

Northwest Utilities Day 2020 What's Your Plan for the Future?

Intelligent Asset Management for the Real Time Enterprise

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Who knows that ^{we launched}

IAM?



Figure 1: Strong Recognition of Need for Intelligent Asset Management



Of organizations consider it important to predict potential failures by leveraging data models



Of organizations consider it important to have asset management processes and related metrics standardized across facilities and

regularly tracked



SAP[®] Intelligent **Asset Management** Powering the Digital Transformation of Asset Management

Whitepaper available here:

https://www.sap.com/documents/2016/12/0421b662-9f7c-0010-82c7-eda71af511fa.html

SAP Intelligent Asset Management

Capabilities & solutions



Asset Network and Collaboration

SAP Asset Intelligence Network



Asset Strategy and Performance

SAP Asset Strategy and Performance Management

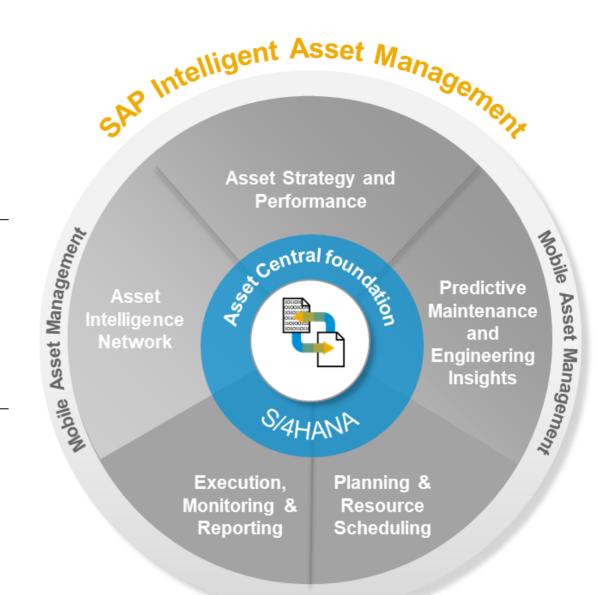


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Asset Health Prediction and Optimization

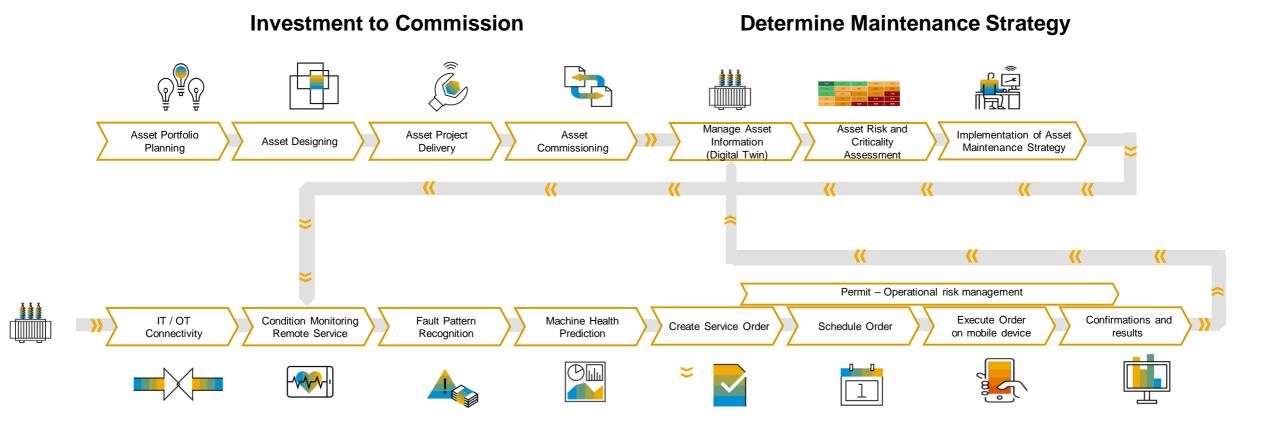
SAP Predictive Maintenance and Service SAP Predictive Engineering Insights Enabled by ANSYS

Mobile Asset Management SAP Asset Manager





The Asset Life-cycle

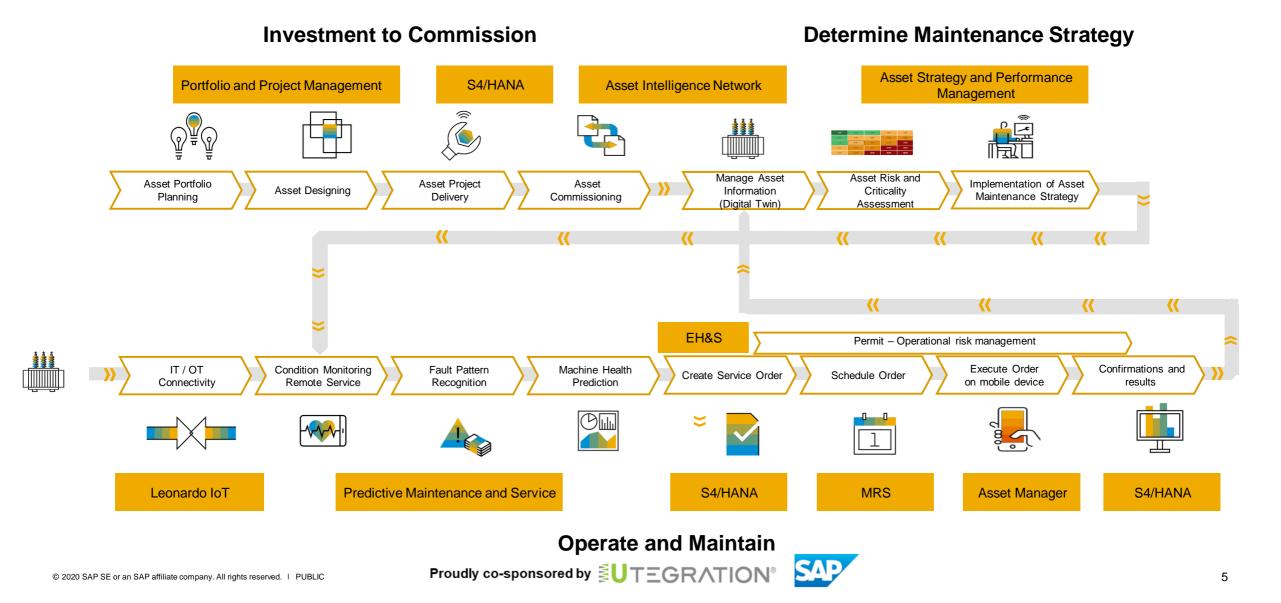


Operate and Maintain





Asset Life-cycle & related SAP Solutions



SAP Asset Central Foundation

Collaborative Data Model

Classes Asset Modell	Subclasses							
Templates	Models	Attributes	Indicators					
Asset Repres	sentation							
Equipment	Systems	Locations	Groups					
Asset Informa								
Instructions	Alert Types / Rules	Announcements	Spare Parts	Performance Improvement	Notifications	Documents	Work Orders	Failure Modes

New Innovations

Master Data Layer





Evolve from reactive to reliability-centered & prescriptive maintenance

Calendar based maintenance results in Intelligent Asset Management supports data driven proactive strategies with execution and optimization based on reliability & other goals. This achieves the over-maintaining assets at higher costs delicate balancing of profitability, asset health and availability / less availability Reactive based maintenance is too late Predictive **Risk & Criticality Analysis** for efficient planning and optimization RC Reliability RCM Centered Simulation Maintenance **Asset Strategies** Reactive – After Failure Calendar FMEA Modes & Failure or On Condition ୢୢୖୢ୴ୢ **Effects Analysis Proactive** – Calendar Preventive PMR Maintenance **Methodologies On-Condition** Review **Proactive** – Failure prediction with prescriptive Run to Failure Root RCA Cause Analysis * recommendations & RBI optimization TODAY **FUTURE** Modification **Risk Based Inspection **** *Future Functionality ** Partner Solution

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Asset Strategy & Performance



Why do some RCM initiatives fail to deliver?

The challenge lies with the difficulty of implementation:

- Existing RCM tools are disconnected from SAP
- Loading RCM recommendations into EAM is difficult.
- Once loaded, RCM task justification is lost
- Measuring results over time is difficult.
- Keeping the RCM process evergreen is nearly impossible.

The Result... most RCM initiatives are one-time exercises, not "living programs".

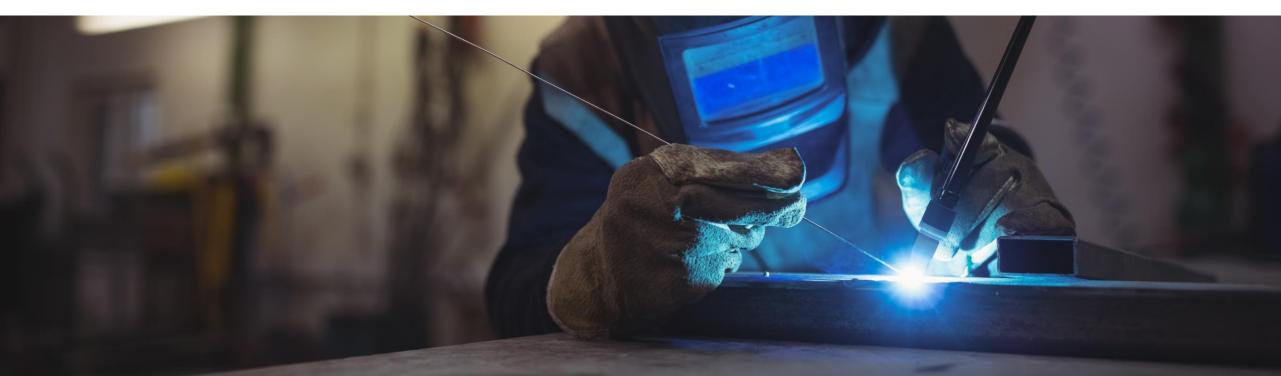


Introducing SAP Asset Strategy and Performance Management Manage Asset Asset Information Information **Asset Risk and Risk & Criticality** Criticality Assessment Assessment Criticality A/B/C Maintenance Reliability Failure Modes and **Risk Based** Centered Root Cause Strategy **Effects Analysis** Inspections Maintenance Analysis (RCA)* (FMEA) (RBI)** Development (RCM) Asset Preventive Management **Evaluate Strategy** Maintenance Review and Optimize Monitoring (PMR) Asset Central Foundation Asset Strategy and Performance Management **Collect Work** S/4 Maintenance Management Execute in SAP PM/PdMS * planned History Proudly co-sponsored by **≣**UTEGRATION[®] ** partner 15 © 2020 SAP SE or an SAP affiliate company. All rights reserved. | PUBLIC





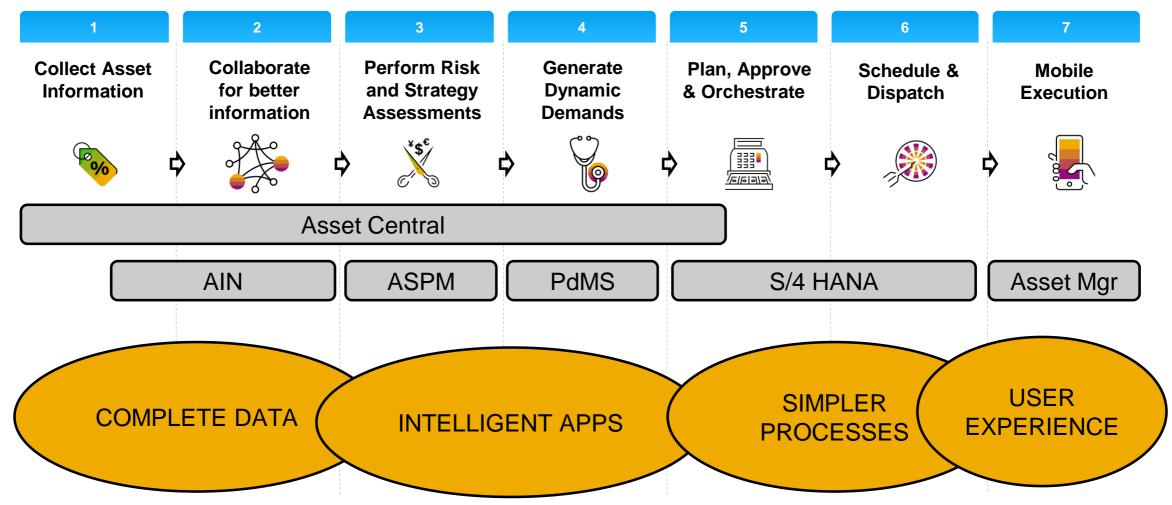
Summary



Recommended End State for Intelligent Asset Management

1	2	3	4	5	6	7				
Collect Asset Information	Collaborate for better information	Perform Risk and Strategy Assessments	Generate Dynamic Demands	Plan, Approve & Orchestrate	Schedule & Dispatch	Mobile Execution				
6 % C		¢	¢ 🖗			\$				
An central repository of information to have complete knowledge about each of your assets	Connect with business partners to have the best living asset data	Know the importance of every asset, measure its performance and have a recommendation for its life	Generate dynamic maintenance demands based on time and predicted indicators	Single backlog for all work types, orchestrated with supply chain, procurement and finance	Intelligent optimization & prioritization of work with capacity management and resource assignment	Using native application on mobile device to keep technician close to the machines and away from the desk				
Key Enabler	Key Enabler	Key Enabler	Key Enabler	Key Enabler	Key Enabler	Key Enabler				
S/4HANA + Asset	Asset Intelligence	Asset Strategy &	Predictive	S/4HANA	Maintenance	Mobile Asset				
Central Foundation	Network	Performance	Maintenance	Maintenance	Scheduling	Manager				
(with Utopia	Outcome	Outcome	Outcome	Execution	Outcome	Outcome				
Extensions)	Leverage	Know which	Reduction in	Outcome	Reduction in	Less trips back to				
Outcome	knowledge beyond	assets to focus on	unnecessary and	Optimal balance of	manual planning,	the office and				
Structured and	your companies	and ensure	un-planned work,	pro-active and	improved resource	better real time				
complete information	four walls to	complete coverage	automating what	reactive	utilization and	visibility of work				
provides the	always be up to	with the best	'needs to be done'	maintenance, with	better asset up-	being executed				
foundation for	date	recommendations	for "zero unplanned	reduced inventory	time					
automated decisions			downtime"	and costs		_				
<u>(</u>										
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Recommended End State for Intelligent Asset Management





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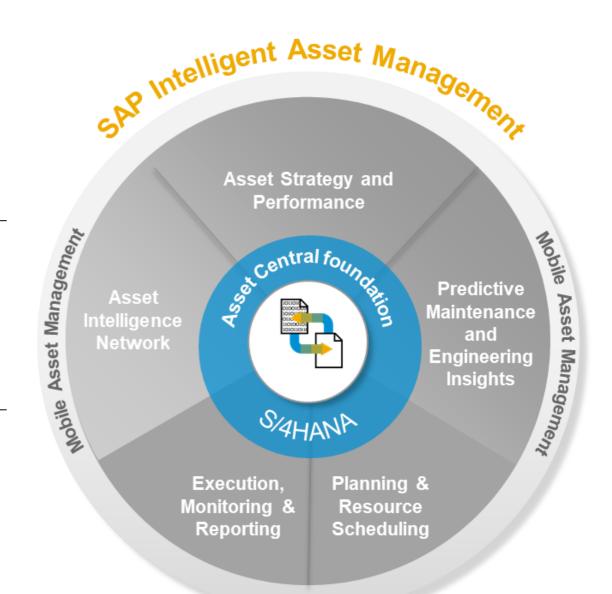


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