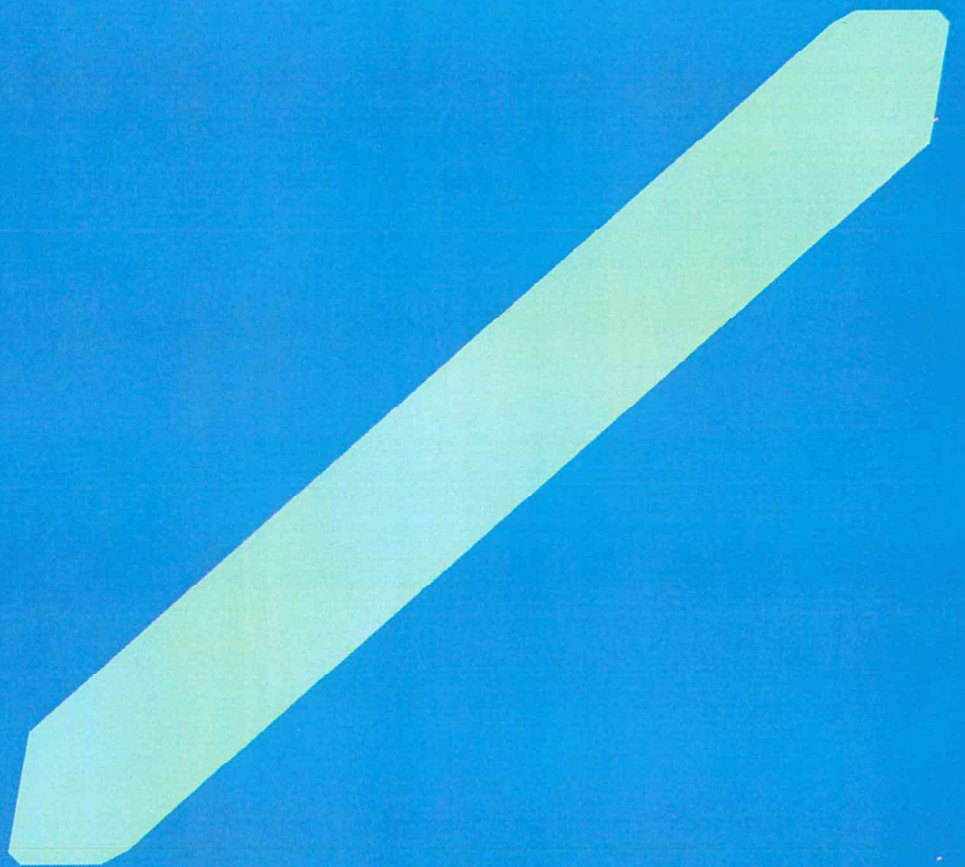


References.



*Industrial Excellence.
Count on 50 years' experience.*



Reference letter

Concerning:

Implementation of Hand on Tool Time methodology Aperam Genk

In the name of Aperam Genk, I state that PDM Consulting B.V. has successfully completed the "Implementation Hands on Tool Time methodology" project at Aperam Genk with results to our expectations.

The project description is attached to this certificate.

We wish PDM success with their further projects,

Sincerely,



aperam
Aperam Genk
Swinnenwijerweg 5
B-3600 Genk, BELGIUM

Jimmy De Wilde
Manager Cold Rolling Plant
Aperam Genk

Case: Aperam Genk

Implementation Hands on Tool Time methodology

THE CHALLENGE

Short line stops for preventive and non-urgent corrective maintenance are an important element in the asset maintenance strategy of Aperam Genk.

PDM was asked to analyse effectiveness and efficiency of maintenance work during stops of a major production line.

Main findings:

- Scope items added after scope freeze of line stop
- Limited status overview during execution
- High administrative workload for the line stop coordinator
- Limited planning of stop & restart activities.

Impact of these issues is that not all planned activities are executed, overrun of line start-up timing and quality issues in the execution of maintenance work.

PROJECT APPROACH

The following three themes were addressed:

1. Reduction of coordinator administration in order to enhance overview and status follow-up.
2. Optimisation of stop & restart procedure to reduce waiting time.
3. Optimisation of planning to implement a critical path and to increase the effective follow-up.

PROJECT RESULTS

The improved way of working was tested during a line stop in April 2019 with the following results:

- 98% of planned activities executed.
- Planner was more in control of line stop.
- Reduction of overrun (from 12% to 8%)
- Potential identified for further improvement.

PDM implemented the following solutions:

1. Optimisation coordinator administration

- Simplified Excel planning
- Improved computer access.

"Convenient that you don't have to go to the other room for the computer." - Coordinator

2. Optimisation stop & restart procedure

- Improved planning with priorities
- Procedure generating focus on follow-up and timing.

3. Optimisation planning

- More efficient planning
- Clear and stable freeze procedure
- Focus on follow-up of planning
- Clear terms of reference for meetings.

"I notice a clear improvement of input and less changes in the planning." – Planner

The impact of our work

I see clear added value in what PDM has delivered, not only in the reporting but most of all in the way of working. Such an effort without any labor union fuss or disruption on the work floor is certainly not easy. The fact that this went smoothly is really a sign of the commitment and quality of PDM.

Jimmy De Wilde – Manager Cold Rolling Plant – Aperam Genk