

Lloyds Coils Europe

The simulation and optimization of the big exchangers production



APPLICATION:

The dynamic simulation is today more and more in the foreground. And it is no wonder. Present processes are today more complex and more difficult and comprehensive. And time and costs are lower. Therefore there exists a possibility to use the simulation. With its help it is possible to identify connections in the complex and comprehensive systems. At this case there was the same thing. It was necessary to build a simulation model with its help it was optimized the production process of big exchangers.

BRANCH:

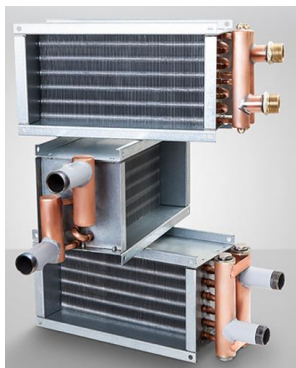
Industry

SECTOR:

Engineering

BENEFIT:

With using of the universal built simulation model there were verified the production processes, the mode of production management, numbers and assignment of workers, different ways of handling.



About the company

LLOYD COILS EUROPE is the established producer and supplier of bespoke heating exchangers with high quality in the European market.

The company LLOYD COILS EUROPE was established in 1996. From the start the company developed from the production exchangers supplied only to mother's company (Friga-Bohn) to the stable trustworthy company with a wide customers' base. The products are dispatched to tens of countries mainly in Europe. You can meet with their applications around the world.

Project targets

The project output was the verification of the optimal setting of the production process and the simulation of the optimal line utilization according to market needs. This solution was necessary to propose as modular to fulfill requirements to possible expanding of a logistic and production capacity.

Solution

During the implementation was very important a modularity of the whole system. Therefore it was created **the universal simulation model in WITNESS**. This type of a model is possible to expand, modify very simple and use to this or another project.

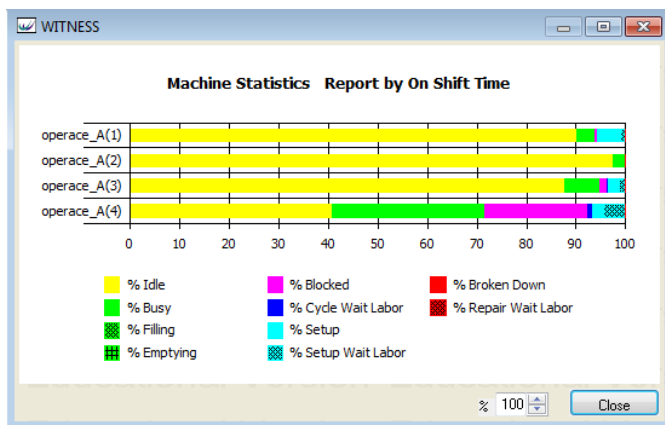
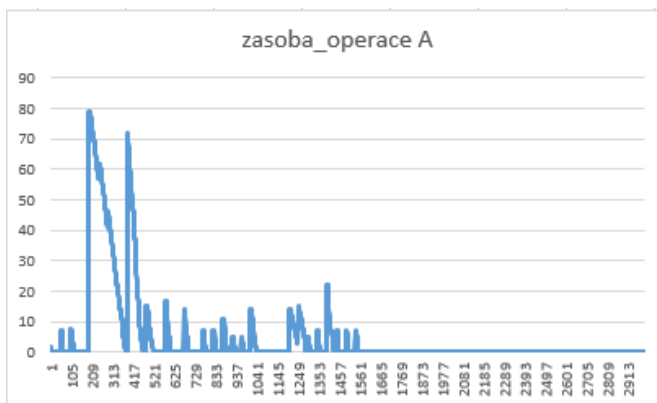
There were simulated all the variants with different settings of input parameters. The main required outputs of the big exchangers production optimization were:

- The verification of the throughput of individual production operations and the optimization of material flows on a line
- The workload of operators and their optimization
- The load of handling processes and its optimization
- The verification of the production process management on the line with the goal of ensuring of a fluent flow and a required production capacity
- the simulation of the optimal using the production line according to market needs

Results

There were simulated the four variants. These variants were different by a period, so their product portfolio was different which influenced the characteristics of the whole system. The next partition consisted in the different production volume. Always it was verified the lower and the maximal production volume.

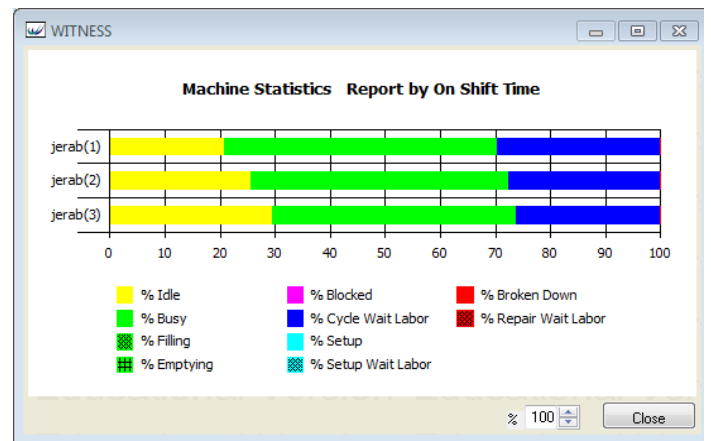
From every simulation there were processed predefined outputs by them were evaluated the individual variants. One of the outputs was the amount of buffer stock in front of every machine and the utilization of the machine.



Between the elementary outputs doesn't have lack the workers' number, their working assignment and the determination what they will operate.



The last of the main graphic outputs was the using of the individual overhead cranes.



On the basis of these outputs there were verified the mentioned four variants. For every variant it was determined the optimal number of machines, the number of workers and their assignment, the handling devices which are necessary to move material between the individual workplaces. With this universal model is possible to verify simulation variants direct by a customer on a simulation workshop because the speed of the change of the input parameters, the simulation and the proceeding of outputs is in minutes. Thus, it's immediately see what is the effect of your settings input parameters.