



Exploiting Innovative Technologies To Improve Operations & Maintenance Effectiveness

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SmartPlant
Fusion

HD Laser Scans

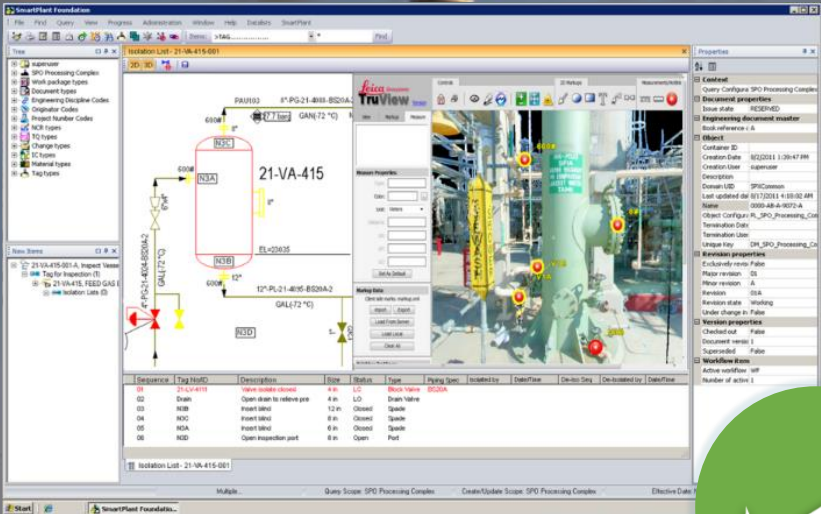
Mobile Devices

Augmented
Reality



Capturing The Brownfield Digital Plant Asset

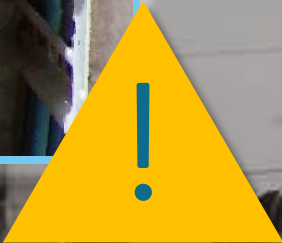
Vision vs. Reality



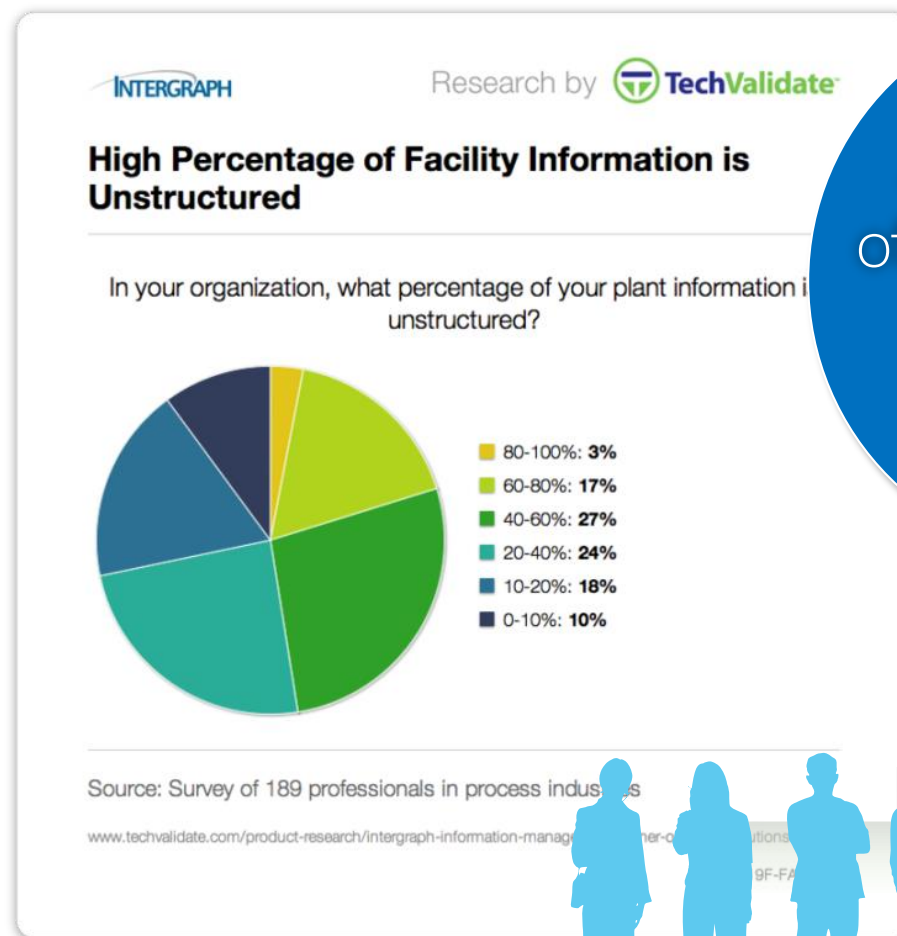
Trusted Source



Reality



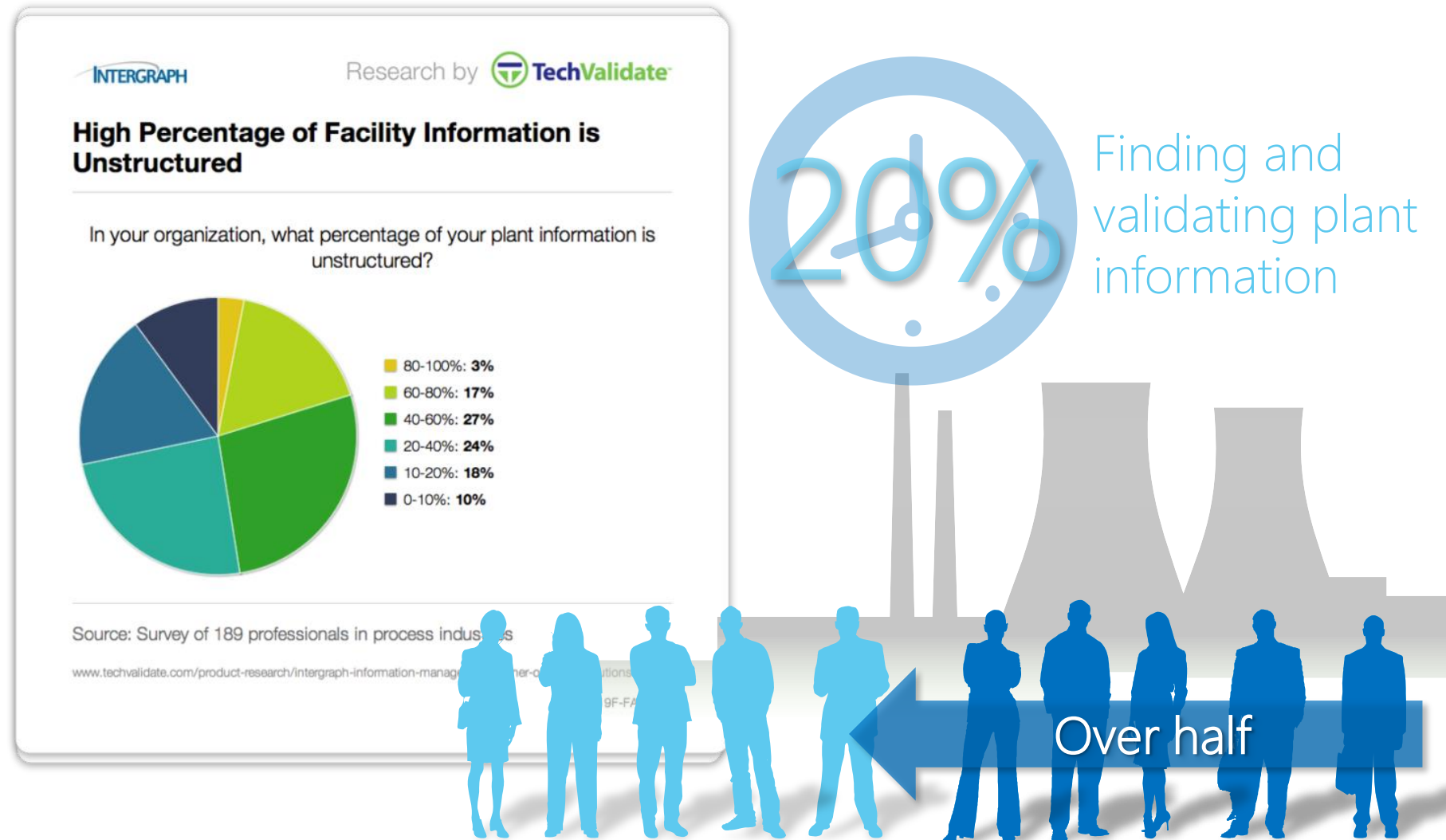
Impacting Processes



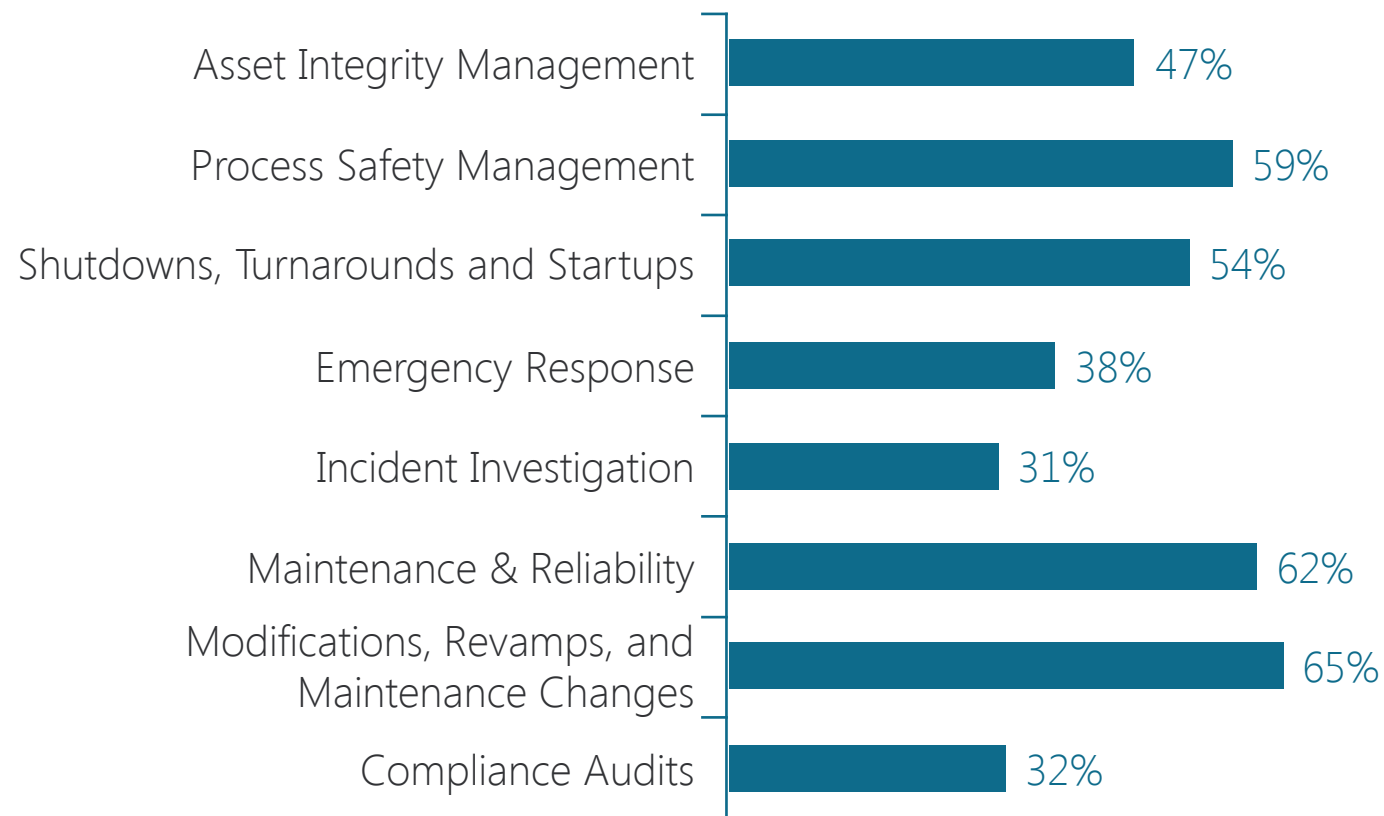
40% or more
of information in
plant is
unstructured



Impacting Processes



For which plant activities is the need for ready access to trustworthy information most critical?



The Cost of Poor Asset Information



Annual Losses - 1.5% of Sales and
Increased EH&S Risk



1.5% of annual sales, per year

Includes losses from availability, operating inefficiencies, higher CAPEX for modifications, and increased maintenance.

Source: Asset Information Management, Part I – the Case for Developing an AIM Strategy; ARC Advisory Group, July 2010



Higher CAPEX for MODs (0.2% of Sales)

Higher Maintenance Costs (0.3% of Sales)

Source: Asset Information Management, Part I – the Case for Developing an AIM Strategy; ARC Advisory Group, July 2010

What SmartPlant Fusion Does...

Rapid Capture

Identifying Best Masters

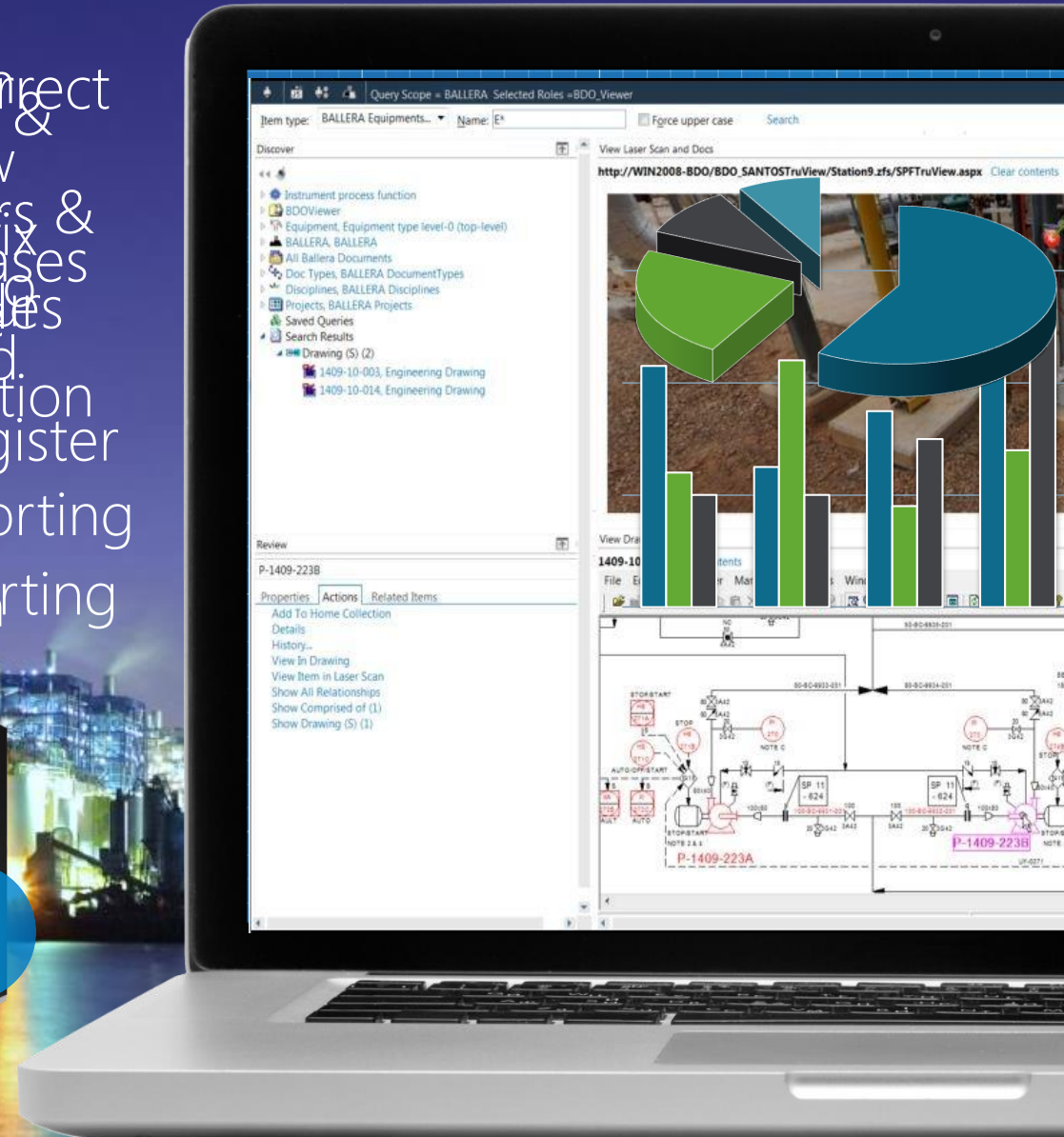
Extract intelligence & creates links

Quality Control & Reporting

Single point of access to engineering information

Manage and Re-use

Quality Control & Reporting
Improves Decision Making
Extracts intelligence & creates links
Helps identify masters & inconsistencies and duplicate data
Organizes large unstructured information
Completes missing information
Inconsistency Reporting
Tag Attribution



Maintenance Management System

FIELD OBSERVATIONS

Record Observations
Report & Manage
Create Field Change Request



CONTROL OF WORK

Assess Task Risks
Plan Isolations
Manage Work Permits



3D TRAINING SIMULATIONS

Quick setup
Conduct Training
Certify Results

ENGINEERING INFORMATION

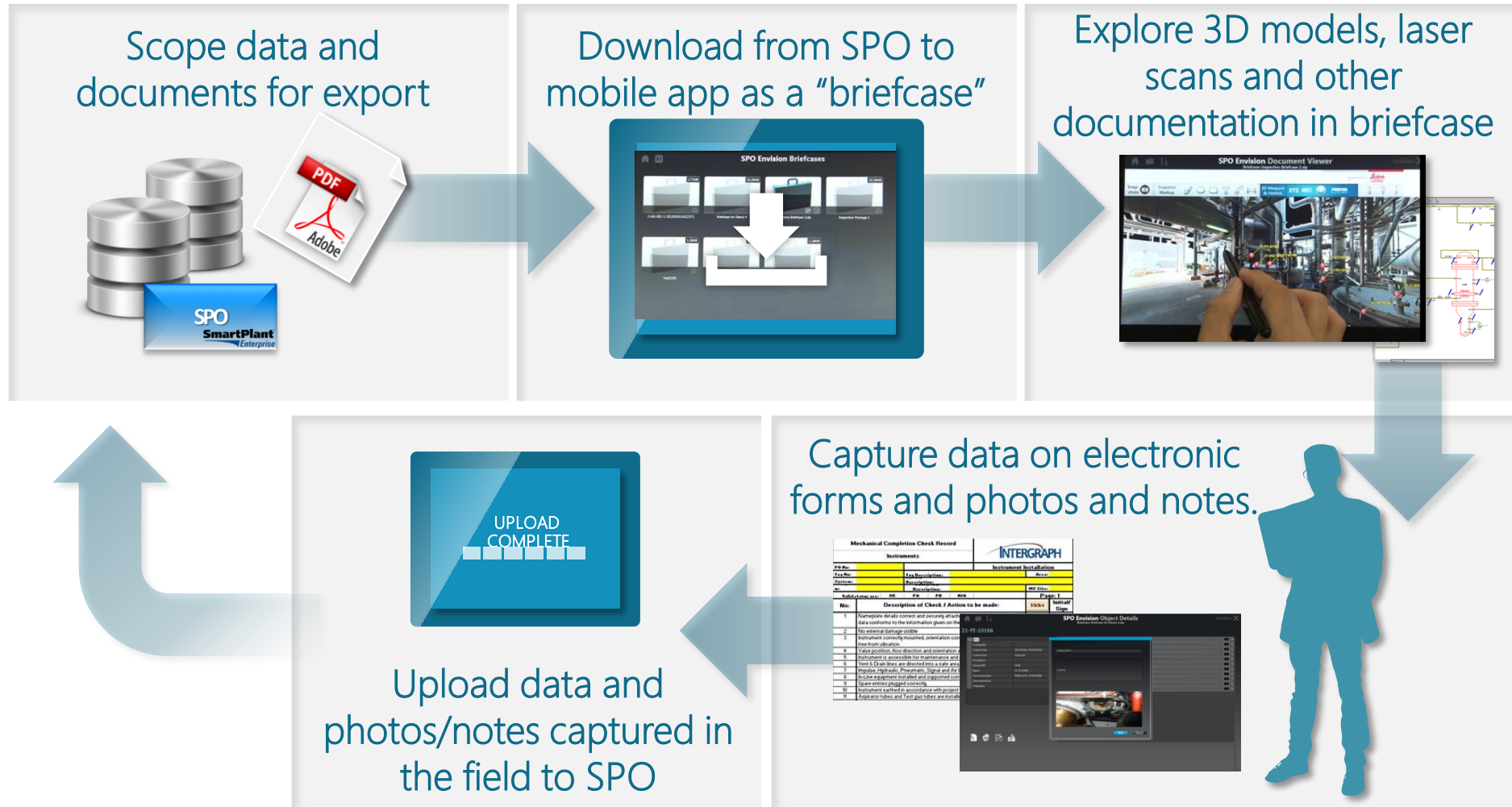
MANAGING FIELD OBSERVATIONS & CHANGE REQUESTS





SPO Mobile Applications

– Offline Access to Information and Documentation –



SmartPlant Mobile Applications



Mobile Observation Report



Mechanical Completions



GeoTagging



Inspection Assistant



Briefcases



Observation Dashboard ▼

Observation Reports

Workflow Status

Priority



New
In Progress
Overdue



High
Medium
Low

Content

Tracking



Matimba



Tags with
Reports



Observation
Reports



AR View



Map



nheijnsb - Logout

Maintenance Management System

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3D TRAINING SIMULATIONS

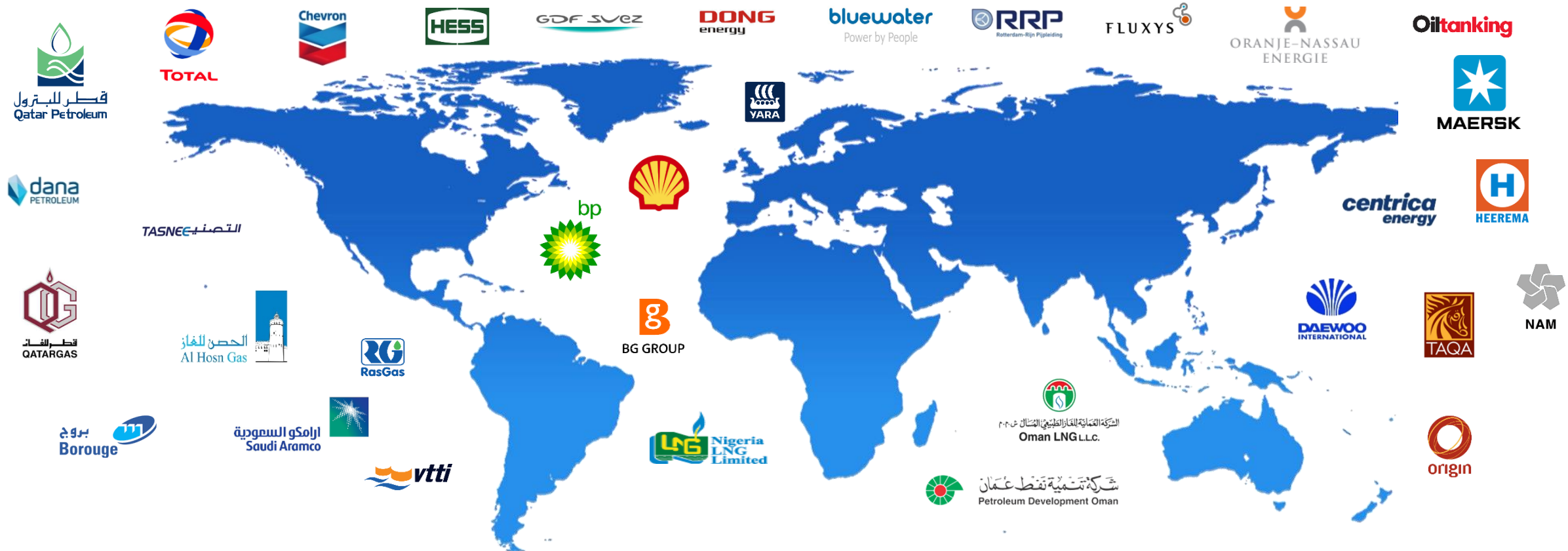
Quick setup
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ENGINEERING INFORMATION

Innovations In Control Of Work



“...eVision sets the industry standard for frontline operational safety via innovative robust software solutions and services on the cross roads of technology and creation. eVision continuously strives for inventive and original solutions with maximum focus on *safety, usability and design*...”



Maintenance Management System

Work Order

FIELD OBSERVATIONS

Record Observations

Report & Manage

Create Field Change Request

CONTROL OF WORK

A

P

N

Work execution

3D TRAINING SIMULATIONS

Quick setup

Conduct Training

Certify Results



Engineering documents & data

Feedback

ENGINEERING INFORMATION

Filter: Not set

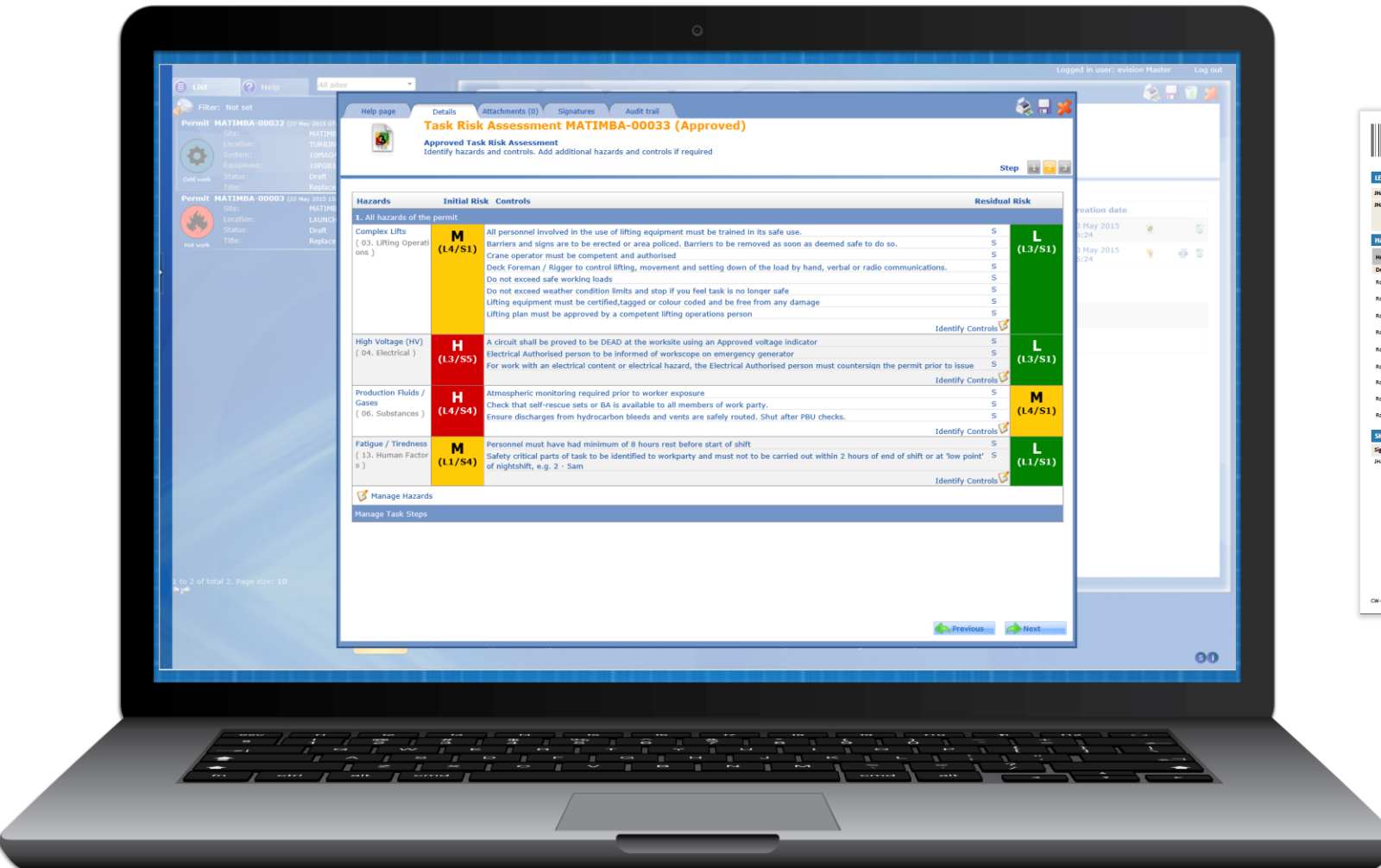
Permit MATIMBA-00003 (20 May 2015 15:30)
Site: MATIMBA
Location: LAUNCHER
Status: Draft
Title: Replace launcher

Hot work



Summary

Creation of Permit and Risk Assessment



CW CW-0000001 COLD WORK PERMIT Qatar Petroleum

LEVEL 2

JHA Team Leader: Abdulla Nofel Hussien Nofel - HTQ/L1/C Permit Controller
JHA Team: Ishwarthar Chinnai Patel - PDP/L1/C Permit Authority
System Administrator

HAZARDS AND CONTROL MEASURES

Hazards	Initial Risk	Control Measures	Residual Risk
Default	AD	Be aware of potential for hand trap injuries from belts and moving parts	AA
Rotating Equipment (Mechanical)	AD	Be aware of the location of STOP/Outdown buttons and other instrumentation	AA
Rotating Equipment (Mechanical)	AD	Be aware of work being carried out by adjacent Permitting Authorities	AA
Rotating Equipment (Mechanical)	AD	Ensure clothing is secure and cannot be pulled in to moving parts	AA
Rotating Equipment (Mechanical)	AD	Ensure overriders/inhibits are recorded in appropriate register	AA
Rotating Equipment (Mechanical)	AD	If working with an electric Portable Type Grinder ensure L2LV supply is used.	AA
Rotating Equipment (Mechanical)	AD	Machine to be in view when started.	AA
Rotating Equipment (Mechanical)	AD	Physical barriers, Safety guards shall be fitted to rotating shafts and discs.	AA
Rotating Equipment (Mechanical)	AD	Portable equipment is to be fed from supplies tied into the shutdown system.	AA

SIGNATURE HISTORY

Signature	Name	Date
JHA Team Approval by Permit Authority	System Administrator	08 May 2015 (11:48)

JHA Levels: High Risk (Red), Medium Risk (Yellow), Low Risk (Blue)

CW-0000001 08 May 2015 11:45 2 of 2

CW CW-0000001 COLD WORK PERMIT Qatar Petroleum

PS3
Area Classification: Zone 1

JHA IN PROGRESS

PERMIT DETAILS

Short Description of Work	Region	Turnout Cooling System
Test	Production Platform - Upper Deck 10-4-C2	
Location of Work	08 May 2015	
Scheduled Start	08 May 2015	
Tag Number	59-HVH-0022	Scheduled End: 10 May 2015
Equipment Description	VALVE/CHECK	Tag Description: 84-27 59-PCV-46 L2LV
Discipline		Maintainable Group: A3366A
JHA Level	Level 2	WQ No:

ADDITIONAL PRECAUTIONS

ASSOCIATED PERMITS / CERTIFICATES

Permit No	Name
N/A	
N/A	
N/A	
N/A	

GAS TEST

Gas Tester	Date/Time	Substance	Value

SIGNATURE HISTORY

Signature	Name	Date
Request Permit by Permit Applicant	System Administrator	08 May 2015 (11:48)

CW-0000001 08 May 2015 11:45 1 of 2

Filter: Not set

Permit MATIMBA-00003 (28 Apr 2015 07:00)

Site: MATIMBA
 Location: TURBINE COOLING SYSTEM
 System: 10MAG40BB001 (TURBINE COOLING)
 Equipment: 10PGB15AA502 Valve
 Status: Draft
 Title: Replacing leaking valve

Cold work



Attachments

Here you can manage the attachments.

Linked attachments

Name	Type	Creation date
Task Risk Assessment MATIMBA-00004 (Requesting)	Risk Assessment	28 Apr 2015 21:38
IC MATIMBA-00006 (Draft)	IC	30 Apr 2015 17:54

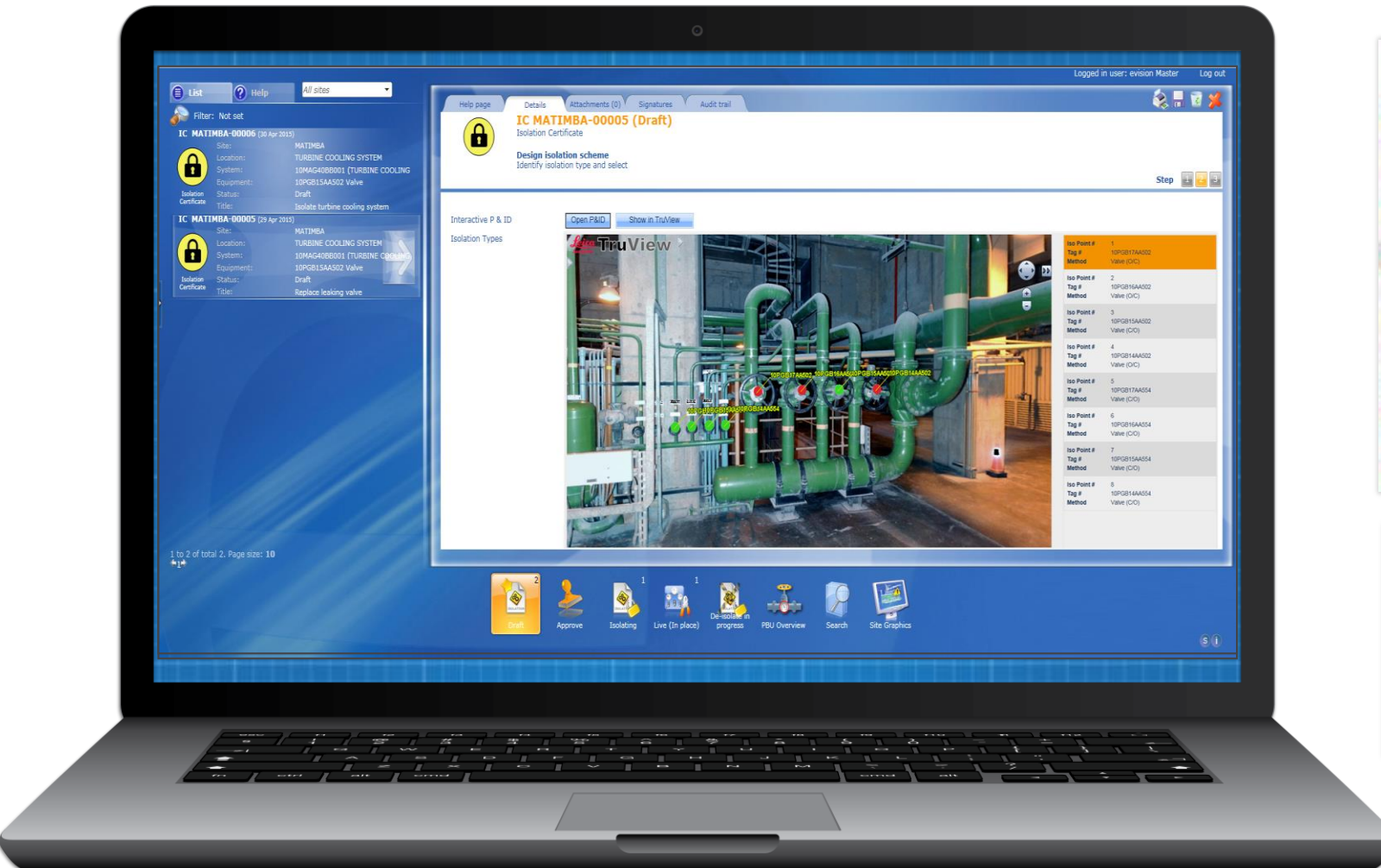
Possible Attachments

- Add an Isolation Certificate
If you click this button a popup will appear where you can create or attach an existing Isolation Certificate.
- Add a File
If you click this button a popup will appear where you can reference a file to attach.



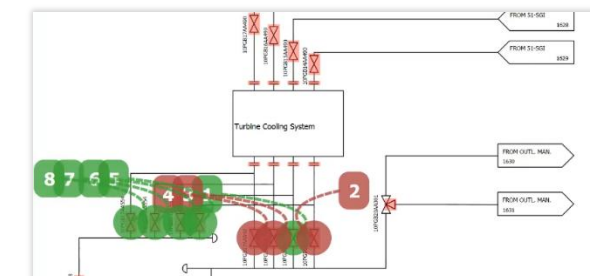
Summary

Creation of Isolation



Isolation Certificate							
IC Number	MATIMBA-00034						
State	Draft						
Isolation Certificate Details							
Title	Replace leaking valve						
Reason for Isolation	Isolate leaking valve on Turbine Cooling System						
Isolation Summary							
Isolated	Yes						
Start Date							
End Date							
Site	MATIMBA						
Isolation Location	TURBINE COOLING SYSTEM						
Equipment description	10PG15AA002 Valve						
Isolation Summary							
Type	Signature Name		Co-L.N.	Date			
Isolation Points							
Id	Equipment	Lock No.	Comments	Type	Method(C/O)	Isolated State	Requested State
1	10PG15AA002	02		Mechanical / Valve (C/O)	Process	CLOSED	
2	10PG16AA002	02		Mechanical / Valve (C/O)	Process	CLOSED	
3	10PG17AA002	02		Mechanical / Valve (C/O)	Process	CLOSED	
4	10PG13AA002	02		Mechanical / Valve (C/O)	Process	OPEN	
5	10PG15AA002	02		Mechanical / Valve (C/O)	Process	OPEN	
6	10PG16AA002	02		Mechanical / Valve (C/O)	Process	OPEN	
7	10PG17AA002	02		Mechanical / Valve (C/O)	Process	OPEN	
8	10PG14AA002	02		Mechanical / Valve (C/O)	Process	OPEN	
9	10PG15AA002	02		Mechanical / Valve (C/O)	Process	OPEN	
10	10PG16AA002	02		Mechanical / Valve (C/O)	Process	OPEN	
11	10PG17AA002	02		Mechanical / Valve (C/O)	Process	OPEN	
12	10PG14AA002	02		Mechanical / Valve (C/O)	Process	OPEN	

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Maintenance Management System

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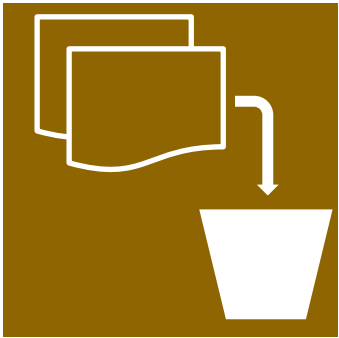
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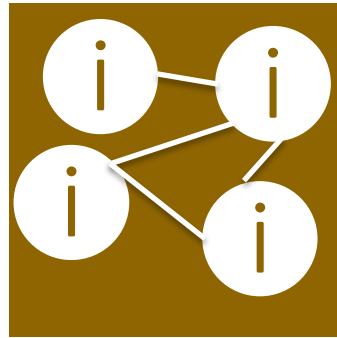
ENGINEERING INFORMATION

SmartPlant Fusion

Benefits



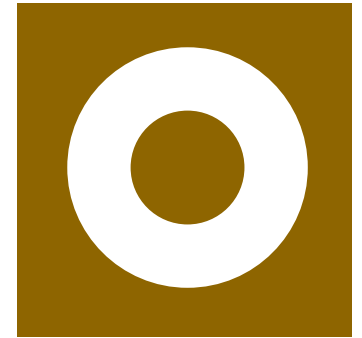
Rapid Capture of
Documentation



Extract intelligence
and create links

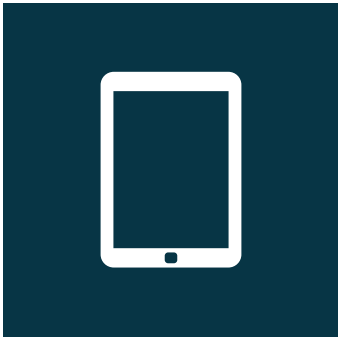


QC and reporting



Single point of
access

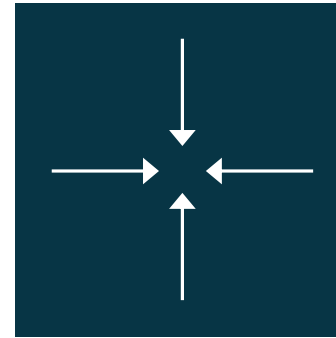
Field Observations Benefits



Mobile replaces
paper



Avoids data
errors and gaps



Easy to consolidate
and manage

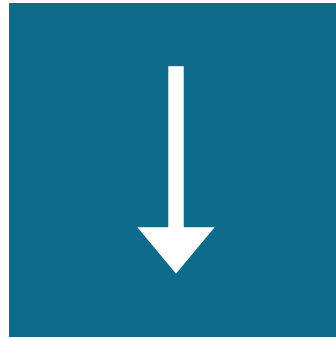


Positive ID
of equipment
in the field

Control of Work Benefits



Increase of plant floor
efficiency



Reduce effort
to perform risk
assessments and
draft permits



Minimize risk and
maximize safety



Exploiting Innovative Technologies To Improve Operations & Maintenance Effectiveness

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Thank You