



Case Study

VARNSDORF
TOS

TOS VARNSDORF a.s.

Makes Use of Expansion Opportunities
by application of APS technologies

LOGIS
PLANNING FOR EFFICIENCY



TOS VARNSDORF

Makes Use of Expansion Opportunities Thanks to its APS System



TOS VARNSDORF a.s., a leading producer of machine tools specialized in the field of horizontal boring machines and horizontal machining centres, has doubled its sales in three years. It would be impossible to achieve this result without the highly effective management of order fulfilment resting on the system of advanced planning, i2 Factory Planner. Today, the company considers investment into the APS system an investment of strategic importance. The partner of the management and planning system development is the LOGIS company.

Ten years ago, TOS VARNSDORF was the first engineering business in Central Europe to decide to make use of advanced planning technologies in order to improve management effectiveness.

Jan Rýdl, Chairman of the Board of Directors of TOS VARNSDORF, says in connection with this decision: „In the mid-nineties when our business was privatized, we had many reservations in the management: the delivery lead times



Jan Rýdl
Chairman of the Board of Directors

of our product were long, the deadline performance was low, the flow rate was small and the inventory was inadequately high. We kept fighting situations, which were absurd at first sight: most resources of our production base weren't utilized to their full capacity in the long term, still we were unable to improve the flow rate; we had high material inventory yet some material was missing in the workshops from time to time. Hence we had to solve many issues by improvisation. This was also the reason why our delivery lead times and the delivery deadline performance counted for little and why our economic parameters were behind our western competitors to a great extent. It was clear that our problem, or rather our opportunity, was the effectiveness of management of the main company process. It was also clear that if we didn't try anything in this respect, we could not expect anything to change for the better.

“Certain improvements emerged after implementation of the ERP system. The effect was, however, an improvement of the business administration rather than a better performance of management. The actual management, i.e. the decision-making on whom should do what and when, was affected significantly only by the system of advanced planning (the APS system), i2 Factory Planner. We decided to apply it at the end of 1997. Our primary objective then was shortening the delivery lead times, improved flow rates of production and improved inventory turnover. The results we achieved mean a clear improvement. As soon as the turn of the millennium, we worked with a significantly shorter inventory turnover, the delivery deadline performance had improved, we gradually managed to reduce delivery lead times to approximately one half. All this upon roughly a triple growth of sales as

compared to our beginnings in 1995, i.e. under markedly higher complexity, which had to be handled by the management system.

“Simultaneously with the achieved success, we could see that there were many more possibilities offered by the APS system than we had realized at the beginning. Therefore we decided to keep

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Jan Rýdl

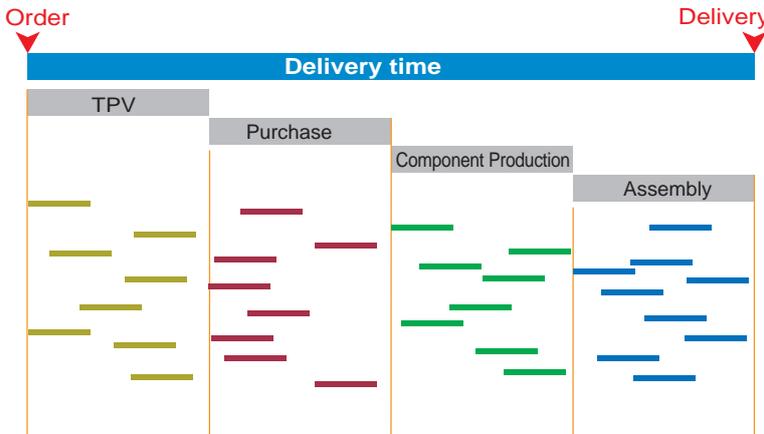
gradually developing the use of the tools of advanced planning in our business. In the course of time, the originally one-shot



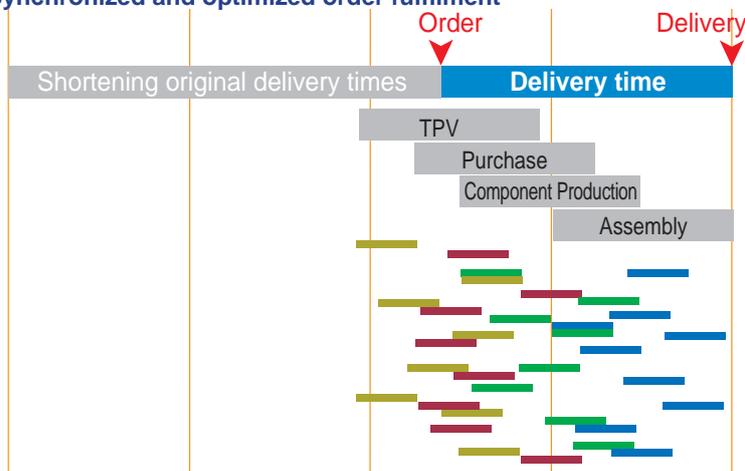


Schedule of order fulfilment:

- Traditional, insufficiently synchronized and unoptimized order fulfilment



- Synchronized and optimized order fulfilment



project of APS implementation became a project of permanent improvement developed in the long term. Also these days, i.e. ten years after installation of the APS system, we have a number of topics ahead of us, in relation to which we are going to make use of the APS system in order to solve them. If we manage to cope with them, and we believe we will succeed, it will mean further improvement of the management in our business and further increase of our competitive advantage. Even a number of years after its installation, the APS system helps us to develop our work effectiveness and increase the rapidity, performance and flexibility of our supplies.

“Today, the quality planning allows us to synchronize much more effectively the individual activities necessary for order fulfilment. The feasibility of plans is higher now as the restrictions burdening the order fulfilment are now taken into account by the plans in much more comprehensive manner. The planning period has been reduced from

the original quarterly to the the later monthly and the current weekly one, which allows us to react to events affecting order fulfilment in a more sensitive way. Our objective is to switch to the method of sliding planning, within which our plan will react continuously to the development of the situation.

“The system allows us to achieve a higher flow rate, a shorter continuous period and lower costs. Hence we can make use of our sources in a more effective way than ever before. Thanks to this, we are also able to achieve shorter delivery lead times and a higher deadline performance than we would have through the management methods we applied originally. In this way, our overall competitive advantage has been growing. We are able to make use of opportunities we would not have had in the past. With the added value per employee amounting to approximately CZK 1.3 million, we are slowly arriving among the successful businesses operating in our field in the environment of developed economies.

Our current demand shows that this year (2008), we have the opportunity to achieve sales in the volume of more than CZK 3 billion. This means that our sales for the last three years will approximately double. The growth of profit for the comparable period is even more striking.

“This was, of course connected with exceptional demands on the quality of management in order to cope with this opportunity – both our management and the management of our subcontractors. I can say resolutely that without a highly effectively functioning order fulfilment equipped with a system of advanced management and planning, we would not be able to make use of this growth opportunity. We would not even have reached the results of the past two years without a highly effective management system. This result is the reason why in the course of time, we consider the investments connected with the advanced planning system investments of strategic importance.

“When I talk about the APS system, I don't mean only the software from i2 Technologies, but also the way it is implemented under the conditions of our business, how it's used within the planning and management process. Our APS system helps us reach results, which just a few years ago would have been a dream rather than a reality for us. The basis of success is actually the increased effectiveness of the management of order fulfilment. I've provided specific results we've achieved. If I had to explain simply what the change of the process is, I would have to say the fundamental change is that all activities connected with order fulfilment are managed from one place in detail and on an optimum basis. The order fulfilment goes through various stages: from TPV, through purchase, production of components and finally to assembly. Activity within these stages used to be coordinated at a very general standard whereas as concerns detailed coordination, nobody was able to coordinate activities throughout the process due to the excessive demands of this activity. With slight overstatement, one can say then as the order entered the business, we waited for the technical department to say that they had everything ready and it was clear what it would be necessary for the purchaser – then we waited for the purchase department to say the purchase had been completed

and it was possible to commence production without the danger of anything missing – and in the end, we waited for the production department to say all the components were ready and the assembly could be done. This situation is displayed in the diagram above.



The planning of the whole order fulfilment through APS, however, allows us to control all the detailed activities, including their mutual relations. Hence as we have available an adequately quality planning system, which is able to effectively control all activities resting within order fulfilment, not only can we reduce unnecessary delays or reserves in this process but when we manage through the plan, we can focus on the achievement of targets, which we weren't able to influence much under the previously applied methods of management. The other diagram shows the schedule of order fulfilment when activities are coordinated (managed) by a plan (following the implementation of the APS system). It's clear directly from the picture why the application of such management tools can result in the reduction of delivery lead times."

Hynek Vojtěch, Member of the Supervisory Board, has been engaged for a long time in the issues of management of the main company process and he participated in the development of the management system through a plan in TOS VARNSDORF. On the issue of advanced planning and order fulfilment, he observes:

"We've ascertained that in order to be able to use the power of the implemented APS system in the most effective way for the benefit of our business it's not enough just to change the planning, i.e. how we plan and how quality plans are the output of the planning process. It's very important also to change the management of the main company process; to actually observe and work according to the plan, the base synchronization of all the

activities necessary for order fulfilment on the plan, hence learning to use the plan for actual management – management through a plan. This is not a trivial measure. In the business, order fulfilment goes across the organization structure (production, purchase

department, TPV etc.) and the structure is actually broken into pieces thereby. Order fulfilment isn't usually defined in businesses, it doesn't have its own manager (the owner of the process) equipped with adequate powers, a manager responsible for the usual business and consistent development of this process. Hence in the businesses, there is nobody actually authorized and liable for the development of this key company process. Together with LOGIS, we've prepared a solution, which we have been launching. We've defined order fulfilment, we've designated the owner of the process and his powers. Therefore the issue of management of order fulfilment as a whole ceases to be an unowned matter, which used to be connected with terms such as improvisation, volunteerism, enthusiasm or anonymity but has become a systematically developed area of business activities.

"In connection with the development of order fulfilment, the need emerges to assess the performance of this process and this isn't very easy. The fact is, a look at the above-mentioned parameters isn't static but changes depending on the market situation.

"In a period of lower demand, the resources aren't utilized to full capacity. Hence the function of the order fulfilment isn't seriously limited by the availability of resources, which are no serious restriction to the eventual growth of sales. In this period, the business focuses on the best possible delivery lead times, delivery performance under the lowest possible costs. When assessing the order fulfilment in a situation of low demand, we assess in particular what sort of fast, reliable and flexible deliveries the process enables us to achieve and at what costs.

"The higher the demand, however, the firmer the position of the producer. The resources being increasingly utilized, they prove ever more intensively as a restriction to utilising other market opportunities, as a restriction of the further possible growth of sales and profits. In this situation, the producers focus on rather achievement of the maximum flow rate, which will allow making use of maximum market opportunities, namely even to the prejudice of the final figures of customer service parameters (for that matter, if the resources are heavily utilized, the producers cannot reach in particular the same pace of deliveries - delivery lead times - as before and it of course it's also more difficult to keep up the other parameters such as the deadline delivery performance). The weakening of these parameters, however, has to be only minimum in order to prevent reduction of demand. If we want to assess the performance of order fulfilment under the situation



Hynek Vojtěch
Member of the
Supervisory Board

of high demand, we're actually interested in particular in the fact of what results in terms of profit/loss it allows us to achieve. But the parameters of customers service can't be ignored in this situation either."

	Privatisation (1995)	Turn of millenium	Yesterday (2006)	Today (2007)	Tomorrow (2008)
Planning period	1 quarter	1 month	1 week	1 week	1 week
Number of employees	920	510	520	560	600
Sales	400 mil.	1 000 mil.	1 800 mil.	2 200 mil.	> 3 000 mil.
Profit	-100 mil.	+	+120 mil.	+350 mil.	± 500 mil.





TOS VARNSDORF

TOS VARNSDORF a. s. situated in Varnsdorf, Czech republic has a years-lasting tradition in machine tool production. TOS VARNSDORF's product program is based on horizontal milling and boring machines of medium class.

The firm was founded, under the name of Arno Plauert Machine Works, as early as 1903 and up to now gets up into a big engineering company known with its products all around the world.

The machines are characterized with high performance, progressive design and reliability whereby these properties are a result from all the time-proven experience of engineers with the current state-of-the art. The machines can be found on the world's most demanding markets. At present the biggest ones are Germany, Czech Republic, Finland, Poland, Russia. The sales are progressively growing in China as well as other countries.



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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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