INCREMENTAL IMPROVEMENT TO MAINTENANCE OPERATIONS

WAI OPERATIONS SUMMIT & WIRE EXPO 2016
Uncasville, CT

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CalemEAM Inc.

Calem EAM
COMMERCIAL OPEN SOURCE

COMPANY

- Initiated in 2006.
- CalemEAM Version 1.0 Released in 2007.

MISSION

- To Deliver the Best EAM/CMMS Solutions through Business-Friendly Open Source Technologies and Superior Customer Services.

PRODUCT

- Calem Enterprise Subscription.
- The Subscription includes Calem Enterprise Products, Maintenance, and Support.

Calem Enterprise

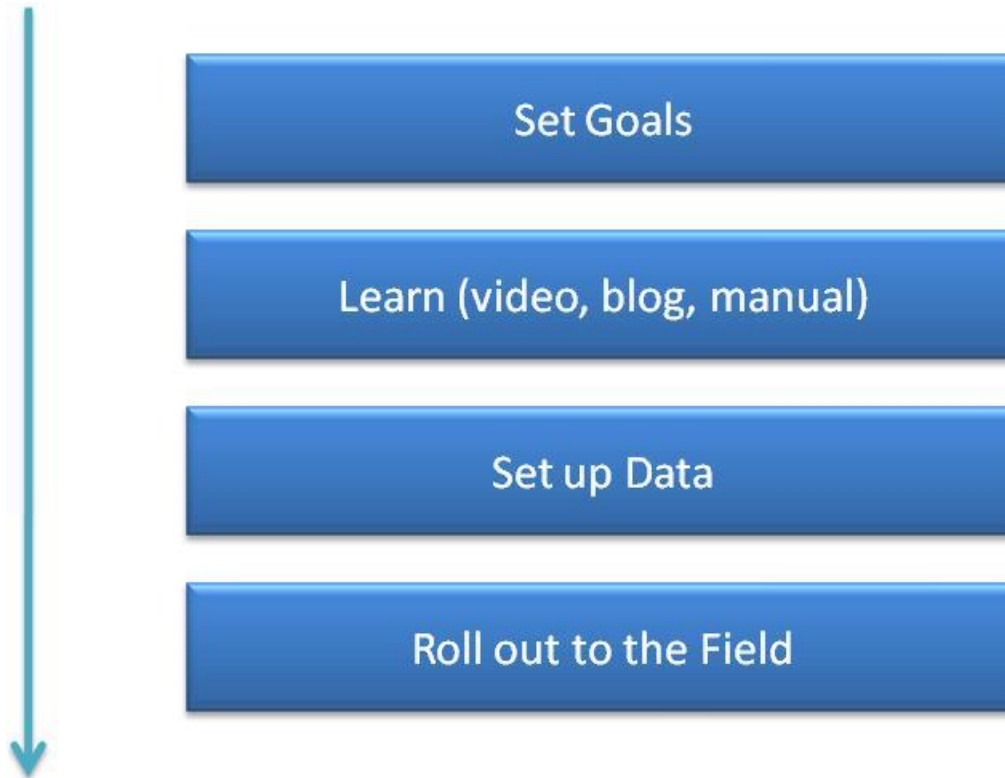|		
Asset and Location	Maintenance Schedules	Contract and SLA
Work Order	Service Request	Change Management
Inventory and Warehouse	Requisition and Purchase Order	Doc, Project, Integration, etc.
Multi-Sites Access Control	Screen and Data Customization	Workflow Scheduled Tasks
Web Client	Mobile Client	Offline Client

An Iteration of Implementation

Set Goals

Learn (video, blog, manual)

Set up Data

Roll out to the Field

- Vendor Training
  - Training videos, blogs and manuals
  - Training classes
- Vendor Support
  - Support via email, phone, and web meeting

Calem Enterprise Training Videos
  - http://eam.calemeam.com/index.php/training

Use Work Orders for Repairs

Watch training videos of Asset (2.0) and Work Order (2.3)

Populate User/Location/Asset

Track Repairs with Work Orders

Iteration 1: Learn

- **Assets and Locations**
- **Work Orders**

Iteration 1: Upload Data

- **Upload users in excel template**
- **Upload locations in excel template**
- **Upload assets in excel template**

User name (username)	Full name (full_name)	Site (site_id__site)	Is EAM crew? (is_eam_crew)	Job role (job_role_id__job_role)	Job title (job_title)
john.freeman	John Freeman	MySite	1	Admin	IT Manager

Site (site_id__site)	Location (location)	Note (note)	Loc group (type_id__type)	Owner user (owner_user_id__full_name)	Dept (dept_id__dept)	Description (d
MySite	10 - ServerRoom	Server room 10	IT			

Asset Group (in_id__in_no)	Model No (model_no)	Note (note)	SERIAL NO (serial_no)	Asset no (asset_no)	Location (location_id__loca	Manufacturer (manufacturer_
CRC-UNIT	GG199A-C10	GG199A-C10	400848-011	CRU-6	10-PROD	ACME

Iteration 1: Roll Out to the Field

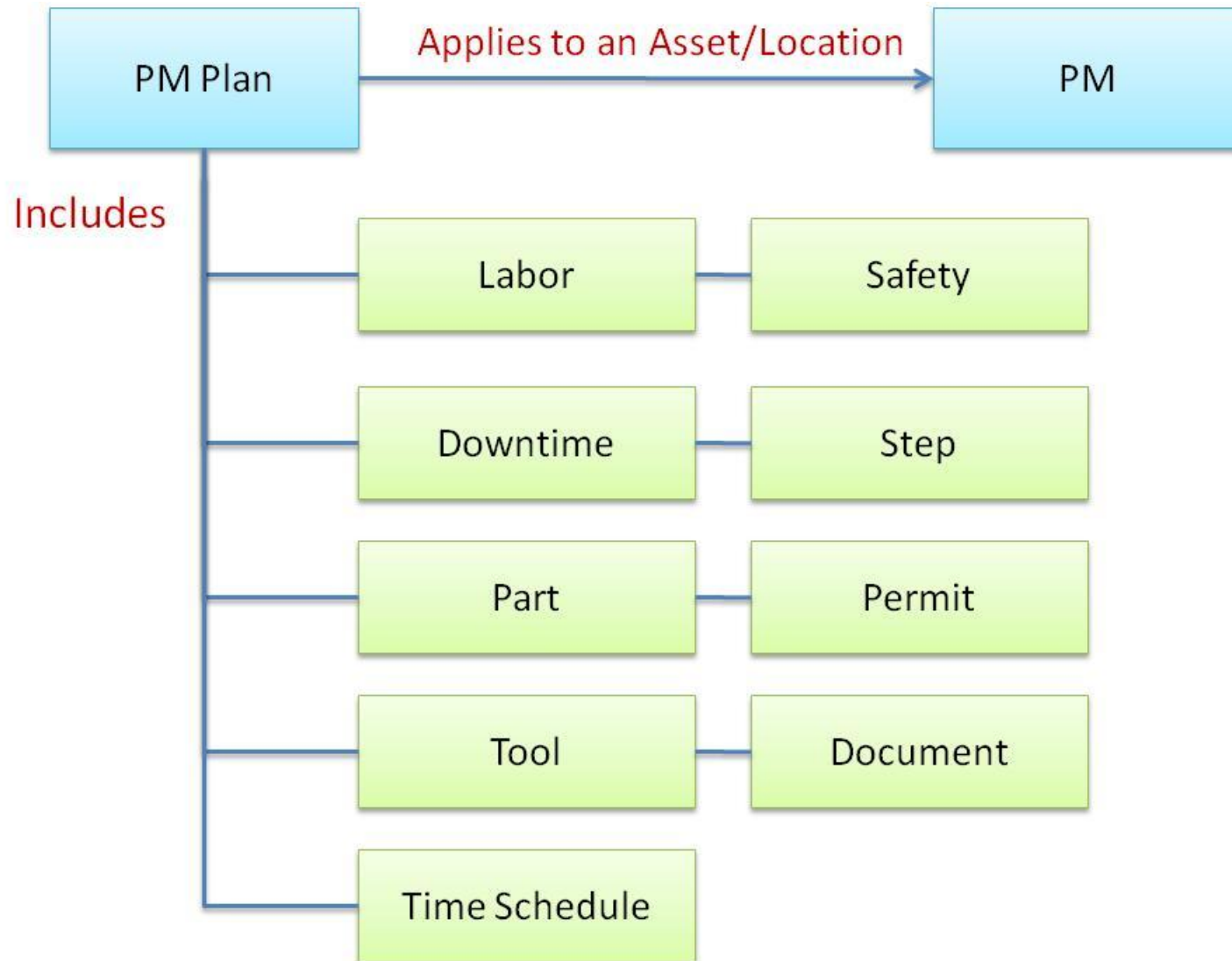- **Write work orders prior to repairs**
- **Write work orders for completed repairs**

- Learn and improve based on practice from Iteration 1
- Repeat Iteration 1 to add more users, locations and assets

Use PM Plans and PMs

Watch training video of PM (2.1, 2.1a)

Set up PM Plans and PMs

Use PM Plans and PMs in Operations

PM Plan — Applies to an Asset/Location → PM

Includes:
- Labor
- Safety
- Downtime
- Step
- Part
- Permit
- Tool
- Document
- Time Schedule

Iteration 2: Set up PM Plans and PMs

- Set Plan #, Subject
- Set "Schedule type"
- Set "Release type"
- Set "Repeat Schedule"

Iteration 2: Roll out to the Field

- **Generate work orders from PMs**
- **Create work orders from PM Plans or PMs manually**

- Learn and improve based on practice from Iteration 2
- Repeat Iteration 2 to add more PM Plans and PMs
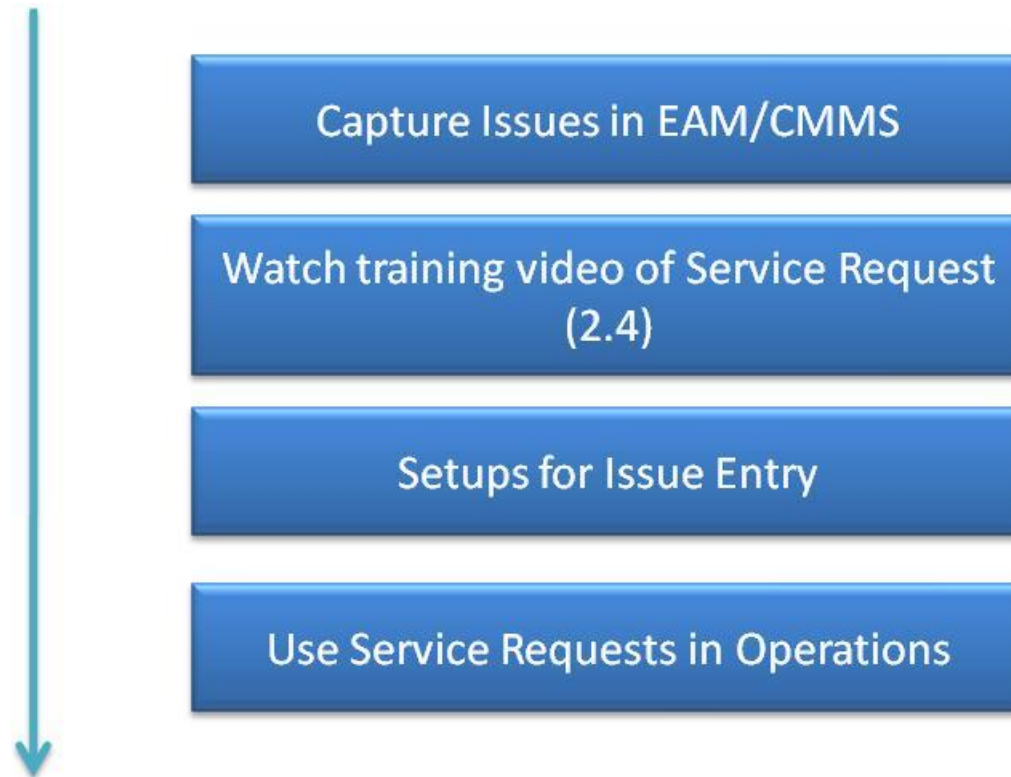
Capture Issues in EAM/CMMS

Watch training video of Service Request (2.4)

Setups for Issue Entry

Use Service Requests in Operations

Create SR by Email

Create SR Anonymously

Create SR by Login User

Turn into Work Order(s)

Work Order
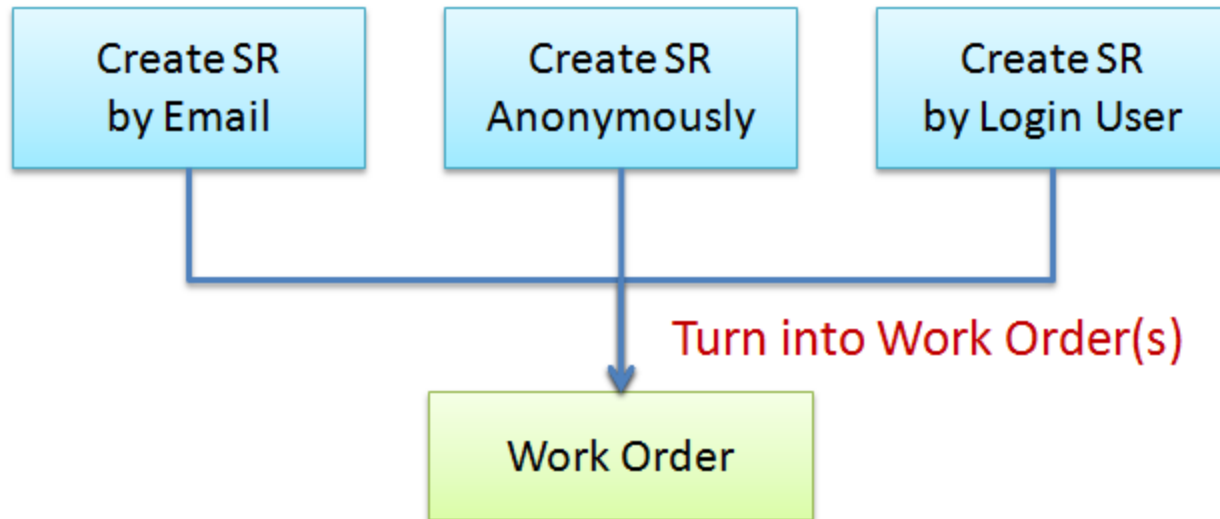
- **Anonymous Submission from Calem**
- **Embed Anonymous SR submission into your web site**

- ## Create WO for SR
- ## WO completion will turn SR to completed

Use KPIs to Drive Improvement

Watch training video of dashboard (2.7)

Select KPIs to Track

Review KPIs Regularly

Sample KPIs to Start
- **Unplanned Downtime**
- **Assets with the most work orders and man hours**

- Set KPI goals
- Review KPIs regularly
- Identify areas for improvement

WO Summary Edit > WO Summary by Asset List

WO Summary by Asset (74)

Customize

Asset #	PM?	Count	Total cost (USD)	Actual Hrs	Planned Hrs	Sched. Hrs	
100HP-008	✔	278	140.00	2		105.5	
233-455-901	✔	54					
401402-17	✔	52					
SHIP-V2-001	✔	40			28	13.5	

- **Learn and improve based on practice from Iteration 4**
- **Repeat Iteration 4 to add more KPIs to track**

Use Mobile in the Field

Watch training video of client functions (Part 5)

Select Users to Start Mobile

Create/Complete WO with Mobile

- **Learn Calem Touch**
- **Install and practice Calem Touch Apps**
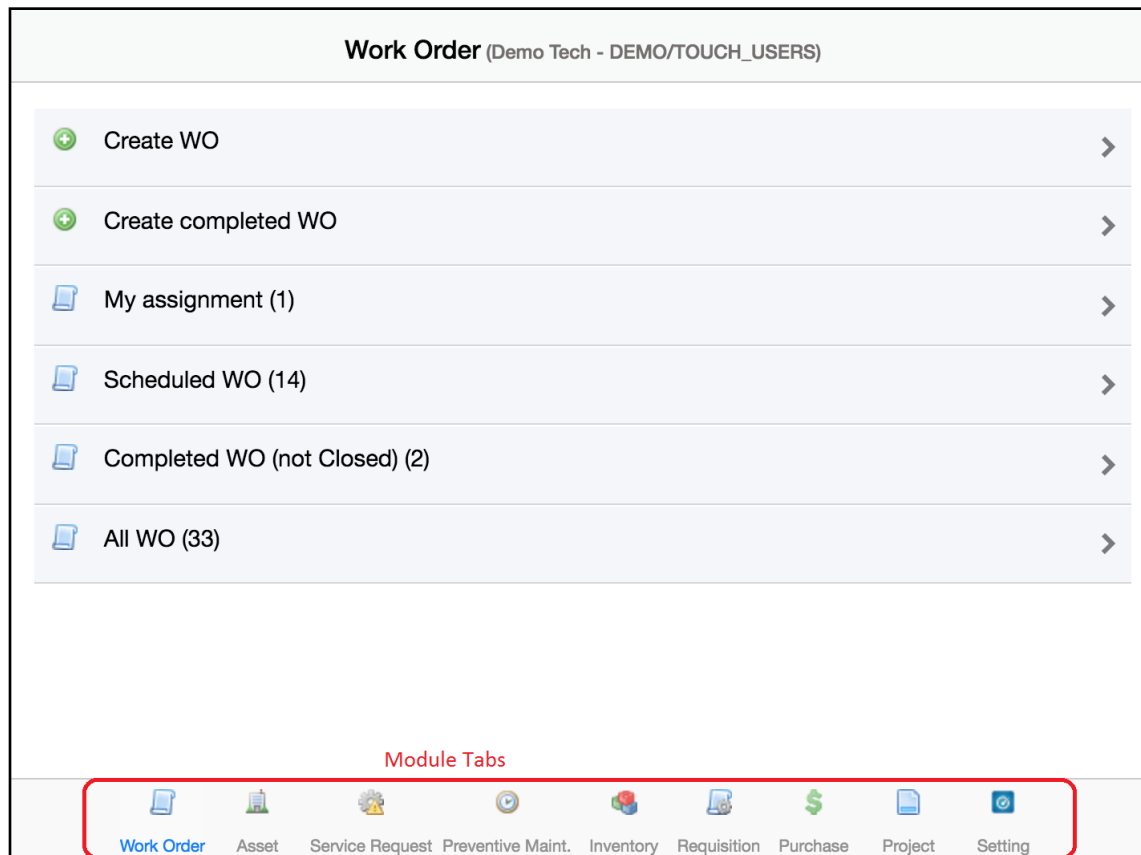
- **Identify devices to start**
  - **iPad/Tablet, or iPhone/Android phones**
- **Start with selective users**

Calem Touch Apps for iOS and Android

- Learn and improve based on practice from Iteration 5
- Repeat Iteration 5 to add more users/devices

Manage Spare Parts

Watch training video of inventory module (3.0)

Populate Items and Stocks

Use Spares in Work Orders
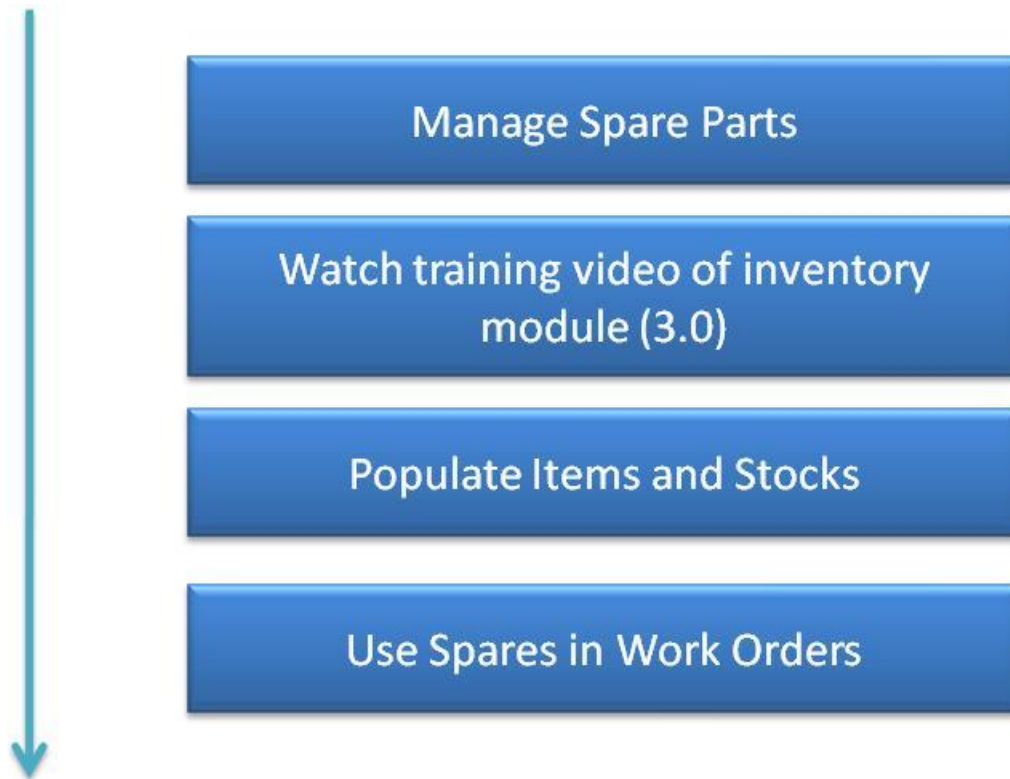
- **Global Items**
- **Site Inventory**
- **Stores and Locators**
- **Transactions**

Receive	Receive Adjustment	Receive Asset
Checkout	Return	Move
Physical Count	Unit Price	

- **Upload Items in excel template**
- **Upload Site Items in excel template**
- **Upload Stores in excel template**
- **Upload Locators in excel template**
- **Upload Physical counts in excel template**

Item # (in_no)	Note (note)	Uom (uom_id__uom)	Manufacturer (manufacturer_i	Description (description)	Model (model_no)
10.01.22.33	Sona fish finder		FishMagic	Deep sona fish finder	DP0H22343

Item (in_id__in_no)	Site (site_id__site)	Order type (order_ty	Order creation (o	Min (min_level)	Max (max_level)	Avg. price () (avg
10.01.22.33	MySite	in_order_minmax	inog_auto	10	20	55.68

- Issue spare parts to work orders
- Receive spare parts from shipping

- Learn and improve based on practice from Iteration 6
- Repeat Iteration 6 to add more spares to inventory
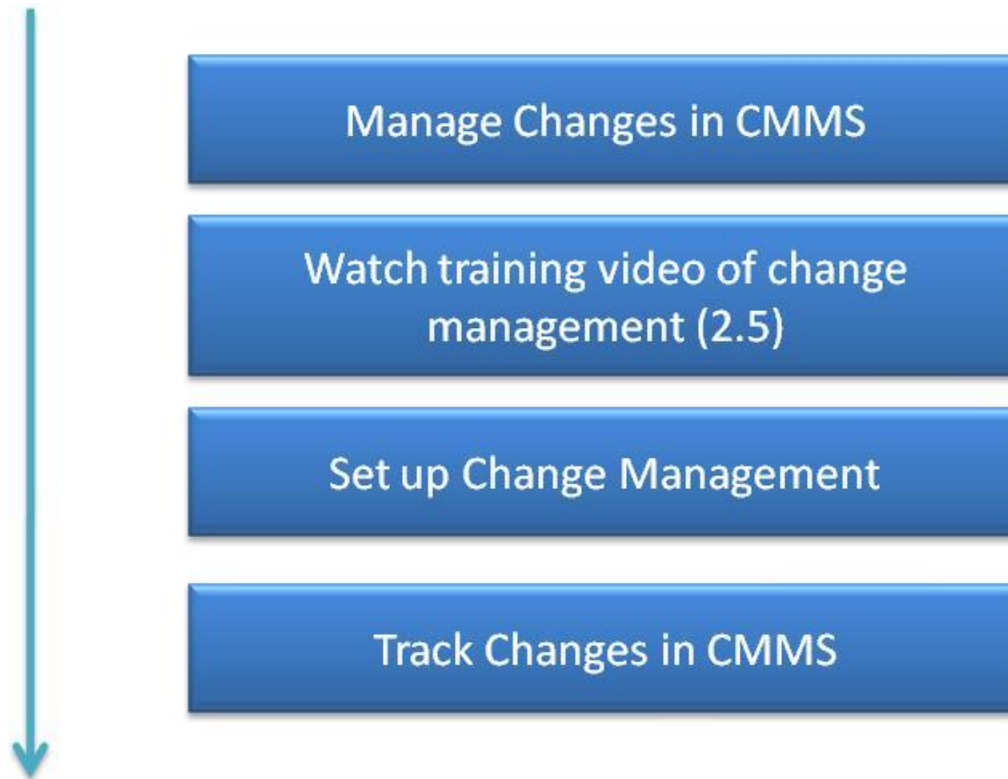
Manage Changes in CMMS

Watch training video of change management (2.5)

Set up Change Management

Track Changes in CMMS

Role	Calem Object	Function
Line Manager	Line Manager	Pre-Approve MOC
Change Coordinator	Change Planner	Assign Reviewers Plan MOC
Change Review Board	Reviewers	Review MOC
Change Manager	Change Manager	Approve MOC
Change Monitor	Change Monitor	Get MOC notifications
Change Owner	Users	Execute MOC
Change Requestor	Users	Create MOC

- **Roll out to selective changes**

- Learn and improve based on practice from Iteration 7
- Repeat Iteration 7 to manage more changes in CMMS

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Manage Schedules in CMMS

Watch training video of Schedule Module (2.6)

Set up Schedules

Use Schedules in Assigning Work Orders

Iteration 8: Learn and Use Weekly Schedule

- **Learn the Scheduling Processes**
- **Use Weekly Schedule Screen for Work Order Assignment**

Schedules – Set up Schedules

- **Define Schedule Cycles: weekly or multi-week cycles**
- **Set up schedules for selective teams**

- Learn and improve based on practice from Iteration 8
- Repeat Iteration 8 to add more teams to schedules

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Manage Performance with SLA

Watch training video of SLA (2.2)

Set up SLA Contracts

Use SLAs in Work Order/Service Request

Iteration 9: SLA Contract

- WO SLA by category
- SR SLA by priority

| Main | SLA | Asset | WO | Contact | Document | Business Lines | Customize |

Contract (1 of 15)

📝 ⬆️ ⬇️ ❌ 📊 Cost Status 📝 Customize

Contract: ● CONTRACT-001

Note: Testing service site as vendor site

WO SLA (2)

➕ ➖ 📋 📝 Customize

☐	Category	Enforce finish	Value	SLA UOM	SLA Time	Note	Last modified	
☐	Corrective	☐		Hours			12/10/13 9:30 AM..	
☐	Emergency	☐	0	Days			12/10/13 9:30 AM..	

SR SLA (2)

➕ ➖ 📋 📝 Customize

☐	SR priority	SLA response	Resp UOM	SLA Onsite	Onsite UOM	SLA Resolution	Res UOM	SLA Notes	Default?
☐	P3	2	Days						☐
☐	P1	4	Hours						☐

- **Use SLA contracts in Work Orders**
- **Use SLA contracts in Service Request**

- **Learn and improve based on practice from Iteration 9**
- **Repeat Iteration 9 to add more SLA contracts**

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Optimize Spares Replenishment

Watch training video of Requisition and Purchase (3.1)
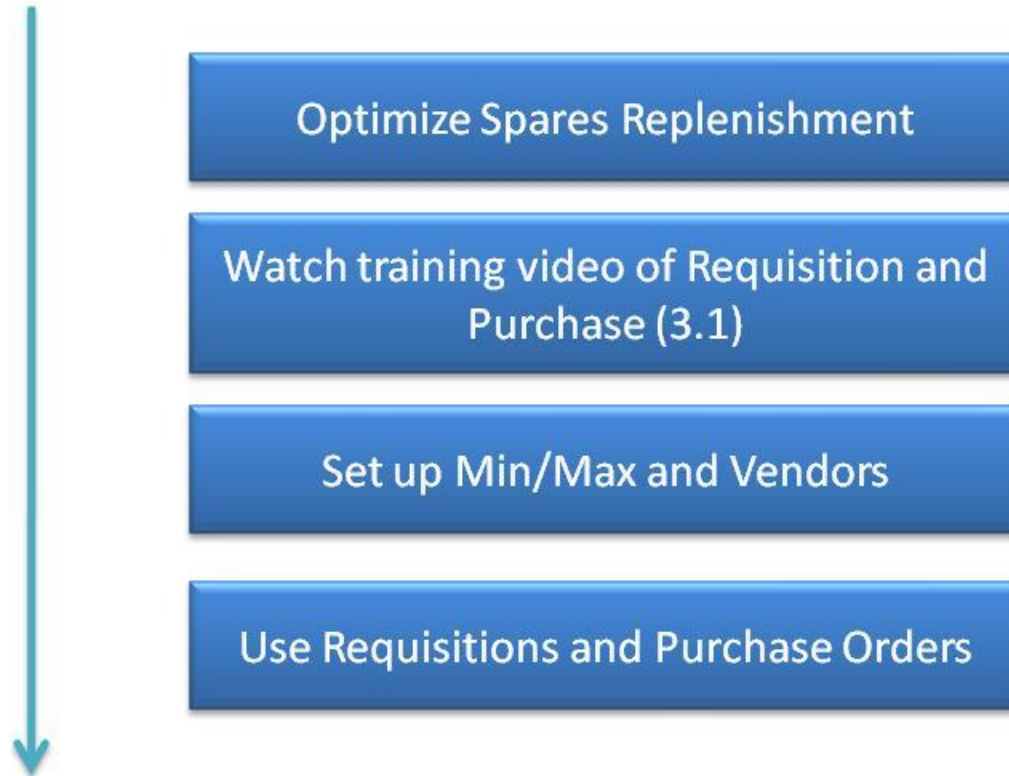
Set up Min/Max and Vendors

Use Requisitions and Purchase Orders

- Set up Min/Max for selective spares
- Set up selective vendors and prices
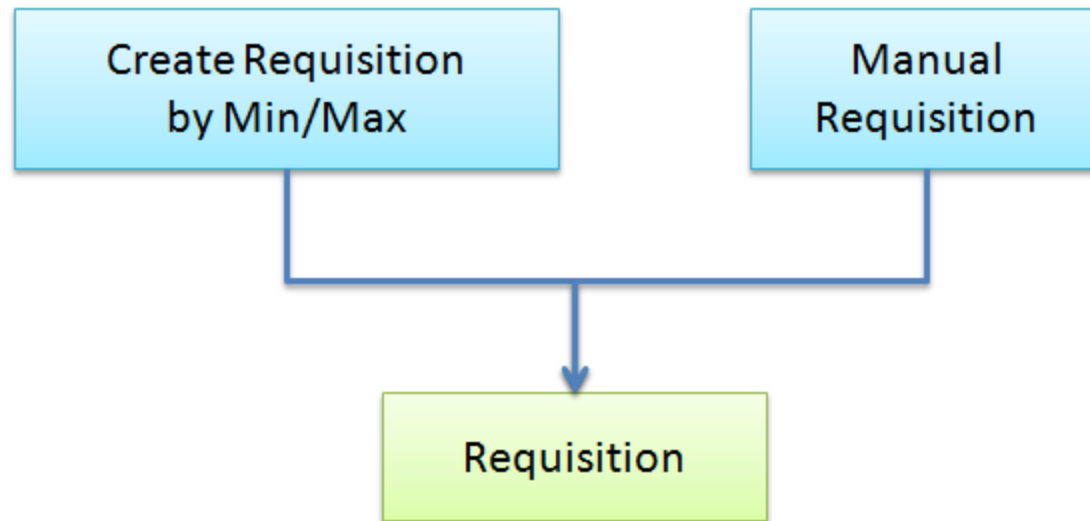
- **Set up roles for requisition**
- **Set up roles for purchase order**

Role	Calem Object	Function
Supervisors	REQ Approver	Pre-Approve REQ
Managers	REQ Approver	Approve REQ
Requesters	User	Create REQ

Role	Calem Object	Function
Supervisors	Pre-Approve	Pre-Approve PO
Managers	PO Approver	Approve PO
Buyers	User	Create PO

- **Generate requisitions based on min/max**
- **Use requisition to request spare parts**
- **Use purchase orders to order spares from vendors**

- **Learn and improve based on practice from Iteration 10**
- **Repeat Iteration 10 to set up additional inventory mix/max, vendors, roles for requisition/purchase**

- **Review operational KPIs**
- **Identify new KPIs** (add to your CMMS if not there already)
- **Identify areas for improvement**
- **Repeat this process regularly**

Visit Us at www.calemeam.com

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