: BEDFORD

Status: VENDORCOMP

Class: WORKORDER

Work Type: ACT

🔍

GL Account:

🔍

Failure Class:

➤

Problem Code:

🔍

Attachments

🔗

Status Date: 10/24/2022

Inherit Status Changes?

☒

Accepts Charges?

☒

Is Task?

☐

Under Flow Control?

☐

Suspend Flow Control?

☐

Flow Action:

Backup Work order:

Flow Action Assist?

☐

Scheduling Information

📅

Job Details

📅

Priority

📅

Target Start:

📅

Actual Start: 10/24/22 8:29 PM

📅

Job Plan:

➤

Asset/Location Priority:

Target Finish:

📅

Actual Finish:

📅

Job Plan Revision #:

Priority:

Scheduled Start: 10/24/22 4:00 PM

📅

Duration: 0:00

PM:

➤

Priority Justification:

Scheduled Finish: 10/24/22 6:00 PM

📅


Time Remaining:

Safety Plan:

📄

Risk Assessment:

Work Performance Details in EZMV Cloud

EZMaxVendor

←

WO# 41821

DTE

Quarterly Emergency Generator Inspection

Work Location

69 W Emerson St

Vendor

Simplex


Asset

Emergency Generator

Contact

(123)123-5678

Labors

Bill Callhan (Tech II)

(123)123-5678

Mon, Oct 24, 2022 2:48 PM - 3:48 PM

Worked for 1.0 hours

Inspection Forms

Emergency Generator Monthly Inspection

Activities

Completed

Bill Callhan (Tech II)

Lchai@interprosoft.com

(123)123-5678

Mon, Oct 24, 2022 3:50 PM

Work completed. Additional memo: Work is complete

Inprogress

Bill Callhan (Tech II)

Lchai@interprosoft.com

(123)123-5678

Mon, Oct 24, 2022 3:47 PM

Technician Bill Callhan has arrived on-site

Assigned

Li Chai (Planner)

Lesleychai518@gmail.com


Technician Details

Inspection Forms

Transaction History

Work Performance Details in EZMV Cloud (scrolling view)

Labors



Bill Callhan (Tech II)

(123)123-5678

Mon, Oct 24, 2022 2:48 PM - 3:48 PM

Worked for 1.0 hours

Inspection Forms

Emergency Generator Monthly Inspection

Pre-Inspection Routine

Complete Entire Pre-Inspection Routine Before Beginning Generator Test. *

Yes

Inspection and Test Routine

Confirm The Generator Is In The OFF Position. Inspect The Machine For Signs Of Leaks, Worn Or Broken Parts. *

No Problems Found

Record Oil Level From Sight Glass *

0.3

Operate The Generator For A Minimum Of 30 Minutes. Observe The Machine Throughout The Entire Running Time. Record The Following: *

0.1

Post-Inspection Routine

At The Completion Of The Test, Wipe Down The Engine And Re-Inspect For Signs Of Leaks Or Damage. *

No Problems Found

Have You Signed And Dated The Inspection Tag Located On The Generator? *

Yes

Signature *

Sam

Record The Fuel Level *

More than 50% Full

Start The Generator By Placing The ATS Test Switch In The TEST Position. This Will Cause A Momentary Loss Of Power To The ATS Is Not Feeding Critical Systems.

Confirmed

Verify That The Main Breaker On The Generator Is In The CLOSED Position. *

Breaker in Closed Position

Notify The Control Center That The Generator Test Is Complete.

Mon, Oct 24, 2022 7:48 PM

Activities

Completed

All Inspection Form
Response Details

Work Performance Details in EZMV Cloud (scrolling view)

Inprogress

Bill Callhan (Tech II)

Lchai@interprosoft.com

(123)123-5678

Mon, Oct 24, 2022 3:47 PM

Technician Bill Callhan has arrived on-site

Assigned

Li Chai (Planner)

Lesleychai518@gmail.com

(123)123-5679

Mon, Oct 24, 2022 2:45 PM

Assigned to Bill Callhan (Tech II)

Assigned

Li Chai (Planner)

Lesleychai518@gmail.com

(123)123-5679

Mon, Oct 24, 2022 2:37 PM

Assigned to Alona Rudchenko (Tech I)

Approved

Li Chai (Planner)


Lesleychai518@gmail.com

(123)123-5679

Mon, Oct 24, 2022 2:36 PM

Confirm to entire request

Attachments



File1666640976000.jpg

Description:

Related Work Orders

Photo and Document Attachments



HARVARD
UNIVERSITY

Results

6 Months Medical School Only



Eliminated

Off System Vendor Data



Reduced

Phone and Email Confusion



Vendors Love It

Clarity of Expectations



2024

Wider Roll Out Planned

Project Take Aways

5

Set Clear Goals ... Use Plain Language

Talk to Everyone ...Find the FRICTION

Leakproof Work Processes are Key to Success

Leverage your Vendors and Partners

Focus on User Communities to drive Continuous Improvement



HARVARD
UNIVERSITY



Contact



Jeffrey Smith

Senior Director, Business Process Solutions

105 Central Street
Stoneham, MA 02180
781.213.1166 ext 221
jsmith@interprosoft.com

