

# Effectively Employing AMS Device Manager for Instruments and Valves



Improve operational value from your instruments and valves by taking AMS Device Manager to the next level.

- *Increase effectiveness of your maintenance and operations staff by taking full advantage of AMS Suite: Intelligent Device Manager*
- *Leverage your technology investment by integrating AMS Device Manager into daily work practices to drive productivity improvements*
- *Use predictive diagnostics from your smart instruments and valves to more effectively prioritize maintenance tasks*

## Increase Productivity By Integrating Technology Into Your Daily Work Processes

When instrument and valve issues are affecting plant availability, you need predictive diagnostics for fast, accurate decisions. How can technology be part of the daily work processes so this information is most efficiently used? Fully implementing AMS Device Manager allows you to focus your limited resources on the right assets.

When you partner with Emerson's Asset Optimization Services experts, we help ensure you are getting the most from your instrument and valve assets. Asset Optimization Services are offered in scalable modules so you can move to the next level of asset performance.



Emerson's Install and Implement Services provide a structured approach for successful adoption of AMS Suite.

## Install Services

Install is designed to provide an interactive introduction to AMS Device Manager capabilities. An Install-certified specialist will configure AMS Device Manager by executing the following tasks:

- Review system architecture
- Install and license software
- Configure networks and establish device communication
- Create the initial database structure
- Complete the initial set up of the Alert Monitor, if applicable to current system

- Install the appropriate SNAP-ON™ applications
- Review basic software functions and navigation with user

We believe that getting off to the right start is so important that every customer who purchases an online AMS Device Manager system of more than 25 tags will receive this service.

## Implement Services

After Install, Services are completed, Implement Services are performed. Implement Services are designed to optimize your AMS Device Manager and integrate the full functionality of the system with re-engineered maintenance tasks.

AMS Device Manager Implement services are offered in three incrementally distinct levels of service, each designed for increasing levels of a plants Reliability programs needs - Basic, Standard and PlantWeb™ Alerts for DeltaV and AMS Device Manager. The Basic and Standard levels of Implement services apply to any AMS Device Manager System. The PlantWeb Alerts for DeltaV® and AMS Device Manager level applies only to those facilities with both a DeltaV control system and AMS Device Manager properly installed and operating.

AMS Device Manager Implement Service Levels				
Task no.	Deliverable	Basic	Standard	PlantWeb Alerts for DeltaV and AMS Device Manager*
1	Project Kickoff / Level of Awareness Event	✓	✓	✓
2	Evaluate Work Flow Process	✓	✓	✓
3	Analyze Device Alarms & Discuss Philosophy			✓
4	Key Performance Indicator (KPI) Development		✓	✓
5	Asset Prioritization Analysis and Validation	✓	✓	✓
6	Device Alarms Design			✓
7	Generate Written Procedures		✓	✓
8	Strategy Blueprint		✓	✓
9	Align Organization			✓
10	Optimize AMS Device Manager Database	✓	✓	✓
11	Configure DeltaV System and Execute Downloads			✓
12	Mentoring Review Written Procedures		✓	✓
13	Link Documents to AMS Device Manager		✓	✓
14	Implement Service Report		✓	✓
15	Verify System Operation		✓	✓

\* Available only to those facilities with both a DeltaV and AMS Device Manager System.

## **Implement Services – Basic**

An Asset Optimization Services Engineer will perform the following task/deliverables:

- Perform facility walkdown and ensure all tags are identified
- Hold awareness training event to establish a common understanding of the process and gain organizational alignment
- Evaluate overall work flow processes and recommend industry best practices based on observations
- Validate priority of instrument and valve assets.
- Optimize the AMS Device Manager database, configuration, and alert settings

## **Implement Services – Standard**

Standard level includes all service task/deliverables in the Basic level plus the following:

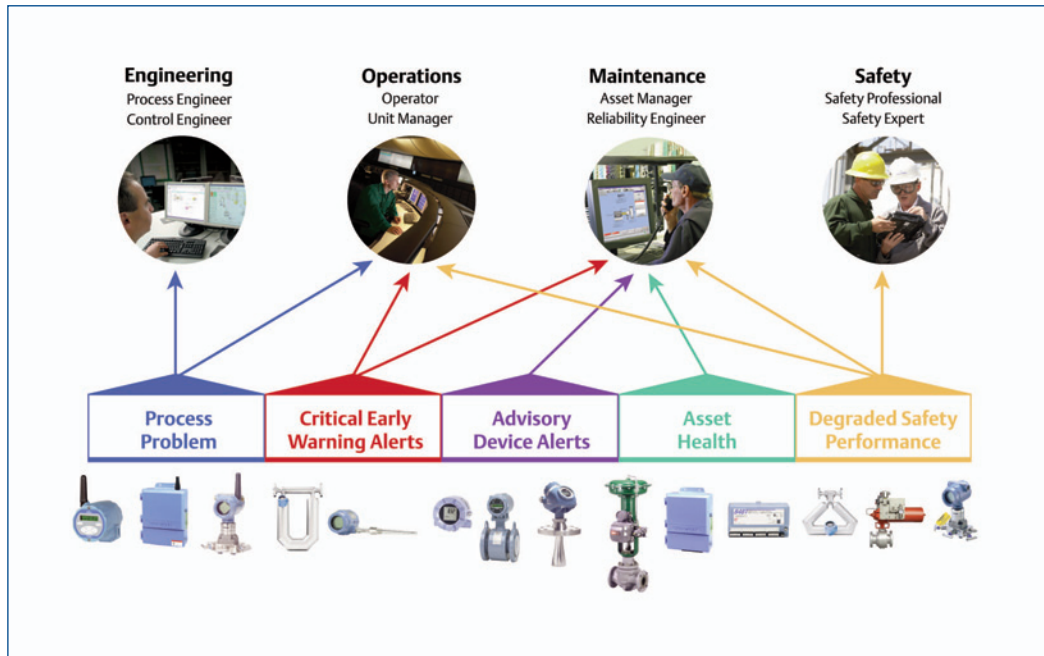
- Establish benchmarks and Key Performance Indicators (KPIs)
- Re-engineer instrument and valve maintenance tasks with step-by-step procedures on how to execute common tasks and handle/interpret alerts
- Create Asset Maintenance Strategy Blueprint defining the frequency and type of preventive/predictive technology tasks to be applied to each asset
- Develop required labor forecasts for optimized program implementation
- Mentoring/Review of new maintenance tasks and procedures
- Link maintenance tasks and procedures into AMS Device Manager

- Develop path forward considerations and present project report
- Verify system operation, confirm impact of system performance to KPIs

## **Implement Services – PlantWeb Alerts for DeltaV and AMS Device Manager**

The Implement services specific to PlantWeb Alerts for DeltaV and AMS Device Manager are designed to provide predictive intelligence to the right resources in your facility. Emerson's structured approach will enable a predictive alert strategy to address full utilization of predictive diagnostic capabilities. Deliverables include an optimized PlantWeb alert configuration, documentation, and training plans to optimize work practices and capture results. This service level includes the task/deliverables in Basic and Standard levels plus the following:

- Analysis of current device alert configuration / behavior for nuisance conditions and discuss plant device alarm philosophy
- Discuss current versus target device alarm settings in the DeltaV System and determine operator actions that will be taken in response to device alarms
- Configure DeltaV system to enable device alert “target” settings based upon strategy findings and organizational alignment, and execute downloads in coordination with plant personnel and established timeline



*Emerson's Asset Optimization Services addresses specific business barriers and helps your plant overcome them, moving you from a reactive plant to a best cost producer.*

## What Can Asset Optimization Services Do For My Plant?

Through the expertise of Emerson's Asset Optimization Services, the capabilities of AMS Device Manager can be fully deployed in your facility to drive improved decision-making. Streamlining daily maintenance, implementing predictive maintenance for enhanced performance, and operating with your maintenance resources fully optimized are a few outcomes from an Asset Optimization Services engagement.

Asset Optimization Services takes you a step further by re-engineering work tasks in your maintenance management system (CMMS) allowing you to integrate AMS Device Manager's capabilities rather than using work processes that rely on traditional, less-effective means. For example, AMS Device Manager brings savings to basic activities such as the time technicians spend walking, locating, and returning items.

Some of those activities may even be eliminated when AMS Device Manager is fully deployed. The power of real-time field device diagnostics and AMS Device Manager is fully leveraged when the CMMS produces work procedures that use your technology investment. Similarly, taking full advantage of the AMS Device Manager application brings time savings to configuration, calibration and documentation tasks. Asset Optimization Services for AMS Device Manager ensures re-engineered maintenance work processes to improve manpower efficiency and help you become a best cost producer.

Asset Optimization Services	Service/Tasks	Duration (hours)		Operations Area Supervisor	RESOURCES INVOLVED					Front Office	
		25 tags	200 tags		Area Supervisor	Area Instrument & Valves Craft	Area Planner	Area Scheduler	Reliability Engineer	Safety Officer	Plant Leadership
Install AMS Suite: Intelligent Device Manager	Review System Architecture				✓	✓					
	Install and License Software					✓					
	Configure Networks and Establish Device Communication					✓					
	Create/Validate Initial database Structure					✓					
	Set up Alert Monitor, if applicable to current system	15	30			✓					
	Load appropriate Snap-On™ Applications					✓					
	Review Basic Software Functions and Navigation				✓	✓					
	Review Formal Training Opportunities					✓					
	Back up Database					✓					
<b>Total Hours</b>	<b>15</b>	<b>30</b>									
Implement AMS Suite: Intelligent Device Manager***	Ensure all tags are identified	1	4			✓					
	Level Of Awareness Training	7	7	✓	✓	✓	✓	✓	✓		✓
	Review/Evaluate Work Flow Execution	4	4				✓				
	Key Performance Indicator (KPI) Development	1	1	✓	✓	✓	✓	✓	✓		✓
	Asset Prioritization Analysis/Validation	4	4	✓	✓	✓	✓	✓	✓		✓
	RE-Engineer Maintenance Tasks	2	12		(Work Performed by PlantWeb Services Engineer)						
	Strategy Blueprint – Work Task Activities and Periodicities	1	2	✓	✓	✓	✓	✓	✓		✓
	Optimize AMS Device Manager Database	1	4		(Work Performed by PlantWeb Services Engineer)						
	Develop Labor Cost Forecast	1	1		(Work Performed by PlantWeb Services Engineer)						
	Mentoring Review of Maintenance Tasks	1	5		✓	✓	✓	✓	✓		
	Link Documents/Procedures into AMS Device Manager	1	4		(Work Performed by PlantWeb Services Engineer)						
Path Forward Discussions/ Project Report*	8	8	✓	✓	✓	✓	✓	✓		✓	
Verify System Operation**	16	16	✓	✓	✓	✓	✓	✓		✓	
<b>Total Hours</b>	<b>48</b>	<b>72</b>									

\* Note - Path Forward Discussions/Project Report\* - one hour meeting with all personnel, Other 'time' is for Individual/Department project report findings discussions/validation.

\*\* Note - Verify System Operation\*\* - Return visit, time allotted for two days system operation/verification with all Departments, majority time spent with users.

\*\*\*Note - Resource involvement based on Implement Service - Standard level.

Asset Optimization Services are offered in scalable modules, allowing you to choose when you and your facility's schedule are ready for the next level of support. Emerson believes that every facility is unique and has its own maintenance needs. That's why Emerson will design an Asset Optimization Services engagement schedule around your

facility's unique needs. Shown in the table above is a sample schedule (see Duration Hours) to give an idea of how Install and Implement Services can fit into your plant resources schedule, including who will be involved in the various steps. Emerson will optimize the time of plant personnel for minimal production impact.

Examples of Implement Service Deliverables include:

- Strategy Blueprint (1)
- High level work flow diagram and evaluation (2)
- Re-engineered maintenance tasks (3)
- Alert reference documentation linked to the asset in AMS Device Manager database (4)
- Configure device alerts based on asset criticality ranking (5)

**Knowledge For Improved Maintenance Practices**

The Strategy Blueprint matches the predictive maintenance technologies to the priority of your assets, providing a tool to more effectively implement your asset maintenance strategy. The Strategy Blueprint outlines the recommended combination of predictive maintenance technology and preventive maintenance procedures for prioritized equipment. It is the result of a systematic review and compilation of applicable maintenance procedures for an asset. Once you have established an initial Strategy Blueprint, it becomes a baseline to use for continuous improvement comparison.

**Strategy Blueprint "Matrix"**

Asset Optimization Services Poll Rates

W = Weekly	24	2	20	40
D = Daily	48	0	0	0

X = X Months (1-12, 18, 24, 36, 48, 60)  
AK = An Req (not measured as hours)

STRATEGY	Predictive	Preventive	Reactive	START
GROUPING	ONLINE MONITORING	TIME BASED	NO MONITORING	1000
TOOL USE	0.08	0.08	0.01	0.50
0.25	1.00	1.00	0.50	8.00

Asset Count = 196

SYSTEM / LOOP	TAG	ASSET MODEL GROUP	OCR	ACR	MPI
HRSG1Feedwater	1FWSFCV271A	DVC6000_01	10	21	250
HRSG1Feedwater	1FWSFCV271B	DVC6000_01	10	231	250
HRSG1HoReheat	1HRSPCV102A	DVC6000PD_01	10	37	224
HRSG1HoReheat	1HRSPCV102B	DVC6000PD_01	10	37	224
HRSG1HoReheat	1HRSTCV125	DVC6000_01	10	37	224
HRSG1LowPressure	1LSPFCV154	DVC6000PD_01	10	37	224
HRSG1MainSteam	1MSSPCV102	DVC6000PD_01	10	37	224
HRSG1MainSteam	1MSTCV289	DVC6000PD_01	10	37	224
BOFPFeedWater	0FWSLVCV108C	DVC6000_01	6	36	216
BOFPFeedWater	0FWSLVCV108D	DVC6000_01	6	36	216
BOFPFeedWater	0FWSLVCV158	DVC6000_01	6	36	216
BOFPFeedWater	0FWSLVCV158A	DVC6000_01	6	36	216
HRSG1ColdReheat	1CRSPCV234A	DVC6000PD_01	10	33	201
HRSG1ColdReheat	1CRSPCV250	DVC6000PD_01	10	33	201
HRSG1ColdReheat	1CRSTCV109	DVC6000_01	10	33	201
BCPCondensate	0CMMFCV116	DVC6000_01	10	49	197
BCPCondensate	0CCLPCV155	DVC6000_01	10	49	193

**AMS Device Manager**

SERIAL CARD PRODUCT DATA SHEET  
MANUAL  
INSTALLATION  
CALIBRATION  
QUICK START GUIDE  
ALERT REFERENCE  
DATA CAPTURE  
VISUAL INSPECTION  
USER CONFIGURATION  
AND MORE...

**Maintenance Procedure**

**Installation/Configuration**

**AMS Device Manager Configuration**

Configure Setup

Device Variables

Device Variables

## Work Order Creation with CMMS

AMS Device Manager provides diagnostic information on instruments and valves to AMS Suite: Asset Performance Management which enables the integration of this information into your CMMS application.

With AMS Suite APM's CMMS integration, you can create work notifications based on an asset's current condition. Key diagnostic information automatically populates the work notification and you can also attach specific asset recommendations. AMS Suite APM can also bring in work history data from the CMMS application so you can see the status of current work orders and the history of work performed on your assets.

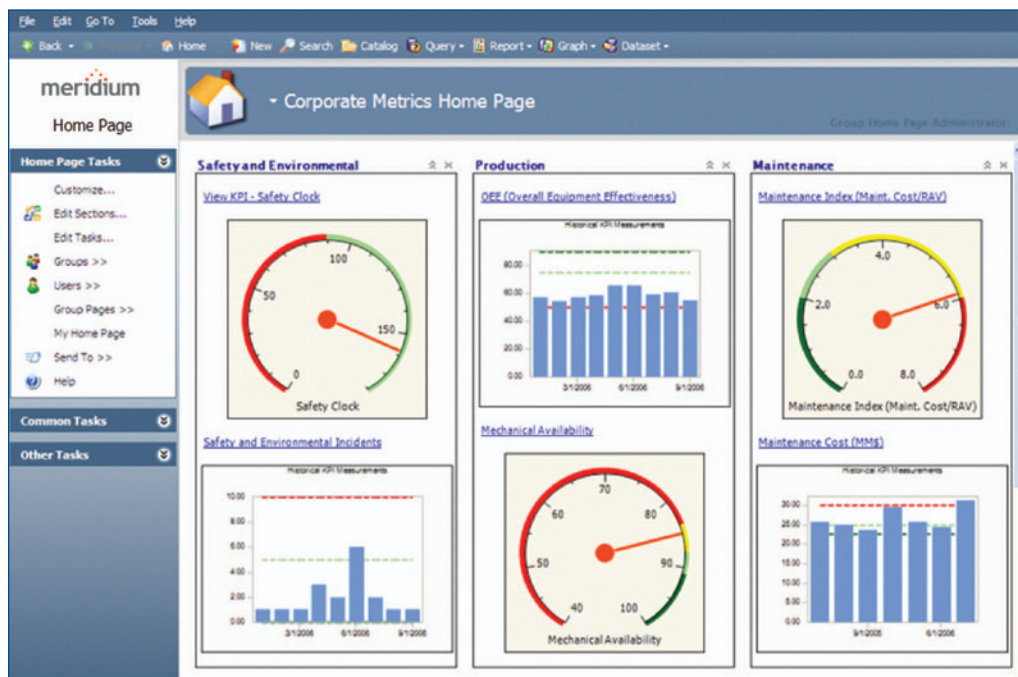
CMMS integration allows your entire organization to drive to common goals by uniting asset information with business data to fuel key metrics.

## Advanced Analysis Capabilities

AMS Suite APM makes finding the information you need simple and efficient. You can customize your homepage with the information you use most, including charts, graphs, and links to additional details.

Create queries to look more closely at asset data in order to target specific problems and identify root cause of issues.

Use the Metrics and Scorecards module to create and track custom metrics to reveal under-performing assets and develop world-class maintenance strategies. Data in this module will generate key performance indicator (KPI) results that are displayed graphically in charts, graphs, and dials. This way, you can always see how your performance compares to your business goals.



Sample Metrics Home Page

**Asset Optimization Services for Instruments and Valves**

Install

Part Number	Description
PW-INST-DMXXXXX	XXXXX = number of tags (online) 25-300 (increments of 25), 300-500 (increments of 50), 500-2,000 (increments of 100), 2,000-5,000 (increments of 500), 5,000-30,000 (increments of 2,500)
PW-INST-DM	for all off-line tags

Implement Service - Standard level

Part Number	Description
PW-IMPL-DMXXXXX	XXXXX = number of tags (online & off-line) 25-300 (increments of 25), 300-500 (increments of 50), 500-2,000 (increments of 100), 2,000-5,000 (increments of 500), 5,000-30,000 (increments of 2,500)

Contact your Emerson representative for part numbers and pricing information for Implement Service levels Basic and PlantWeb Alerts for DeltaV and AMS Device Manager.

**AMS Suite APM Proposal Requests for CMMS Integration**

AMS Suite APM's connection to AMS Device Manager requires some specification/validation work between you and Emerson. Please contact your local Emerson sales representative for details.

**Emerson Process Management**

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