

# Tronox Pigments: Successful transfer to cost-driven organisation

---

Due to increasing competition from countries such as China, a while ago Tronox Pigments decided to change its focus from being a production-driven to a cost-driven organisation. Tronox Pigments Incorporate GmbH achieved the reversal in collaboration with PDM Process Consulting. The results are impressive. The time formerly devoted to ad hoc matters was reduced by 32%. From now on, the company operates by means of a maintenance concept and more work is handled by the same number of people.

Tronox Pigments is the world's third-largest producer of titanium dioxide. Titanium dioxide is a pigment manufactured from iron ore that is added to products to give them a whiter and lighter colour. Just think of products such as tooth paste, paint, plastics, paper and cosmetics. Tronox Pigments has production facilities all over the world. A major part of the titanium dioxide consumed by the European market originates from the production facility in Uerdingen, Germany (formerly: Kerr Mc. Gee).

## Production

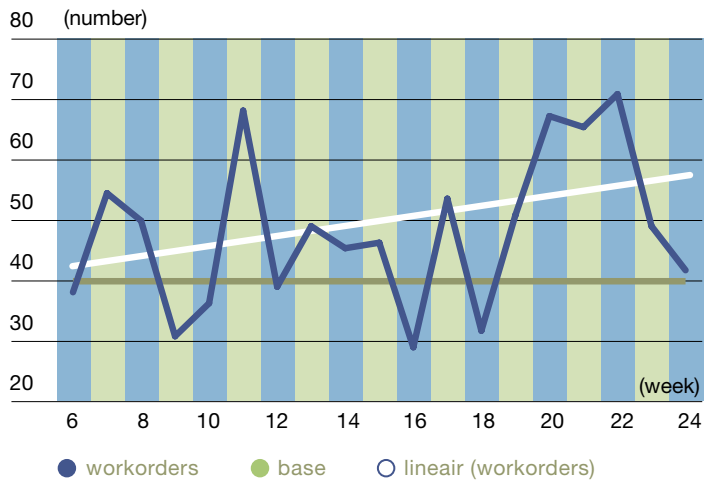
Mr. S. Knudsen, Maintenance Manager with Tronox Pigments: "In Uerdingen alone we produce annually approx. 107,000 tons of titanium dioxide in various qualities. The whole production line is divided over three factories that are all located at this facility in Uerdingen. In total, we work here with over 600 employees, including 60 employees in the Technical Services department".

For many years, this facility aimed at a continuous improvement of its production process. The objective was to increase production capacity. Due to continuously increasing competition from low-wage countries, not only were they forced to increase production capacity, they also had to control the per tonnage cost. By the end of 2005, this constituted the reason for Tronox Pigments to invite PDM to conduct an analysis within their maintenance organization in order to see where they might have some potential for improvement.

Together with Tronox, PDM analyzed the available communication structure, the available management information, the organizational structure and the results. PDM achieved this, among other things, by staging interviews, by observing



## Finished workorders per week 2006



people in their daily routines, and by organizing workshops, by doing data studies, etc.

### Analysis Results

Says Mr. K. Kloosterman, Senior Project Manager with PDM: "Data analysis revealed that 75% of the maintenance activities were not planned and that 40% of the mechanics' available time did not yield any increase in value".

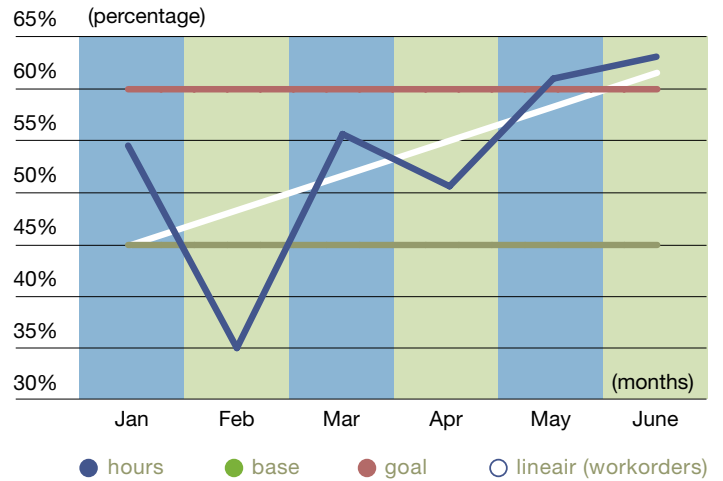
Particularly, the time to properly prepare matters was lacking. Incoming work orders from production were often unclear and the data in the Maximo maintenance management system was not up-to-date. As a consequence, management information was unreliable. Moreover, the maintenance department turned out to be subordinated to the production department. Although long-term planning existed, in practice, it was not applied. So we proposed to come to grips with a number of issues in a 9-month period.

### Project Approach

"With a team consisting of employees of Tronox Pigments and of PDM, we first started out to check and revise all data in the maintenance management system and to define the essential KPI's for controlling the maintenance process with Tronox Pigments in Uerdingen," says Knudsen. He continues: "Parallel to these activities, the project team created a new communication structure within the organization, so that crucial information (including KPI's) flows both 'top down' as well as 'bottom up' through the organisation. In order to improve the communication between production and maintenance, a daily and weekly coordination meeting was organised to regularly discuss the work planning schedules. In workshops, we have reciprocally adjusted the expectations and the understanding among employees. Only by working in this way any improvements may be introduced and carried out in a structured manner.

Another important task was the streamlining of all workflows within the maintenance organization." One of the spearheads with all these processes within the maintenance organization was gate-keeping, or, the continuous setting of priorities. Through the daily, weekly and monthly planning cycles implemented by PDM the focus shifted from ad hoc trouble-shooting activities to planned maintenance.

## % Realised vs netto hours 2006



Kloosterman: "This made time available for work preparation due to which this activity has also improved. By taking as a guideline the preventative maintenance concept, which we have defined in Maximo in conjunction with the planning, we see that decisions are taken more consciously and tailored to the available capacity planning."

### Results

Mr. P. Davis, European Manager with Tronox Pigments: "The project became a success since PDM focused on the people on the shop floor, during the hole project. We worked together very well to gradually implement all of the changes."

The results are remarkable. In fact, the time that was spent on ad hoc matters was reduced by 32%. The number of work orders increased by over 35% per week, whereas the number of employees remained the same. Substantially less work was contracted out. Moreover, it is evident that 85% of preventative maintenance is now carried out within the planned week. "For Tronox the current challenge is to retain this result and to further improve on it. Therefore, we as PDM will return in 6 months to perform an objective audit. In this audit we will check to what extent the agreed actions for improvement have been implemented. All of this will be done with the result of consulting those in charge on how they may maintain and improve the new approach." ■