

Lucas Varity Ltd.



APPLICATION:

Logistic processes optimization

BRANCH:

Development, production, and sales of hydraulic brakes

SECTOR:

Handling

BENEFIT:

Using the dynamic simulation model in Witness it has been created elimination of some handover places and vehicles number in production with the consequence in decrease of handling and operational costs.

Performing these changes it has been achieved savings in the amount of 245 000 CZK per month and at the same time 15 hours of forklifts work per week.

About the company

TRW Automotive is one of the front suppliers of car accessories. The company is focused on production of disc brakes and it is a leader on European market. It supplies brake systems to prime world car factories. The company was established in 1999 and it is located in Jablonec nad Nisou.

Project targets

The project goal was on the analysis basis of the current state (material flows, storage capacity, handling capacity, finding out of utilization of handling technology and workers) a proposal of logistic processes optimization in Lucas Varity Ltd. with the focus to remove bottlenecks and operational cost reduction of 10%.

Solution

On the basis of input data from Lucas Varity Ltd. it has been created dynamic simulation model of handling and storage. This model has been created to fulfill predetermined rules for all types of handling technology, all handover places, limitation of the viewpoint of tracks, carrying capacity of individual vehicles, possibility of stockability etc.

In the second part of the dynamic simulation model it has been created model of handlers' work on production lines according to input data of handlers' work which has been gathered from the contracting authority.

As a relevant simulation period it has been determined one week.

On the basis of created model there have been created simulation experiments to reduce operational costs of handling and storage - logistic processes which are closely related to the production - and ensure to storage and handling requirements would be provided in time.

It has been tested 13 variants of simulation experiments focused to eliminate handover places, then 5 variants to eliminate handling technology and a

variant to use a new handling vehicle which means removing 4 or 5 old vehicles.

On the basis of Witness outputs it has been proposed an optimization variant which was leading to reduce operational costs.

Results

The basic output from simulation of all proposals was to determinate workload of handling technology.

On the basis of performed changes of removing special combinations of handover places we were able to identificate moves in using of individual vehicles and overall reducing of vehicle using which is caused of reduction of handling.

In case of reduction of number of handling vehicles it is possible to reduce number of workers which brings cost savings 245 000 CZK per month.

In case of investment to a new vehicle and removing (sale) of 4 or 5 old vehicles it is possible a profit up to 250 000 CZK.

At the same time there is a time saving about 15 hours of forklifts work per week.

