

# Brief approach to physical asset management

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## 1. INTRODUCTION

In virtue of the importance that key assets have for the ability of organisations to generate and maintain their value, physical asset management is one of the most relevant topics for companies. It is therefore necessary to define the process leading to the materialisation of a capable asset management throughout its entire life cycle, via the selection of appropriate methodologies for the management of those considered to be the most relevant for the function of the company, as well as those with the greatest capacity to generate value.

In fact, physical asset management is a topic that has been gaining more and more relevance in the maintenance world, especially in the last two decades, changing the landscape that was being experienced until then. This is particularly due to the increasing development of normative documents that have supported, and consequently, guided the creation and implementation of asset management systems by organisations. Initiated by PAS 55, published in 2004, followed by the development of the family of ISO 55000 standards, these norms have been guiding companies towards what are, effectively, the best practices at the level of asset management, bridging the gap between physical assets and other assets existing in companies. Currently, more and more organisations have a well-supported asset management system in place and, in a gradually increasing number, certified by the ISO 55000 standards.

Given the importance of this theme, this article will present the main points required for the definition and implementation of a physical asset management system in organisations

## 2. DIFFERENT TYPES OF ASSETS IN ORGANISATIONS

Although the most present theme in terms of maintenance is that of physical assets, it is important to realise that organisations are made up

of several types of assets, all of which have a direct influence on the value of the organisation and on the effective realisation or potentialisation of the value of physical assets. The five main types listed in the literature are as follows [3]:

- Human assets.
- Information assets.
- Financial assets.
- Intangible assets.
- Physical assets.

All of them with direct impact on physical assets, whether in relation to human knowledge (Human Assets), the identification of opportunities (Information Assets), operating costs (Financial Assets) and the reputation of organisations (Intangible Assets), these examples demonstrate some points of connection between these assets.

Let us then turn to physical assets which, according to the standard EN 13306:2017, "are those assets with potential or actual value to an organisation. They include a machine, its drive, auxiliary systems, control and command, the overall investment value of which appears under the accounting heading of fixed assets."

## 3. ASSET MANAGEMENT SYSTEM

### 3.1 NECESSITY

Having underlined the importance that physical assets hold for organisations, the implementation of an asset management system is therefore essential.

It is first of all important to understand what asset management will consist of. It is mainly influenced by four factors, identified by ISO 55000, that will have a direct impact on the type of assets that companies require to achieve their objectives, as well as the way in which they are managed [1]:

- The purpose of the organisation.
- Its operating context.
- Financial constraints and regulatory requirements.
- The needs and expectations of the organisation and other stakeholders.

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With these factors in mind, effective control and management of assets by organisations will be essential if they are to realise their value and achieve desired performance, while maintaining a balance of performance, cost and risk. Given that the need to provide the best value for money will be a complex process that will consider this balance throughout the asset's life cycle, it presents itself as one of the main challenges in the management of physical assets.

There will, therefore, be conflict factors to manage, such as short-term versus long-term benefits, costs versus performance level, availability of the asset over its life cycle. There will also be different levels at which assets can be identified and managed - ranging from individual equipment or components to complex functional systems - and this hierarchy will bring challenges, as well as opportunities at different levels. [3]

To be able to maintain the much-desired balance, an asset management system will be essential to coordinate and optimise the diversity and complexity of assets in accordance with the objectives, priorities and ultimately the risk profile established by the organisation.

### **3.2 STRUCTURING**

The starting point for developing an asset management system will be the strategic planning for the organisation. This will be the combination of the organisation's policy, strategy, objectives and plans for its management, which in turn will be responsible for an optimal combination of opportunities throughout the life cycle to be applied to the various systems and assets, in accordance with the inherent characteristics of the assets.

Having determined the four main points on which the planning will be based, it is necessary to identify the needs of each of these points:

1. Policy – General principles of the organisation that will guide asset management.
2. Strategy – Sustained and optimised long-term process for the optimal realisation of the organisation's strategic planning as well as the asset management.
3. Objectives - Breakdown/selection of intended measurable results for assets, asset management and the asset management system.

4. Plans - Intended actions, resources and timelines for the implementation of the asset management strategy and realisation of its results.

### **3.3 IMPLEMENTATION**

Once the asset management system has been structured, the last step will be its implementation over the life cycle of the assets.

Starting from its acquisition/creation, through its use and maintenance, to the point of renewal or extinction of the asset, this system will support all the decisions, always taking into account the objectives of the organisation on which the system was structured.

Its implementation may even integrate the Plan-Do-Check-Act (PDCA) methodology [3]:

1. Planning – establishing the asset management strategy, objectives and plans required to deliver the intended outcomes in line with the strategic planning of the organisation.
2. Do – execution, through the necessary resources, of the asset management plans.
3. Check – monitoring and comparison of the results obtained, against the organisational objectives.
4. Act - take measures to ensure the achievement of asset management objectives, as well as the continuous improvement of these systems and their performance.

It is then clear that the integration of an asset management system with the PDCA methodology will enable the continuous improvement of these systems and the search for better results within the organisations.

### **4. MAIN BENEFITS OF AN ASSET MANAGEMENT SYSTEM**

The greatest benefit from implementing an asset management system will be the ability for the organisation to realise value from its assets, thus achieving its objectives. The realisation of this value is made possible by the important balance of performance, cost and risk, which in turn are some of the key benefits of management systems. In short [1]:

- Risk management - improvements in health and safety, and reductions in financial losses and environmental and social impact.

- Improved financial performance - higher return on investment and reduced costs without compromising the achievement of short and long-term objectives, preserving the value of the assets.
- Improved efficiency and effectiveness - reviewing and improving procedures and asset performance leads to improvements in efficiency and effectiveness, including in the achievement of objectives.

## **5. FINAL CONSIDERATIONS**

Since obtaining positive results that lead to the continuous growth of organisations is fundamental for their sustainability, the management systems and their implementation is one of the most important points for the achievement of this reality.

In this sense, and as explained throughout this brief introduction to the theme, the implementation of asset management systems will be fundamental to the achievement of the organisations' objectives, given that the conception of these systems will always have in its roots, the organisational strategic planning, the policies and the long-term vision for the companies and, consequently, for asset management.

Continuous improvement will be crucial to maintain the relevance of these systems within organisations. Likewise, it is equally important to assess the maturity level of the management of physical assets, supported by the main existing regulations on this subject. Therefore, given its relevance, this is a topic deserving of further study in a separate article.

## **BIBLIOGRAPHICAL REFERENCES**

[1] ISO 55000 (2014). Asset management — Overview, principles and terminology

[2] ISO 55001 (2014). Asset management — Management systems — Requirements

[3] PAS 55-1 (2008). Asset Management: Part 1: Specification for the optimized management of physical assets