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# Asset Reliability Management

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Arrelic Insights

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# Overview

Asset reliability management should be the primary objective of all main plant management activities. Unplanned repairs and unnecessary downtime are reduced when assets are continually operating. As a result, production levels have risen, worker safety has improved, and customer deliveries have been made on time. One of the most important factors affecting the plant's profit margins is asset reliability.

Know your assets inside and out, and then use that information to direct your resource allocation. By using intelligent mobile decision support for Plant Field Operators, digital data collection provides improved oversight. So you never lose sight of the big picture, modern software and other technology provide reliable, real-time visibility of your plant and its properties. These advantages work together to help you weather unexpected events while planning for a healthy and profitable future

Plant Operations Managers must know the assets they have at their disposal, whether those assets are running as planned, what activity each one is critical for—and how much it will cost to repair it—in order to make informed decisions. You won't be able to make strategic decisions without this simple supervision. This could result in you overpaying for unplanned maintenance and downtime when you could have charged less and early.



# Introduction

The Asset Management Council defines asset management as “The life cycle management of physical assets to achieve the stated outputs of the enterprise”.

Asset management is based on a set of fundamentals. If all of these values are not followed in asset management, the value of the organization's assets would most likely be reduced. The values should have a significant impact on a company's asset management processes and strategies. Output Focus, Capabilities, Level Assurance, and Learning organization are the asset management concepts.

## What Is Asset Reliability?

When an asset performs as intended under a set of clear operating conditions, it is said to be "reliable." To elaborate, asset reliability entails meeting stakeholder, company, and regulatory requirements. As a result, the ability to meet all of these criteria can be described as the performance of an asset reliability program.

Organizations need a strong reliability team to achieve asset reliability. Understanding the reliability process and clearly defining the roles and responsibilities of each individual in that process are critical for your reliability team. It's also important that the team includes people who aren't only responsible for maintenance and reliability.

An effective reliability team would represent a diverse cross-section of the enterprise, touching on all processes and functions. Individuals from supply chain management, manufacturing, accounting, and other departments, for example, should be included since they all have an impact on the business's reliability and stakeholder requirements.

## An Effective Reliability Program

The most critical step in creating a reliability program is deciding what you want to accomplish. In reality, determining the organization's background is the first step in the ISO 55001 standard. Internal and external environments, company priorities, objectives, and needs, stakeholder criteria, and the asset management system's reach are all factors to consider.

Organizational priorities and stakeholder requirements must be clearly defined such that all operations are aligned to achieve the company goals and/or objectives. Organizations will strategize how to accomplish their goals until they know what they're aiming for. By evaluating current performance and comparing it to desired performance, organizations may establish acceptable strategies. This exercise will help you recognize clear holes that must be filled in order to achieve your goals.



## Models

The Asset Management Council has created a variety of asset management models that explain and define the process. The following are the details:

**Asset Management Concept Model** - This model conceptualizes the foundations of effective asset management.

**Asset Management System Model** - Shows how the various components of an asset management system interact.

**Organizational System Model** - Shows how the various elements of a company's management system interact.

**Capability Delivery Model** - A diagrammatic representation of processes from a variety of disciplines that can be used in part or in their entirety to deliver effective asset management

**Maturity Model** - Indicates how well leadership, community, human performance, and the asset management system are incorporated in the organization and contribute to its success.

# How Timely Information Improves Asset Reliability and Strategic Planning

Details must be visible in order to be effective and timely. Collecting data is useless if it remains unread in dusty file cabinets or is locked away in different information silos accessible only to a select group of a plant's employees. It's also important to keep a close eye on each asset and how it's doing at any given time. Knowing your facility's overall capability and dependability will help you:

- Provide insight into the best ongoing maintenance schedule
- Assist you in planning future operations
- Decide what kind of new assets you'll invest in next.
- Allow you to always fulfil your quotas on schedule and in full.



## How Information Technology Enhances Asset Oversight

The most reliable way to keep up to date on the state of your equipment is to use visible inspection in conjunction with instrumentation. However, there is space for progress in this procedure. You can't trust the data if it isn't handled regularly. Currently, Field Operators gather visible inspection data during their rounds and document it on paper round sheets.

By switching check sheets from paper and clipboards to mobile devices and tablets, useful information gathered during operator rounds can be streamlined. If an asset's condition is outside of standard operating parameters, mobile electronic check-sheets provide real-time input and historical patterns, allowing you to take action to detect minor oncoming problems when there's still time to fix them. Additionally, redundant data entry is avoided by uploading information directly to a company's server. Instead of sifting through piles of paper looking for a single misplaced digit, software will produce reports that show you what you need to know, right when you need it.

Modern software technology's productivity improvements have the potential to spread across your facility. Knowing that your assets are secure helps you to plan ahead of time and comfortably control your production schedule.

## **Asset Data Collection to Increase Operations Efficiency**

It's important to remember that the aim of Operator data collection is to make plant operations more effective. It all boils down to correctly allocating maintenance resources to keep plant machinery running smoothly. To do so, follow these three steps:

1. Establish a regular schedule for asset use and maintenance.
2. Keep track of how effectively assets are used.
3. Make provisions for unanticipated repairs.

## **Conclusion**

Asset Reliability Management can aid in the delivery of real-time machine/equipment health information. We can anticipate failures and avoid breakdowns on sensitive infrastructure using real-time Condition Based Maintenance. Non-invasive, color-coded, graphical dashboards for real-time data-driven Condition Monitoring are possible. Measure oil quality in real time, adjust oil change frequency, and prolong the life of your equipment.