Case Study

ŽĎAS, a.s.

Increases Operating Effectiveness by application of APS technologies

LOGIS
PLANNING FOR EFFICIENCY

ŽĎAS Increases Operating Effectiveness

At the beginning of 2006, in the engineering – metallurgical complex of ŽĎAS, a.s., with its registered office in Žďár nad Sázavou, the project of implementing an advanced planning system and production scheduling commenced. The supplier of this project was IBM Czech Republic and its alliance partner, LOGIS. The product i2 Factory Planner from i2 Technologies was being implemented. The objective of the project was in particular to improve the operating parameters of production and logistics, which include not just the reduction of lead times and improved production plan performance, but also a reduction of inventory of semi-finished products and material. In addition, the project shall have a positive effect on the improvement of delivery performance in relation to the customer and the economic parameters of production such as the assessment of the production plan and planned business transactions.

Miroslav Šabart, Vice-chairman of the Board of Directors and General Manager of ŽĎAS, states on the project:

„For a certain period of time, ŽĎAS has been profiled as a customer-focused company. In today's highly competitive environment, this is a condition of success. Though in the last few years we've achieved significant improvements. in these areas, which were positively reflected in the results of our management, among other things, some reservations still exist. One of the fields where we can see the improvement potential is better coordination along the whole supplier-customer chain, starting with purchase and ending with sales. Therefore we decided on the APS project for the project of advanced production planning. We selected IBM and LOGIS as our partners for its implementation, as these companies offered top solutions verified in many foreign as well as domestic projects."

Miroslav Šabart

Vice-chairman of the Board of Directors and General Manager

Igor Kliment, assistant to the production manager, was in charge of coordination of the project implementation on behalf of ŽĎAS.

„We devoted close attention to the preparation of the project team. The project affected a number of activities, which had been performed in our company without changes for many years and therefore when setting up the team, we had to consider not just the expertise of the individual members but also their ability to adopt and enforce change. I'm glad we managed to set up the team so that it managed to cope with the demanding tasks raised by the project.

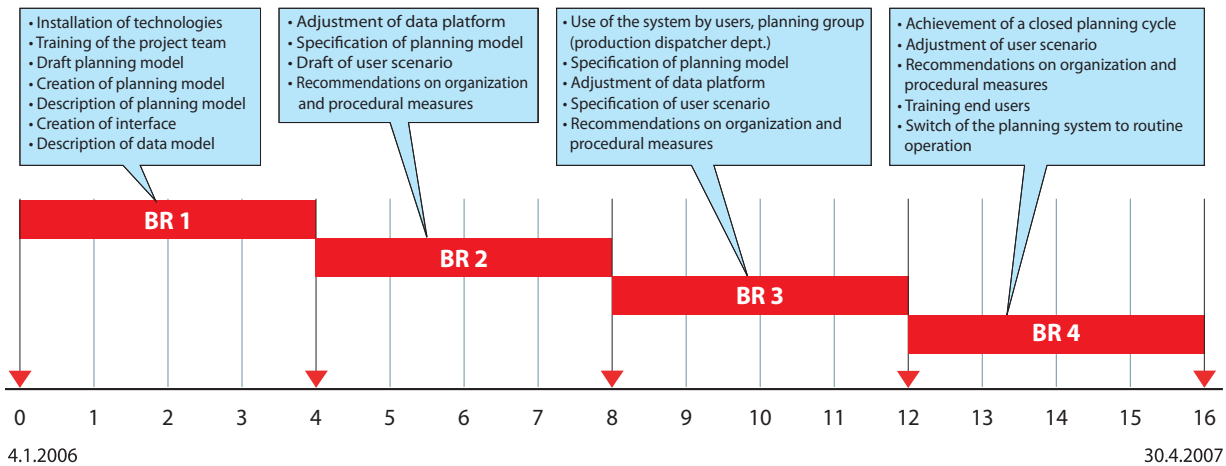
"Right at the beginning we realized that the APS project was not primarily an informative project but due to its range and complexity of related changes, it went across all decisive departments of the company. Thanks to this, the key users entered the process – representative of expert departments – who were at first made familiar with experience from implementation of the proposed solution in similar manufacturing companies and then, together with the supplier's experts, prepared a draft process of a business transaction realization

> "Using the APS system, we're able to cope better with order fulfilment as well as the growing volume."
>
> *Miroslav Šabart*

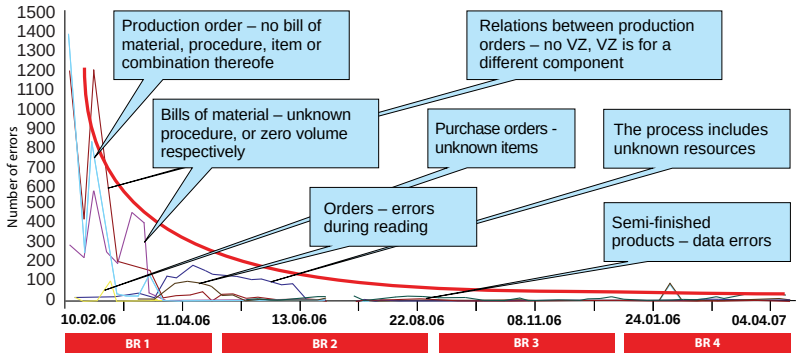
Igor Kliment

Production Manager Assistant

Project Schedule



Development of frequency of errors identified in the data by the APS system



making use of APS and evaluating its effects.

"The schedule of the project was prepared for the special current situation of the business."

Pavel Kantor, Head of the Informatics Department of ŽĎAS, comments on this: "A long-term project identified as IS Unification Project has been running in our company in the field of IT, the target of which is, among other things, the technological and functional restoration of our information system. APS is becoming one of the key components integrated in the business information system of ŽĎAS. The coordination with the IS Unification Project affected the definition of the scope of individual stages of the APS project as well as its overall duration."

- At the very beginning of the project, a planning group was appointed, the activities of which supported by the APS system contributed significantly to the improved quality of planning.
- Improved quality of data The management, through advanced planning allows setting up very accurate plans, reacting very sensitively to changes of situation. In order for the system to work however, it is important for the data we provide to the system to be as high-quality as possible. Therefore the improvement of data quality was one of the decisive tasks at the beginning of the project. We were pleasantly surprised by the strong support provided by the APS system. When reading the data, APS checks the consistency of the data read and generates reports on which we can rely when removing the ascertained defects. Hence by the APS i2 Factory Planner system, ŽĎAS acquired not just a strong planning tool but also an effective tool for the fast identification of data problems (bills of material, procedures etc.) and "lack of discipline" on the side of operators (lack of updated delivery terms of materials, delays and inaccuracies when cancelling production at workshops etc.).

The diagram of error frequency development illustrates how we managed to reduce the number of problems with our data in the course of the project. From the very beginning, we understood the APS system as a tool through which we would use more effectively the data resources filed in our company information system for the benefit of our business. Thanks to the effective assistance upon assurance of high quality of data, the APS system helped us to significantly increase the value of this data resource.

- The information from various parts of the company IS (ISŘ as well as DŘV) was combined in one model. Thereby we acquired a comprehensive view of orders and their fulfilment.
- Specification of resource needs. Formerly, we used to work with the gross resource needs above the joint workplaces for management purposes. These gross data could actually be used only to consider gross balances and they could not be used for purposes of operative management. The project meant a transfer from work with gross resource needs to detailed specifications of resource needs (from technological procedures) related to individual resource units. During planning, more data are processed (APS being able to cope with this easily) but the result of the planning is then very well usable for the usual management of production.
- Following the detailed specification of resource needs, a substantial specification of timing of material needs and the purchase needs following them could be effected.
- In the course of the project, the environment for the creation and updating of the plan was unified at all levels. The result is the possibility to plan and manage bottlenecks with relation to the whole business transaction.
- Fast reflection of changes. At all levels of production realization, there might be continuous changes (change of requirements, change of material availability, resources etc.). All these have a larger or smaller effect on the advantage and feasibility of the currently effective plan. Thanks to the APS system, we are able to react rapidly to changes of situation by the compilation of a new version of the plan reflecting the changes. Even in the course of constant change, we're still able to provide instructions for the purposes of management, which are well applicable (they are not prevented by lack of sources) and the observance of which is highly effective in terms of company objectives.

ACHIEVED IMPROVEMENTS

The results of the project were assessed in the final report. Following a successful review, the report was approved by the company management. The final report states that the lead times were shortened, inventory reduced, a high level of deadline delivery performance has been achieved and the productivity per employee has been increasing. On the basis of economic calculations, the return of the project was determined at two years.

SHORTER LEAD TIMES

According to the results of our measuring, the lead times shortened by several tens of percentage points. This result was achieved in a situation when the number of processed orders as well as the volume of production grew simultaneously. Hence the lead times were shortened in a situation when the complexity and load grew.

REDUCTION OF INVENTORY

Thanks to the more accurate assignment of materials, the inventory was reduced. The precise planning of material needs allows the user to get the inventory management under much better control than ever before. We can demonstrate the effects on the surplus inventory. Formerly our inventory always included a certain volume, which was not actually necessary in order to realize the orders. This superfluous inventory, i.e. inventory, which is not actually required by the production department, could reach a volume of up to tens of millions of Czech crowns that were thereby absolutely, unnecessarily “dead” and could not be used for other, more urgent needs.

The following chart shows how we’ve managed to reduce the volume of this inventory. The chart records a reduction by approximately 80% in the course of several months.

DELIVERY PERFORMANCE

In the period before commencement of the APS project and at its beginning, we were fulfilling approximately 500 orders simultaneously. When starting the routine operation of APS, this was as much as 700 orders. This growing trend has continued and these days, we are simultaneously fulfilling approximately 850 orders. In this situation, with the growing complexity and load, we achieve a high delivery performance, which is close to 100%.

PRODUCTIVITY GROWTH

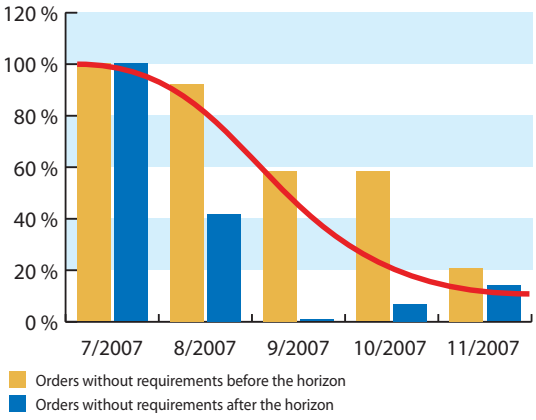
We cope with a growing volume of production with the same number of employees, As a result of this, the productivity per employee is growing. If we compare the volume of performed production in financial figures at the beginning of the project (Q1-06) and after the completion of the project (Q2/2006), we find that the volume of the realized production for this period grew by several tens of percentage points.

Planning group and comments on the routine operation of the APS system At the very beginning of implementation, we decided to set up a planning group. On the side of ŽĎAS, the planning group was the decisive force during the implementation of APS. Also these days, in the period of routine operation of the system, its task is to ensure regular planning. A brief characteristics of the planning group activities follows:

- Continuous (daily) activities include:
  - continuous updates of the plan (following the initial planning, the system provides information on ascertained dangers, they are solved through the system tools);
  - control of deadlines of delivery and current supplies of material, initiating necessary measures;
  - solution of delivery delays;
  - work on security of orders in the long-term horizon.
- On a weekly basis, production plans are released to the workshops.
- On an annual basis, we create an annual plan with identification of bottlenecks, forecast of needs of co-operation etc.

The planning group is also continuously concerned about data quality and initiates measures for improvement. But work focused on data quality does not end with completion of the implementation. The care for high quality of data has to be one of the permanently applicable tasks we have to meet. The care for data

Total of inventory surplus



quality is connected also with care for their up-to-date nature. The less current the data, the worse is the information on which the planning system is based; the plan therefore corresponds less to the reality and it is more difficult to use it for management. For this reason, we insist for example on the continuous reporting of operations and we explain to the people how important is current information for the company management.

We asked the General Manager, Ing. Miroslav Šabart, to provide us with a short summary of the APS project: “Using the system APS i2 Factory Planner, we’re able to cope better with order fulfilment as their volume grows without impairing our deadline delivery performance. We’re able to work more effectively and react more sensitively to changes of situation by rapidly finding the optimum solution. i2 Factory Planner is a tool, which allows us to permanently improve the parameters of our own operating effectiveness and to rely on the achieved results when improving the satisfaction of our customers. The APS i2 Factory Planner system is a very stable one. There are no problems with the reliability of its operation.”

ŽĎAS

ŽĎAS, a.s. is involved in the manufacture of rolling mill equipment, shaping machinery and instruments, hydraulic elements, reconstruction and modernisation of machinery and supplies of ingots, castings and freely forged pieces.

The most important customers of ŽĎAS include VOLKSWAGEN, VOEST ALPINE, Škoda Auto, Třínecke železárny, HAYES LEMMERZ AUTOKOLA and many other domestic and foreign clients.

The company's mission is to manufacture and supply products and semi-finished products of a high utility value, in the required quality and to provide the corresponding services and to adhere to the corresponding safety and environmental regulations.

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 then 25 countries worldwide. Learn more at www.logis.cz

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.

LOGIS, s.r.o. 2009

U Nového světa 286 | 744 01 Frenštát pod Radhoštěm | Czech Republic
www.logis.cz | info@logis.cz | Tel 420 556 841 100