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**Michelin** is getting success at its plant in Valladolid. It has done so by introducing new models of work management, production and storage in its plant. But let's go in parts. October 2, 1973: that day the factory Valladolid produced its first rubber. Nowadays, the factory has automatic chains for the manufacture of touring tires of medium-high range, equipped with the latest technological advances for this type of production.



All these factors make the factory one of the most modern in the company, which allows it to have its own industrial culture and routines. However, Michelin is aware that the service on some factory product lines is improving ... especially on replacement tires.



## From more than six months to get a tire to (almost) the here and now

Until now, despite the information provided by their MRP (Material Requirements Planning) systems, the factory recorded a high level of service, but with a lot of additional and costly efforts - planning changes, overtime, shipments. This MRP system, valid in the years 1970s and 80s, allowed the delivery time of a Seat 600 tire to go from one year to only six months, but that is not good enough to compete in the 21st century.

What has changed with the new century? The current, more informed and demanding customer wants a particular tire model and wants it on the spot, making the demand variable and unpredictable. The factory must constantly change the production plans generated by MRP, increasing the costs of production, and, in some cases, resulting in late shipments.

In order to take the necessary steps to updating the management of work, production and storage, Michelin has implemented two tools in its factory in Valladolid. The Prod'Agile project has improved the level of customer service in terms of effectiveness, making the factory's work and production structure more flexible. This objective has been achieved by investing in more versatile machines, where the preparation and change times are smaller and with the implementation of the Demand Driven MRP (DDMRP) management model.



## Manufacturing based on actual sales

They needed a change in philosophy. This is what has led to the introduction of the Demand Driven MRP management model at the Michelin factory in Valladolid. In short, this innovative working methodology allows, instead of manufacturing according to the sales forecast, factory production to be based on actual sales.

To this end, a finished product buffer has been designed, dynamic and changing as a function of sales. The buffer is responsible for customer service. Thus, when Murphy (variability) acts on current purchases or production and the supply chain is disconnected for a short period of time, the factory can continue to respond quickly to confirmed customer orders.

In short, Demand Driven MRP ensures a 100% service level, establishes a direct link between the plant and the Customer Service department, improves the quality and level of stocks and, ultimately, alleviates possible fluctuations in demand.

### **Expansion of the logistics center**

In the works, the company has invested 13 million euros, which will accommodate touring and agricultural tires for all continents, in addition to the renewed truck tires to Europe, all produced in the factory.

The expansion has meant the construction of 30,000 square meters of warehouse that, together with the existing 25,000 square meters, raises the storage area to 55,000 square meters. The objective of the work and the investment? Adapt the flows of material in warehouse and the output of the product to the capacity to serve a greater and more complex demand, propitiated by the Prod'Agile project.

The new space allows the storage of Valladolid produced tires for demand on all continents. Every year from the Logistics Center of Valladolid, more than 90,000 tons of tires are delivered, that is, about 6,000 trucks.

These projects to improve the competitiveness of the Michelin Valladolid factory, as a key link within a 21st century supply chain, have made it possible to improve the level of industrial service. The Michelin Customer Service Department of First Equipment Tires for Europe issued the following statement:

"Demand Driven MRP processes have significantly improved flow management in the short term. Since the beginning of the pilot phase, we have not identified any crises and we have noticed an increase in the sensitivity of the factory to customer needs. Currently, communication with the Valladolid factory is more fluid and this allows us to be able to respond even to modifications of firm orders. "