

# Integrated Workplace Management System (IWMS)

## Planon Implementation Project

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Monty Combs, Director of Systems & Services

November 2019

# Topics

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- IWMS Project – Goals and Scope
- IWMS selection process
- Planon Implementation Project



BROWN

# FACILITIES MANAGEMENT

## *We Care*



BROWN

### MISSION STATEMENT

The mission of Facilities Management is to support the University by enhancing the quality of physical facilities. We do this through planning, designing, engineering, constructing, and maintaining in a responsive, service-oriented, effective, and environmentally-conscious manner.

### *Respect:*

We are committed to developing mutual respect through soliciting input, active listening and communicating, recognizing diverse points of view, and giving and receiving constructive feedback.

### *Customer Service:*

We are committed to understanding the needs of the Brown community, communicating effectively, and delivering solutions in a courteous, professional, and timely manner.

### *Collaborative Relationships:*

We are committed to building strong, successful partnerships within our department, the University, and the community.

### *Stewardship:*

We are committed to respecting the history and traditions of our University, we strive to preserve the character of our buildings and grounds, and to create and maintain a safe, attractive, and environmentally conscious atmosphere.

### *Excellence:*

We are committed to the highest standards of quality and performance and dedicated to continuous improvement across the department.

### *Effectiveness:*

We are committed to developing efficient processes and delivering services that are fiscally, operationally, and environmentally responsible with an emphasis on proactive solutions.

### *Employee Development:*

We are committed to promoting the professional development of our employees' skills and expertise, and to attracting and retaining highly-qualified individuals.

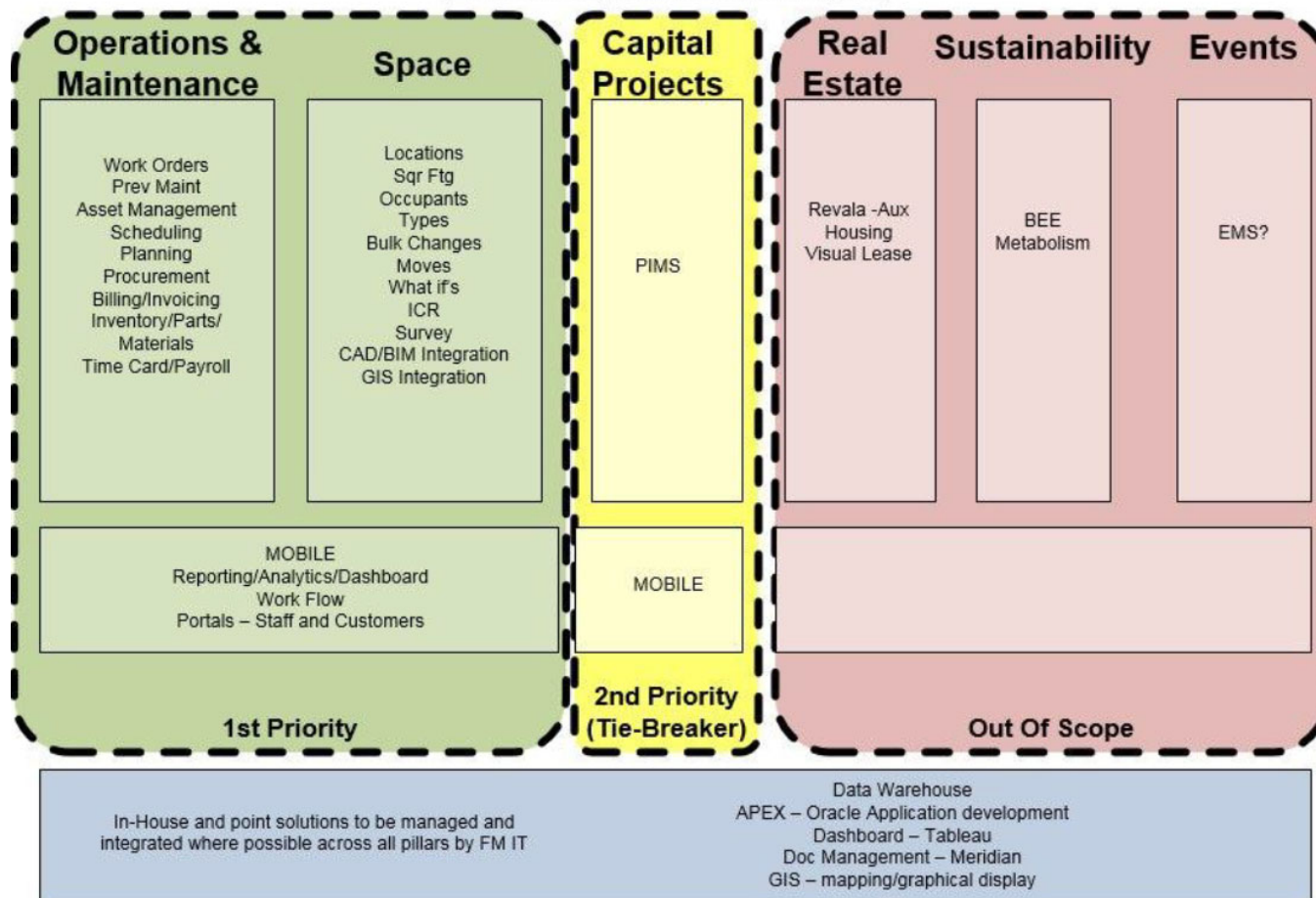
# **Planon Project Goal Themes**

1. **Customer Service** - Reliability & Predictability
2. Effectiveness & Efficiency
3. Decision Support
  - Business Intelligence; Metrics & Reporting
4. Data Interoperability – system interfaces

**We are implementing a technology solution that will enable FM to better serve both our customers and the mission of Brown University. We are positioning Brown to take advantage of new technologies and for us to perform our jobs more effectively.**

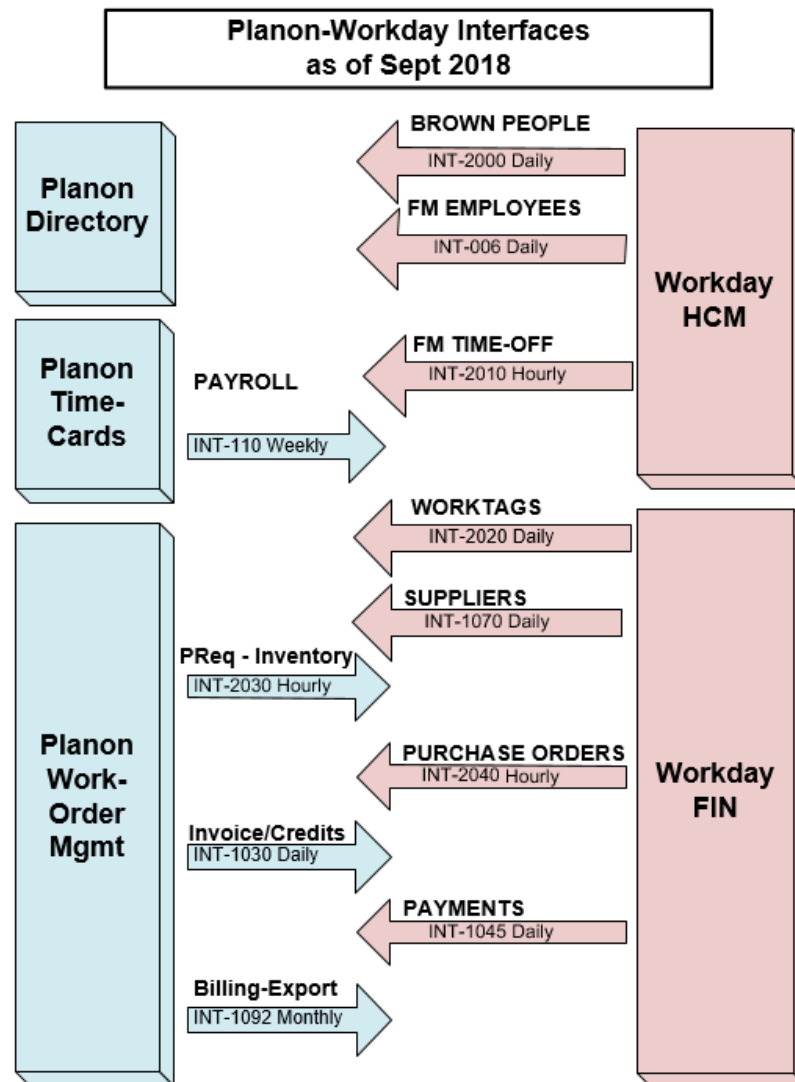
# IWMS Project - Why?

## FAMIS Replacement Project



- Replace aging FAMIS software
- New capabilities and features that align with our **goals**

# System Integrations





# Product Selection Process

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Fall 2015

- IDENTIFY PRODUCT CANDIDATES
- REVIEW PEER INSTITUTIONS

School Name	Maintenance Management
Brown University	Accruent - FAMIS
Columbia University	IBM - Maximo
Cornell University	IBM - Maximo
Dartmouth College	Accruent - FAMIS
Harvard University	IBM - Maximo
Johns Hopkins University	IBM - Maximo
University of New Hampshire	Accruent - FAMIS
University of Pennsylvania	Assetworks - AIM
University of Virginia	Assetworks - AIM
MIT	SAP
Princeton University	IBM - Maximo, InterPro - EzMaxMobile
Northwestern University	Accruent FAMIS
Stanford University	Oracle EAM
Yale University	Accruent - FAMIS
Duke University	Infor EAM
Georgia Tech	Assetworks - AiM

ITEM	COMPANY	PRODUCT
1	Accruent	FAMIS CLOUD
2	IBM	Maximo
3	IBM	Tririga
4	Planon	Planon Universe
5	Assetworks	AIM (was Maximus)
6	FM Systems	FM Interact
7	Megamation	DirectLine
8	TMA Systems	TMA
9	Infor	EAM
10	SAP	FM Insight (by NPQ)
		COMOS (integrates with SAP)
11	Oracle	Oracle EAM
12	Oracle	FALM-Facility and Asset LifeCycle Mgmnt
		Acquired Primavera
		Acquired Skire Unifier
13	Archibus	Archibus
14	Schooldude	Schooldude
15	ProLease	ProLease
16	Trimble	Acquired Manhattan
		Centerstone was acquired by Manhattan
17	Four Rivers(Accruent)	TMS
18	SiteFM(Accruent)	
19	Autodesk	Building OPS (part of BIM360 Suite)
20	JLL	Corrigo
21	Maintenance Connection	Maintenance Connection
22	NetFacilities	NetFacilities
23	BIGCenter(Accruent)	Was Cushman & Wakefield
24	Bigfoot Maintenance	Bigfoot
25	GE	FacilityConneX
26	Eagle Technology	Eagle cmms
27	MCS Solutions	myMCS



March 2016

- **PRODUCT DEMONSTRATIONS**
- **REGROUP**
- **CONSULTANT ENGAGEMENT**

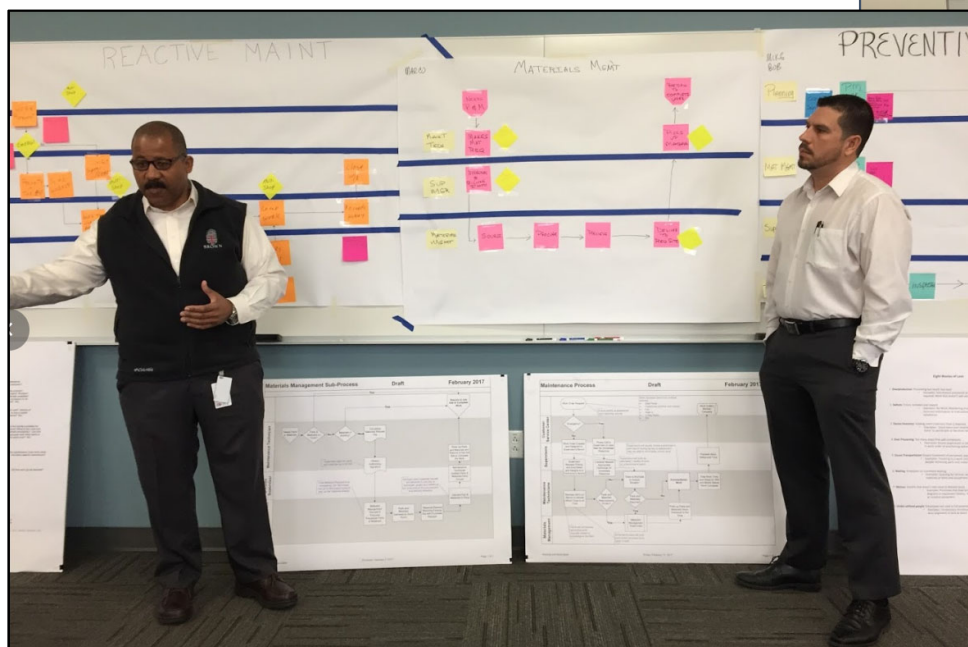
**Barkley Advisory Group LLC**

Conducted interviews with  
60 Stakeholders



April 2017

- **PROCESS DESIGN SESSIONS**



June 2017

- RFP DEVELOPMENT

REQ.#	Sub-Category	Sub-Category Topic	Functional Requirement
M1	Configuration and Display	Active and Inactive Values	System administrators can setting active/inactive flags or start and expiration dates for work order LOVs, such as maintenance types, priority codes, status codes, and other request categorizations.
M2	Configuration and Display	Crew Configuration	The system administrator can identify multiple sub-groups within each crew with the ability to assign a crew chief or leads to each sub-group.
M3	Configuration and Display	Email Configuration	System administrators can configure email notification templates and integrate data into the email body from the service request information fields.
M4	Configuration and Display	Form Configuration	System administrators can configure the form fields and layout for the request information system.
M5	Configuration and Display	Form Configuration	System administrators can configure the form fields and layout for the request information system.
M6	Configuration and Display	Help Screens	System administrators can configure the help screens for the request information system.
M7	Configuration and Display	Portal Configuration	System administrators can configure the portal for the request information system.
M8	Configuration and Display	Portal Configuration	System administrators can configure the portal for the request information system.
M9	Configuration and Display	Priority Codes	System administrators can configure the priority codes for the request information system.
M10	Configuration and Display	Priority Codes	System administrators can configure the priority codes for the request information system.
M11	Configuration and Display	Priority Codes	System administrators can configure the priority codes for the request information system.
M12	Configuration and Display	Requestor Configuration	System administrators can configure the requestor information for the request information system.
M13	Configuration and Display	Role Assignment	System administrators can assign roles to users for the request information system.
M14	Configuration and Display	Status Codes	System administrators can configure the status codes for the request information system.
M15	Configuration and Display	Status Codes	System administrators can configure the status codes for the request information system.



Request for Proposal  
Facilities Management Information System  
June 22, 2017



## REQUEST FOR PROPOSAL (RFP)

## FACILITIES MANAGEMENT INFORMATION SYSTEM

Version 1.4

Issue date: June 23, 2017

August 2017

9 proposals received

• RFP SCORING

RFP FINAL RESULTS	
VENDOR	SCORE
ACCRUENT	78.94%
ASSETWORKS	68.27%
EBIZ MAX	60.95%
EBIZ TRIRIGA	55.07%
JLL-ARCH	60.37%
NGKF-MAX/ARCH	61.67%
PLANON	68.53%
TMA	54.82%

15 Contributors

WEIGHTINGS	
SECTION	WEIGHT
ABOUT	20%
DETAILED	10%
NARRATIVE	30%
FUNCTIONAL	20%
PRICING	20%
	100%

Sept 2017

The contenders:

IWMS



IWMS



IWMS



Point Solutions



Nov 2017

## • DEMONSTRATIONS



BROWN

### FACILITIES MANAGEMENT INFORMATION SYSTEM

#### Product Demonstrations - Agenda

##### Day 1:

8:00 am – 8:30 am	Vendor setup
8:30 am – 9:15 am	Vendor & Product Overview
	Vendor Team
	About the company
	About the product
	About existing customers
	Product Roadmap
9:15 am – 10:00 am	Operations and Maintenance
	Product screen layout/navigation/terminology – I
	Scenario 1: Customer – Submit a Service Request
	Scenario 2: WO Scheduling – Schedule WOs to tra
	Q&A*
10:00 am – 10:15 am	Break
10:15 am – 12:00 pm	Operations and Maintenance
	Scenario 3: Trades Technician – Work Order
	Scenario 4: Trades Technician – Work Order - PA
	Scenario 5: Multi-Crew Work and Split Billing
	Scenario 6: Supervisor Time Card Approval
	Scenario 7: Supervisor WO Closing
	Scenario 8: Procedure Library
	Q&A*
12:00 pm – 12:30 pm	Lunch Break



BROWN

November 2017

#### Demonstration Scenarios

##### **1) Customer – Submit a Service Request (Mobile only – iPhone and Android)**

- A student wishes to submit a Service Request for a Door Lock that is not functioning correctly.
- The student opens the FM Report Issue app or goes to the Mobile web site to report the issue.
- The student takes a photo of the door lock.
- The student identifies the Building and room number.
- The student uses voice dictation to describe the issue.
- The student submits the request.
- The student then receives a notification that the request has been received.

##### **2) WO Scheduling – Schedule WOs to trades technicians (Desktop, Mobile if available)**

The intent here is to show how features for scheduling of work will allow a scheduler to best balance the projected or estimated work effort with available labor resources. We would like to see the tools and interfaces for ease of use and visibility into the data. Show Drag and Drop features where available.

- Scheduler reviews a work bench of incoming Service Requests, existing WOs, both planned and reactive.
- Scheduler sorts work in a variety of ways: PMs sorted by Crew, Priority Code and Due Date, WOs by Crew and that are past due or due now, WOs by Crew still pending materials, etc...
- Scheduler reviews individual technician benches for assignment of WOs. Adjustments are made to individuals work benches to balance out the work load.

##### **3) Trades Technician - Work Order (Mobile only)**

- A technician reviews their work bench of active WOs. (at minimum 15 active WOs)
- Search work bench for "Mechanical Systems".
- Open WO and view details:
  - View the following information in the WO: Crew, Assigned to user, enter date, due date, Location (Building and room), detailed description from customer of the issue reported.
  - View the WO billing type and account information. (This WO will be a building charge and should automatically default to the Building account number).
  - Open attached (or linked) floor plan and review room location of issue reported
- The technician identifies the piece of equipment not performing properly and scans the asset barcode ID to populate the equipment ID into the WO equipment field.
- The technician reviews the recent WO history of the piece of equipment to determine if this is a recurring issue or one that was recently worked on by another technician.
- The technician takes a photo of the equipment that will become part of the WO record.
- The technician then completes the WO and enters completion notes using voice dictation and/or typing work notes.

Dec 2017

• **EVALUATION RESULTS**

**COMBINED SCORING**

28 Contributors

VENDOR	1st Choice	2nd Choice	3rd Choice	4th Choice
NKF	0	2	5	13
ACCRUENT	2	2	13	6
PLANON	14	8	4	0
ASSETWORKS	10	14	1	1
			total votes	95

Dec 2017

- EVALUATION RESULTS

16 Contributors

	Ease of use	Functional Compliance	Company	Overall Satisfaction	TOTALS
NKF	475	503	26	29	1033
Accruent	561	584	31	35	1211
Planon	806	744	53	49	1652
Assetworks	710	765	44	44	1563



Dec 2017

- **TEAM PRODUCT SELECTION**

## ■ KNOWN

- **IWMS** vs Point Solutions
- **Cloud** vs On-Premise Solution
- Incredibly tough choice
- Several factors to consider

## Team Discussion Points

- Future proof – IoT/BIM/GIS
- What does Brown FM want to be?
- Best-in-Class!**
- Costs
- Use by other departments?
- Use of existing software tools?
  - CAD/Meridian
- About the company
  - Long term partnership
  - Ownership



Planon Universe | An innovative IWMS platform

**PLANON**  
AIM FOR THE OPTIMUM

## DELIVERING GREAT CAMPUS EXPERIENCES

INTEGRATED | INTELLIGENT | INNOVATIVE



Real Estate  
Management

Portfolio management  
Transaction  
management  
Lease administration &  
accounting  
Real estate financials  
Space management  
Personnel & contact  
management  
CAM reconciliation  
Contract Management  
Rental Unit  
Management



Space  
Management

Space Management  
Occupancy  
Management  
Space Chargebacks  
Moves, Adds and  
Changes  
Space & Occupancy  
Survey  
CAD Integration  
(Connect for AutoCAD)  
Strategic Space  
Planning  
Indirect Cost Recovery



Maintenance  
Management

Asset Management  
Reactive Maintenance  
Preventative  
Maintenance  
Condition Assessment  
Inventory Management  
Health & Safety  
Maintenance Contracts  
Service Level  
Agreements  
Space Management  
\*Facilities Inspections



Capital Project  
Management

Project Management  
Project Financials  
Budget Management  
Fund Management  
Change Order  
Management  
Commissioning  
Document  
Management  
Project Orders  
Contract Management



Events &  
Integrated Services

Event Management  
Service Desk  
Event Support  
Work Order  
Management  
Contract Management  
\*IT & HR Service  
Management



Sustainability

Energy Monitoring  
Project Management  
Audits & Certifications  
Health & Well-Being  
Compliance  
Management  
Hazardous Material  
Handling  
Emergency  
Preparedness  
Audit Service providers  
on sustainability  
guidelines

SELF-SERVICE

DASHBOARDS & REPORTS

INTEGRATION & CONFIGURATION TOOLS

**Drones**



**Voice recognition**



**Mobility**



**3-D Printing**



**BIM**



**I<sup>2</sup>WMS**



**Robots**



**GIS**



**Kiosks**



**Sensors**



**Smart Equipment**

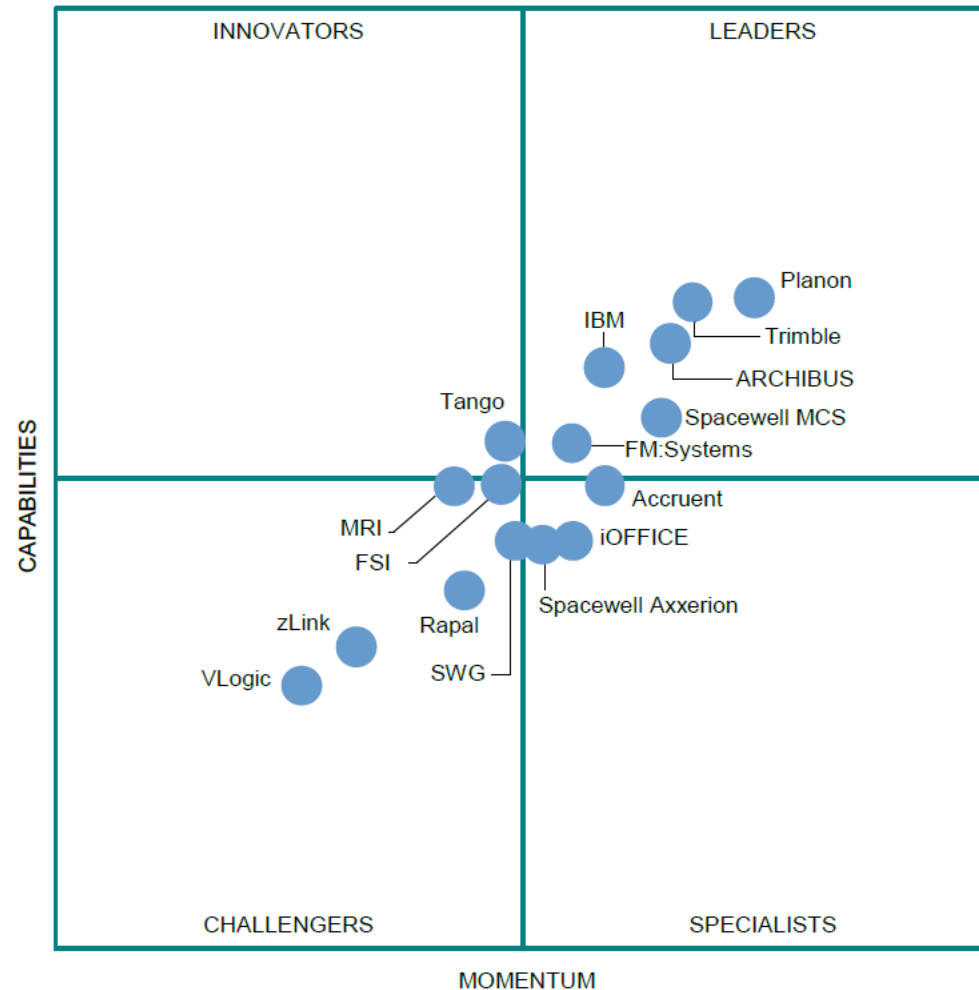


**BI/Analytics**



**Augmented Reality**





VERDANTIX

VERDANTIX.COM

## Green Quadrant Integrated Workplace Management Systems 2019

MARCH 2019

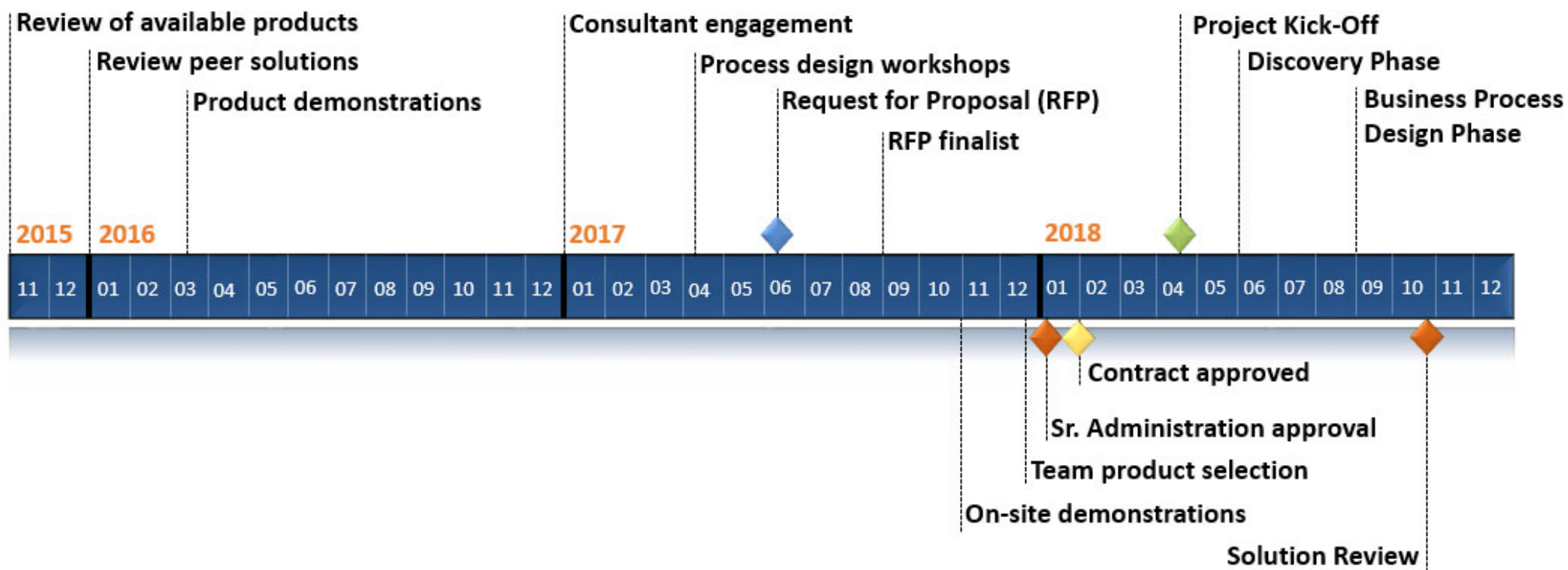
BY SUSAN CLARKE  
WITH RODOLPHE D'ARJUZON



# Planon Implementation Project

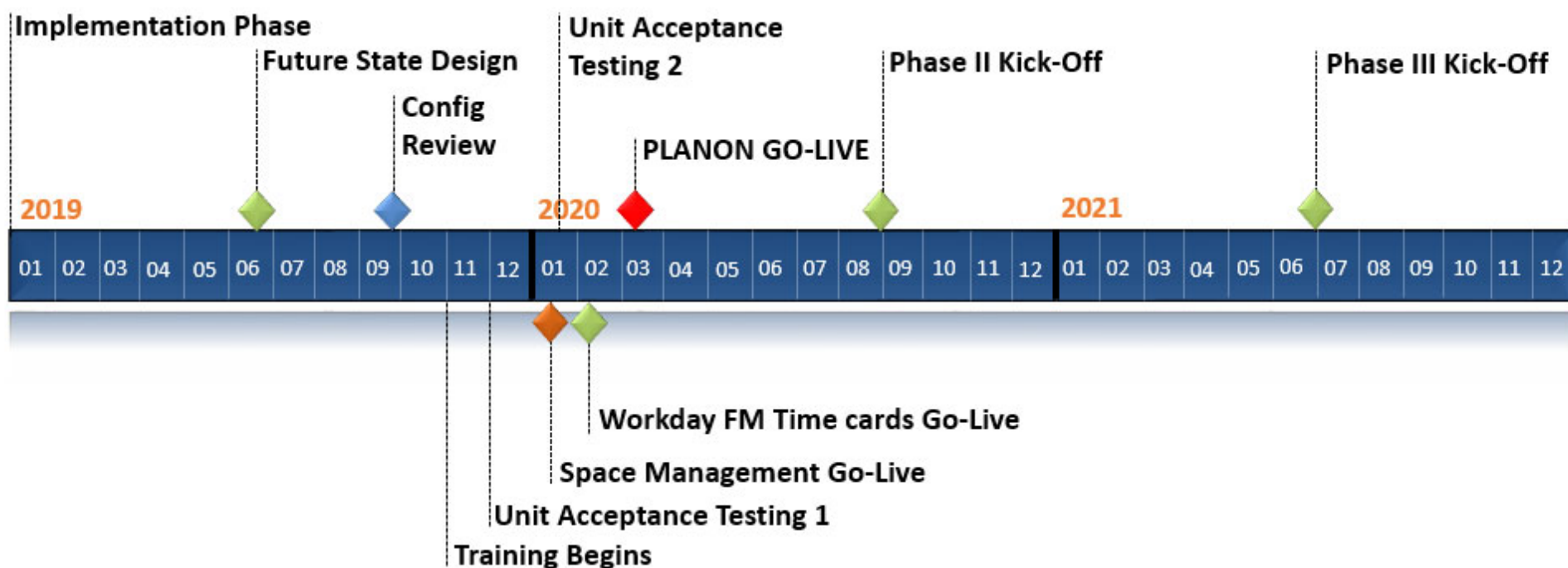
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# IWMS Project Timeline

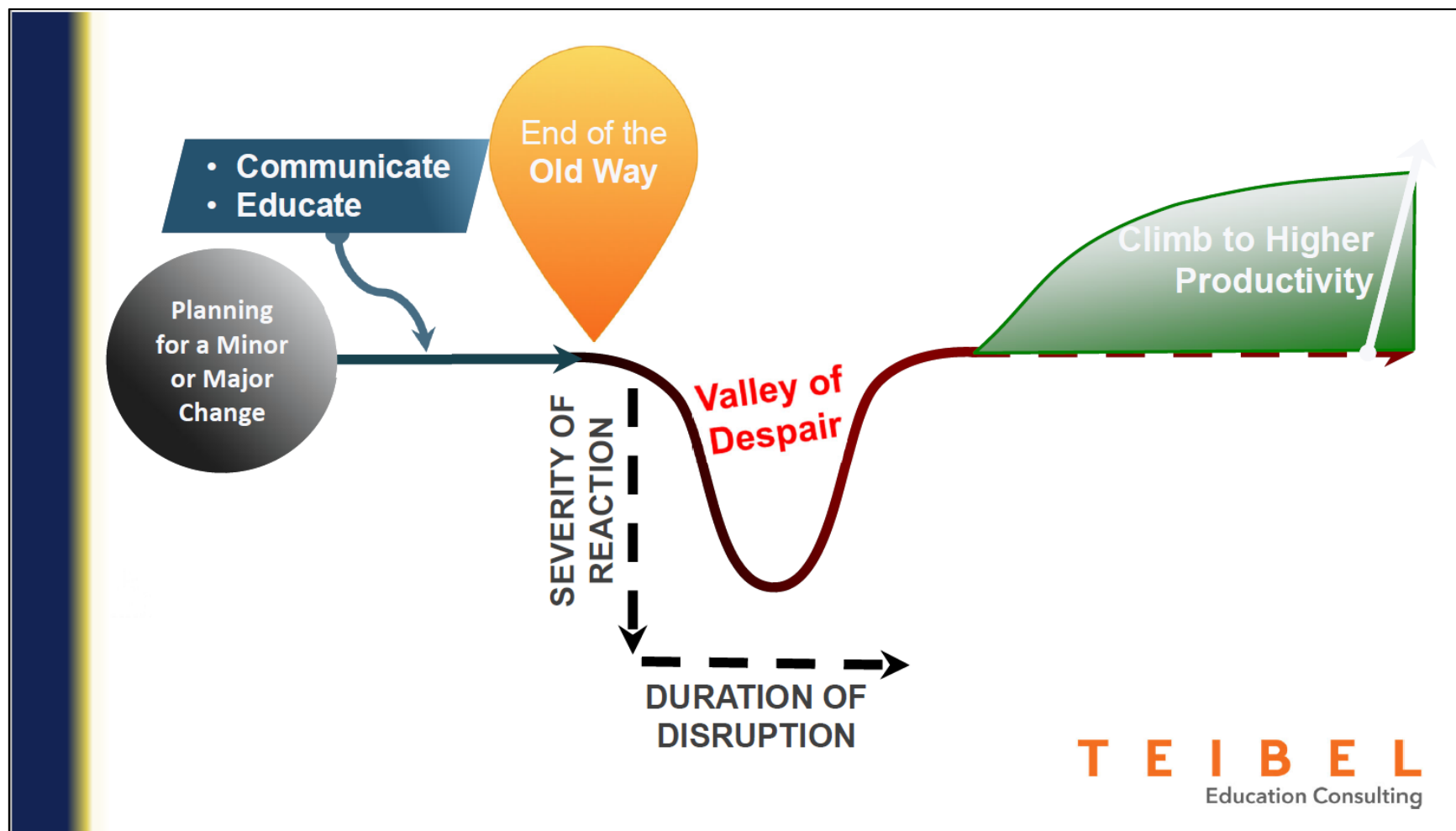




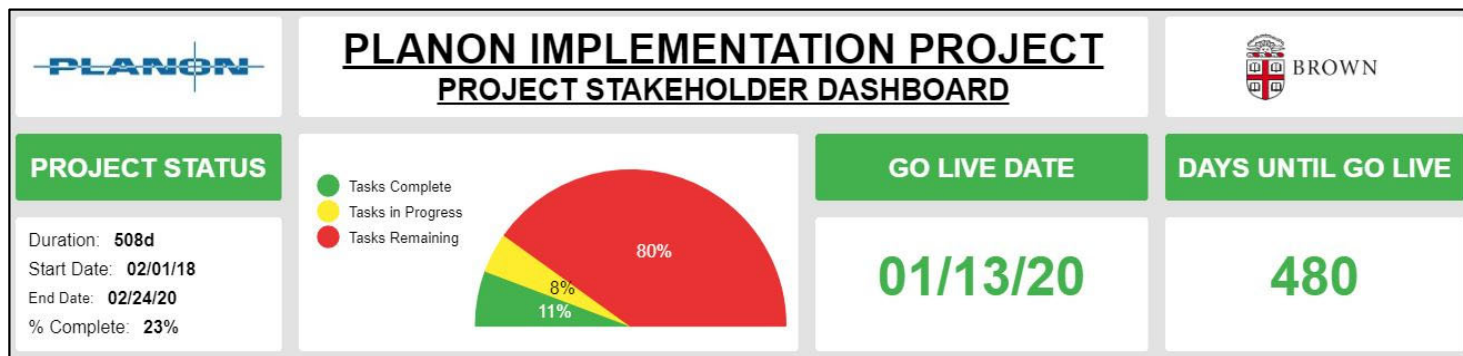
# IWMS Project Timeline
















# Planon Project Dashboard



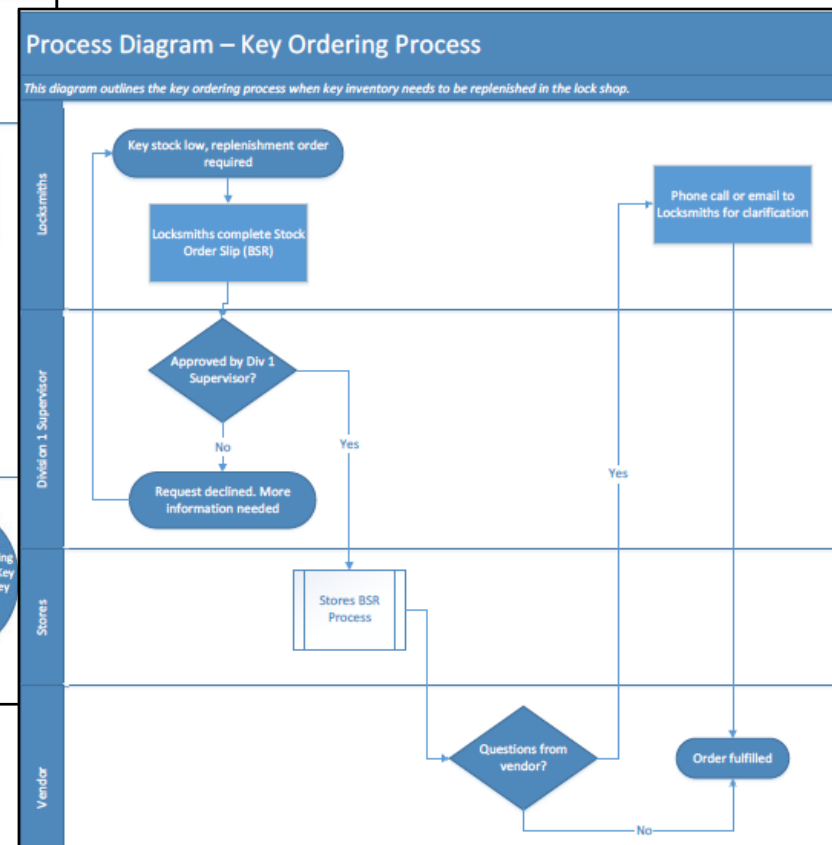
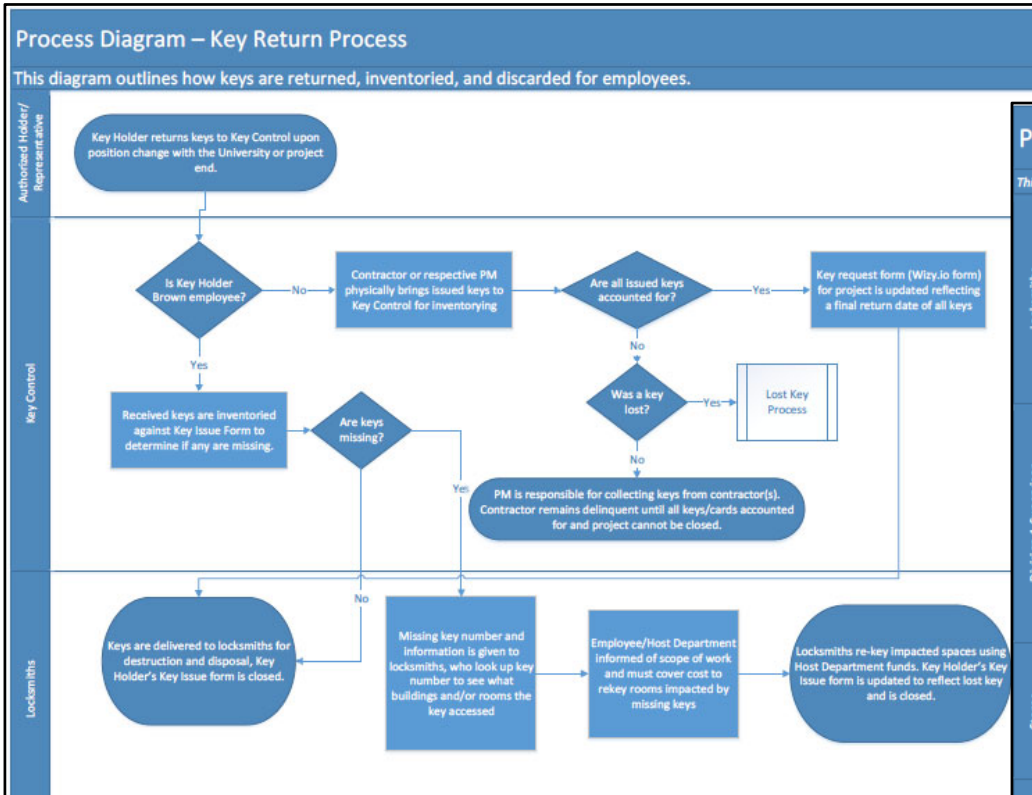
Task Name	Duration	Start Date	End Date	Predecessors	% Com...	Health	Status
							
[-] PLANON IMPLEMENTATION PROJECT 1	508d	02/01/18	02/24/20		23%		In Progress
[+] DISCOVERY PHASE	221d	02/01/18	12/17/18		81%		In Progress
[+] BUSINESS PROCESS DESIGN PHASE	153d	08/27/18	04/12/19		4%		In Progress
[+] IMPLEMENTATION PHASE	195d	11/02/18	08/20/19		0%		Not Started
[+] UAT PHASE	52d	07/26/19	10/08/19		0%		Not Started
[+] TRAINING PHASE	89d	08/06/19	12/12/19		0%		Not Started
[+] GO LIVE / CUTOVER PHASE	89d	10/08/19	02/24/20		0%		Not Started

# Planon Project – Lean Training

76 staff



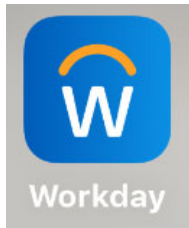
# Current State Process Designs



# Planon Project – Design Retreat

Decoupling time cards; Time-Off in Workday; iPhones for Trades and Custodial staff

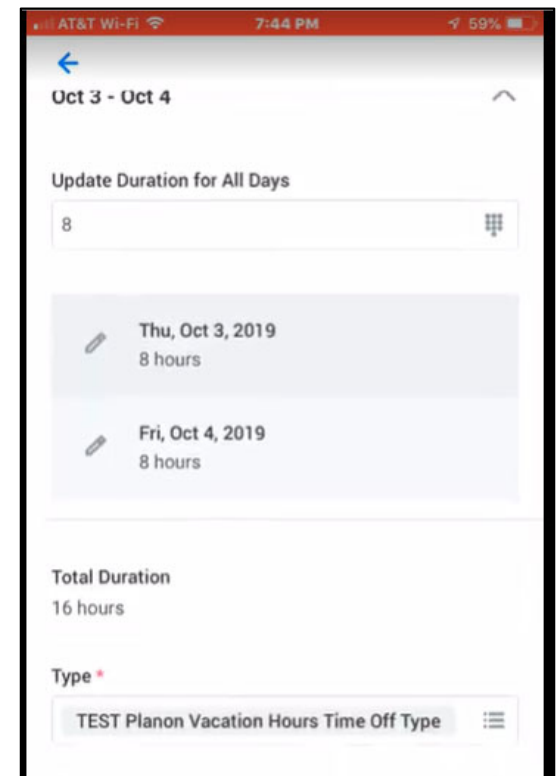
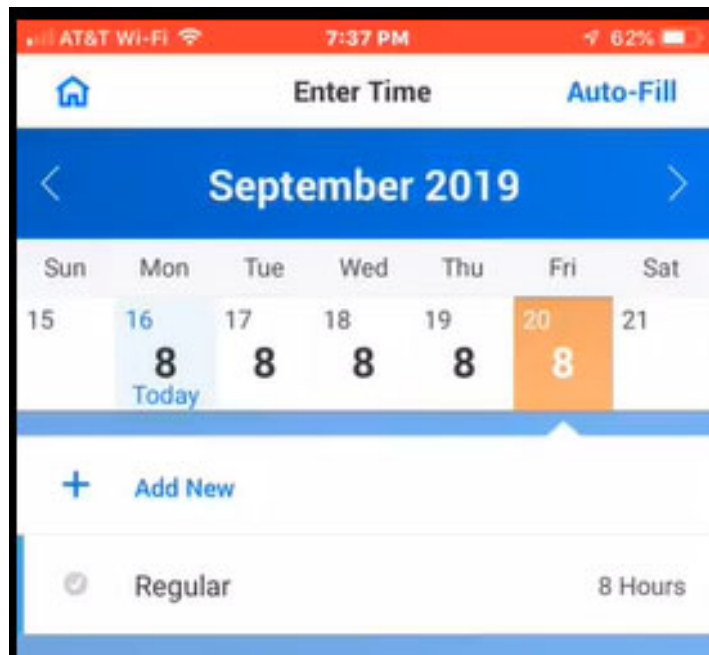




# WorkDay Mobile App

## Decouple Time Tracking

- Time card entry
- Time Off entry



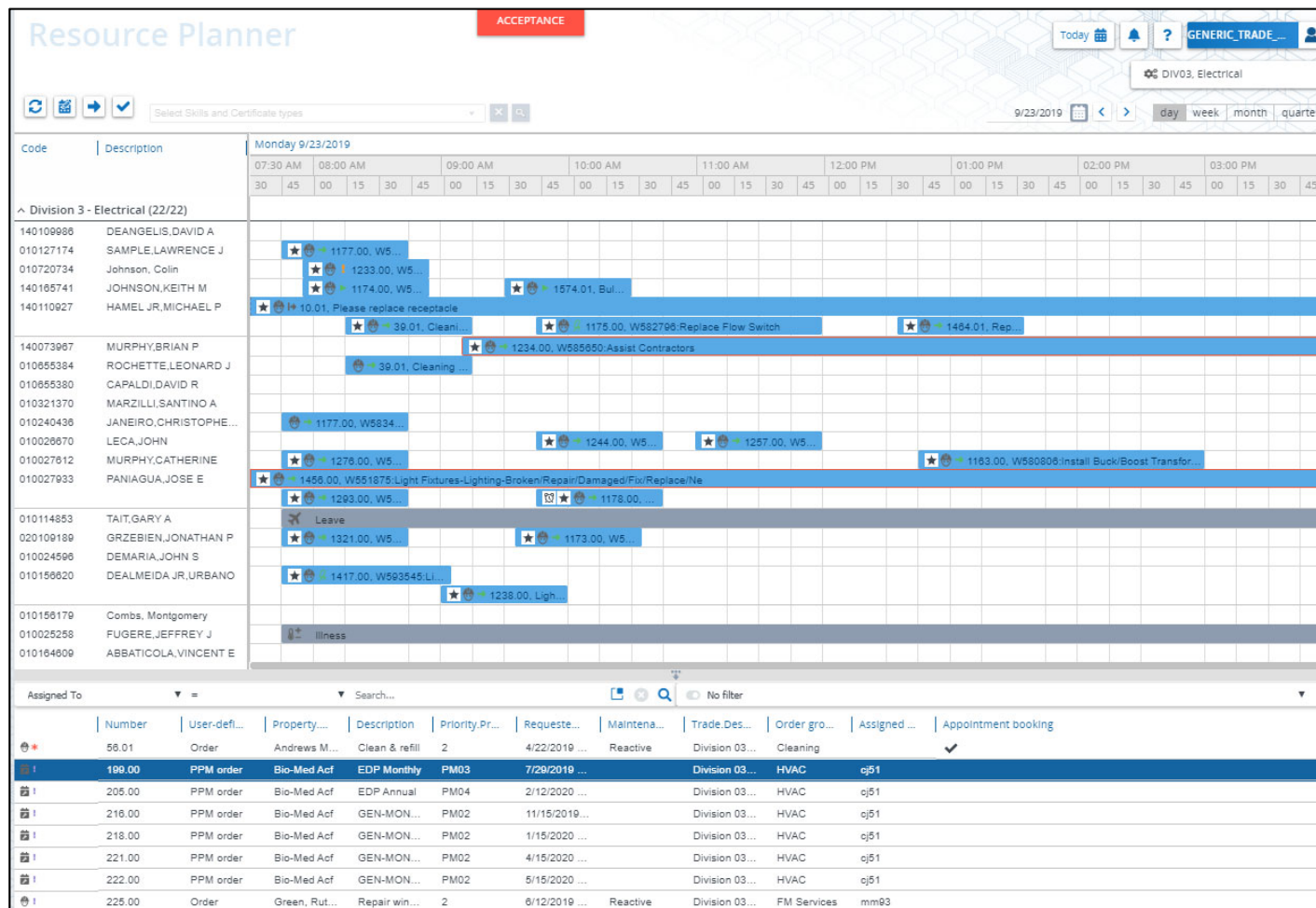


# Planon Project Planning and Scheduling Design

Trade Leads



# Resource Planner - Planning and Scheduling





# Planon Project: Service Requests Obstacles

Rev 3 3/26/2019

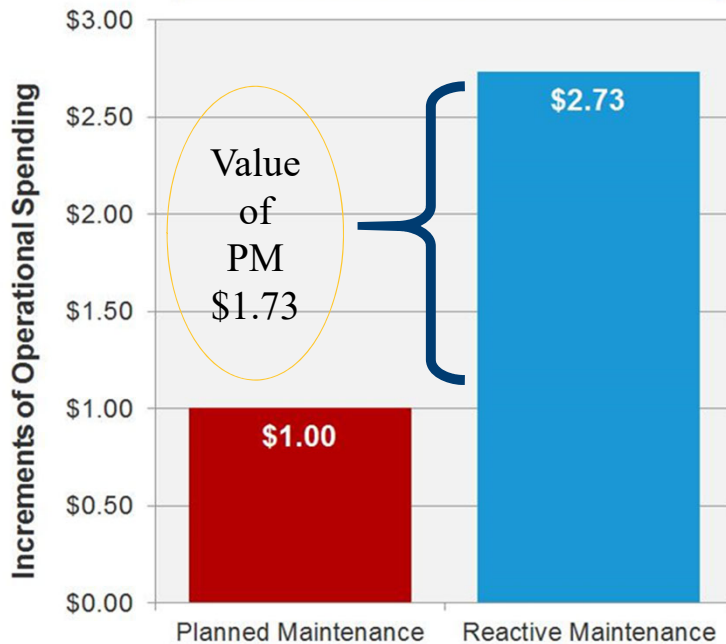


# The Value of Preventive Maintenance (PM)



Opportunity for Savings:

Invest \$1.00 in PM now  
OR  
Spend \$2.73 in reactive  
maintenance later\*



Source: Sightlines

## PM Strategy Goals

- Prolong the useful life of equipment
- Lower operating costs associated with maintaining equipment
- Reduce utility costs and energy
- Reduce unplanned system interruptions
- “70x19”



- [illegible]

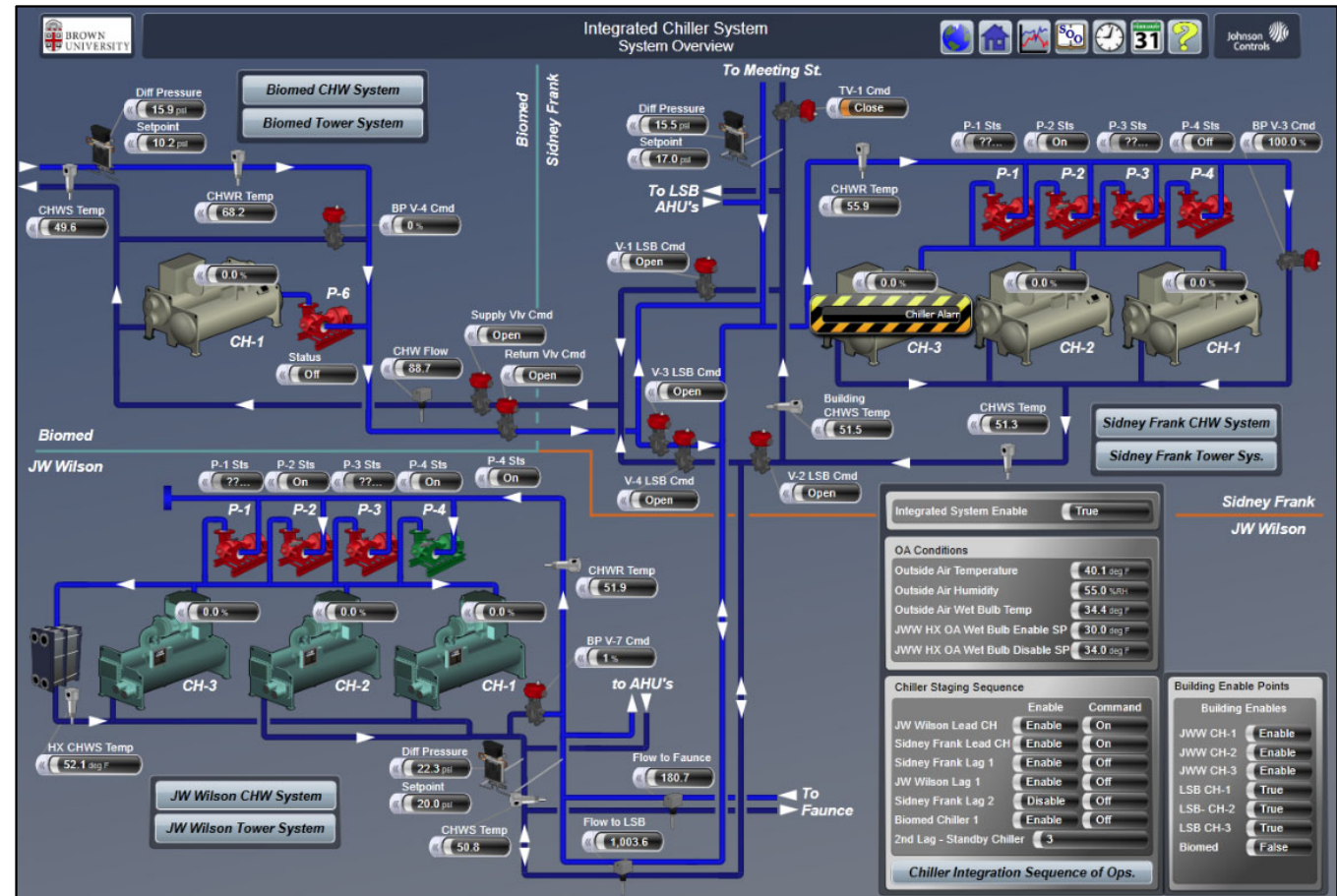
# Building Automation Systems

- Service Response Center Monitoring and Notifications
- Trades Staff BAS Monitoring
- Integration between Johnson Controls (JCI) and Planon



# Building Automation Systems

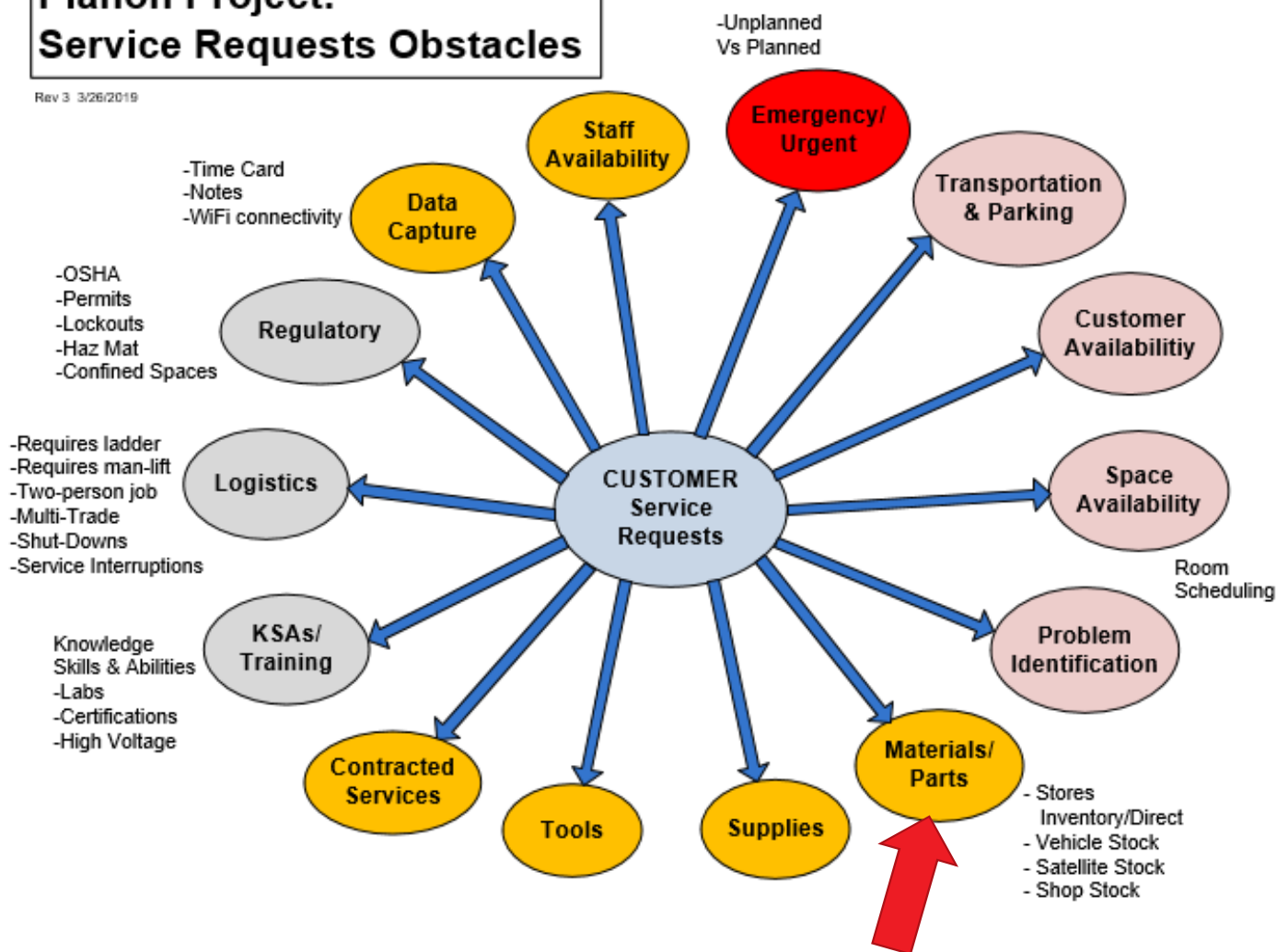
- 8,000 pieces of monitored equipment
- 110,000 monitored hardware points
- Elimination of nuisance alarms during shutdowns and PMs, etc.





# Planon Project: Service Requests Obstacles

Rev 3 3/26/2019



# Supply Chain & Logistics Management

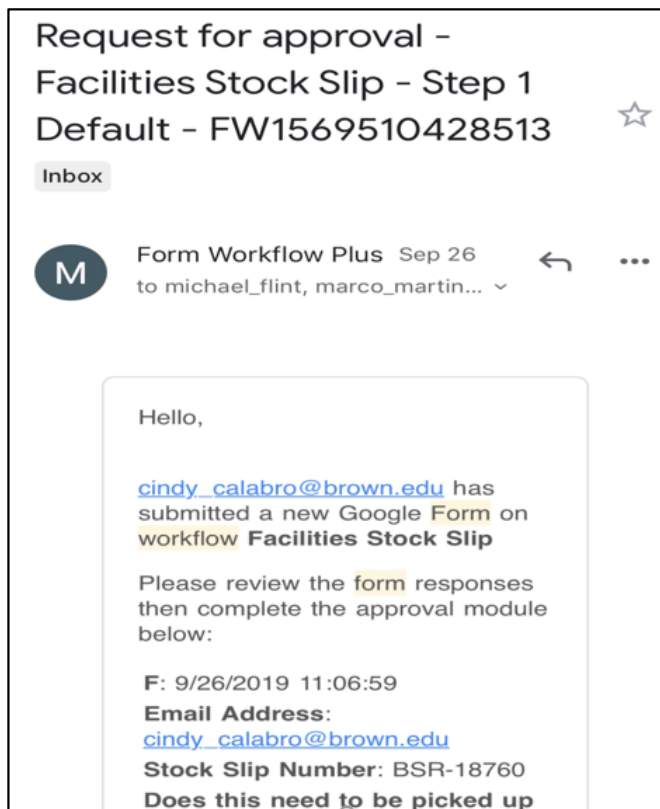
- **Stock Management**
- **Stock Replenishment**
- **Products**
- **Purchasing**
- **Storage Locations**
- **Mobile truck stock**
- **Customer Experience - Cx**



# Supply Chain & Logistics Management



## Materials Ordering - Current Process



Gmail

1:37 AM

37%

DPS Weekly

Search | Brown U

ipd process - Goo

Plan/

Form Workflow

+

93

app.formworkflowplus.com

Form Workflow Plus

Approvals

Requests

Forms

My History

Approvals

brown\_edu

Musa Pam User

English

Status

Approved

Workflow

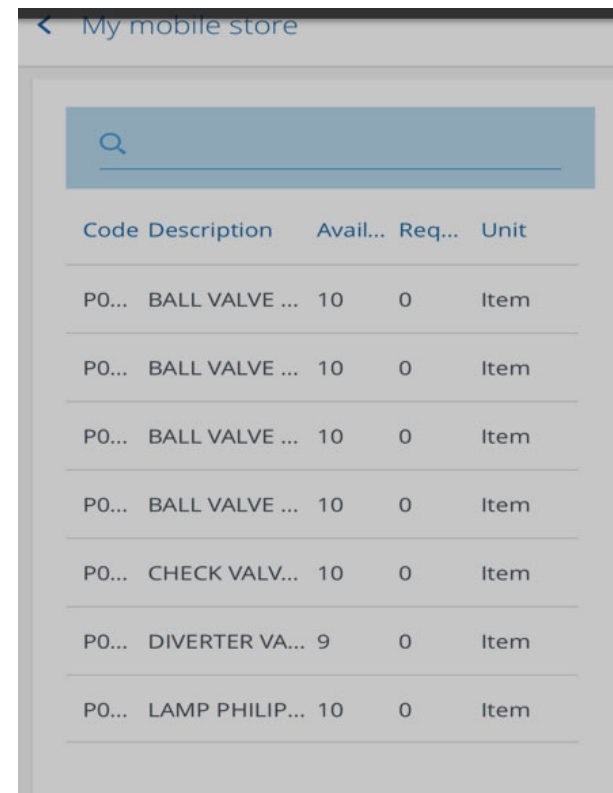
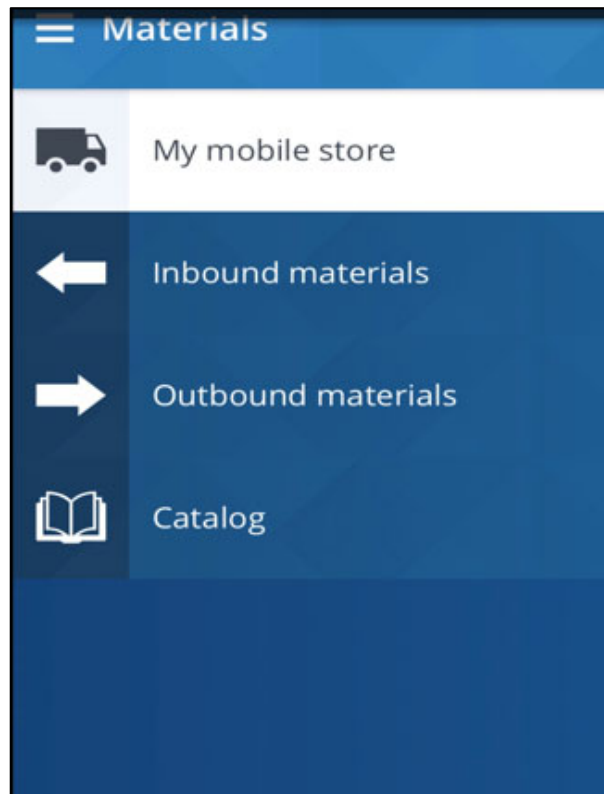
Filter by workflow

	ID	Requester
<div><div></div><div></div><div></div></div>	FW1569510428513	cindy_calabro@brown.edu
<div><div></div><div></div><div></div></div>	FW1568232764788	cindy_calabro@brown.edu
<div><div></div><div></div><div></div></div>	FW1568142968206	cindy_calabro@brown.edu
<div><div></div><div></div><div></div></div>	FW1566582811340	cindy_calabro@brown.edu
<div><div></div><div></div><div></div></div>	FW1566486195574	cindy_calabro@brown.edu
<div><div></div><div></div><div></div></div>	FW1566396347623	cindy_calabro@brown.edu
<div><div></div><div></div><div></div></div>	FW1565970105208	rachel_hampton@brown.edu
<div><div></div><div></div><div></div></div>	FW1565263891512	alfred_lienczewski@brown.edu
<div><div></div><div></div><div></div></div>	FW1563996269871	cindy_calabro@brown.edu
<div><div></div><div></div><div></div></div>	FW1562939096958	michael_flint@brown.edu
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<div><div></div><div></div><div></div></div>	FW1560793059212	michael_flint@brown.edu



# Supply Chain & Logistics Management

## Materials Ordering - Future Process

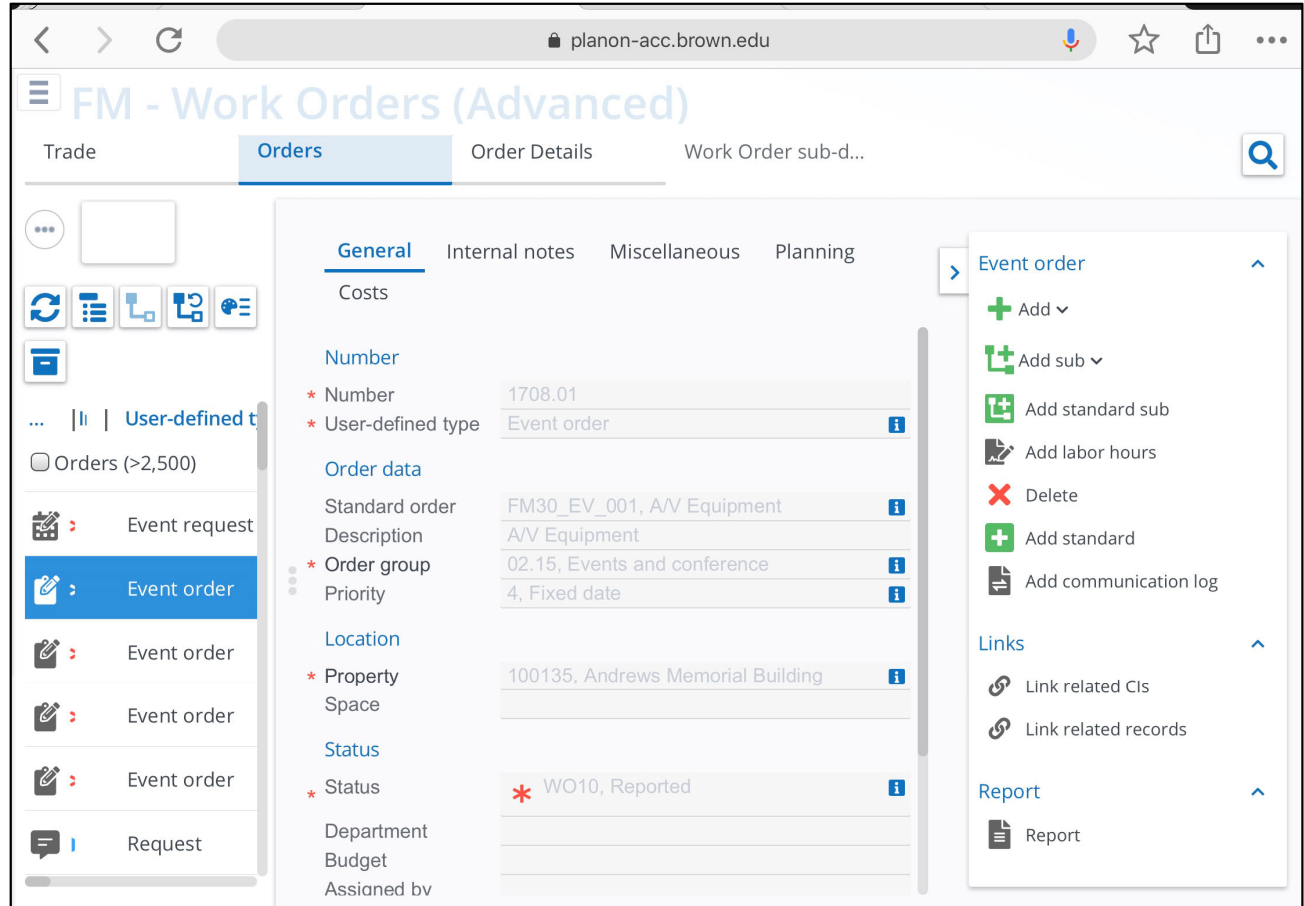


The screenshot shows the "My mobile store" interface, which includes a search bar and a table of materials. The table has columns for Code, Description, Availability, Required quantity, and Unit.

Code	Description	Avail...	Req...	Unit
P0...	BALL VALVE ...	10	0	Item
P0...	BALL VALVE ...	10	0	Item
P0...	BALL VALVE ...	10	0	Item
P0...	BALL VALVE ...	10	0	Item
P0...	CHECK VALV...	10	0	Item
P0...	DIVERTER VA...	9	0	Item
P0...	LAMP PHILIP...	10	0	Item

# Event Management & Support

- **University Event & Conference Services adoption of Planon**
- **Event Management & Support**
- **Greater visibility and clarity into event planning for Grounds, Custodial, Electrical, etc.**



The screenshot displays the Planon FM - Work Orders (Advanced) interface. The browser address bar shows 'planon-acc.brown.edu'. The main header includes 'Trade', 'Orders' (selected), 'Order Details', and 'Work Order sub-d...'. A search icon is in the top right. The left sidebar shows a list of items: 'Event request', 'Event order' (selected), 'Event order', 'Event order', and 'Request'. The main content area is divided into tabs: 'General' (selected), 'Internal notes', 'Miscellaneous', and 'Planning'. The 'General' tab shows the following details:

Costs	
Number	1708.01
User-defined type	Event order

Order data	
Standard order	FM30_EV_001, A/V Equipment
Description	A/V Equipment
Order group	02.15, Events and conference
Priority	4, Fixed date

Location	
Property	100135, Andrews Memorial Building
Space	

Status	
Status	* WO10, Reported
Department	
Budget	
Assigned by	

The right sidebar contains a section titled 'Event order' with a dropdown arrow. It includes the following options:

- + Add
- + Add sub
- + Add standard sub
- + Add labor hours
- ✗ Delete
- + Add standard
- + Add communication log

Below this is a 'Links' section with two options:

- Link related CIs
- Link related records

At the bottom is a 'Report' section with one option:

- Report

## Planon Customer App

- Submit a Service Request
- Room QR Codes (27k rooms)



# **Planon North America Pioneers Group**

## **Monthly Conference Calls / Shared Practices**

- **Dartmouth College**
- **Cal State Long Beach**
- **Cal Poly, San Luis Obispo**
- **Michigan State University**
- **Illinois Institute of Technology**
- **Zurich Insurance**
- **Brown University**



www.CFTA.org

Home	About Us	Resources	Get Involved	Conference	Membership	Contact
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**CFTA'20 - SAVE THE DATE!**

August 4 - 7, 2020  
Ogden, Utah  
Local Host: Weber State University

[Learn More](#)



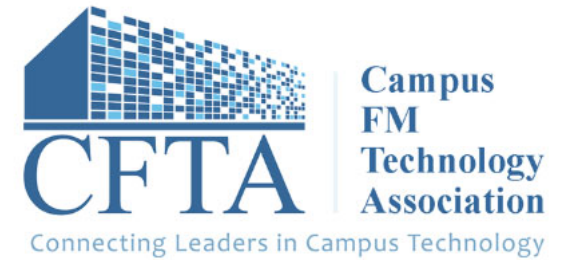
## Who We Are

**CFTA members represent a diverse group of professionals dedicated to using FM technologies to better manage campus facilities.**

The identity of the Campus FM Technology Association exists in the combined talent and experience of our members and their willingness to use their knowledge to serve one another through sharing and collaboration. The unique character of the Association lies in its focus on the development and application of the tools of technology across multiple disciplines for the planning, development, maintenance, and management of campus facilities. It is our mission to serve our members and society at large by facilitating the success of our constituents. [Learn More](#)



# Campus FM Technology Association STRATEGIC PLAN 2019-2024



[www.CFTA.org](http://www.CFTA.org)



A wide-angle photograph of a Brown University campus. In the background, a large, historic stone building with a prominent central tower and multiple arched windows stands under a blue sky with scattered white clouds. The foreground is a lush green lawn, partially framed by the overhanging branches of large trees with green and yellowing leaves. Several groups of people are scattered across the lawn; some are walking along a path, while others are sitting on the grass. On the left side of the lawn, there is a large, abstract green sculpture mounted on a concrete base. In the center of the image, a white rectangular box with a black border contains the word "Questions?" in a bold, black, sans-serif font.

**Questions?**



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