

Case Study



HAYES LEMMERZ AUTOKOLA a.s.

Swiftness, reliability and flexibility of supplies
within the automotive industry



APS in HAYES LEMMERZ AUTOKOLA



Hayes Lemmerz Autokola has implemented and has been using the APS i2 Factory Planner system. It authorized LOGIS to perform the implementation. The project was implemented quickly and it brought very good results in the form of reduction of inventory and improved customer satisfaction.

Hayes Lemmerz Autokola, a.s. is a part of an international concern Hayes Lemmerz International, Inc., a global producer



Jiří Adámek
General Manager

of aluminium and steel wheels for passenger cars and steel wheels for trucks, trailers and fork lifts. Hayes Lemmerz Autokola, with its registered office in Ostrava, is involved in the development and production of steel car wheels for passenger cars and fork lifts. Its biggest automotive customers include General Motors, Volkswagen, KIA, Ford, Suzuki, Toyota and PSA. Within the segment of wheels for fork lifts, these are for example NACCO, Still, Daewoo, Trelleborg.

GROUNDS OF THE INVESTMENT

At the end of 2002, Hayes Lemmerz Autokola decided to implement the i2 Factory Planner system for advanced planning and scheduling. Ing. Jiří Adámek, General Manager and Member of the Board of Directors of Hayes Lemmerz Autokola, states the following on the grounds of project implementation: „The automotive industry is a very demanding environment without compromise. Its supplier chains continue to increase their demands on each of their segments. Companies wishing to succeed can't rely on being able to manufacture products with excellent technical parameters and high quality – these are considered a matter of course these days, a necessary but not a sufficient precondition. Today, companies in the automotive industry have to be able to offer more. The

imperative these days is the standard of customer service. The requirements on flexibility, swiftness, accuracy and reliability of supplies are growing fast. These parameters are strongly affected by how precisely, smoothly and with what performance the process of order implementation is realized.

“There are many activities behind order fulfilment, the companies having only limited sources for these activities. It is a matter of fact is to be able to arrange activities any time in such a way that the company is able to make the best use of the opportunities it has, this meaning to be able to fulfil as many orders as possible to the maximum satisfaction of the customer – i.e. swiftly, reliably



and flexibly – but with the lowest costs possible. This task is not easy at all as there are many activities, relations and restrictions in the dynamically developing system and traditional solutions like a pencil and a piece of paper or planning in ERP or Excel quickly hit the limits of their possibilities.

“In order to support the fulfilment of our targets, we decided to implement advanced planning technologies and use them for the benefit of more effective management of our business. These days, from a distance, I can state that

it was a decision, which certainly had a positive effect on the development of our company.”

CHARACTERISTICS OF PRODUCTION AND OBJECTIVES OF THE APS PROJECT

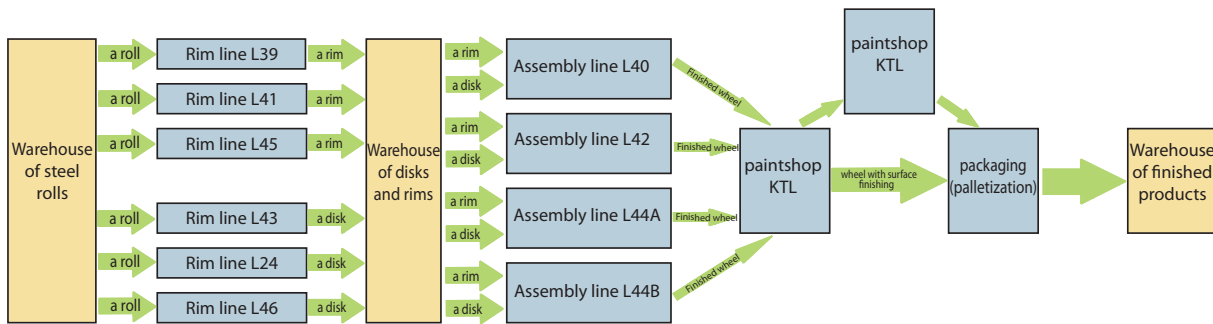
Production is performed on a line with fixed intervals. The production occurs in batches; when the batches are compiled, one looks for a compromise between the effort to minimize the time of line adjustment (economic view, operating effectiveness) and the requirement of deadline delivery performance (customer satisfaction).

In terms of the company targets, the following targets of implementing the APS system were determined (quotation from project documentation):

- Improved delivery performance.
- Reduction of inventory – finished products, semi-finished products, material.
- Throughput improvement – better use of resources and increased turnover.
- Ability of quick response upon change of requirements.



Production capacities and flow of material



Ing. Vít Lednický, Manager for Informatics and a member of the project teams, comments on the course of the project:



Vít Lednický
Manager for informatics

“For the implementation of the APS i2 Factory Planner system, we prepared quite a demanding schedule together with LOGIS. We’re pleased

it has been confirmed that our plans weren’t too optimistic. We applied the implementation method of LOGIS, which provided us with precise guidance; it didn’t allow us to go down a blind alley, to do too much at once or to get nowhere fast. This allowed us to reach the important targets of the project in a very short time. We were pleasantly surprised by the results of the very first implementation stage, which lasted for two months. By its implementation, we obtained the following results:

- Better knowledge of the ability to meet customer requirements and to identify the related problems in advance and with greater accuracy
- Improvement of overall transparency (visibility) by connection of company processes sale – production - purchase
- Improved ability to plan requirements for material
- Improved ability to plan resources

„As of completion of the first stage, we therefore commenced routine operati-

on of the APS system. Also in the next, this time a three-month implementation stage, we managed to meet the plan of the project – both in terms of time and in terms of the achieved results. Following the completion of the implementation, we could regularly make use of the following abilities:

- Globally optimise the plan
- Quick reaction to customer demand
- What-if simulation of the plan – creation of plan variants
- Assessment of plan variants from the financial point of view
- Quick updating of the plan in reaction to a change of situation“

PROCESS OF PLAN CREATION, DAILY ROUTINE IN PLANNING

„The planning process works with a daily cycle, meaning that every day, we have a plan available, which reflects the current situation of the company. Hence if a more significant event occurs, which might affect the order fulfilment, the relevant information is provided to the planning system immediately, which reflects it very quickly. In this way the opportunities as well as dangers are identified with maxi-

mum advance time and on the basis of the compiled plan, it’s possible to adjust the activities in the company to the situation in the most advantageous way. The activities of the planning process include:

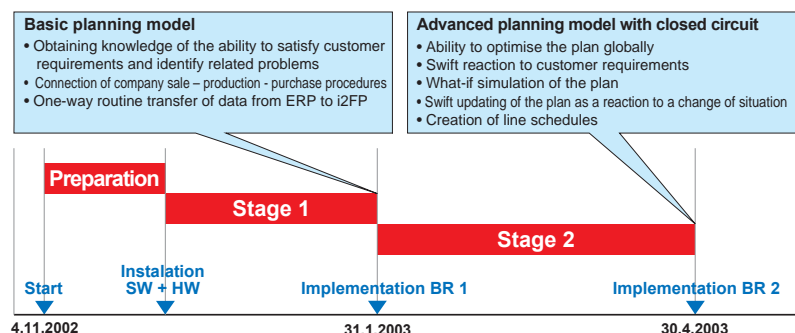
- Reading orders, cancellations, forecasts and other data into the planning system
- Inclusion of requirements on final products into the plan, considering the inventory of individual semi-finished products and inventory in warehouses
- Generating production orders and requirements on material
- Optimising the resources in a longer time horizon Specification of timing of purchase needs
- Creation of a ‚floating‘ schedule of lines in a time horizon of 7 days

The results of planning (and scheduling) are recorded into ERP (company information system) and distributed as a basis for the management of a workshop, purchase.“

ACHIEVED IMPROVEMENTS

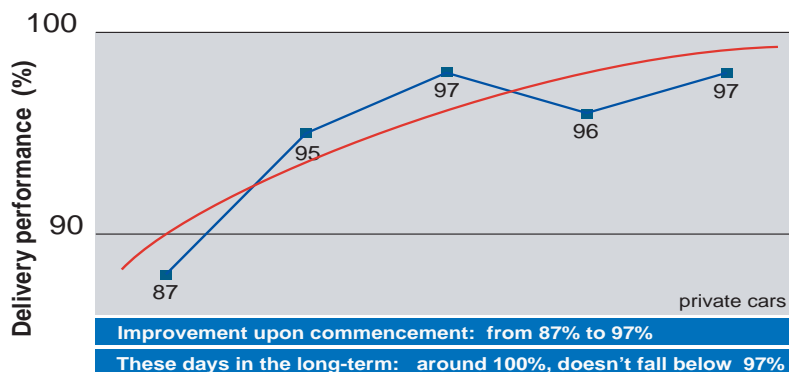
„The implementation of the APS in our company system resulted in a change of management quality. These days, the management is more effective, accurate and sensitive. We’re glad we managed

Project Schedule





Growth of deadline delivery performance



to meet all the targets of our company connected with implementation of the project (see above). The achieved improvements are demonstrated in the attached charts."

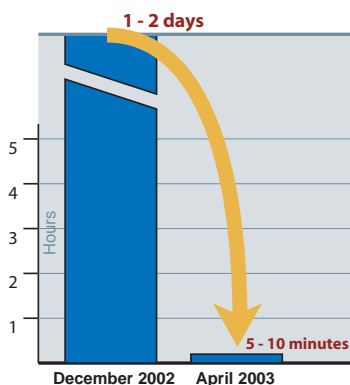
• DELIVERY PERFORMANCE

"The effects of the advanced planning were most obvious in the period of the system commencement, i.e. in the first months of its routine operation. Upon the application of more effective management, in a few months, the monitored parameters went from the original levels, around which they had ranged until then, to new ones where the figures of parameters settled in the long term. It is highly visible, for example in the diagram reflecting the development of deadline delivery performance for our customers where in the period of commencement, the performance improved from 87% to 97%. Since then the delivery performance has not fallen below 97% and very often, it reaches up to 100%."

• SWIFTNES OF DEMAND RESPONSE

"In the event that a new request appeared formerly (cancellation, order) or if a request changed, it was necessary to assess the effects of such an event on the possibilities

Swiftness of reaction to demand



of realization (to determine a reliable deadline of performance, to allocate necessary resources), the possibilities of assessment were quite limited. The relevant works lasted on average for two days and despite this, they provided quite inaccurate results as our people were unable to consider all the relevant effects upon the assessment. The use of the APS system in this field resulted in a striking change. The assessment of a request is now a matter of a few minutes while the result is highly reliable information. Hence we're able to confirm the terms of delivery to our customers, which we're usually able to keep later with high reliability (as shown in the diagram of development of deadline delivery performance)."

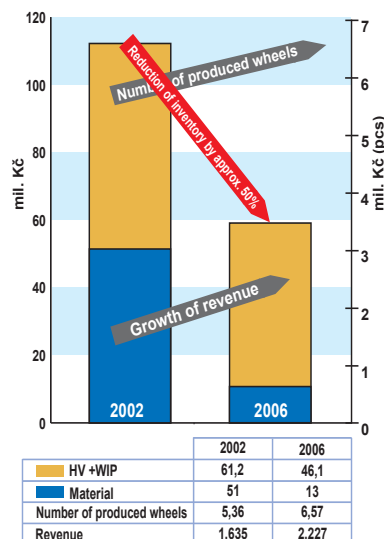
• REDUCTION OF INVENTORY

"In order to illustrate the improvement in the field of inventory, we decided to compare the volume of stock in relation to the volume of production (number of produced wheels as well as sales) for 2002 (immediately before implementation of the APS system) and for 2006. It's clear from the comparison in the diagram of inventory reduction and production growth that while the volume of production grew by approximately one fourth, the volume of inventory fell approximately to one half.

"The application of technologies of advanced planning increased the effectiveness of the process sale – production - purchase. In the same time, the project reinforced some of our important skills - for example to identify potential narrow points within order fulfilment before they actually emerge and to adopt relevant measures in time, or the ability to plan the request for material with greater accuracy and in a longer time horizon. It also allowed us to react more quickly and accurately to changes of the situation like the entry of a new order, exceptional outage of resources etc. "Sometimes we face the question whether the achieved improvements can be assigned only to the APS system. Of course we can't say of the achieved results that

they were produced exclusively by the APS system. The APS system is a very strong tool supporting the management but it's just a tool'. It's important for this tool to be applied effectively and this is up to our managerial employees. Without them, the APS system would only be a toy in the hands of a few fans in the company. On the other hand, without an executive tool, the utmost effort of the managers could not bring the coveted fruit. In terms of achieved results, the APS system isn't a sufficient condition, still it was a necessary one. "Planning and operative management through a plan has become a routine in our company, which we no longer consider anything special. We don't have any doubts that the basis of high effectiveness and good operation of our order fulfilment is our system of management based on the use of the APS i2 Factory Planner system."

Reduction of inventory vs. growth of production



FINAL ASSESSMENT

The final assessment is to be provided once again by the general manager, Jiří Adámek: "It would be great if every project we implement were as successful as this one. The results of the project met our expectations positively. Today, we work more effectively and with greater knowledge. Now we're able to identify many problems, which we had to face in the past, in advance, find a solution in time and thereby avoid them. We're able to react to any changes concerning order fulfilment more quickly and accurately. Our cooperation with LOGIS helps us to develop our skills and improve ourselves. It allows us not just to reduce costs but in particular to strengthen our position as a flexible and reliable segment of a number of chains in the automotive industry."





HAYES LEMMERZ AUTOKOLA

Hayes Lemmerz International, Inc. is one of the leading global suppliers of automotive and commercial wheels for on-road transport, brakes, power trains, suspension and other relieved components. The company has over 40 plants, and 3 joint ventures with approximately 11, 000 employees. Hayes Lemmerz Autokola, a.s. is a member of Hayes Lemmerz International, Wheels Group. It is a manufacturer of steel wheels for passenger cars. It is a significant supplier of VW, Ford and OPEL. Recently, it has won contracts for deliveries to the new plants of Toyota in Kolín and PSA in Trnava.



LOGIS

LOGIS is a supplier of expertise services and information technologies focused on improving of business management and competitiveness. LOGIS applies advanced managing and planning methods and procedures (so-called best practices), including high-performance information technologies Supply Chain Management (SCM) and Advanced Planning and Scheduling (APS). The projects are aimed to improvement operation excellence and customer satisfaction of LOGIS customers. The used technologies are either proprietary or from i2 Technologies (LOGIS is an authorized distributor of i2). The company has over 60 clients in more than 25 countries worldwide. Learn more at www.logis.cz

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i2 TECHNOLOGIES

The leading supplier of solutions for the management of complex supplier chains. i2 develops and supplies software that helps customers optimize and synchronize their activities in management of supplies and inquiries. i2 was selected for solving critical and complicated problems in supplier chains in more than 1000 leading companies worldwide, including seven of the top ten on the Fortune Global ladder. Since it was established in 1988 it has focused on the success of clients and maintains its orientation towards delivery of value by applying solutions developed for ensuring a fast rate of return of investments. You can find more about i2 at www.i2.com.

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