

quantifying the benefits of manufacturing IT with manufacturing opportunity scan

A transparent view on the benefits of manufacturing IT solutions

The industry globalization that has taken place over the past decades forces manufacturers to continuously improve their performance. Achieving 'manufacturing excellence', in other words improving cost, quality and lead time performance, is key.

To achieve manufacturing excellence, most manufacturers started with continuous improvement programs several years ago. Among the most frequently adopted methods and tools are lean manufacturing and six sigma.

At the same time, Information Technology has also matured by providing software package-based IT solutions Manufacturing Executions Systems (MES) for the shop floor.

Although these methods and solutions are available today, many manufacturers are still struggling with two challenges. Firstly, to identify and quantify the production and financial benefits of IT solutions can seem a daunting task.

Secondly, few manufacturers have succeeded in synchronizing their IT and business improvement initiatives into one comprehensive programme that leverages the synergies between these two. After all, they share the same objectives.

The M4MES benefits catalogue is a repository of industry best practices in manufacturing IT business cases

To overcome these challenges, manufacturers are looking for:

- ▶ An understanding of how manufacturing IT solutions contribute to plant performance strategies
- ▶ Ways to quantify the benefits of manufacturing IT solutions
- ▶ Definition and governance of a manufacturing IT roadmap that supports, contributes and links to manufacturing excellence programs.

Atos' manufacturing opportunity scan solves these challenges and employs two unique accelerators that shorten the time frame to success: the Manufacturing Maturity Model and our M4MES libraries of best practices.

Atos' manufacturing maturity model

Our approach starts by assessing a plant organization's maturity using the Atos Manufacturing Maturity Model™ (MMM). This provides a key framework that links the manufacturing IT domain to the enterprise strategy 'to-be' and plant maturity 'as-is'.

With our MMM questionnaire we can quickly assess the plant maturity in four domains: processes, people, structure and IT. This is an important first step, since all of these domains are pieces of the puzzle to realize any plant strategy.

We then apply the MMM framework to map enterprise and plant objectives against the plant maturity and identify critical gaps between them. This results in a transparent view of challenges within the plant, linked to strategic objectives on enterprise and plant level. It also provides a clear overview of measures to be taken to resolve these challenges.

Powered by our M4MES benefits catalogue

Although most manufacturers believe their production process is unique, we have found very common improvement requirements and objectives among manufacturers within a particular industry sector.

We have been collecting these requirements and objectives in our 'M4MES benefits catalogue' database. The M4MES (Methodology for MES) catalogue links these requirements to a best practice library of benefits, functionalities and common MES components.

Our unique M4MES approach allows us to refine and increase our collection of manufacturing IT best practices with each MES implementation. The M4MES catalogue of benefits provides immediate and industry sector specific value to define a specific manufacturing IT business case.

A business case starts with tangible benefits

The resulting benefits are quantified by a benefits cash-flow model that references the M4MES benefits catalogue. All we need is a plant's current production KPI structure and current performance. The result is a detailed benefits map that quantifies the impact that specific manufacturing IT solutions functionality will have on the Key Performance Indicators. These results are based on best practices, not theory.

Average reported benefits

- ▶ **3% to 7% more yield**
- ▶ **30% to 55% less rework**
- ▶ **Up to 58% less idle time**
- ▶ **20% to 50% WIP reduction**
- ▶ **8% to 18% more productivity**
- ▶ **100k to 2m euro less scrap.**

“Processes, people, structure and IT are essential pieces of the puzzle in realizing any plant strategy.”

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