MAINTENANCE 2000

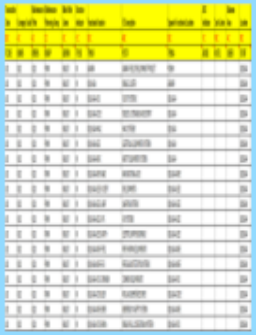
Maintenance & Integrity Management

Maintenance Build & SCE Management

"Effective M&I Management requires an up-to-date asset register, correct SCE maintenance tasks and intervals, clear performance standards and continuous online monitoring"

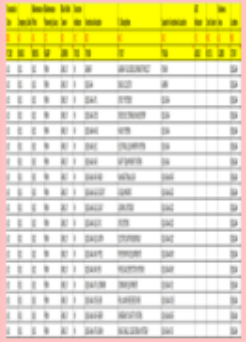
Maintenance Build and SCE Management

ASSET REGISTER



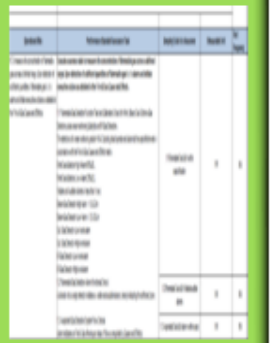
* Carry out a comprehensive Asset Register compilation / improvement Build of maintainable eqpts
* Physical Identification if required
* ISO 14224 Taxonomy based development for Maintenance and SFI for Marine, Failure & Activity Codes, KPI's & benchmarking,
* Suitable BOM creation

SAFETY CRITICAL EQUIPMENT IDENTIFICATION



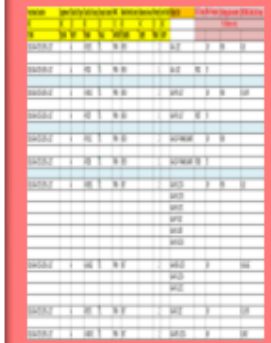
* Identify Safety Critical Elements (SCE) as per Client requirements (after PS's have been developed & approved)
* Independent Competent Person (ICP) audit, examination and witness testing of SCE tasks

PERFORMANCE STANDARDS



* Develop Performance Standards, obtain approval
* Develop appropriate Assurance Tasks with quantitative & qualitative values, obtain approval

MAINTENANCE BUILD & CREATION



* Review current maintenance, improve, apply RCM, FMEA, RBI as required
* Develop SCE assurance maintenance with agreed values
* Align & Schedule current maintenance with SCE assurance maintenance

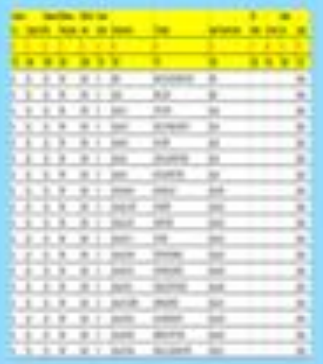
TECHNICAL INTEGRITY MANAGEMENT SYSTEM - TIMS®

* SCE Work Order Status
- Deviation Management
- Rollup Integrity Status and Reporting
- Online Management awareness
- Integration Certified by CMMS. Ability to connect to popular CMMS like Maximo, Oracle

Effective Asset Integrity Management requires a complete asset register, suitable maintenance tasks, clear performance standards with continuous online monitoring

Asset Register

ASSET REGISTER



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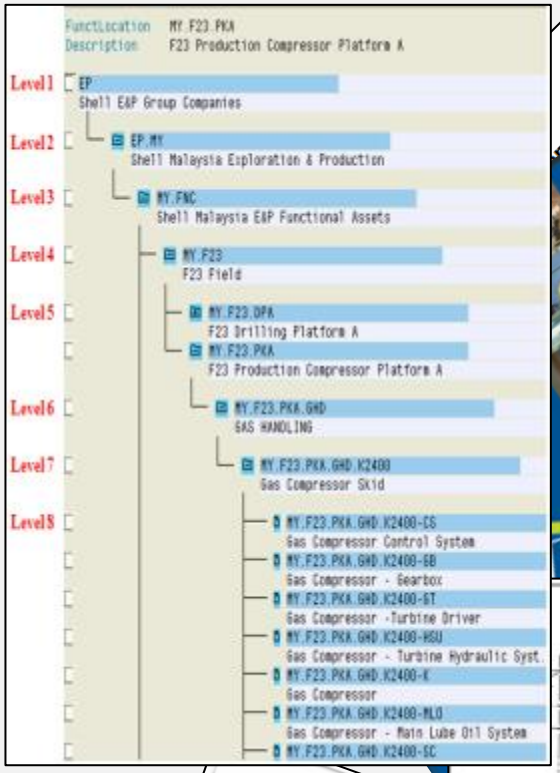
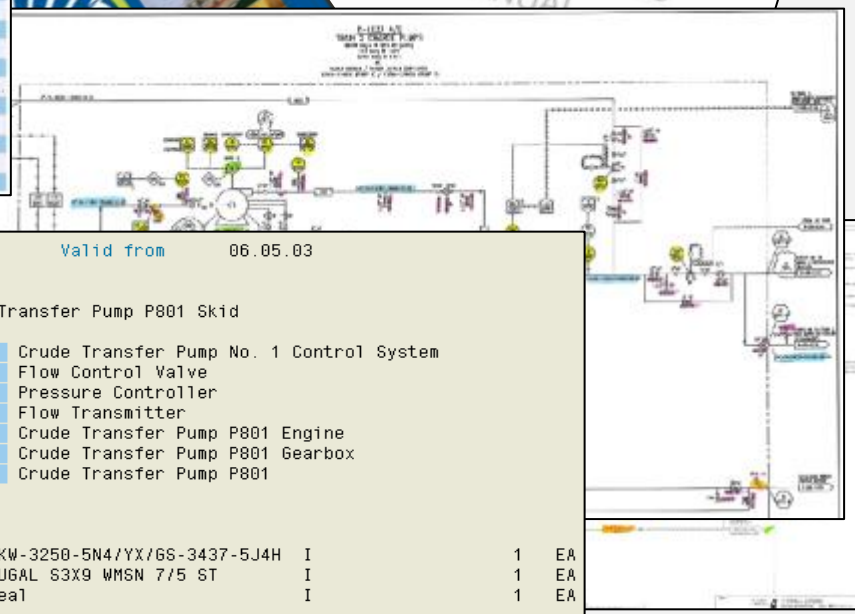


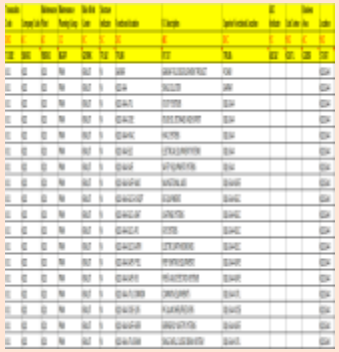


FunctLocation MY.SJO.PPA.OEX.P801 Valid from 06.05.03
Description Crude Transfer Pump P801 Skid

MY.SJO.PPA.OEX.P801	Crude Transfer Pump P801 Skid	
MY.SJO.PPA.OEX.P801-CS	Crude Transfer Pump No. 1 Control System	
MY.SJO.PPA.OEX.P801-CS-FCV801	Flow Control Valve	
MY.SJO.PPA.OEX.P801-CS-FIC801	Pressure Controller	
MY.SJO.PPA.OEX.P801-CS-FT801	Flow Transmitter	
MY.SJO.PPA.OEX.P801-EN	Crude Transfer Pump P801 Engine	
MY.SJO.PPA.OEX.P801-GB	Crude Transfer Pump P801 Gearbox	
MY.SJO.PPA.OEX.P801-P	Crude Transfer Pump P801	
31000010659	CENTRIFUGAL PUMP	
1000221977	SEAL,MECH. UKW-3250-5N4/YX/GS-3437-5J4H	I 1 EA
2510002433	PUMP CENTRIFUGAL S3X9 WMSN 7/5 ST	I 1 EA
2510002596	Mechanical Seal	I 1 EA

Safety Critical Equipment

SAFETY CRITICAL EQUIPMENT IDENTIFICATION



- Identify Safety Critical Elements (SCE) as per Client requirements (after PS's have been developed & approved)
- Independent Competent Person (ICP) audit, examination and witness testing of SCE tasks

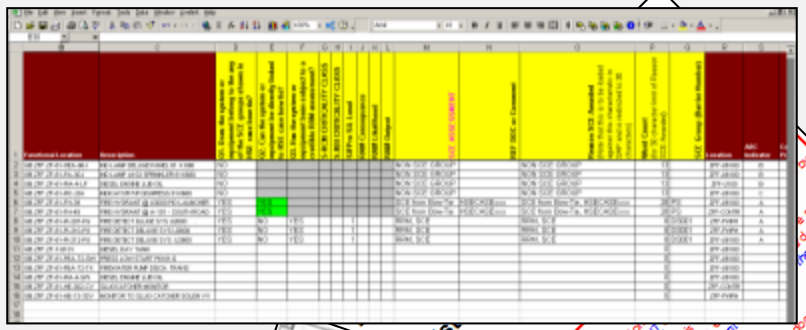
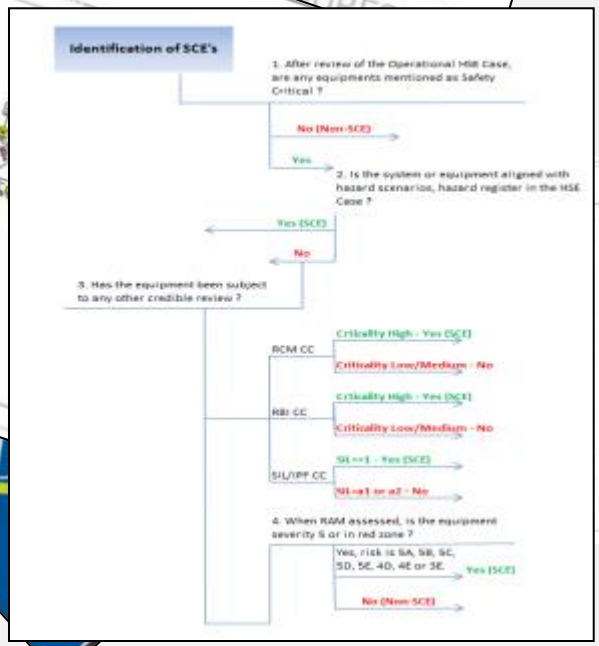


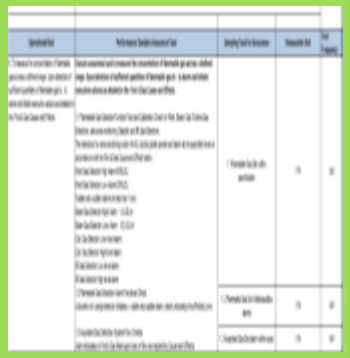
Figure 1: HSE Risk Matrix



Independent Competent Person (ICP) audit, examination and witness testing of SCE tasks

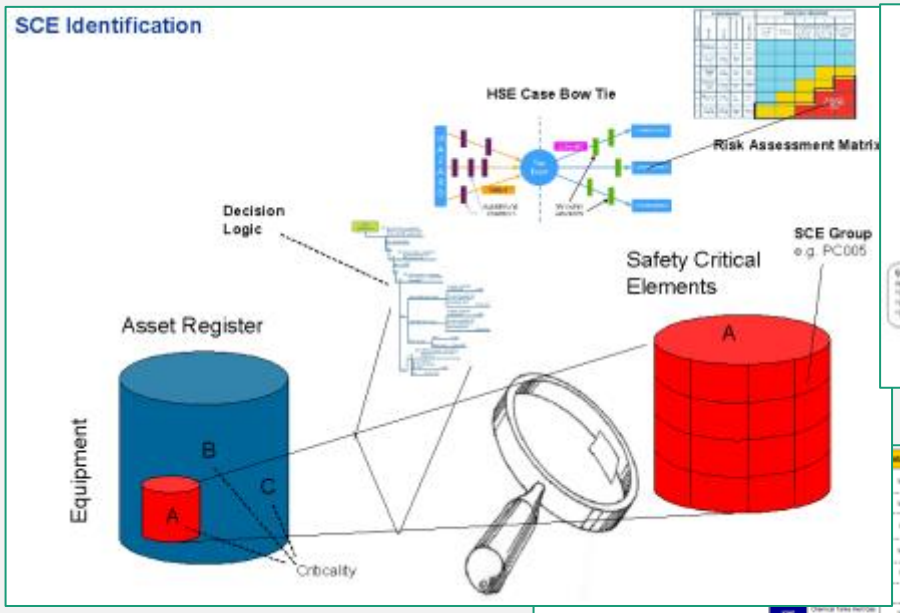
Performance Standards

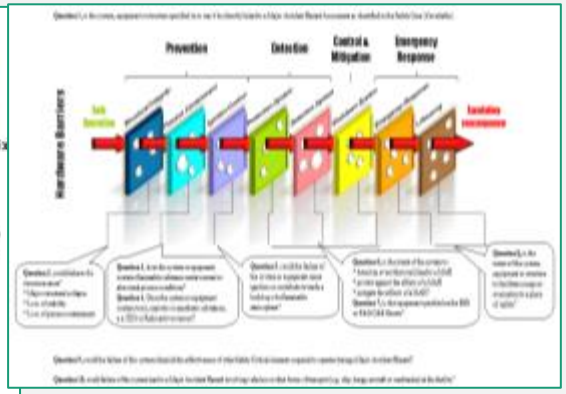
PERFORMANCE STANDARDS



To ensure all hardware barriers necessary to control & mitigate Major Accident Hazards (MAH's) are correctly identified in the Duty Holder's Maintenance Database (CMMS) as SCE's at the appropriate level of granularity.

They are classified into the most relevant SCE Group whereby inspection, maintenance and testing can be planned and scheduled.





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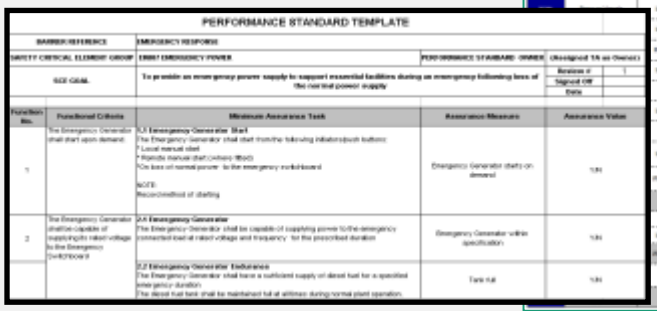
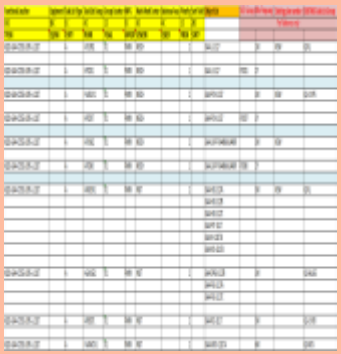


Maintenance Plan Build

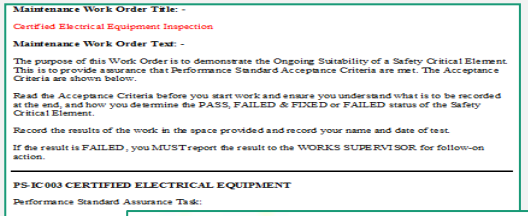
MAINTENANCE BUILD & CREATION



- Review current maintenance, improve, add, delete if required
- Develop SCE assurance maintenance with agreed values
- Align & Schedule current maintenance with SCE assurance maintenance

To ensure all Safety and Non-Safety Maintainable Equipment (Functional Locations) have the appropriate maintenance in-place at the correct frequency as to limit failures but also to mitigate against maintenance induced failures. Assurance Task Values are monitored to eradicate any potential failures in Safety Critical Equipment .....

Doing the right task at the right time… to the right quality!


Maintenance Work Order Title: -

Certified Electrical Equipment Inspection

Maintenance Work Order Text: -

The purpose of this Work Order is to demonstrate the Ongoing Suitability of a Safety Critical Element. This is to provide assurance that Performance Standard Acceptance Criteria are met. The Acceptance Criteria are shown below.

Read the Acceptance Criteria before you start work and ensure you understand what is to be recorded at the end, and how you determine the PASS, FAILED & FIXED or FAILED status of the Safety Critical Element.

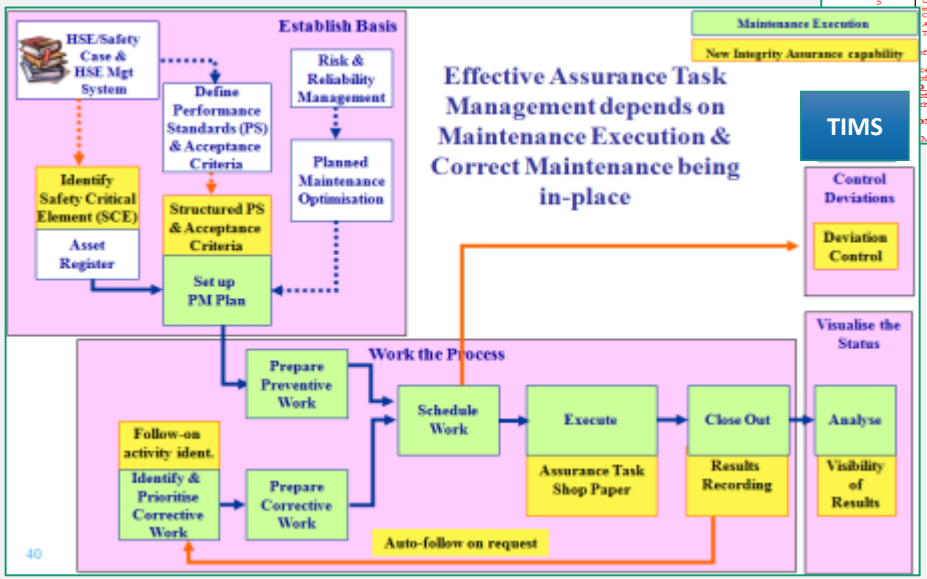
Record the results of the work in the space provided and record your name and date of test.

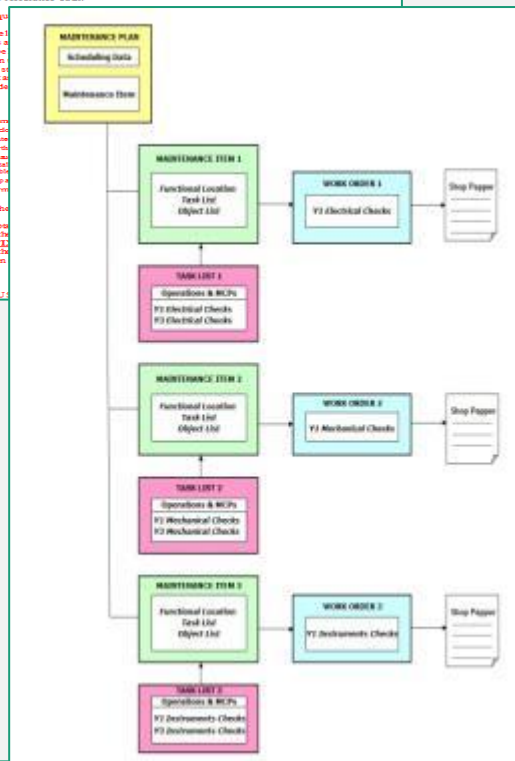
If the result is FAILED, you MUST report the result to the WORKS SUPERVISOR for follow-on action.

PS-IC 003 CERTIFIED ELECTRICAL EQUIPMENT

Performance Standard Assurance Task:

Fault Code





SCE Management Tool… TIMS® Dashboard

TIMS® - Technical Integrity Monitoring System

TECHNICAL INTEGRITY MANAGEMENT SYSTEM – TIMS®

TIMS v3.2 is a web based interactive tool for Asset Managers, TA's and supervisors

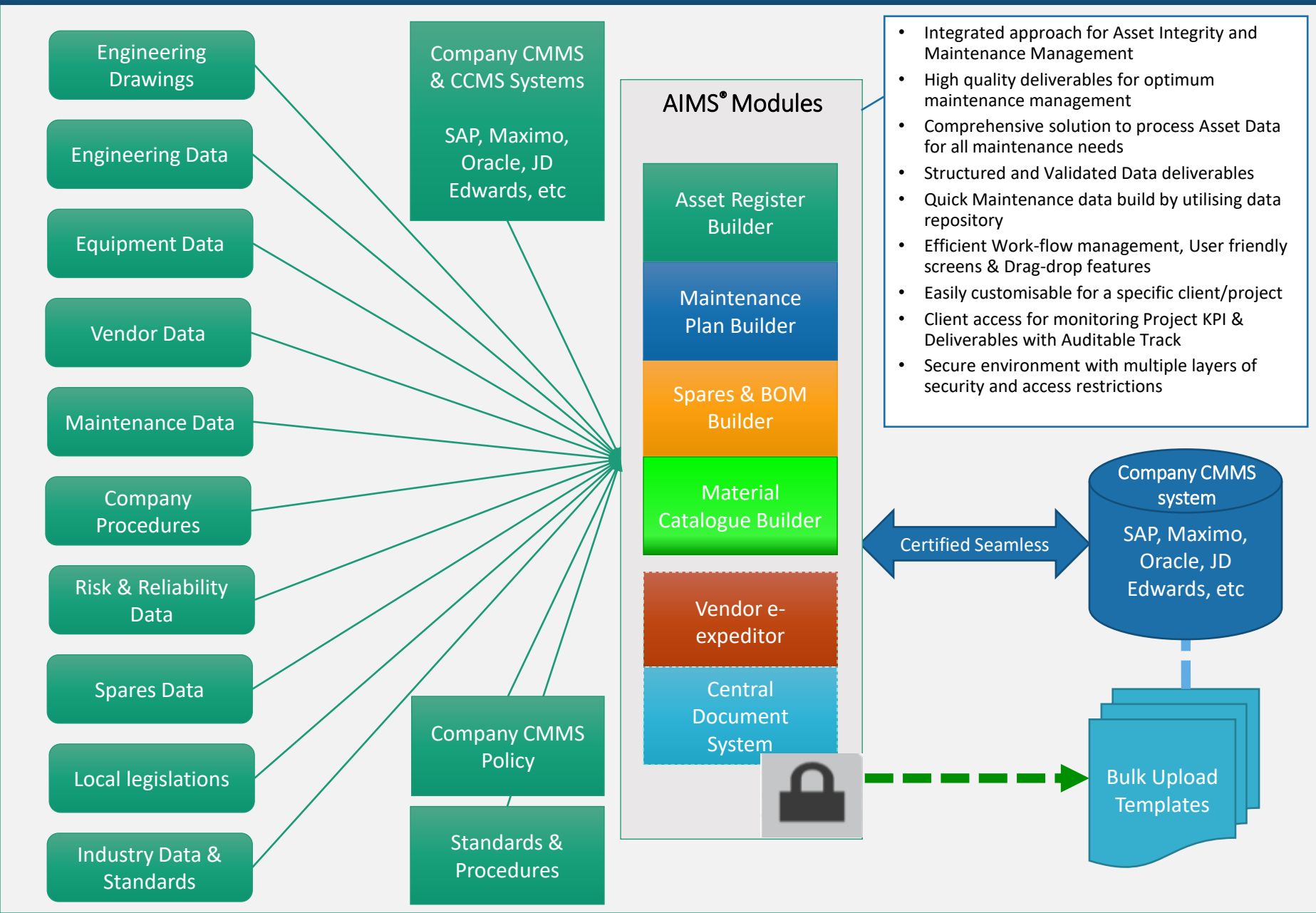
Report the Preventive & Corrective WO status in a traffic light feature

Provide deviation management

First implemented for client in 2005 to monitor Work Orders for SCE and Non SCE equipment's

* SCE Work Order Status
- Deviation Management
- Rollup Integrity Status and Reporting
- Online Management awareness
- Integration Certified by SAP. Ability to connect to popular CMMS like Maximo, Oracle

Asset Integrity & Maintenance Management Suite ®



M2K Contacts

Detailed presentations can be arranged. Please contact:

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Mobile: +968 969 11087
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Thank You!