

## Deep Dive: Asset Compliance Maintenance Transparency

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&

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## What we will cover

- Background on how the Technical Compliance program started.
- Program setup and management.
- SAP Master Data requirements and management.
- Change Management was key.
- SAP Solution to manage the compliance.
- How the Engineers verify the compliance.
- Reporting.

## Background

- Asset Compliance Maintenance is a major requirement at our AGL Sites.
- 3 Years ago, every site was managing their compliance differently.
- Inspection executing & sign off was adhoc
- No standard reporting so we didn't know whether our Assets were compliant.
- A project was kicked off to standardise how we did Compliance Maintenance at all our sites using SAP as the driver.



## Program Objective

Provide Visibility of our Technical Compliance  
Maintenance obligations

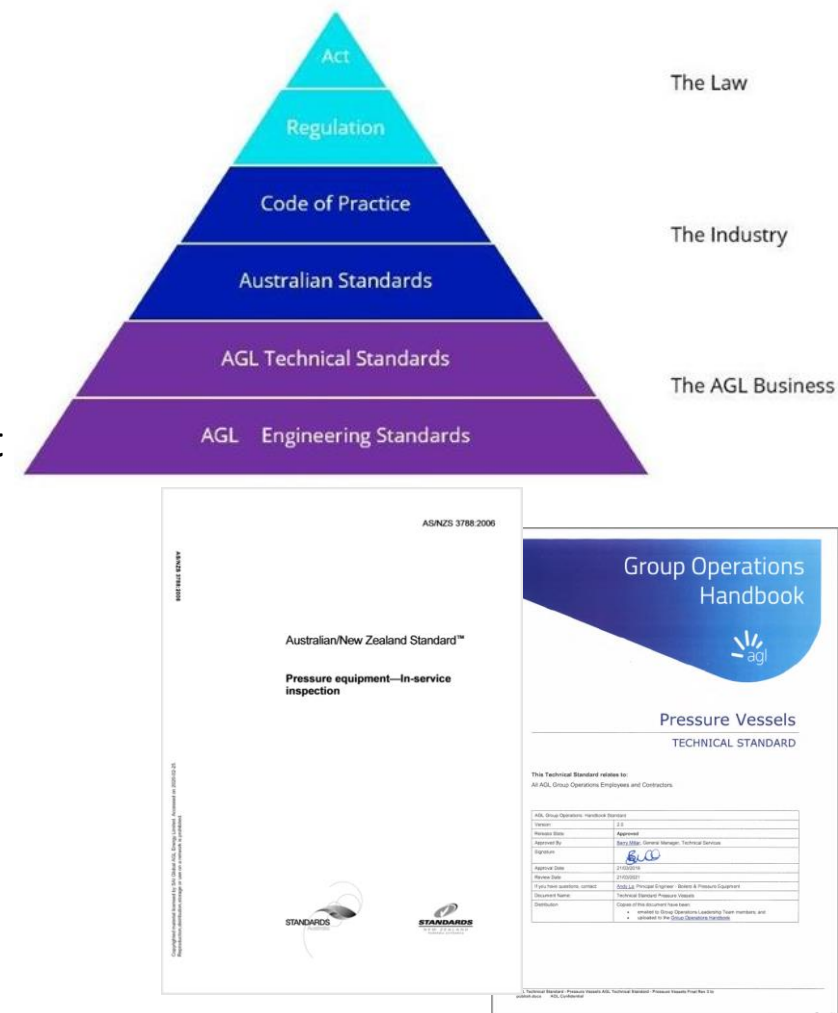
to

Protect our people & Protect our license to operate



# What is Technical Compliance Maintenance?

- Maintenance activities identified from AGL's documented:
  - legal, industry and business obligations for each asset class.
- An asset class:
  - is a grouping of assets that exhibit similar characteristics and are subject to the same laws and regulations.
- What are some of the Asset Classes?
  - Pressure Vessels
  - Pressure Safety Valves
  - Cranes & Hoist?
  - Dams
  - Fire system
  - ...



# Program Success – Key Requirements

- Single functional design in SAP to enable consistence reporting
- People competent in their ability to work through the processes and in the systems.
- Documentation in place to support system and processes governance.
- Data populated in line with technical compliance class requirements identified as per the relevant AGL technical standard



## Phase 1 Program Establishment

# Program Success - Dependencies

- **Sponsorship** – Owned and prioritised by leadership.
- **Engagement** – Everyone clear on the objective and their role.
- **Resources** – Resourced to enable delivery in the agreed timeline.
- **Tracking and Reporting** – Program forums & reporting established with visibility of progress against plan.
- **Teamwork**





# Program - Complexity

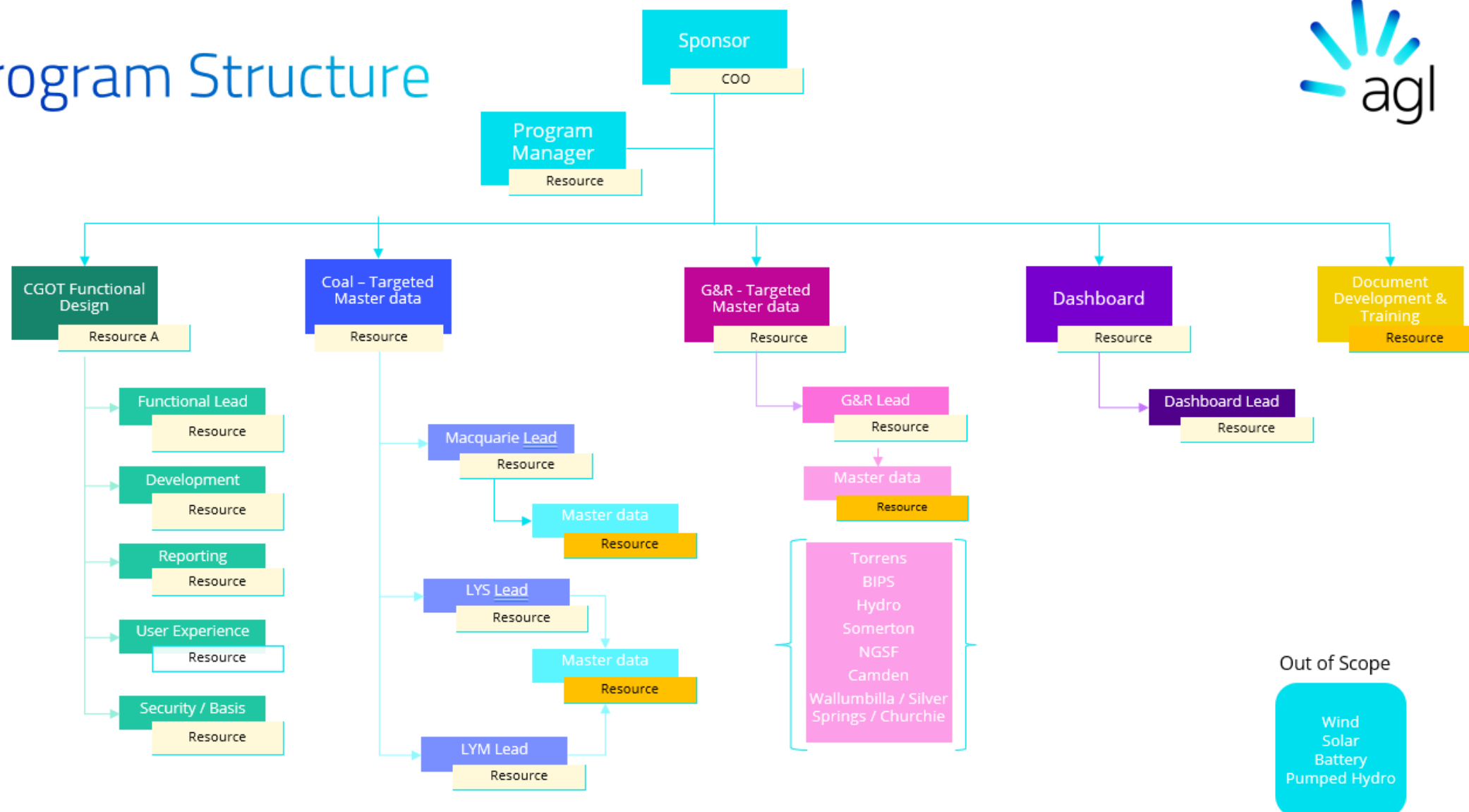
- **Leadership**
  - Ownership & Program Enablement – Accountability.
- **Program Management**
  - Enable program structure, support, co-ordination and central oversight for delivery.
- **SAP Enablement & Development**
  - SAP Master Data configuration design, Process Development & Implementation (SAP Enablement).
- **Technical Standards Development**
  - Obligations identification, agreement & capture for all 28 Asset Classes.

## Program - Complexity

- Business units
  - Site Master data teams - cleanse, build & load of obligations.
  - Maintenance Teams – Compliance maintenance delivery.
  - Engineering - Verification process ownership.
  - BAU Tracking & Reporting – Compliance program oversight.
- Training
  - General SAP.
  - Specific process training.



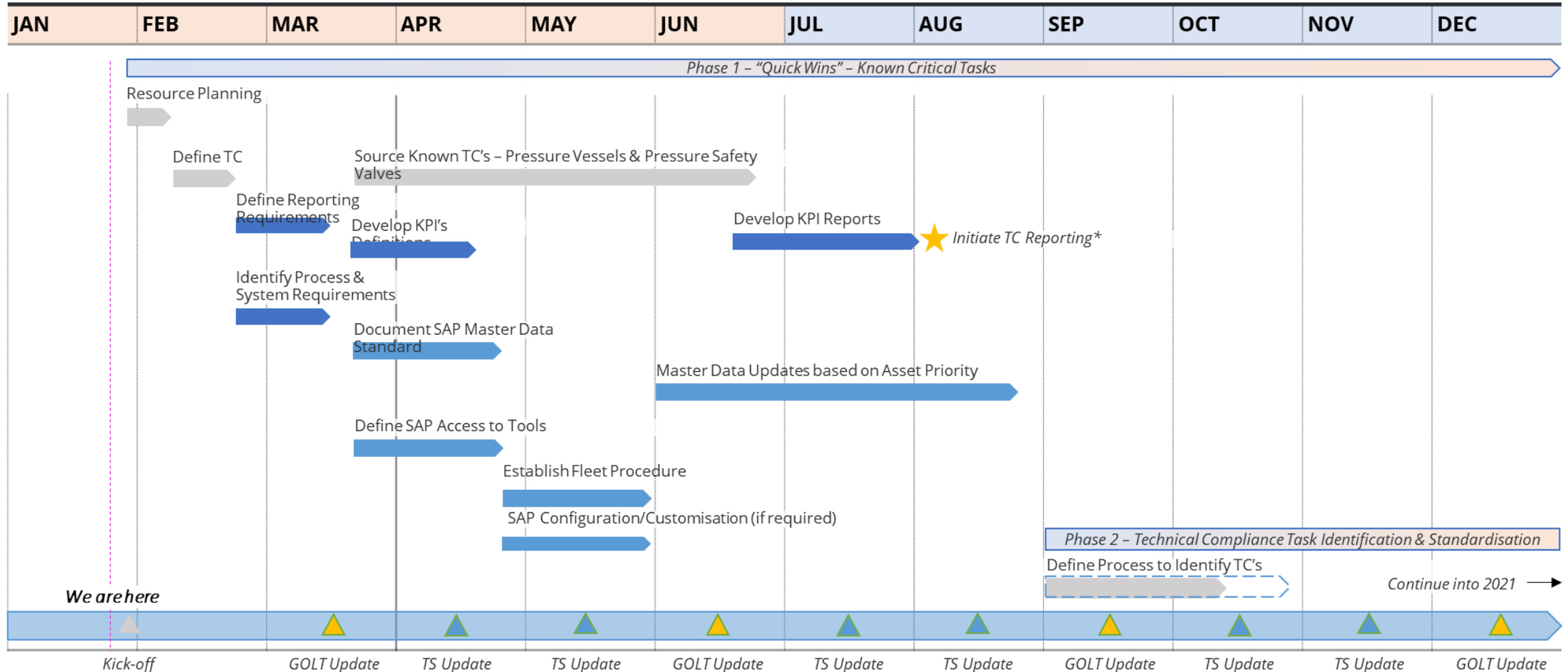
## Program Structure



# Program - Plan on a Page

2020

\*Reporting to include Assets based on Master Data Updates





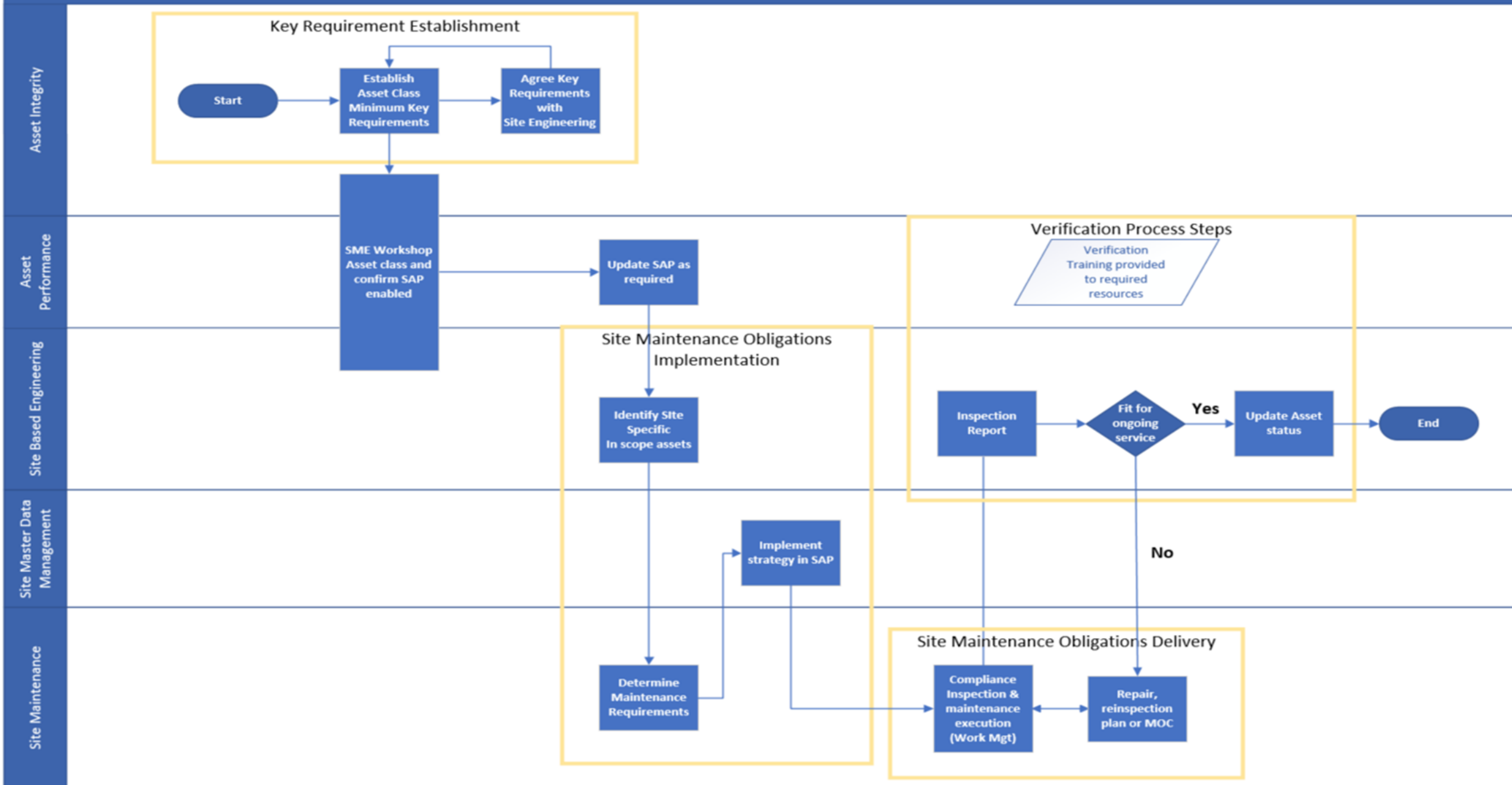
## Phase 2 Program Delivery

## Program – Phase 2 - Class Prioritisation

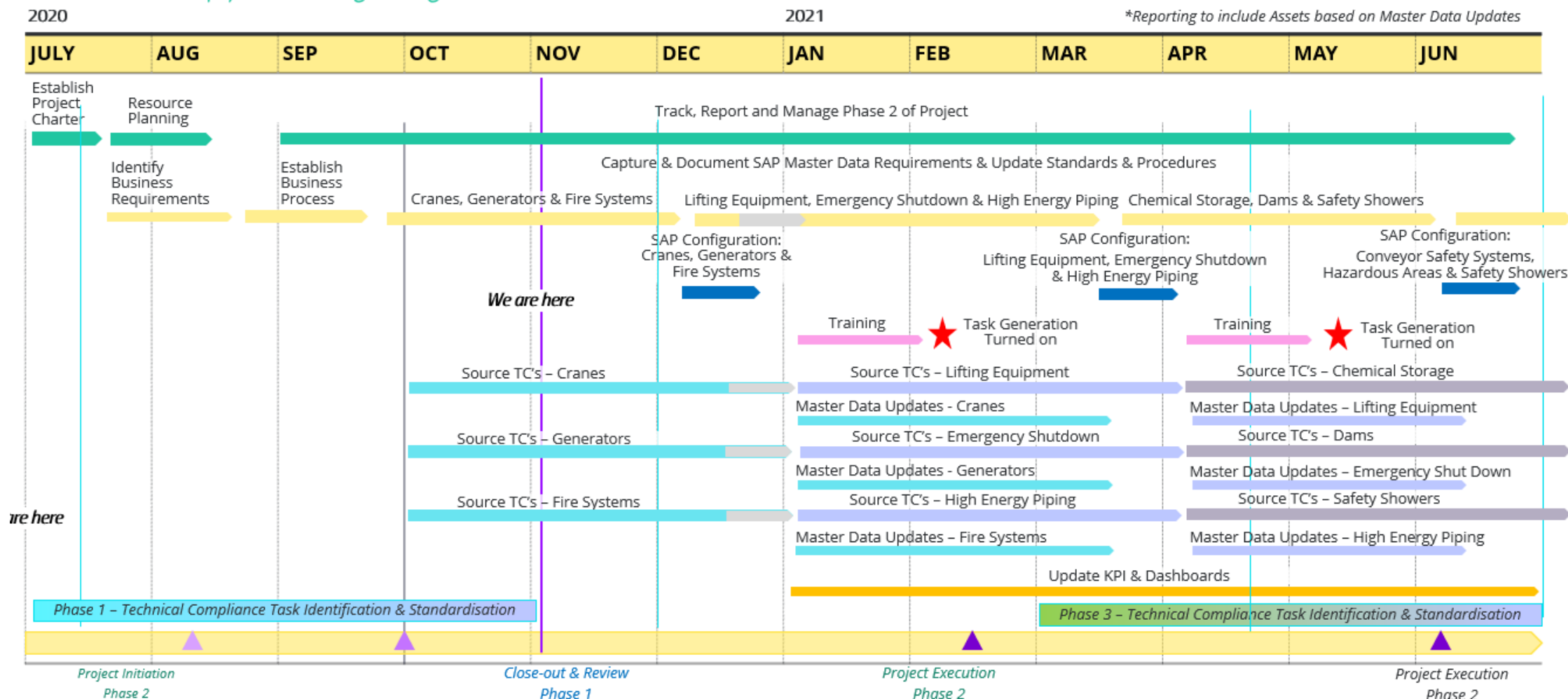
Technical Compliance Classes	Priority	Order
Cranes Hoists & Winches - Monorails / Cranes, / Cranes, Hoists and Installed lifting beams / Fixed Cranes/Mobile Plant - EWP's	H	1
Lifting Attachments / Lifting Points / Lifting Attachments - beams, jigs, stands, etc / Lifting Beams & Lifting Tackle / Lifting Equipment -		1
Slings, chain blocks etc	H	
Generator Compliance Program (GCP) / Grid Compliance	H	2
Fire System	H	3
Emergency Shutdown (ESD) / Safety Instrumented Systems / Instrumentation / Plant Safety Systems / Turbine Protection	H	
High Energy Piping / Pressure Piping	H	
Conveyor Safety Systems	H	6
Hazardous Areas	H	7
Environmental - Environmental compliance requirements	H	8
Safety Shower & Eye Wash Stations	H	9
Regulated Systems (Cooling Water & aircon)	H	10
Boiler (outside PV)	M	
Bulk Chemical Storage / Chemical Handling / Chemical Injection Systems	M	
Bulk Flammable Liquids / Gases Storage / Fuel Storage	M	
Dams	M	
Electrical Power Protection Systems	M	
Electrical Safety Systems / Certified Electrical Equipment	M	
Emergency Generators	M	
Foundation Structures / Major Civil Inspections / Structural Inspections / Support Structures	M	
Gas Detection Systems / Gas Flare Systems / Gas Safety	M	
Ladders	M	
Operational Well Containment / Well intervention / Well control Equipment	M	
Passenger Lifts & Hoists	M	
Potable Water Systems (backflow prevention)	M	
Balanced Machines - Safety Devices - Mine only	L	
Balanced Machines - Structural - Mine only	L	
Civil Infrastructure	L	
Earthing	L	
Explosion Protection Structures	L	
Heat Tracing	L	
Lightning Protection	L	

Equipment Class	Review Priority	Equipment Class	Review Priority
1 Pressure Vessels	1	Pressure Vessels	1
1 Safety Valves	2	Safety Valves	2
Stage 2		Stage 2	
1 Lifting Attachments - beams, jigs, stands, etc	1	Boiler Inspection	1
2 Safety Showers	2	Turbine Protection	2
3 Cranes, EWP's	3	Hazardous Area Inspections	3
3 Lifting Points	4	Pro Safe - Instrumentation	4
3 Ladders	5	Cranes, Hoists and installed lifting beams	5
4 Arc Flash	6	High Energy Piping	6
4 Asbestos Register	7	Fire Systems	7
4 Confined Space	8	Plant Safety Systems	8
5 Grid Compliance	9	Lifting Equipment - slings, chain blocks etc	9
5 Major Civil Inspections	10	Fuel Storage	10
5 High Energy Piping, quality management	11	Environmental	11
5 Fuel Storage	12	Gas Safety	12
5 Protection Systems	13	Grid Compliance	13
6 Instrumentation	14	Process Safety	14
6 Fire Systems	15	Chemical Handling	15
6 Lifts	16	Safety Showers	16
7 Identification and Labelling	17	Structural Inspections	17
OK? Boiler inspection	18	Lifting Attachments	18
STD/PRO Plant Safety Systems	19		
STD/PRO Hazardous Areas	20		
Uncertain Regulated Systems			
Uncertain Corrosion Protection			
Uncertain Lightning Protection			

# Technical Compliance Program View



# Program - Plan on a Page





# Program - Plan on a Page

Tech Services & SME's Focus Areas	SAP Enablement & Documentation	Pressure Vessels & PSV's	Primary Lifting Equipment, Generators & Fire Systems	Secondary Lifting Components, Functional Safety & High Pressure Piping	Chemical Storage, Dams & Safety Showers	Conveyor Safety Systems, Regulated Systems & Boilers	Fuel Storage, Lightening Protection / Earthing, & Electrical Power Protection
Milestone Target Date		14/09/2020	07/12/2020	15/03/2021	07/06/2021	23/08/2021	15/11/2021

Category 1 - Cranes				
Define applicable standards for Category	18 hours - 14/09/2020	21-Sep	22-Sep	
Define Category Equipment included - Tech Objects	18 hours - 14/09/2020	23-Sep	25-Sep	
Define Classes for Category/Tech Object Grouping				
Category 2 - Generators				
Define applicable standards for Category	18 hours - 14/09/2020	21-Sep	22-Sep	
Define Category Equipment included - Tech Objects	18 hours - 14/09/2020	23-Sep	25-Sep	
Define Classes for Category/Tech Object Grouping				
Category 3 - Fire Systems				
Define applicable standards for Category	18 hours - 14/09/2020	21-Sep	22-Sep	
Define Category Equipment included - Tech Objects	18 hours - 14/09/2020	23-Sep	25-Sep	
Define Classes for Category/Tech Object Grouping	18 hours - 14/09/2020	28-Sep	29-Sep	
Define Characteristics for Class - 1	18 hours - 14/09/2020	30-Sep	5-Oct	
Define Attributes for Class Characteristics - 1 - Cranes	18 hours - 14/09/2020	6-Oct	13-Oct	
Define Characteristics for Class - 2 - Hoists & Winches	18 hours - 14/09/2020	14-Oct	19-Oct	
Define Attributes for Class Characteristics - 2 - Hoists & Winches	18 hours - 14/09/2020	20-Oct	27-Oct	
Define Characteristics for Class - 3	18 hours - 14/09/2020	28-Oct	3-Nov	
Define Attributes for Class Characteristics - 3	18 hours - 14/09/2020	4-Nov	11-Nov	
Define Task/s per object	18 hours - 14/09/2020	12-Nov	23-Nov	
Define Activity Codes	18 hours - 14/09/2020	26-Nov	26-Nov	
Update Master Data Procedure	18 hours - 14/09/2020	27-Nov	9-Dec	
Update In Service Compliance & Assurance Procedure	18 hours - 14/09/2020	10-Dec	17-Dec	
UAT Load Category	CGOT	4-Jan	4-Jan	
UAT Load Tech Objects	CGOT	5-Jan	5-Jan	
UAT Load Class	CGOT	6-Jan	6-Jan	
UAT Load Characteristics	CGOT	7-Jan	7-Jan	
UAT Load Attributes	CGOT	8-Jan	8-Jan	
UAT Load Tasks	CGOT	8-Jan	8-Jan	
UAT Activity Codes	CGOT	8-Jan	8-Jan	

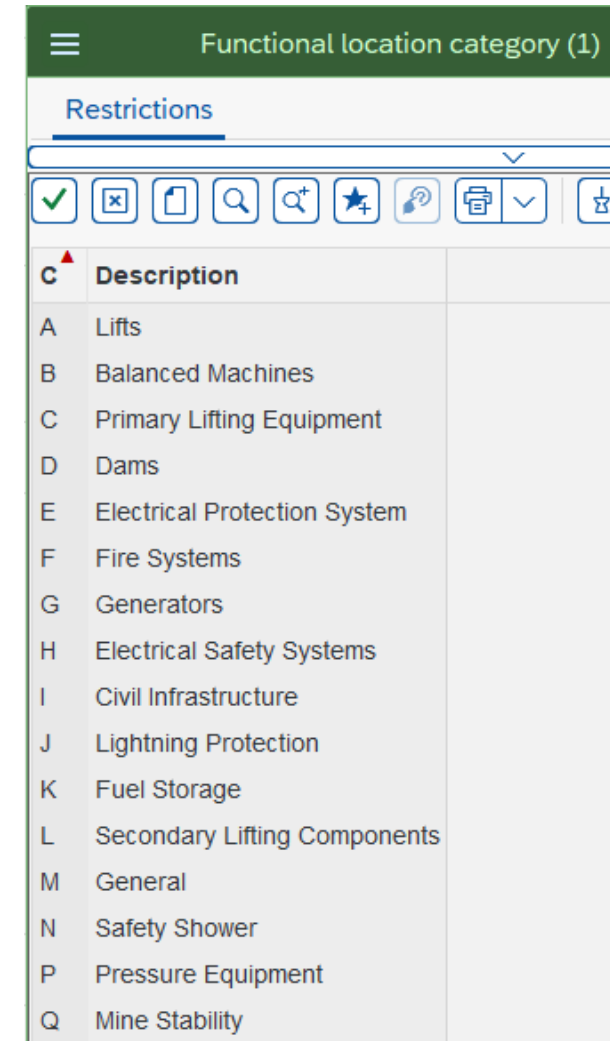
# Program – Identifying in SAP

- First step was education on the change as well as the meaning of the below key objects.
- Several key configurations were required to easily identify the Asset Classes
  - **Functional Location Category** - this allows easy identification of Functional Locations that require Technical Compliance Transparency.
  - **Technical Object Types** - this is a division of the Functional Location that allows for precise identification of the object.
  - **Classification** – classes based on the Technical object with characteristics that hold all relative information.
- The challenge here was all sites agreeing to the list of codes.
- Mass change and scripting tools were used for these updates.

# Program – Identifying in SAP

## Functional Location Category

- This is a single character field that is applied to relevant Functional Locations and allows you to differentiate Functional Locations according to how they are used.
- This indicator is one of the key reporting fields.



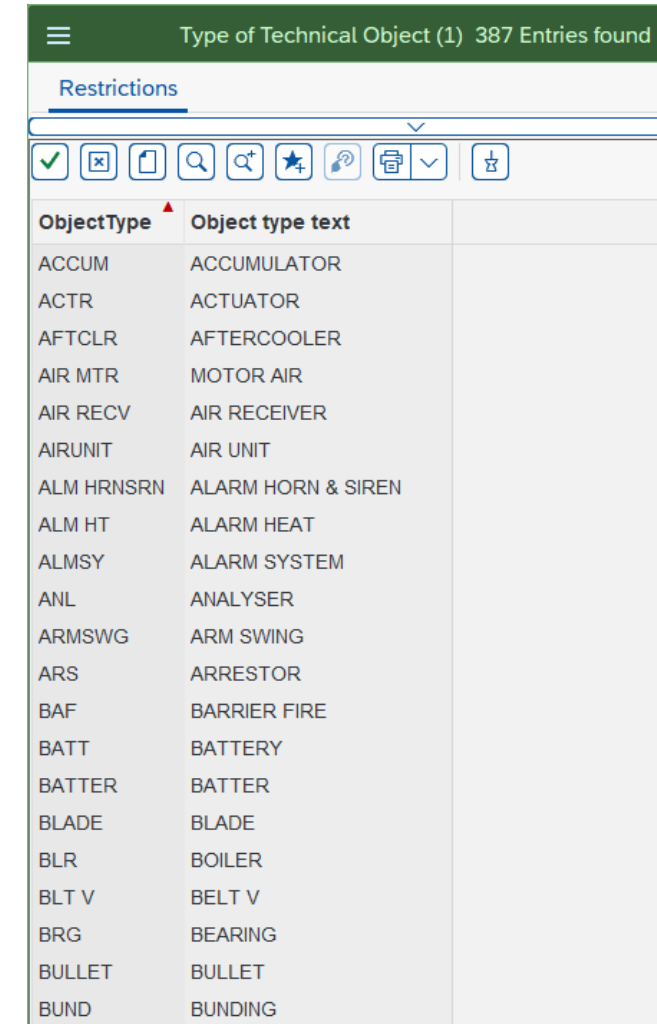
The screenshot shows the SAP 'Functional location category (1)' interface. It features a header bar with a menu icon and the title 'Functional location category (1)'. Below this is a tab labeled 'Restrictions'. A toolbar with various icons (check, delete, copy, search, etc.) is positioned above a table. The table has two columns: 'C' (Category) and 'Description'. The categories listed are A through Q, each with a corresponding description.

C	Description
A	Lifts
B	Balanced Machines
C	Primary Lifting Equipment
D	Dams
E	Electrical Protection System
F	Fire Systems
G	Generators
H	Electrical Safety Systems
I	Civil Infrastructure
J	Lightning Protection
K	Fuel Storage
L	Secondary Lifting Components
M	General
N	Safety Shower
P	Pressure Equipment
Q	Mine Stability

# Program – Identifying in SAP

## Technical Object Types

- The Technical Object Type breaks down the Functional Location category into known objects.
- These Technical object types allow detailed reporting and identification of certain objects.
- When combined with Functional Location Category reporting is very detailed.



The screenshot shows the SAP SPRO configuration screen for 'Type of Technical Object'. The title bar indicates '387 Entries found'. The 'Restrictions' tab is active. The table below lists various technical object types and their descriptions.

ObjectType	Object type text
ACCUM	ACCUMULATOR
ACTR	ACTUATOR
AFTCLR	AFTERCOOLER
AIR MTR	MOTOR AIR
AIR RECV	AIR RECEIVER
AIRUNIT	AIR UNIT
ALM HRNSRN	ALARM HORN & SIREN
ALM HT	ALARM HEAT
ALMSY	ALARM SYSTEM
ANL	ANALYSER
ARMSWG	ARM SWING
ARS	ARRESTOR
BAF	BARRIER FIRE
BATT	BATTERY
BATTER	BATTER
BLADE	BLADE
BLR	BOILER
BLT V	BELT V
BRG	BEARING
BULLET	BULLET
BUND	BUNDING



# Program – Identifying in SAP

## Classification

- Classes based on the Technical Objects identified in Table 4.1 of AS3788-2006.
- Detailed characteristics will also be added including the information required from AS4343-2014.

### Classification

P&ID DRAWING NUMBER(S):	
ASSET LEGACY TAG NUMBER 1:	L.S.CAIR.SYS_B.CMP__AFTCLR
ASSET LEGACY TAG NUMBER 2:	
IEC61508 SAFETY INTEGRITY LVL:	
AS60529 INGRESS PROTECT. CODE:	
SUB SYSTEM:	AIR COMPRESSORS
PRESSURE EQUIPMENT ID:	327-U-634
PLANT DESIGN REGISTRATION NO.:	2268 P82
STATE OF DESIGN REGISTRATION:	
PLANT ITEM REGISTRATION NO.:	Not Required
DESIGN PRESSURE:	0.70
PRESSURE UNIT OF MEASURE:	Megapascal
AS4343 FLUID TYPE:	Non-Harmful Gas
AS4343 HAZARD LEVEL:	HAZARD LEVEL D
MAXIMUM OPERATING TEMPERATURE:	
MINIMUM OPERATING TEMPERATURE:	
TEMPERATURE UNIT OF MEASURE:	
VOLUME:	46.00

# Program – Identifying in SAP

## Preventive Maintenance Plans

- Education on how Maintenance Plans worked was key for success.
- Task Lists were reviewed and updated as required.
- Open Text attachments were assigned for technical requirements.
- A key change was grouping Functional Locations to the Object list which allowed group inspections from one Work Order.

## Preventive



## Maintenance!

# Program – Obligation Load Tracking

Last Refresh :  
3/9/2022 6:00:15 PM

Technical Compliance : Data Progress

**Pressure Vessels**

Page Explained



Data Load Stage	% Actual	% Planned	Tracking	% Actual	% Planned	Tracking	% Actual	% Planned	Tracking	% Actual	% Planned	Tracking	% Actual	% Planned	Tracking	% Actual	% Planned	Tracking
Identify Master Data	100%	100%	✓	Infinity	100%	✓	100%	100%	✓	100%	100%	✓	100%	100%	✓	100%	100%	✓
Load Master Data	100%	100%	✓	Infinity	100%	✓	100%	100%	✓	100%	100%	✓	100%	100%	✓	100%	100%	✓
Identify Maint Routines	100%	100%	✓	Infinity	100%	✓	100%	100%	✓	100%	100%	✓	100%	100%	✓	100%	100%	✓
Load Maint Routines	100%	100%	✓	Infinity	100%	✓	100%	100%	✓	0%	100%	✗	100%	100%	✓	100%	100%	✓
Identify Class Characteristics	89%	100%	✓	Infinity	100%	✓	97%	100%	✓	96%	100%	✓	100%	100%	✓	100%	100%	✓
Load Class Characteristics	89%	100%	✓	Infinity	100%	✓	97%	100%	✓	96%	100%	✓	100%	100%	✓	100%	100%	✓

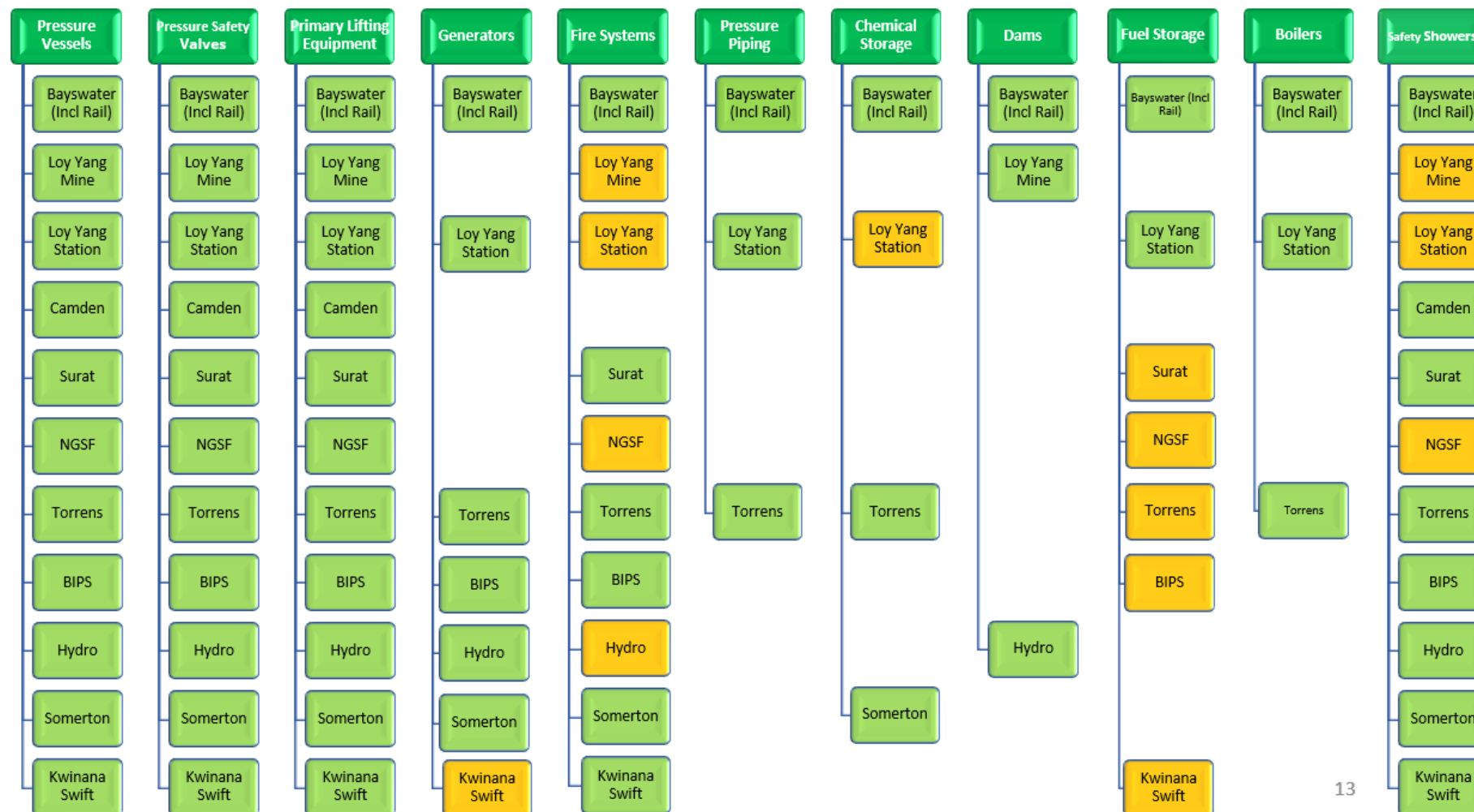
Data Load Stage	% Actual	% Planned	Tracking	% Actual	% Planned	Tracking	% Actual	% Planned	Tracking	% Actual	% Planned	Tracking	% Actual	% Planned	Tracking	% Actual	% Planned	Tracking
Identify Master Data	100%	100%	✓	100%	100%	✓	100%	100%	✓	100%	100%	✓	100%	100%	✓	100%	100%	✓
Load Master Data	100%	100%	✓	100%	100%	✓	100%	100%	✓	97%	100%	✓	94%	100%	✓	100%	100%	✓
Identify Maint Routines	100%	100%	✓	100%	100%	✓	100%	100%	✓	100%	100%	✓	100%	100%	✓	100%	100%	✓
Load Maint Routines	100%	100%	✓	100%	100%	✓	100%	100%	✓	97%	100%	✓	0%	100%	✗	100%	100%	✓
Identify Class Characteristics	100%	100%	✓	100%	100%	✓	100%	100%	✓	100%	100%	✓	75%	100%	!	100%	100%	✓
Load Class Characteristics	100%	100%	✓	100%	100%	✓	100%	100%	✓	100%	100%	✓	67%	100%	!	100%	100%	✓

## Compliance to Due Date

Data Load Stage	Complete	Overdue	Complete	Complete	Complete	Complete	Complete	Complete	Complete	Complete	Complete	Complete
Identify Master Data	Complete	Overdue	Complete	Complete	Complete	Complete	Complete	Complete	Complete	Complete	Complete	Complete
Load Master Data	Complete	Overdue	Complete	Complete	Complete	Complete	Complete	Complete	Complete	Overdue	Overdue	Complete
Identify Maint Routines	Complete	Overdue	Complete	Complete	Complete	Complete	Complete	Complete	Complete	Complete	Complete	Complete
Load Maint Routines	Complete	Overdue	Complete	Overdue	Complete	Complete	Complete	Complete	Complete	Overdue	Overdue	Complete
Identify Class Characteristics	Overdue	Overdue	Overdue	Overdue	Complete	Complete	Complete	Complete	Complete	Complete	Overdue	Complete
Load Class Characteristics	Overdue	Overdue	Overdue	Overdue	Complete	Complete	Complete	Complete	Complete	Complete	Overdue	Complete

Milestone Legend: Not Started In Progress Completed Overdue

## SAP Population Status



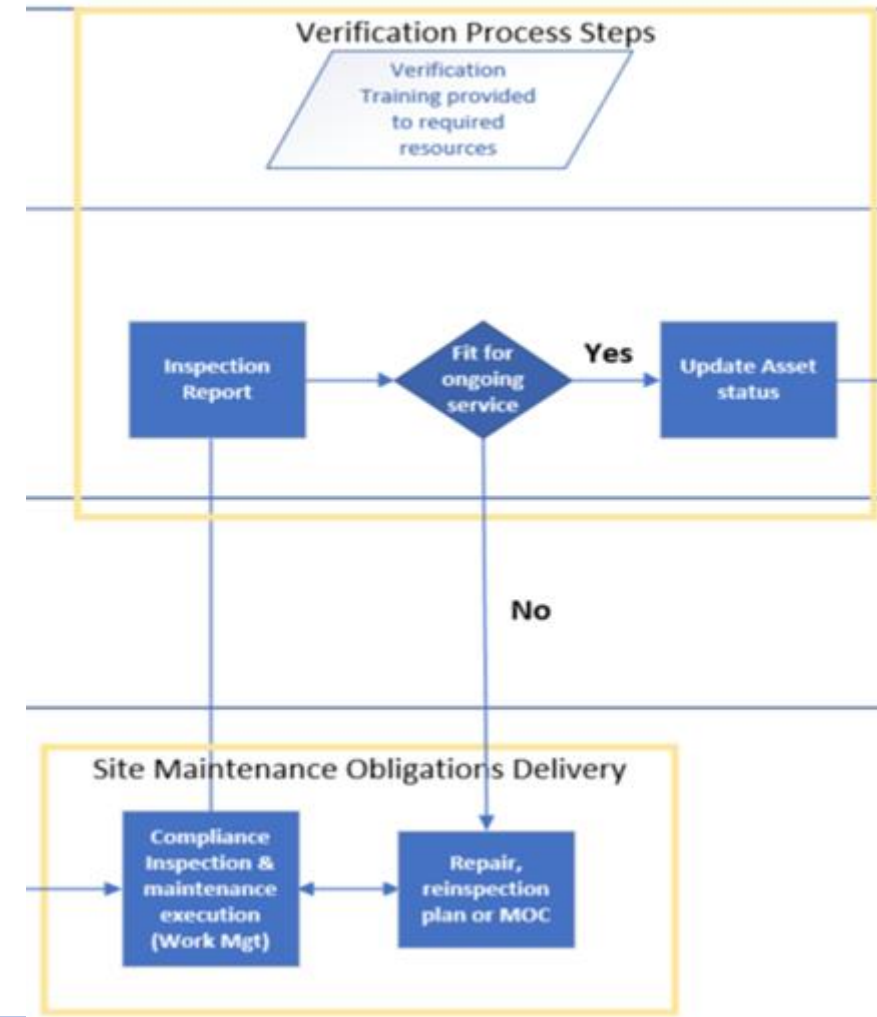


## Phase 2A

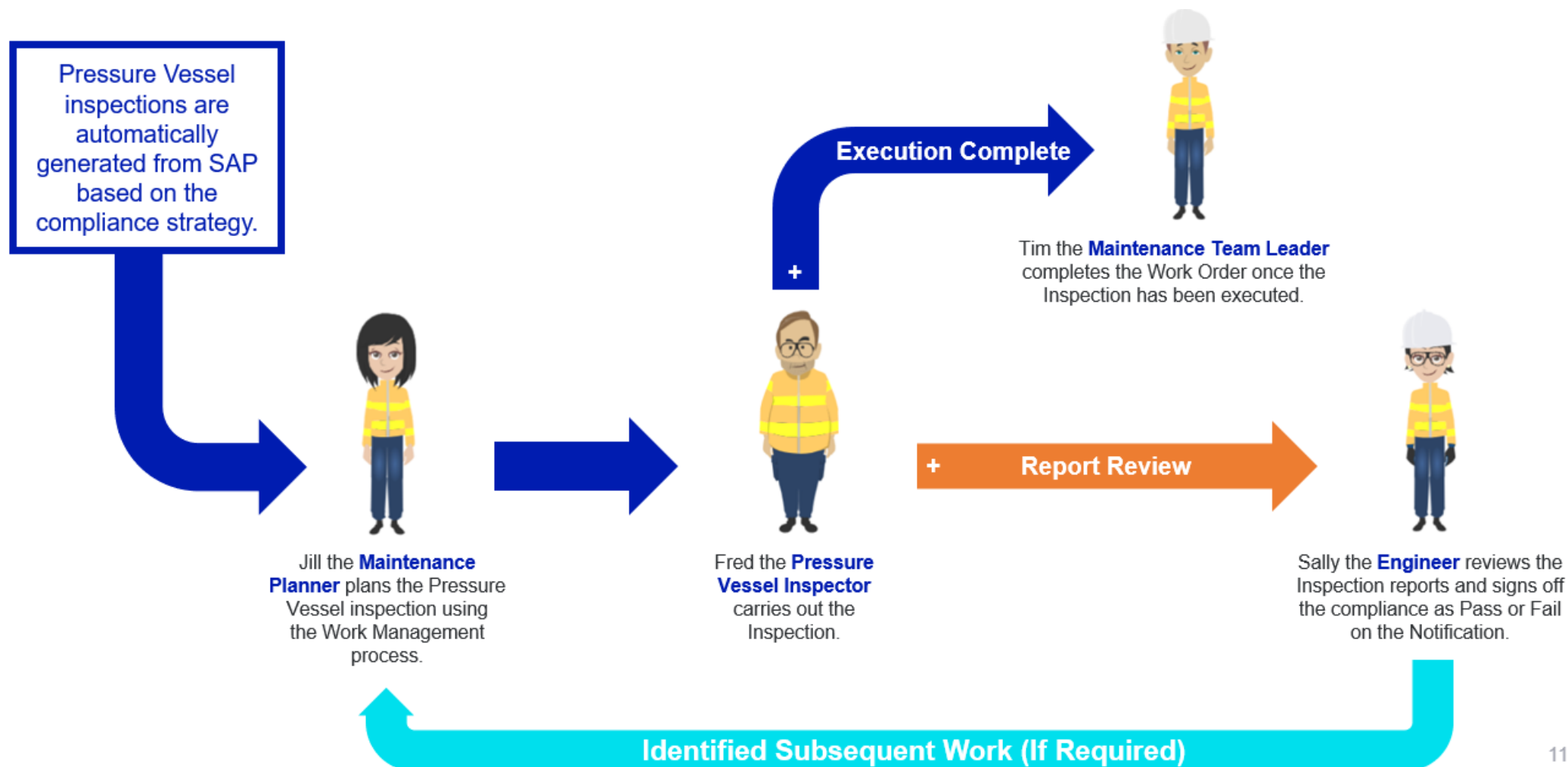
# SAP Business Process Design

# SAP Business Process – Key Elements

- **Compliance Maintenance Delivery Tracking**
  - How to identify Technical Compliant Work Orders?
- **Verification Process**
  - How to identify a verification is required?
  - Identifying verification is completed on time.
  - Establishing a Serviceability indicator.
- **Derogation Process**
  - Risk Based Process – Compliance Maintenance Can't be Delivered



## SAP Business Process Scenario – PV



# SAP Business Process – As Is Analysis

- Some site we already using SAP to track Compliance using Work Orders
- Reporting was very manual.
- Also, very time consuming.

Fixed Cranes Navigation Menu Due Modifier = 1 months

Business Unit	Station	Activity Description	Stat. Freq. Months	SAP Functional Location	SAP FL Description	SAP Maintenance Plan	SAP Maintenance Item	SAP MI Description	Last Work Order	Last WO Status	SAP Scheduled Start	SAP Actual Finish	Manual Finish Date	Next Due	Compliance Status	Notes
Torrens																
Torrens	A	3M Inspection	3	TPAX01KMB01GM001	AS BFP ANNEX CRANE	2002788	8000786	TPA X00 3M CRANE INSP	420054356	TECO	19/08/2019	2/09/2019		18/11/2019	In Test	
			12	TPAX01KMB01GM001	AS BFP ANNEX CRANE	2002788	8000847	TPA X00 1Y CRANE INSP	420030066	CRTD	5/12/2019			4/12/2020	In Test	
			120	TPAX01KMB01GM001	AS BFP ANNEX CRANE								10/1/2018	10/1/2028	In Test	
Torrens				TPAX01KMB01GM002	AS DA LEV HST	2002788	8000786	TPA X00 3M CRANE INSP	420054356	TECO	19/08/2019	2/09/2019		18/11/2019	In Test	
Torrens				TPAX01KMB01GM002	AS DA LEV HST	2002788	8000847	TPA X00 1Y CRANE INSP	420030066	CRTD	5/12/2019			4/12/2020	In Test	
Torrens				TPAX01KMB01GM002	AS DA LEV HST								10/1/2018	10/1/2028	In Test	
Torrens	A			TPAX01KMB01GM003	AS FIXED CRANES CV GANTRY	2002788	8000786	TPA X00 3M CRANE INSP	420054356	TECO	19/08/2019	2/09/2019		18/11/2019	In Test	
Torrens	A			TPAX01KMB01GM003	AS FIXED CRANES CV GANTRY	2002788	8000847	TPA X00 1Y CRANE INSP	420030066	CRTD	5/12/2019			4/12/2020	In Test	
Torrens	A	120M Inspection	120	TPAX01KMB01GM003	AS FIXED CRANES CV GANTRY								10/1/2018	10/1/2028	In Test	
Torrens	A	3M Inspection	3	TPAX01KMB01GM004	AS COMP RM CRANE	2002788	8000786	TPA X00 3M CRANE INSP	420054356	TECO	19/08/2019	2/09/2019		18/11/2019	In Test	
Torrens	A	12M Inspection	12	TPAX01KMB01GM004	AS COMP RM CRANE	2002788	8000847	TPA X00 1Y CRANE INSP	420030066	CRTD	5/12/2019			4/12/2020	In Test	
Torrens	A	120M Inspection	120	TPAX01KMB01GM004	AS COMP RM CRANE								10/1/2018	10/1/2028	In Test	
Torrens	A	3M Inspection	3	TPAX01KMB01GM005	AS ENGINE RM CRANE	2002788	8000786	TPA X00 3M CRANE INSP	420054356	TECO	19/08/2019	2/09/2019		18/11/2019	In Test	
Torrens	A	12M Inspection	12	TPAX01KMB01GM005	AS ENGINE RM CRANE	2002788	8000847	TPA X00 1Y CRANE INSP	420030066	CRTD	5/12/2019			4/12/2020	In Test	
Torrens	A	120M Inspection	120	TPAX01KMB01GM005	AS ENGINE RM CRANE								10/1/2018	10/1/2028	In Test	
Torrens	A	3M Inspection	3	TPAX01KMB01GM006	AS OIL GUN RM HST FIXED	2002788	8000786	TPA X00 3M CRANE INSP	420054356	TECO	19/08/2019	2/09/2019		18/11/2019	In Test	
Torrens	A	12M Inspection	12	TPAX01KMB01GM006	AS OIL GUN RM HST FIXED	2002788	8000847	TPA X00 1Y CRANE INSP	420030066	CRTD	5/12/2019			4/12/2020	In Test	
Torrens	A	120M Inspection	120	TPAX01KMB01GM006	AS OIL GUN RM HST FIXED								10/1/2018	10/1/2028	In Test	
Torrens	A	3M Inspection	3	TPAX01KMB01GM007	AS OIL GUN RM HST FIXED	2002788	8000847	TPA X00 1Y CRANE INSP	420030066	CRTD	5/12/2019			4/12/2020	In Test	
Torrens	A	120M Inspection	120	TPAX01KMB01GM007	AS OIL GUN RM HST FIXED								10/1/2018	10/1/2028	In Test	
Torrens	B	3M Inspection	3	TPBX01KMB01GM001	BS BFP ANNEX CRANE	2002327	8004370	TPB X00 3M CRANE INSP	420051246	TECO	30/09/2019	4/10/2019		30/12/2019	In Test	
Torrens	B	12M Inspection	12	TPBX01KMB01GM001	BS BFP ANNEX CRANE	2002327	8004479	TPB X00 1Y CRANE INSP	420010825	CRTD	5/12/2019			4/12/2020	In Test	
Torrens	B	120M Inspection	120	TPBX01KMB01GM001	BS BFP ANNEX CRANE								10/1/2018	10/1/2028	In Test	
Torrens	B	3M Inspection	3	TPBX01KMB01GM002	BS DA L W HST	2002927	8004370	TPB X00 3M CRANE INSP	420051246	TECO	30/09/2019	4/10/2019		30/12/2019	In Test	

Navigation G&R Report Torrens Report Hydro Report WS&B Report GCP Report Cranes & Lifts Report GCP Pressure Vessels Pressure Safety Valves Fixed Cranes Passenger Lifts Issues

# SAP Business Process – As Is Analysis

- Reviewed how each site managed Technical Compliance and found some key issues.
  - Reporting overall was very manual sometimes taking hours to build.
  - Engineers struggled with no visibility to whether compliance inspections completed.
  - Little to no history was kept in SAP for these Assets.
  - Some sites used Work Order Operations to manage and report their compliance.
  - Data was fragmented and hard to understand.
- Because some sites were using Work Orders a 'Pros' and 'Cons' analysis was carried out on Work Orders vs Notifications.



# Pros & Cons – SAP Work Order Operation

Pro	Con
One single process for Maintenance & Engineers	Engineering Work Centres must be maintained with individuals to support "Finite Scheduling" (in align with KPIs)
Minimal Training & Change Management needed.	Potential Impacts to Schedule Compliance if Engineering does not Time Confirm in a timely manner (skews 'Maintain Asset' process metrics).
Ability to cost Engineering activities back to the assets	Work Orders remain open for extended periods, which is not ideal.
Can be implemented under existing design (no enhancement to SAP required).	Task Lists must be updated and maintained
Start & End Dates can easily be applied & inter-relationships are clear.	Operations do not provide a definitive way to identify whether the "job/asset" is compliant
	No Unique Asset compliance reporting if there are multiple Assets

# Pros & Cons – SAP Notification Tasks

Pro	Con
Separation of Engineering vs Maintenance Process.	Enhancement to SAP required for Dates & Auto Creation.
Signoff of "compliance/job" with Employee Number & comments is easily reported.	Cannot be used for costing engineering activities.
Notification is used as single source of asset history.	New Process with medium-high change management & training required
No impacts to existing KPIs.	
Engineers easily "measured" for Tasks assign – including, 'Not Started/Overdue', 'In-Progress' or 'Completed'.	
Maintenance Team Leaders will not have to chase Engineering to complete their Operation so the WO can be TECOed.	

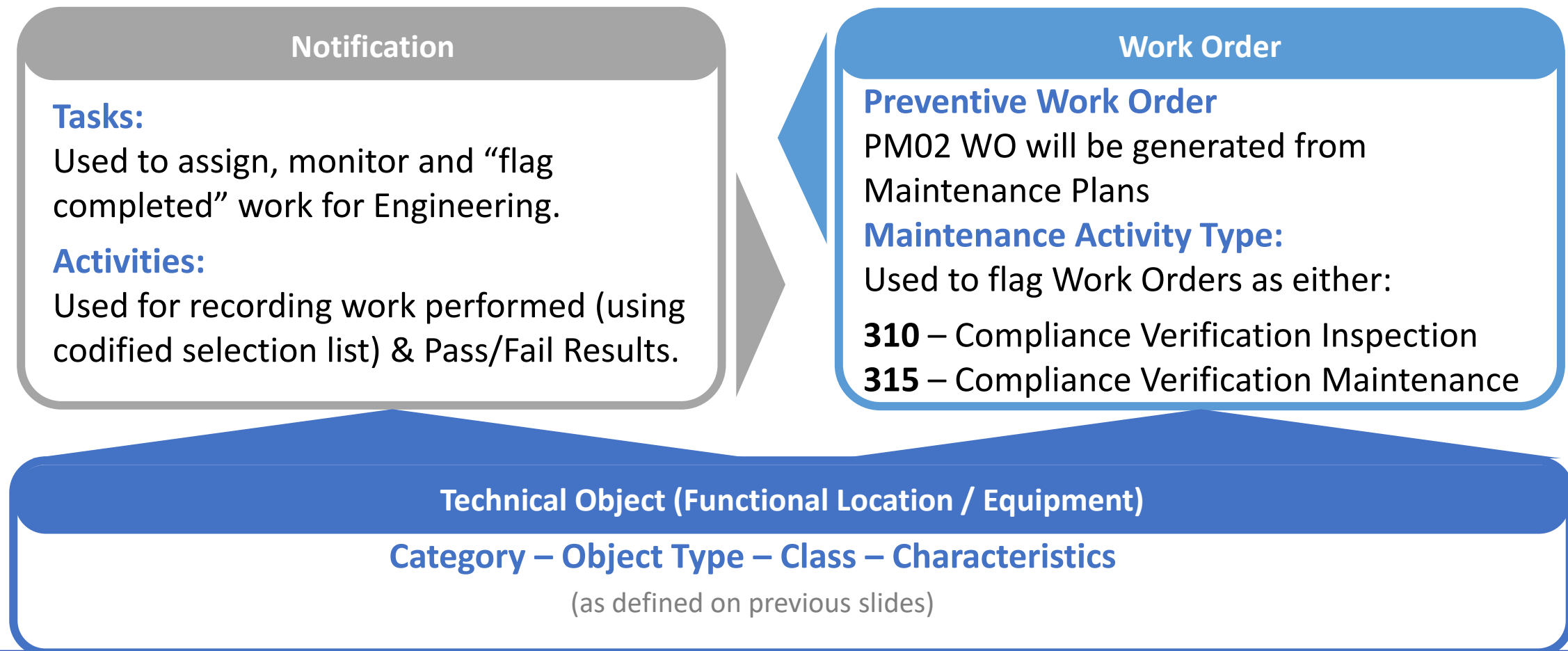
# SAP Design – Solution & Requirements

- Notifications Tasks will be used to manage the Compliance sign off.
- Tasks are to be automatically determined based on the Preventive Maintenance Work Order Maintenance Activity Type.
- Tasks must have start and end dates offset but the Work Order Dates.
- If the Work Order is rescheduled, then the Task dates are moved as well.
- Tasks must be applied to any Assets assigned to a Work Order Object list.
- Engineers' employee number is assigned to these Tasks.
- Notification Activities are used to verify serviceability.



# SAP Design – Solution Overview

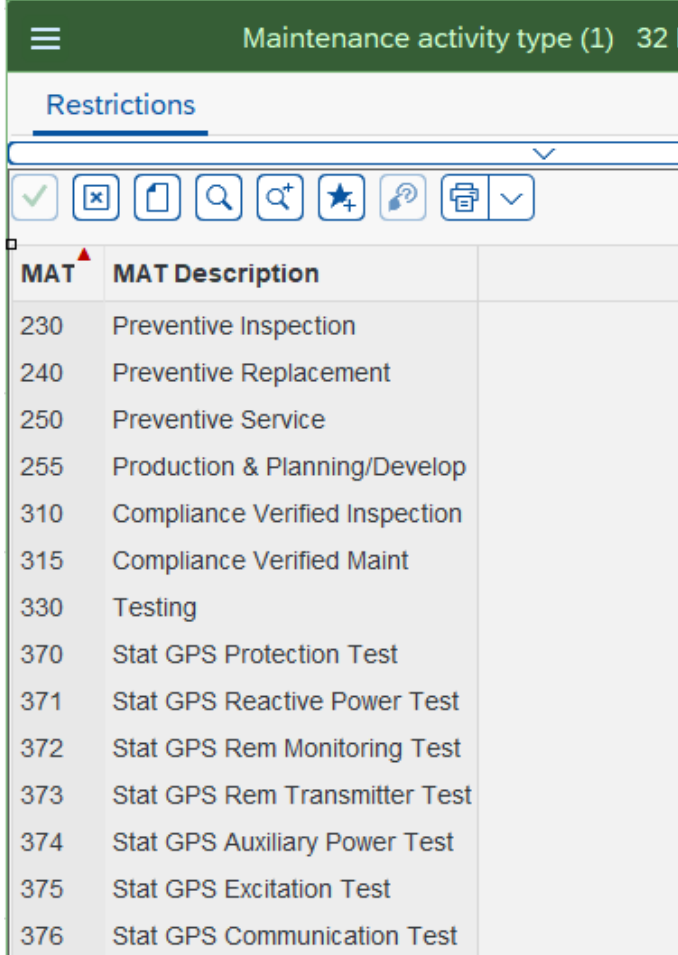
## Relationship Diagram



# SAP Design – Solution Overview

## Maintenance Activity Type

- The Maintenance Activity Type (MAT) was used for flagging Work Orders as either:
  - **310 – Compliance Verification Inspection**
  - **315 – Compliance Verification Maintenance**
- This leverages standard SAP “inheritance” from Maintenance Plans/Items and is a field readily available through standard SAP reporting and search functions.
- Further MAT were added as we progressed through the different Asset Classes



The screenshot shows the SAP 'Maintenance activity type (1)' list. It includes a header bar with a menu icon and the title. Below the header is a 'Restrictions' section. A toolbar with various icons (check, close, copy, search, etc.) is visible. The main table has two columns: 'MAT' and 'MAT Description'. The table lists 15 activity types, including preventive inspection, replacement, service, and various GPS-related tests.

MAT	MAT Description
230	Preventive Inspection
240	Preventive Replacement
250	Preventive Service
255	Production & Planning/Develop
310	Compliance Verified Inspection
315	Compliance Verified Maint
330	Testing
370	Stat GPS Protection Test
371	Stat GPS Reactive Power Test
372	Stat GPS Rem Monitoring Test
373	Stat GPS Rem Transmitter Test
374	Stat GPS Auxiliary Power Test
375	Stat GPS Excitation Test
376	Stat GPS Communication Test

Maintenance Activity Types for  
PM02 (Preventive) Work Orders



# SAP Design – Solution Overview

## Notification Tasks

- Tasks Codes were added to record & track actions for Maintenance Engineering for Statutory Maintenance related work.
- Tasks can be assigned to an individual's Employee number.
- Planned Start and End dates can be added.
- Records when a Task is completed and who completed it.

Notification	23004070	M3		PV AIR RECEIVER STATUTORY INSPECTION	
Notific. Status	NOPR ORAS OSTS				
Order	42002220				

Notification	Location data	Items	Tasks	Related Objects	Breakdown Details
--------------	---------------	-------	-------	-----------------	-------------------

No.	Code group	Task	Task code text	Task Text	Task	Task Stat	Task Processor	Responsible	List name	Planned Start	Planned End	Com
1	STATCOMP	1STT	Check Statutory Inspection is completed	Verify all reports		TSOS	ZD Person Respon...	A129935		03.08.2020	03.08.2020	
2	STATCOMP	2STT	Attached all Inspection Reports			TSOS	ZD Person Respon...	A139552		03.08.2020	03.08.2020	
3	STATCOMP	3STT	Complete Inspection Results Activities			TSOS	ZD Person Respon...	A139552		03.08.2020	03.08.2020	
							ZD Person Respon...					

# SAP Design – Solution Overview

## Processing Notification Tasks

- Tasks in SAP can easily be searched using standard 'List Edit' screens (including Responsible Person).
- Processing Tasks provides an entire overview of the Notification contents.
- Engineering to performed the required activities, with minimal effort (from a system perspective).
- Completing Task is just a click of a button

Process Task

Release task Complete task Extended Notification Expand all Collapse all More ▾

Notification 23004070

**Notification 23004070 Activity Report**  
Status: Notification in process; Order assigned; Outstanding task(s) exist(s)

**Notification Reference**  
Maintenance Plant: 2092  
Functional Location: LYAU00-AR TEST AIR RECEIVER COMPLIANCE

**Notification Contents**  
PV AIR RECEIVER STATUTORY EXT INSPECTION

**Activity Pass - Servicable with Conditions**  
Some conditions are required see LT  
23.03.2020 12:54:23 AUSVIC (A129935)  
Few conditions need to be rectified. Subsequent notifications created  
-: Rust damage around foundations needs repair  
-: Paint is peeling and needs to be repaired  
-: Some piping from receiver starting to corrode. Will require replacement before next External inspection in 2 years

**Activity Replaced**  
Installed new Pressure gauge (A129935)  
23.03.2020 12:53:33 AUSVIC  
Old pressure gauge out of calibration. Purchased new gauge and installed

**Task for : Check Statutory Inspection is completed**  
Status: Task Completed  
Verify all reports  
01.04.2020 15:57:03 AUSVIC (A30001003)  
Looks great!

**Task for Attached all Inspection Reports**  
Status: Task Outstanding

**Task for Complete Inspection Results Activities**  
Status: Task Outstanding

Task for

Task Code: Complete Inspection Results Activities

Task Text:

# SAP Design – Solution Overview

## Notification Activities

- Activity Codes for Serviceable/Non-Serviceable/Serviceable with conditions were added.
- Work Performed on a Job (such as: Repaired, Installed, Adjusted, Calibrated etc.) could also be added.
- Codified Results (for reporting & searching), free-text additional text/long text & logged user entries assisted with reporting.

### Activities

	Item	Acty Code ...	Acti...	Activity Code Text	Activity Text	LT
<input type="checkbox"/>		STATCOM1	1SRV	Serviceable	All good	
<input type="checkbox"/>		PM-REMEDI	0030	Cleaned		
<input type="checkbox"/>		PM-REMEDI	0020	Calibrated		
<input type="checkbox"/>						

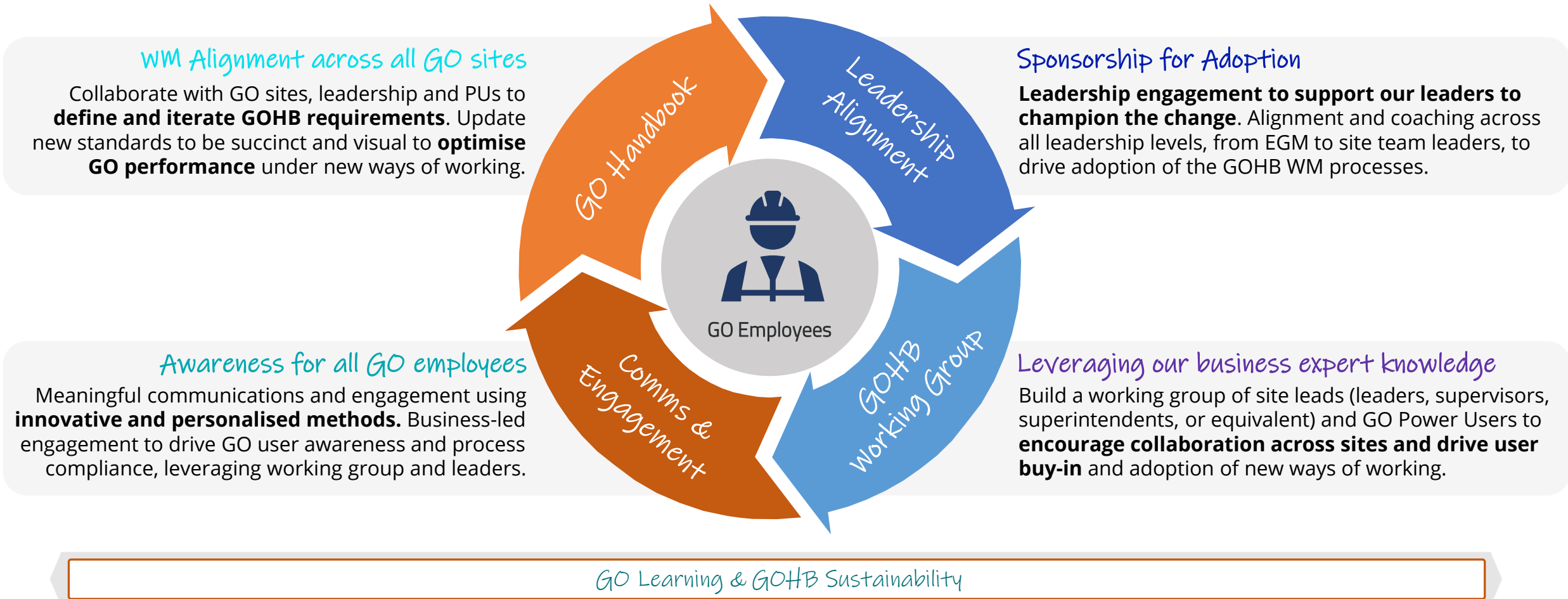


▼	PM-REMEDI	Notification Remedy Codes
>	0010	Adjusted
>	0020	Calibrated
>	0030	Cleaned
>	0040	Decommissioned/Removed
>	0050	Improved/Upgraded
>	0060	Inspected
>	0070	Installed/Commissioned
>	0080	Lubricated
>	0090	Made Safe
>	0100	Modified
>	0110	Non Destructively Tested
>	0120	Operated
>	0130	Painted
>	0140	Refurbished
>	0150	Repaired
>	0160	Replaced
>	0170	Serviced
>	0180	Test Operated
▼	STATCOM1	Statutory Compliance Results
>	1SRV	Serviceable
>	2SRC	Serviceable with conditions
>	3NSR	Non-Serviceable

## Phase 3 Change Management

# Change Management Strategy

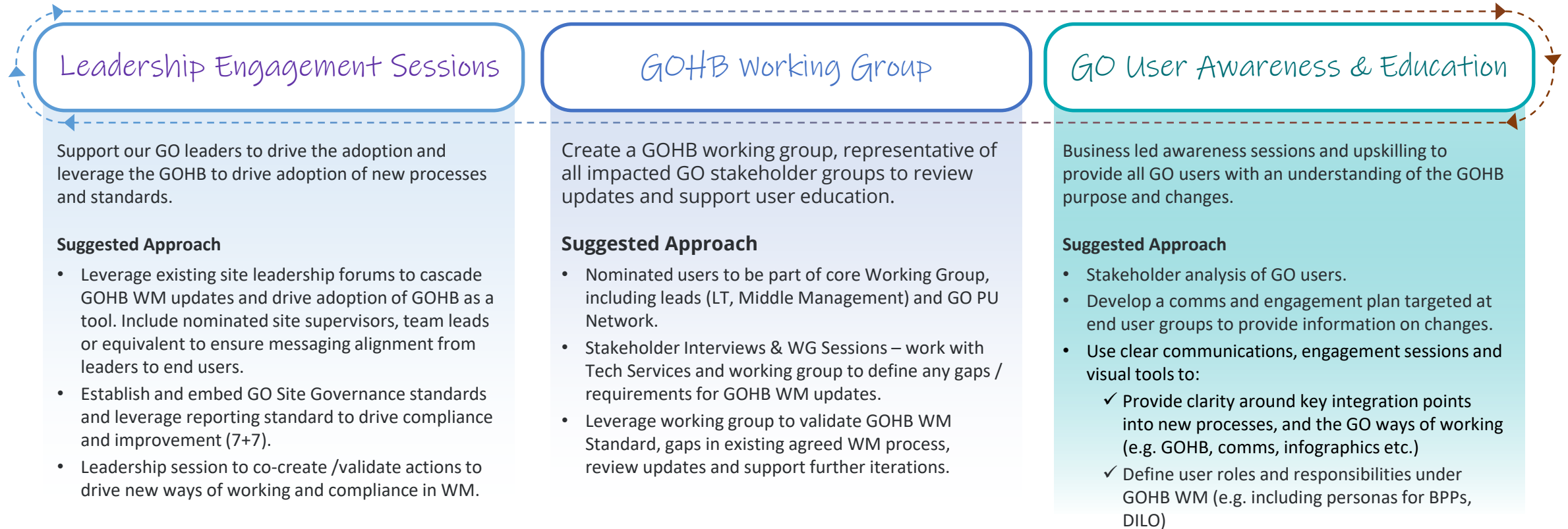
The GOHB needs to be updated to remove ambiguity and support embedment of new WM processes and behaviours. The approach below has been developed, including 4 inter-connected focus areas, to enable the successful adoption of the GOHB.



Alignment with learning and onboarding strategy to **support the continuous growth of GO employees and sustainability of the GOHB.**



# Change Management Implementation

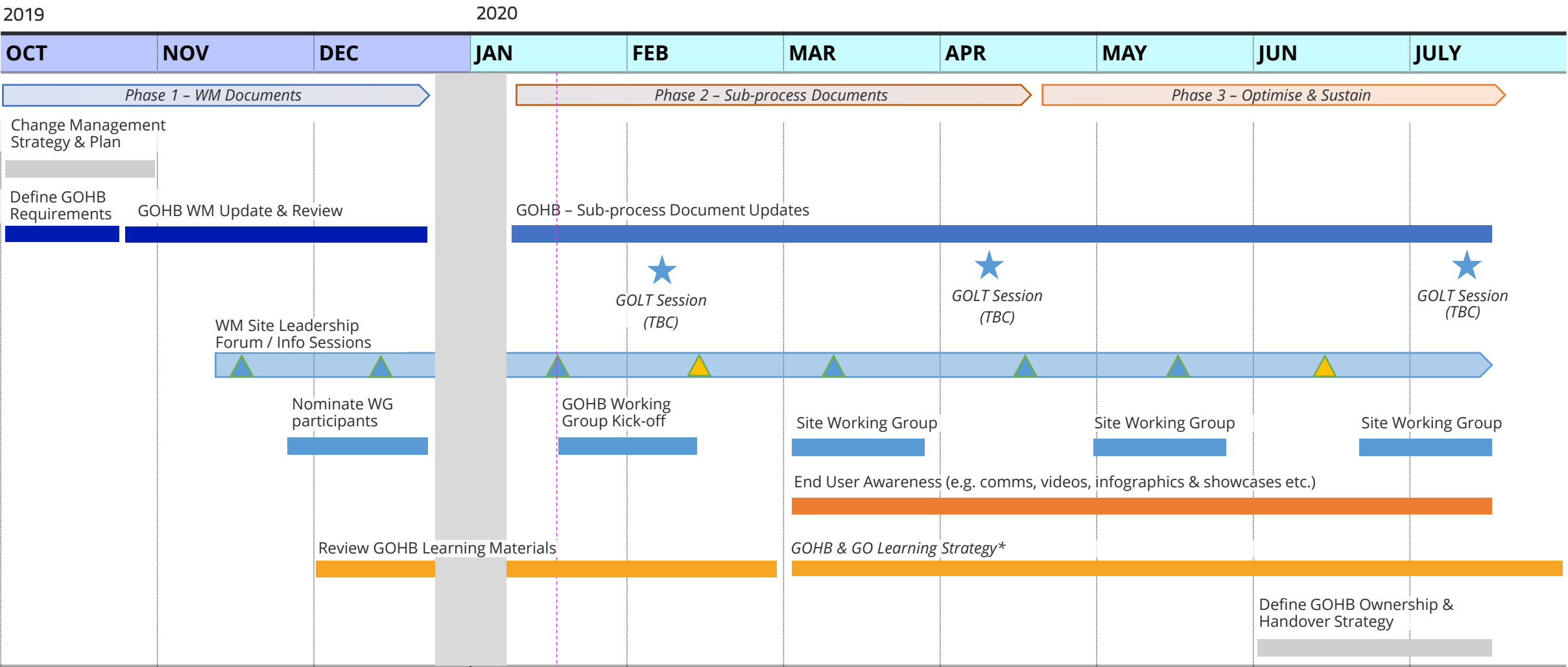


## Define GO Learning Strategy & Embed GOHB

Support P&C / GO Training and Learning team to define learning structure and strategy for GO and incorporation of GOHB materials. Define link between onboarding strategy for GO employees in relation GOHB. Define roles and responsibilities for GOHB ownership, working with KM (TBC – under recruitment).

# Change Management Implementation

Outlined below is a proposed plan on a page for the GO Handbook Optimisation activities until end of July 2020.

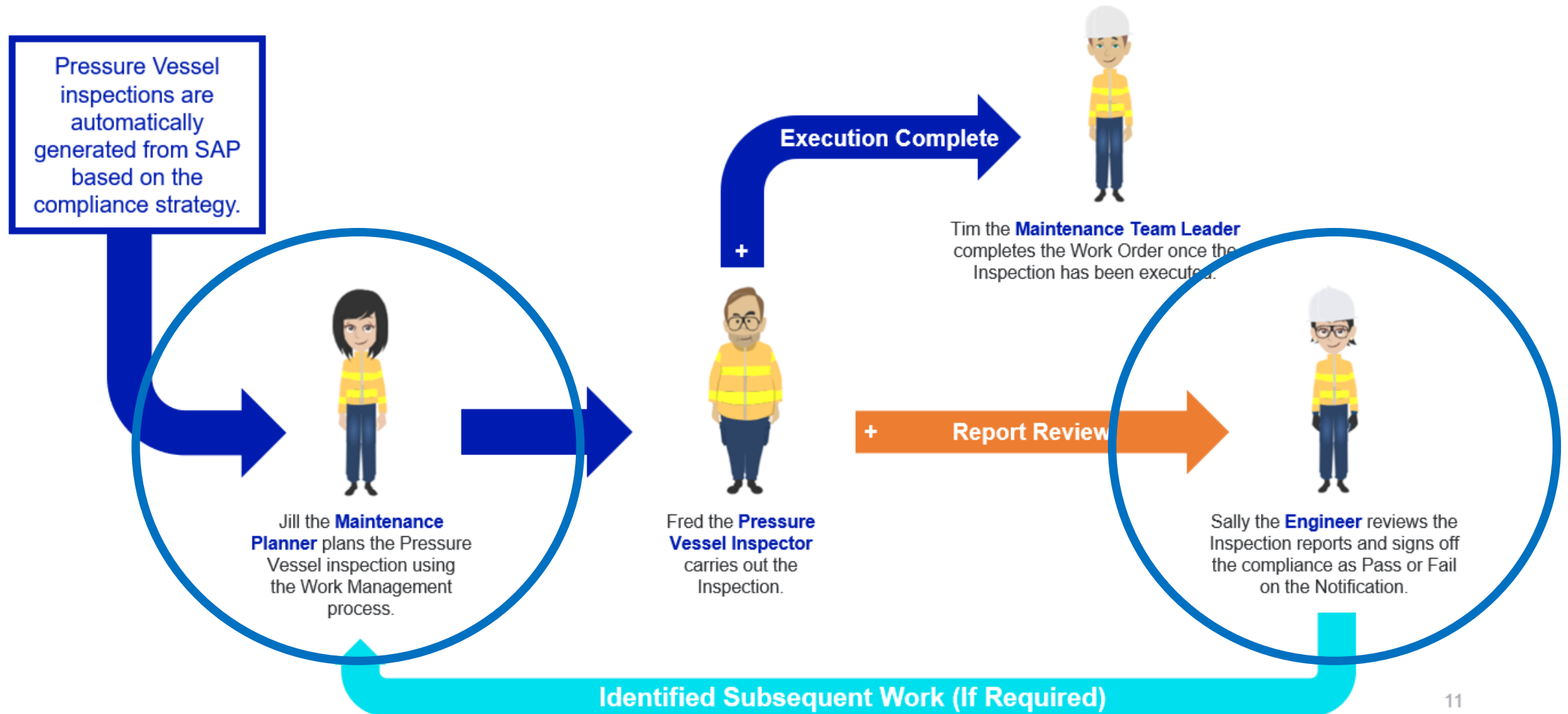




## Discussion Questions

# Phase 3A SAP Solution Build

# SAP Business Process Scenario – PV





# SAP Enhancements

The following Enhancements were implemented:

1. **Notification Task Autogenerate** – Tasks automatically generate on the Notification to support Engineering tasks. Tasks will be generated based on the Maintenance Activity Type at Work Order Release. This is to ensure tasks are generated when required.
2. **Notification Task Completion Check** – Tasks for Inspection Results at Completion will verify that an appropriate Notification Activity (Serviceable/Non-Serviceable) has been maintained, before the Task can be closed. This is to ensure results are captured in the appropriate field.
3. **Fiori apps** – build Task Processing Fiori apps to allow reviewing and updating Task easier for the Engineers. This also includes a Task Management Dashboard for reporting.

# SAP Solution – Notification Tasks

- Standard SAP only allows Task Determination on Notifications and not based on Work Order information.
- This solution required Tasks added to Work Order Notifications based on several key factors on a Work Order.
  - Maintenance Activity Type.
  - Planning Plant.
  - Functional Location Category.
  - Technical Object Type.
- A configuration table was added to manage this complexity of Task assignment.
- The table allowed full flexibility based of the key factors.

# SAP Solution – Notification Tasks

- On Work Order release this table is checked in the below order.

Example: Work Order has a Functional Location with Category 'P' and a Maintenance Activity Type of '310'

< agl
Change View "Task Determination": Overview

New Entries
📄
⊖
↶
🔍
🔍
🔍
More ▾

Dialog Structure

- ▼ Task Determination
  - 📁 Tasks ←

1
➡
2
➡
3
➡
4
➡
5

Identifier	Maint Activ Type	Work Order Type	Planning Plant	FLOC Category	Func Location Object
<input checked="" type="checkbox"/> 32	310			P	
<input type="checkbox"/> 33	315			P	
<input type="checkbox"/> 34	310	PM02	2092	C	CRN DRED
<input type="checkbox"/> 35	310	PM02	2092	C	CRN GANT
<input type="checkbox"/> 36	310			C	CRN JIB
<input type="checkbox"/> 37	310			C	CRN MONO
<input type="checkbox"/> 38	310			C	CRN OHED
<input type="checkbox"/> 39	315			C	CRN DRED
<input type="checkbox"/> 40	315			C	CRN GANT

# SAP Solution – Notification Tasks

- The Task or Tasks required for the criteria are connected.
- Task Text can also be added for better explanation.
- Plan Start and Plan Finish lead time in days can also be added.  
Example: Plan End of the Task will be 28 days after the Basic Finish Date of the Work Order.

[illegible]

## SAP Solution – Notification Tasks

Tasks are generated on Work Order Release

**Change Preventive Maintenance Order**

Order: PM02 420291971 LYA L00 24M U2 COND POL AIR RECV MECH

Sys.Status: REL NMAT PRC SETC PLND

**HeaderData** Operations Components Costs Objects Additional Data Location Planning Control Enhance

**Person responsible**

PlannerGrp: \* TPL / 2092 LYA Turbine

Mn.wk.ctr: \* MM01 / 2092 LYA TURBINE MAINT ...

Notifctn: 230362227

Costs: AUD

PMActType: \* 310 Compliance Verified...

System: 2 Plant Office

**Dates**

Bsc start: 20.10.2023 07:30

Basic fin.: 23.10.2023 09:05

Priority: \* 1-High

Revision:

**Reference object**

Func. Loc.: LYAU02LDF04CM001 - CM01 LYA 2 COND POL PLT AIR RECV

Equipment:

**Change PM Notification: Activity**

Notification: 230362227 M3 LYA L00 24M U2 COND POL AIR RECV MECH

Notific. Status: NOPR ORAS OST

Order: 420291971

**otification** Location data Items **Tasks** Related Objects Breakdown Details

IN...	Code Group	Task...	Task Code Text	Task Text	Ta...	Task Stat...	User Status	Planned Start ...	Planned End
1	STATCOM1	ST20	Review evidence assess and action	Enter Serviceability Activity Code	TSOS	ASGN		23.10.2023	20.11.2023

Functional loc.: LYAU02LDF04CM001 - CM01

Description: LYA 2 COND POL PLT AIR RECV

Status: CRTE INSR REGU

Cat.: P Pressure Equipment

## SAP Solution – Notification Tasks

**Change Preventive Maintenance Order**

Order: PM02 420291971 LYA L00 24M U2 COND POL AIR RECV MECH

Sys.Status: REL NMAT PRC SETC PLND

**HeaderData** Operations Components Costs Objects Additional Data Location Planning Control Enhance

**Person responsible**

PlannerGrp: \* TPL / 2092 LYA Turbine

Mn.wk.ctr: \* MM01 / 2092 LYA TURBINE MAINT ...

Notifctn: 230362227

Costs: AUD

PMActType: \* 310 Compliance Verified...

SystCond.: 2 Plant Offline

**Dates**

Bsc start: 20.10.2023 07:30

Basic fin.: 23.10.2023 09:05

Priority: \* 1-High

Revision:

**Reference object**

Func. Loc.: LYAU02LDF04CM001 - CM01 LYA 2 COND POL PLT AIR RECV

Equipment:

**Change PM Notification: Activity**

Notification: 230362227 M3 LYA L00 24M U2 COND POL AIR RECV MECH

Notific. Status: NOPR ORAS OSTs

Order: 420291971

**otification** Location data Items **Tasks** Related Objects Breakdown Details

N...	Code Group	Task...	Task Code Text	Task Text	Ta...	Task Stat...	User Status	Planned Start ...	Planned End	T
1	STATCOM1	ST20	Review evidence assess and action	Enter Serviceability Activity Code	TSOS	ASGN		23.10.2023	20.11.2023	

Short Text for Code Task Text Plan start Plan end

Review evidence assess and action Enter Serviceability Activity Code 28

Task Dates use the Lead day calculation based on Basic Dates on the Work Order.



# SAP Solution – Notification Tasks

Object list is also checked and if the Functional Location meets the criteria Notifications are created automatically with the associated Tasks.

Order: PM02 42002360 U2 SUPERHEATER PSV STATUTORY PLAN  
Sys.Status: CRTD NMAT PRC PLNG

HeaderData Operations Components Costs **Objects** Additional Data Location Planning Control Enhancement

Object List

P...	Sort	Equipment	Object Description	Functional loc.	FunctLocDescrip.	Notification	Navig...	Description
<input type="checkbox"/>	<input type="checkbox"/>			LYAU02HAH01	LYA 2 BOILER SUPERHEATER SYSTE...	23004444		U2 SUPERHEATER PSV STA...
<input type="checkbox"/>	<input type="checkbox"/>			LYAU02HAH01EP001-FL01	LYA 2 SEP VES SFTY VV 1			
<input type="checkbox"/>	<input type="checkbox"/>			LYAU02HAH01EP001-FL02	LYA 2 SEP VES SFTY VV 2			
<input type="checkbox"/>	<input type="checkbox"/>			LYAU02HAH01EP001-FL03	LYA 2 SEP VES SFTY VV 3			
<input type="checkbox"/>	<input type="checkbox"/>			LYAU02HAH01EP001-FL04	LYA 2 SEP VES SFTY VV 4			

This Functional Location did not meet the criteria, so no Notification was created

Order: PM02 42002360 U2 SUPERHEATER PSV STATUTORY PLAN  
Sys.Status: REL PCNF CSER JBFI NMAT PRC SE PLND

HeaderData Operations Components Costs **Objects** Additional Data Location Planning Control Enhancement

Object List

P...	Sort	Serial Number	Equipment	Object Description	Functional loc.	FunctLocDescrip.	Notification	Na...	Description	A
<input type="checkbox"/>	<input type="checkbox"/>				LYAU02HAH01	LYA 2 BOILER SUPERHEATER ...	23004444		U2 SUPERHEATER PSV STATU..	
<input type="checkbox"/>	<input type="checkbox"/>				LYAU02HAH01EP001-FL01	LYA 2 SEP VES SFTY VV 1	23005120		U2 SUPERHEATER PSV STATU..	
<input type="checkbox"/>	<input type="checkbox"/>				LYAU02HAH01EP001-FL02	LYA 2 SEP VES SFTY VV 2				
<input type="checkbox"/>	<input type="checkbox"/>				LYAU02HAH01EP001-FL03	LYA 2 SEP VES SFTY VV 3	23005121		U2 SUPERHEATER PSV STATU..	
<input type="checkbox"/>	<input type="checkbox"/>				LYAU02HAH01EP001-FL04	LYA 2 SEP VES SFTY VV 4	23005122		U2 SUPERHEATER PSV STATU..	

## SAP Solution – Notification Tasks

Change Prev

Order: PM02 420291971 LYA L00 24M U2 COND POL AIR RECV MECH

Sys. Status: REL NMAT PRC SETC PLND

HeaderData Operations Components Costs Objects Additional Data Location

Person responsible

PlannerGrp: \* TPL / 2092 LYA Turbine

Mn.wk.ctr: \* MM01 / 2092 LYA TURBINE MAINT ...

Notifctn: 230362227

Costs: 565.00

PMActType: \* 310 Compliance

SystCond.: 2 Plant Offline

Dates

Bsc start: 20.10.2023 07:30

Basic fin.: 23.10.2023 09:05

Priority: \* 1 High

Revision:

Reference object

Func. Loc.: LYAU02LDF04CM001-CM01 LYA 2 COND POL PLT AIR RECV

Equipment:

Change PM No

Notification: 230362227 M3 LYA L00 24M U2 COND POL AIR RECV MECH

Notific. Status: NOPR ORAS OSTs

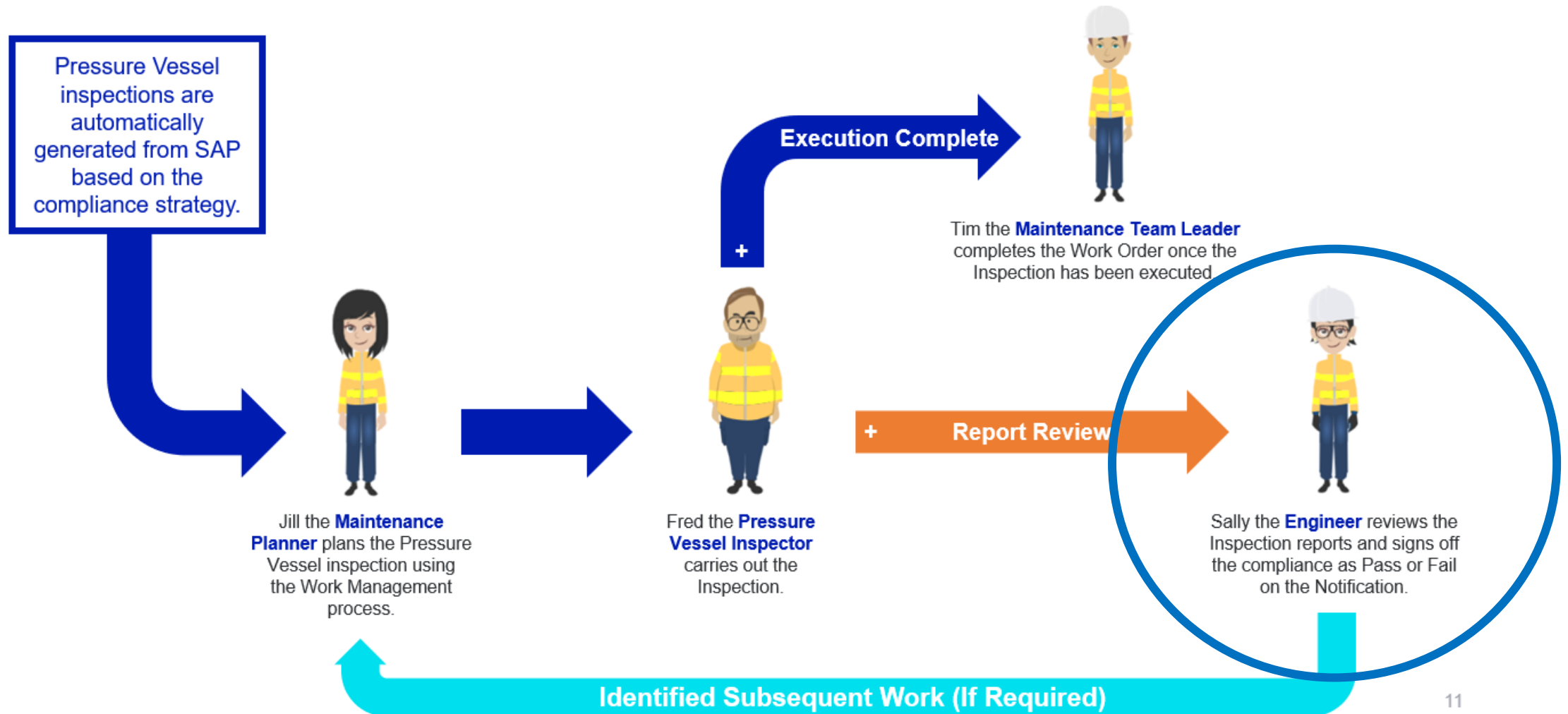
Order: 420291971

Notification Location data Items Tasks Related Objects Breakdown Details

N...	Code Group	Task...	Task Code Text	Task Text	Task...	Planned Start ...	Planned End
<input type="checkbox"/> 1	STATCOM1	ST20	Review evidence assess and action	Enter Serviceability Activity Code	<input type="checkbox"/>	21.11.2023	19.12.2023
<input type="checkbox"/>							
<input type="checkbox"/>							
<input type="checkbox"/>							

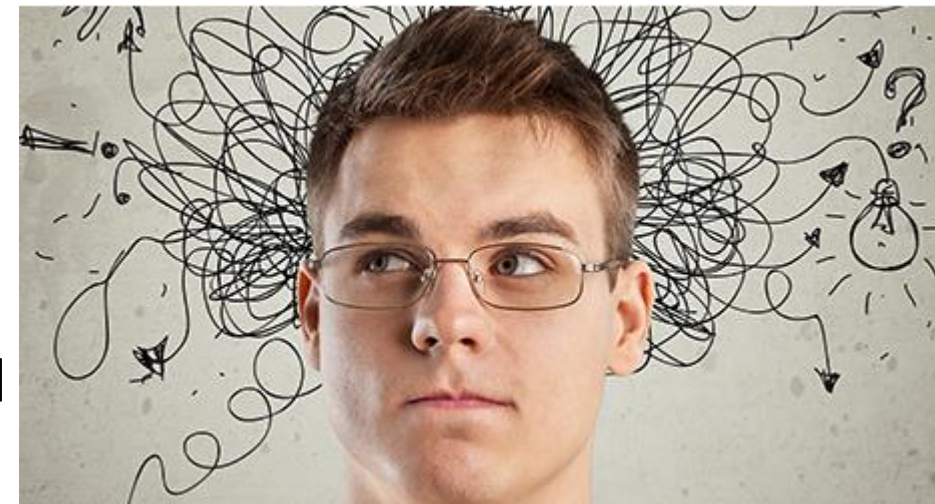
When the Work Order is rescheduled the Task Dates are recalculated use the Lead day calculation based on new Basic Dates on the Work Order.

# SAP Business Process Scenario – PV



# SAP Solution – Notification Tasks

- As you can understand this process generates a lot of Tasks and Notifications.
- Managing and completing these Task are onerous on an Engineer but necessary to be compliant.
- Reviewing attached reports needs to be easy.
- Using the standard SAP GUI list edit transactions work but are not user friendly.
- A more user-friendly option was required so we turned
- to Fiori.
- As with many Fiori apps for EAM there is no standard app, so we had to build them.
- These apps were required before the Training sessions.



# SAP Solution – Task Fiori Apps

- Managing Tasks like this would be very excruciating.
- This list just focuses on the Notification not the Work Orders.
- The Tasks are listed but using this list did not meet our Business Process requirements

Change Tasks: List of Notifications

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# SAP Solution – Task Fiori Apps

- Fiori apps were built to help close the User Experience gap with two apps being built.
  - Task Processing App
  - Manage Task App
- The Fiori apps had to be a combination of the following to assist our Engineers to narrow down their list of Tasks.
  - Identify Tasks based on Functional Location Category
  - Work Order Status (Released, Technically Completed, etc.)
  - Task Status (Created, Released & Completed)
  - Task Processing Status (Upcoming, Due, Overdue, etc.)
  - Task Processor (Person's Employee number responsible for the Task)



# SAP Solution – Task Processing

< **SAP** Task Processing ▾ GGD/200 🔍 ⓘ 🔔 GJ

My Pressure System Tasks ▾

Planning Plant: \*  Task Start Date:  Task End Date:  Task Processor:  Task Processing Status:  Due x Task Status:  Notification Type:  Task Code Group:

Task Code:  Functional Location Category:  Technical Object Type:  Notification Description:  Work Order Status:  Notification Status:  Task User Status:  Notification Created By:

Attachment Exist:  Notification:

**Go** Adapt Filters (8)

Tasks (5)

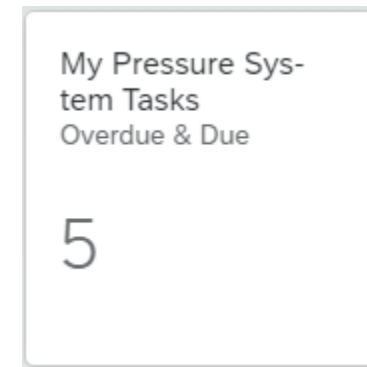
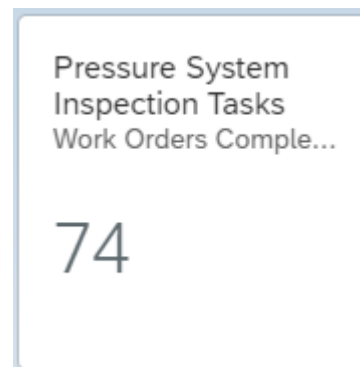
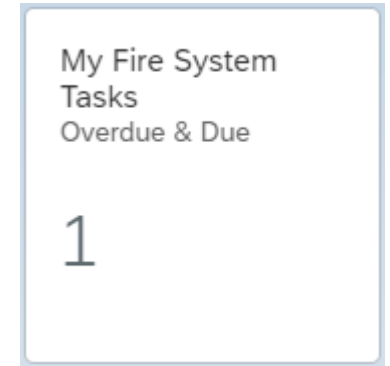
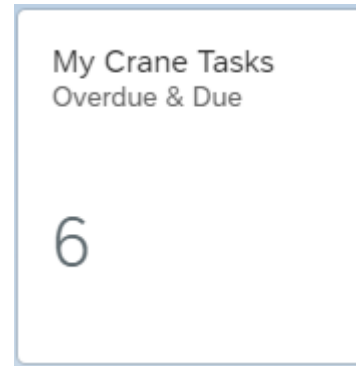
<input type="checkbox"/> Task View	Task Processor	Task Code	Task Status	Task Processing Status	Notification Type	Notification	Update Notification	Functional Location Category
<input type="checkbox"/>	0002 Graham Johnston (A129935)	Review evidence assess and action (ST20)	TSRL	⊗ Overdue	Activity Report (M3)	DAT AUTO TASK - NO OBJECT FL= P (23004509)	<input type="button" value="Notification"/>	Pressure Equipment (P)
Task End Date: 24.08.2020 Work Order Status: Technically Completed (TECO) ←								
<input type="checkbox"/>	0003 Graham Johnston (A129935)	Review evidence assess and action (ST20)	TSRL	⊗ Overdue	Activity Report (M3)	DEMO WORK ORDER OPENTEXT ECM (23004522)	<input type="button" value="Notification"/>	Pressure Equipment (P)
Task End Date: 31.07.2020 Work Order Status: Closed (CLSD)								
<input type="checkbox"/>	0002 Graham Johnston (A129935)	Review evidence assess and action (ST20)	TSRL	⊗ Overdue	Activity Report (M3)	DAT AUTO TASK - Main FL=P & 2 Obj=M (23004761)	<input type="button" value="Notification"/>	Pressure Equipment (P)
Task End Date: 31.08.2020 Work Order Status: Technically Completed (TECO)								
<input type="checkbox"/>	0002 Graham Johnston (A129935)	Review evidence assess and action (ST20)	TSOS	⚠ Due	Activity Report (M3)	testing (23004912)	<input type="button" value="Notification"/>	Pressure Equipment (P)
Task End Date: 05.12.2023 Work Order Status: Released (REL)								
<input type="checkbox"/>	0002 Graham Johnston (A129935)	Review evidence assess and action (ST20)	TSOS	⚠ Due	Activity Report (M3)	DAT AUTO TASK Main FL=M & Object FL= P (23004944)	<input type="button" value="Notification"/>	Pressure Equipment (P)
Task End Date: 31.01.2024 Work Order Status: Technically Completed (TECO)								

**Sets Task to Released** → **Start Task**

**Opens the Notification for Task update** → **Notification**

# SAP Solution – Task Processing how?

- From an Engineer's perspective they were trained in setting up filters to suit what they needed to report.
- They created as many custom dynamic tiles as they needed.
- These tiles update the number as soon as they logged onto Fiori.
- Now they have a suite of Tile showing their Tasks.



# SAP Solution – Task Processing

- The Tasks were updated in the Notification.
- Any attached report are viewed in the Notification (OpenText ECM).
- Tasks are completed with click of a checkered flag.
- **BUT** has the Serviceability been added?

Change PM Notification: Task Detail

Task

Sort Number: 2 Task: 2

Code Group: STATCOM1 Compliance Work Order Tasks

Task Code: ST20 Review evidence assess and action

Follow-Up Actn:

Task Text: Enter Serviceability Activity Code

Task Status: TSRL

Responsible: Responsible Person A129935 Graham Johnston

Task Planning

Planned Start: 03.08.2020 00:00:00

Planned End: 31.08.2020 00:00:00

Completed On: 00:00:00 By:

> New entry Object links X

# SAP Solution – Task Processing

- As part of the verification process the Asset must have a Serviceability indicator added as a Notification Activities.
- The Asset reviewed could be either
  - Serviceable.
  - Serviceable with conditions.
  - Non-Serviceable.
- These codes are added to the Notification Activities.
- **BUT** adding these is not mandatory so an enhancement was added.

[illegible]

# SAP Solution – Task Processing

- An enhancement was added that checked whether Activities were added before the Task was completed.
- This check was done based on the Activity Code Group.
- Once the Activity is added then the Task can be completed.
- This ensures the Serviceability is added to every Asset Verification.

The screenshot displays the 'Change PM Notification: Task Detail' screen in SAP. The 'Task' section contains the following fields: Sort Number (2), Task (2), Code Group (STATCOM1), Compliance Work Order Tasks, Task Code (ST20), Review evidence assess and action, Follow-Up Actn, Task Text (Enter Serviceability Activity Code), Task Status (TSRL), and Responsible (Responsible Person, A129935, Graham Johnston). Below these fields are several icons. An 'Information' dialog box is open at the bottom, displaying a red error icon and the message: 'Task 0002 cannot be completed, as the Activity STATCOM1 is not maintained on the Notification.' The error message is circled in blue.

# SAP Solution – Task Management

- This app was designed to Manage the Tasks

Tasks (128)

Changes the End date of a Task if required

Update End Date

Assign Processor

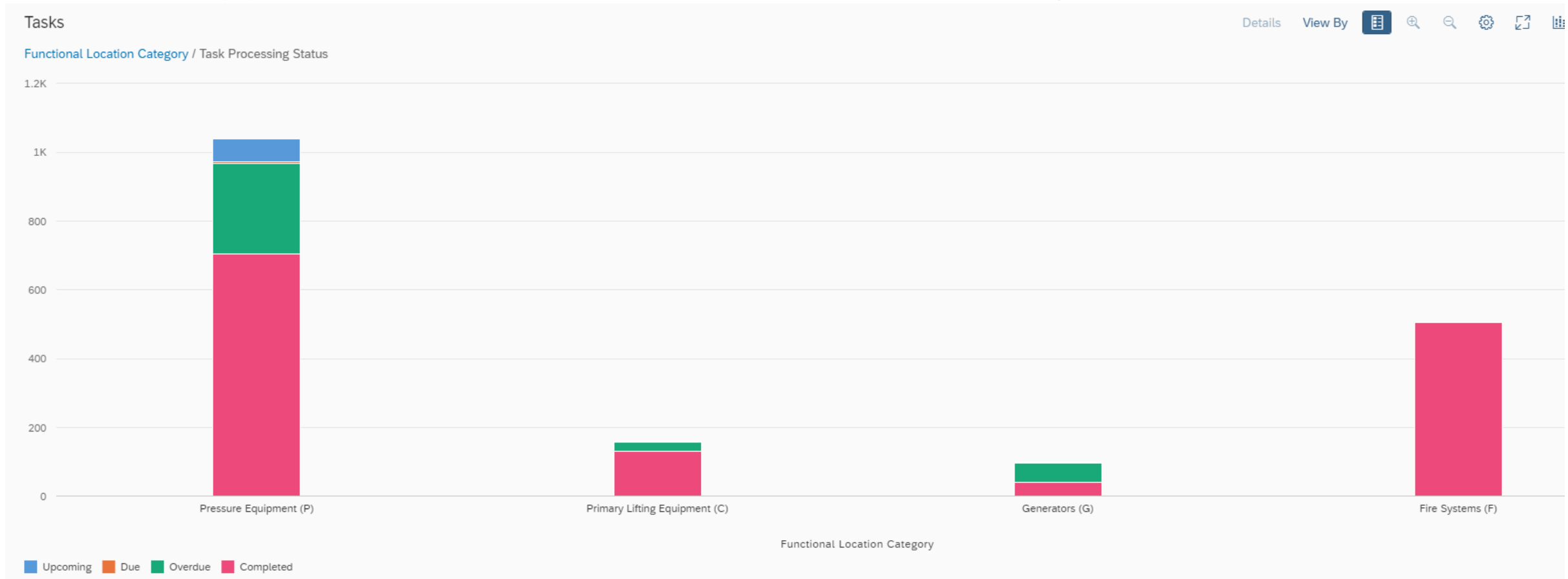
Easy assignment of a Processor

Task Processor	Task Code	Task End Date	Task Processing Status	Notification	Work Order	Work Order Status
<input type="radio"/>	Review evidence assess and action (ST20)	09.12.2022	⊗ Overdue	4Y U4 PRESS VES 143-U-6370 INT INSP (230333927)	460016646	Technically Completed (TECO)
Notification Status: In Process (3)						
Update Notification: <a href="#">Notification</a>						
Task Status: TSOS						
<input type="radio"/>	Review evidence assess and action (ST20)	29.12.2022	⊗ Overdue	BW 3Y U4 GEN REACT PWR CAPBLTY TEST (230356824)	420287039	Closed (CLSD)
Notification Status: In Process (3)						
Update Notification: <a href="#">Notification</a>						
Task Status: TSOS						
<input type="radio"/>	Assess Clause & Update Task User Status (ST40)	29.12.2022	⊗ Overdue	BW 3Y U4 GEN REACT PWR CAPBLTY TEST (230356824)	420287039	Closed (CLSD)
Notification Status: In Process (3)						
Update Notification: <a href="#">Notification</a>						
Task Status: TSOS						
<input type="radio"/>	Review evidence assess and action (ST20)	11.01.2023	⊗ Overdue	4Y U4 PRESS VES 226-U-1827 INT INSP (230333941)	460016660	Closed (CLSD)
Notification Status: In Process (3)						
Update Notification: <a href="#">Notification</a>						
Task Status: TSOS						



# SAP Solution – Task Management

- This app can also chart the data for better Management.



## Phase 4 Compliance Reporting

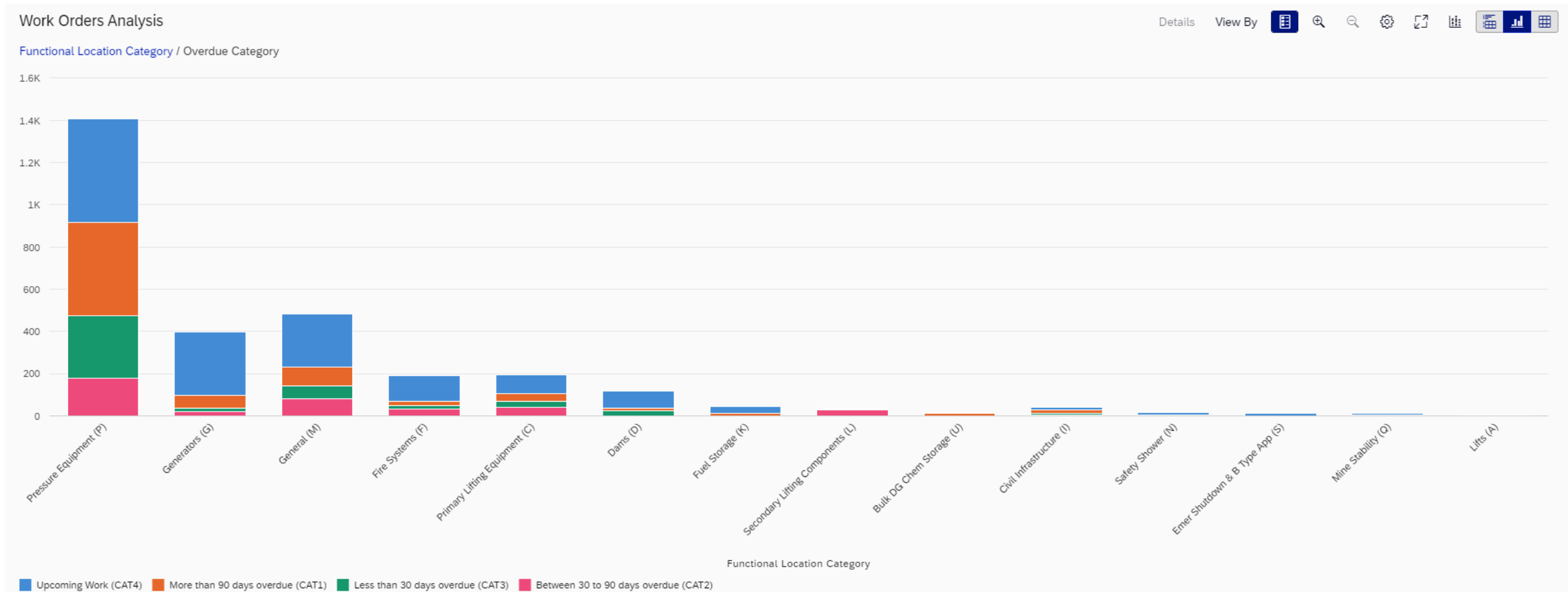
# Compliance Reporting - Overview

- Technical Compliance was reported using 2 methods.
  - SAP Fiori Dashboard and Fiori Tiles
  - Power BI Dashboard for Management
- Both methods gave each site a view on where they are with their Technical Compliance.
- The key part of the reporting was that they both read the same data from SAP.
- Extracts of the SAP data were built to ensure that consistent data.

Fleet Tech Compliance KPI Results

Overdue Compliance Work... By Functional Locati...	Fleet Overdue Verification Tasks	All Tasks Not Assigned Report
1,885	285	160
Overdue Compliance Work... By Functional Locati...	Fleet Overdue Verification Tasks	All Tasks Not Assigned Report
2,026	454	131

# Compliance Reporting – Work Orders



# Compliance Reporting – Power BI

- Power BI Dashboard was built that delivered Management Reporting.



Verification Tasks are post maintenance verification reviews to provide visibility of the serviceability of our assets and confirms all required evidence documents are attached to the notification

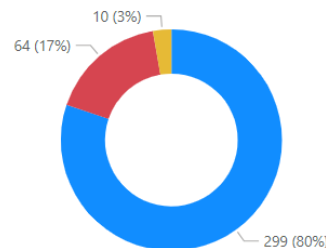
**Work Order Status**

- Closed (CLSD)
- Created (CRTD)
- Released (REL)
- Technically Completed (TECO)

**Work Order Type**

- Corrective Maintenance Order (PM01)
- Major Outage Order (PM06)
- Preventive Maintenance Order (PM02)

Verification Task Processing Status 17 Feb 2022



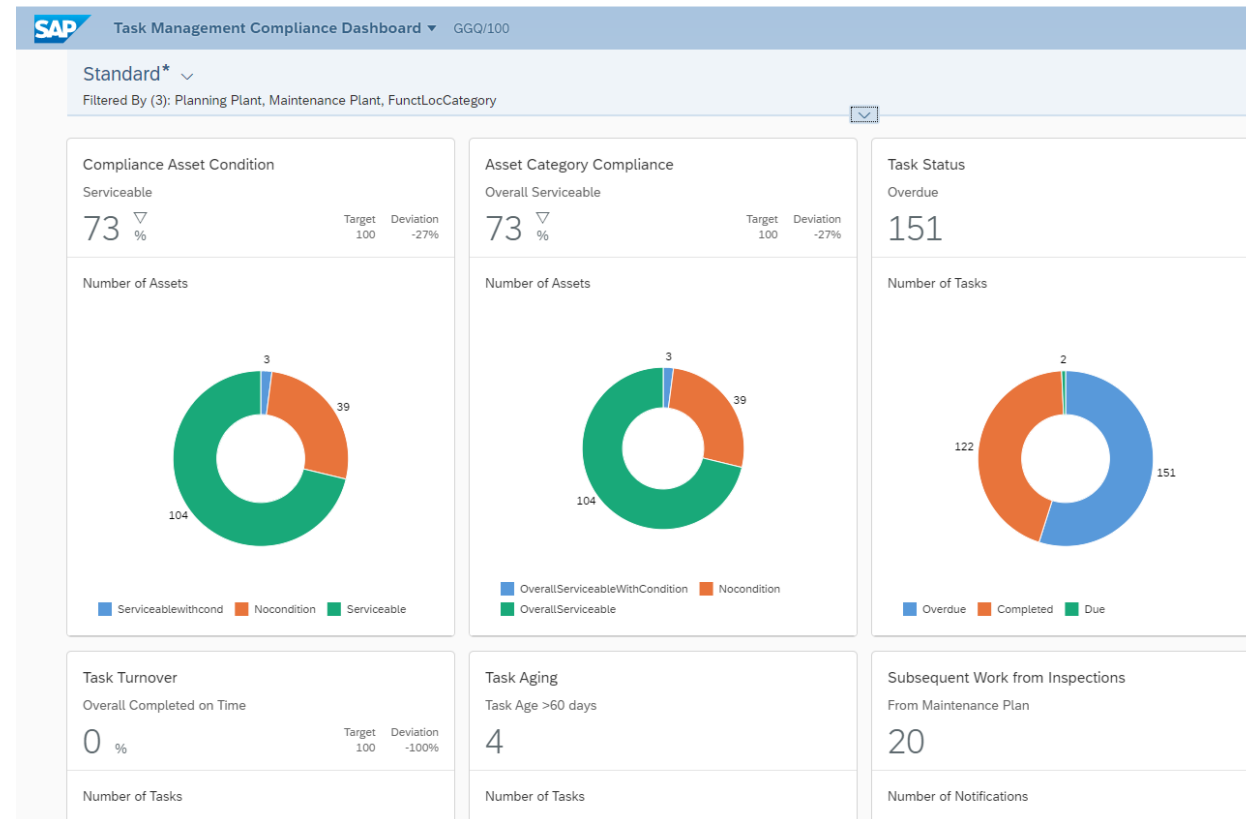
**Task Processing Status**

- Completed
- Overdue
- Due

373

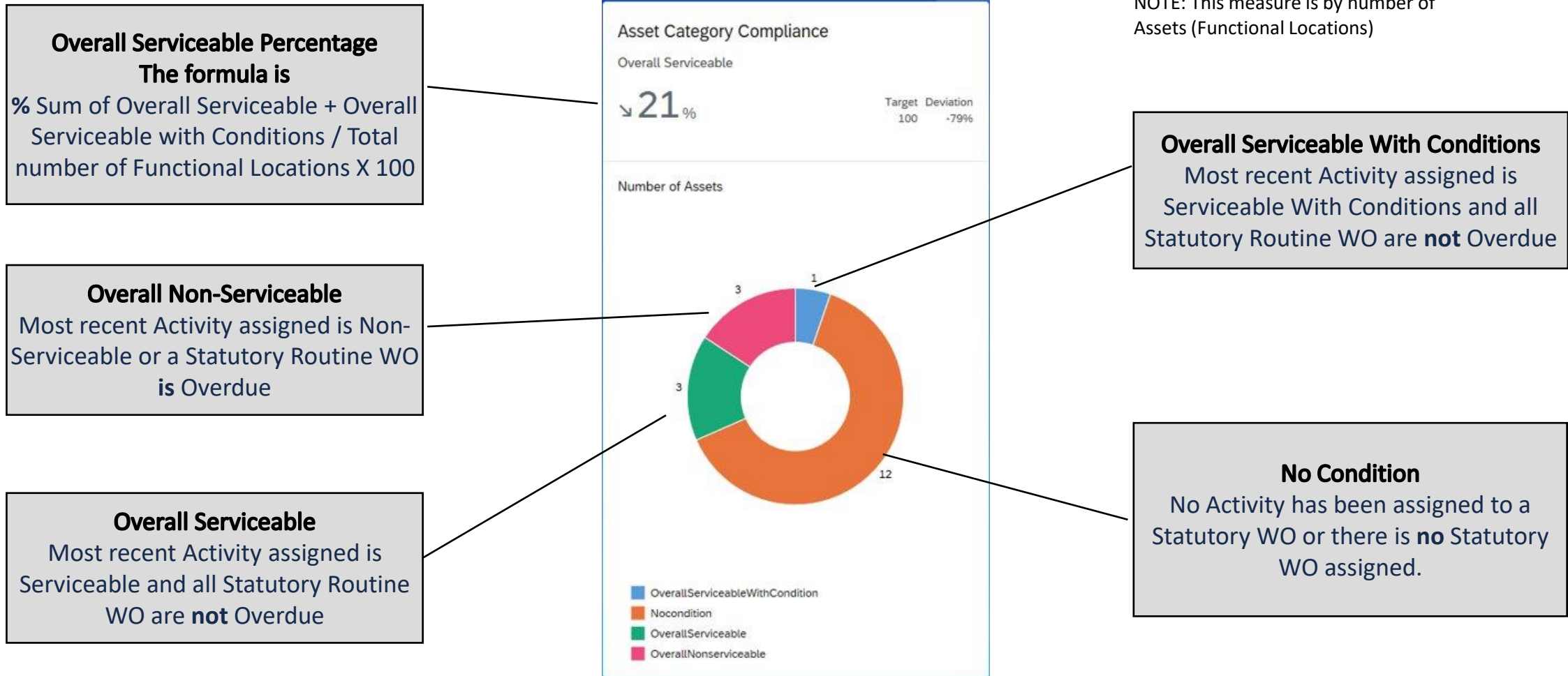
# Compliance Reporting – Fiori Dashboard

- A Fiori Dashboard was built that delivered real-time compliance numbers.
- It was designed for Asset Engineers giving them an overview of Asset Condition and Task status.
- Using Functional Location Category as a filter each Asset Class can be measured.
- Drilldown reports are behind the cards for deeper analysis.





# Compliance Reporting – Fiori Dashboard

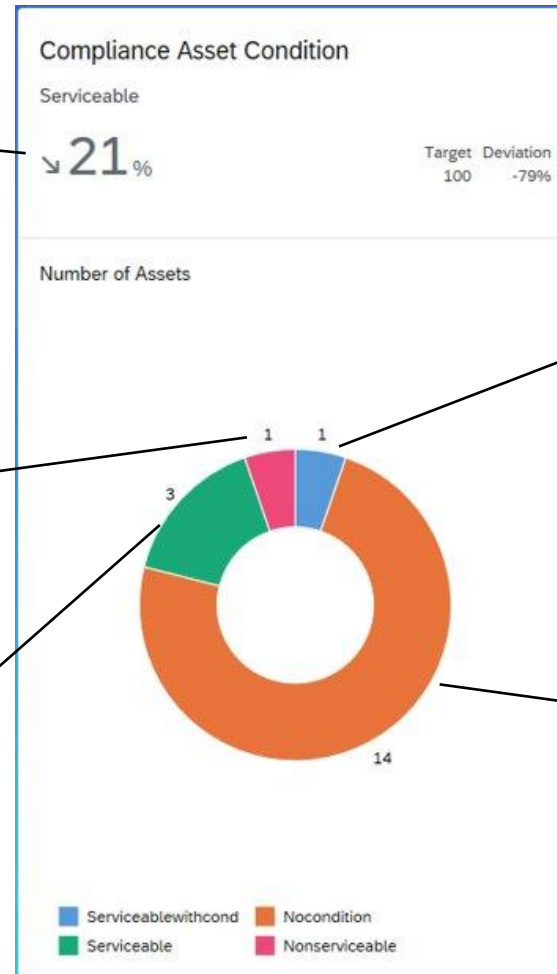


# Compliance Reporting – Fiori Dashboard

**Overall Serviceable Percentage**  
The formula is  
 $\% \text{ Sum of Serviceable + Serviceable with Conditions} / \text{Total number of Functional Locations} \times 100$

**Non-Serviceable**  
Most recent Activity assigned is Non-Serviceable

**Serviceable**  
Most recent Activity assigned is Serviceable

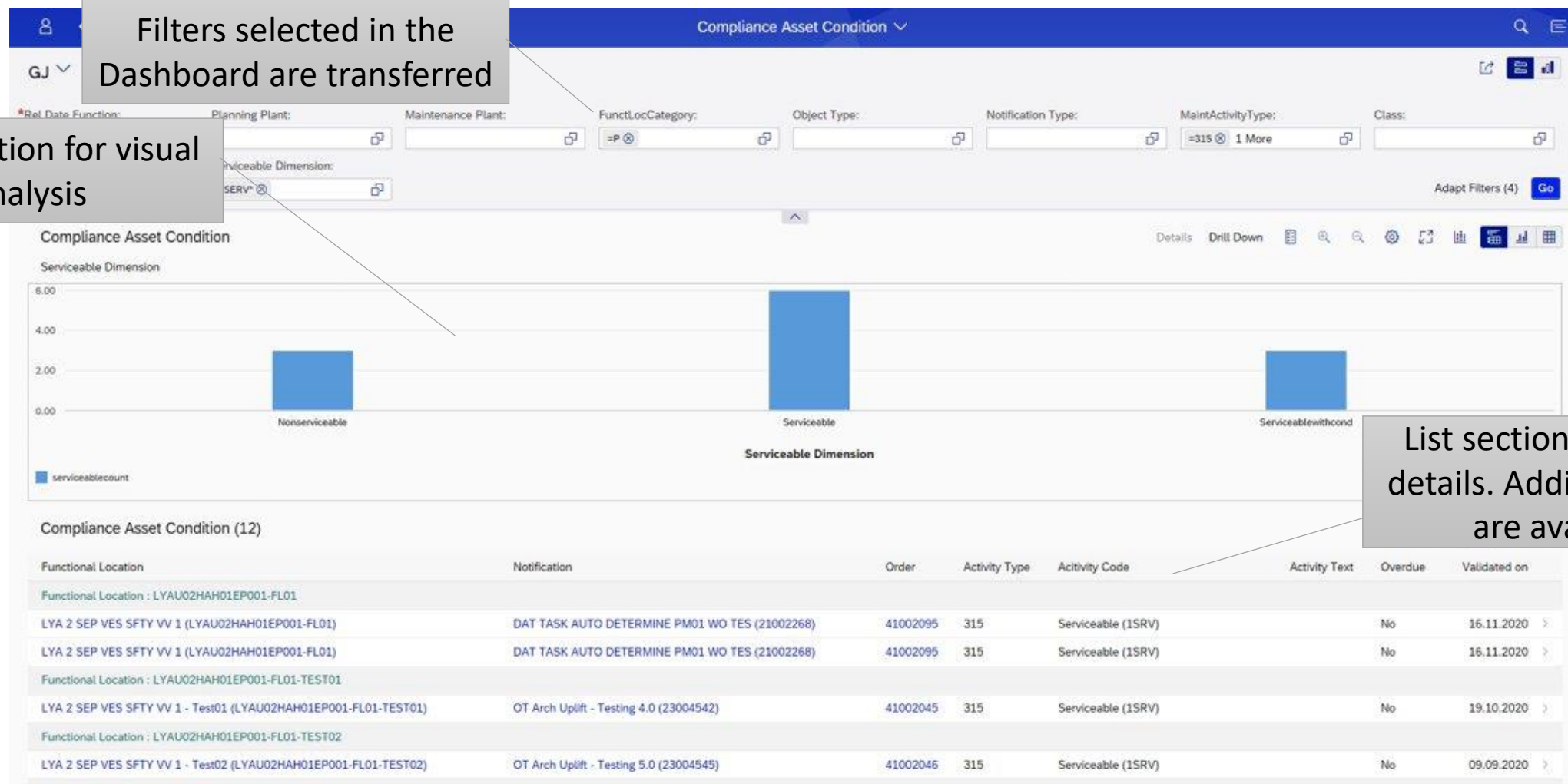


NOTE: This measure is by number of Assets (Functional Locations)

**Serviceable With Conditions**  
Most recent Activity assigned is Serviceable With Conditions

**No Condition**  
No Activity has been assigned to a Statutory WO or no Statutory WO assigned.

# Compliance Reporting – Fiori Dashboard



# Key Learnings

- Upper Management ownership is a must.
- Maintaining energy and motivation to complete the work.
- Changes to Management through the program was hard.
- Business process changes as the program evolved.
- Understand the 'AS IS' before solutioning.
- Educate all involved on SAP terminology and functionality
- Using Fiori as the front end for infrequent users was key.
- For reporting always work backward to ensure the key data is added correctly.





## How to Connect Us

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