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MES : evolution & flexibility

LMES systems are responsible for collecting data while integrating with the various machines found on the production floor as well as those that may gravitate around it.

Following this integration, they are able to monitor production and make decisions in real time.

In order to make it easier to understand what an MES system is and the impact it can have on companies, we have decided to dissect two concrete examples of projects that were carried out at PCI.



Our first example concerns a company with a factory in Quebec that wanted to double its production without expanding its floor space.

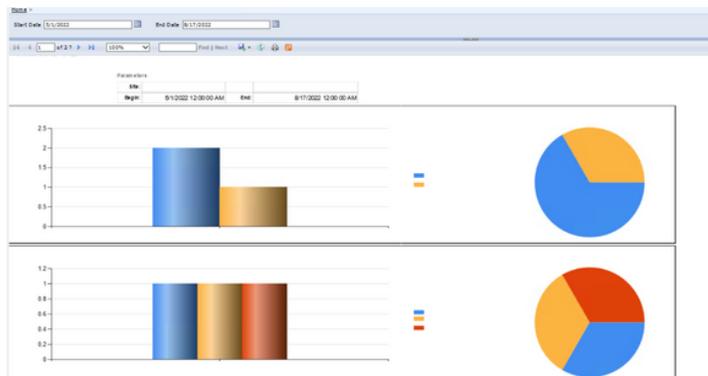
OBJECTIVE

The objective of this project was to implement an MES system which, initially, would make it possible to manage orders, visualize the performance of each station and the overall plant as well as manage inventory, raw materials and finished products.

Secondly, the system would automatically print labels for everything related to inventory and the system would be enhanced by adding new features to optimize production in real time.

This project began with pre-engineering which made it possible to establish the main lines of the project as well as all the necessary interfaces. Pre-engineering was also used to define the IT architecture and hardware requirements.

Phase 1 was developed on a test environment. At the end of the development, the solution was deployed on the production environment and phase 2 could be continued on the initial test environment which was deployed on the production environment once the solution was tested.

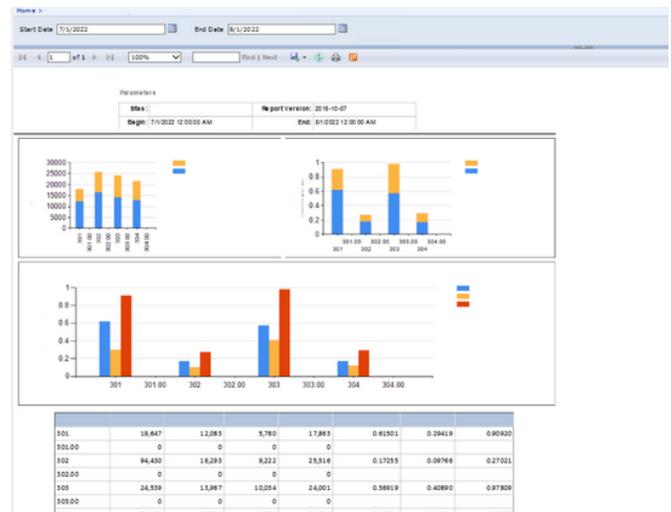


ADVANTAGES

All production data is now centralized in one place and easily accessible. Commands can be handled from screens according to user access.

Highly visual reports are included in the main screen, providing at-a-glance floor and control status.

In addition to facilitating the management of both orders and inventory, having all the information centralized and easily accessible, the system made it possible to increase production and make better decisions regarding planning and floor priorities.



Our second example is related to a multinational company with several factories in Canada and the United States.

OBJECTIVE

The objective of this project was to set up an MES system that could communicate with the ERP (central at the company level) as well as with the floor and other systems (AMR/AGV, management system of warehouse, etc.). Only one solution would be developed, but it would be deployed on all sites. The configuration would thus make it possible to obtain a solution adapted to each site while keeping a single solution at the company level.

In this case, the development took place in several stages. The possibility of being able to evolve the system was a very important criterion.

The project started with a pilot packaging line. Initially, the pilot project included an interface with the ERP system for orders as well as for the inventory of raw materials \ finished products. Following the success of the pilot line, the solution was activated on all the other lines as well as on the other sites.

The development continued by adding certain functionalities such as real-time planning, inventory management with kanban, optimization at the level of the packaging lines for product changes as well as all requests from production sites. to help them in their daily lives.

ADVANTAGES

The system can do dynamic planning of the entire floor, inventory management, automatic machine parameterization, it optimizes production in real time and generates production reports.

By having a single solution for several sites, the return on investment is very advantageous. This is due to the fact that the code is standard for the whole company and each optimization is developed only once, but applies to all machines of all sites. The configuration therefore makes it possible to keep the uniqueness of each site.

At the end of the project, production costs have gone down significantly: less waste, less downtime, better management of raw materials and quality, better traceability, to name a few examples.

This project is the perfect example of a central MES system implementation that manages the production floor in almost every aspect. The deployed structure also contains interfaces with several systems. This solution also allowed standardization within the company, the MES system continues to this day to be improved following new requests.



As we can observe in these two examples, the solutions of these projects are now in place and can easily evolve over time according to the requests and new needs of the customers.

The continuous development of these systems and their flexibility are part of their many assets. Adequate training combined with an easy-to-use and reliable system allow users to obtain optimal results.



YOU WANT TO KNOW MORE ?

Do not hesitate to view our short series on MES systems available on the blog of our website at <https://www.pciauto.com/fr/blogue>