

How **FLEXIBLE** is your production?

Any changes in your production require immediate alternatives. Use them now.



• **FLS - Fascination in Production**

3 possibilities

to get more out of your production.

- **Minimize costs and increase profits**
- **Discover and use the hidden potential of existing resources**
- **Secure delivery through the automated plan control**



FLS

FertigungsLeitSysteme



Production planning in transition - use existing resources more effectively

Production companies are under increasing pressure to meet the demands and needs of their customers. They expect constant ability to deliver goods, with an increasingly changing assortment and a declining order volume for each item. This is particularly noticeable at times of high demand, e.g. during a heat wave in the summer, a sudden onset of winter or seasonal events throughout the year.

With conventional planning methods the production is not able to respond and manage last minute orders, changes, bottlenecks or failures.

Companies are required to improve processes in order to stay ahead of competitors. In the end, only the reliable and cheaper supplier wins, especially during bottlenecks. The optimization of production planning must be the top priority of any production company.

FLS FertigungsLeitSysteme with its production planning software FEKOR offers a solution, which enables companies to optimize the utilization of the available resources and raise hidden potential. FLS was founded in 1979 by Dr. Hanns Jürgen Hüttner in Aachen.

FLS specializes in the implementation of Manufacturing Execution Systems (MES) in the manufacturing industry. Over 35 years of development and expertise result in a high performing FEKOR software. Most business requirements are covered by the basic version of FEKOR.



Company founder Dr. Hanns Jürgen Hüttner:

“Our goal is to make manufacturing companies successful, by providing reliable, flexible and profitable production planning software. FLS is your partner in production planning and provides guidance and support through consistency, experience, confidence and personality.”



We love Production Planning!

Let us inspire you and discover how production planning can improve your market position.

Companies are required to meet the needs of customers. Offering a large variety of products and producing cost efficient at the same time, is nowadays challenge.

Flexibility in production is a must for many manufacturing companies, but often comes along with lower profits. These extra costs occur mainly with last minute orders, which require unplanned set-up and waiting times.

Production planning and control software provides new opportunities for optimal use of the existing equipment and resources. Optimized sequences may achieve considerable savings in set-up and cleaning times, personnel, stocks and raw materials.

Produce in sync with your business requirements:

- Increase production capacity and flexibility
- Increase ability to deliver and guarantee on-time delivery
- Plan last minute and call-off orders and optimize the production plan at any time
- Avoid seasonal fluctuations and plan ahead

Potential with FEKOR:

- Reduce set-up costs and times by 15% - 35%
- Lower stock-keeping / capital lockup by 25% - 50%
- On-time deliveries
- Automated Plan Control for changes in the production environment

What 'DEVOURS' your profit?

Reduce set-up times by 15-35%.



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Is your production 'DEVOURING' your profits?

The high set-up times and set-up costs in production offer the greatest potential for savings. These costs are caused by changeovers of machines, which result in a downtime of production and high labor costs. Production planning and control is focusing on the calculation and reduction of set-up times and costs. The aim is to avoid the costly set-up, waiting and idle times through smart sequence planning.

Benefits overview:

- Automated calculation of the best production sequence
- Onetime recording of item specifics into the system
- Significant reduction of time spent updating spreadsheets
- Up to 35% decrease in set-up times

previous article

set-up time

subsequent article

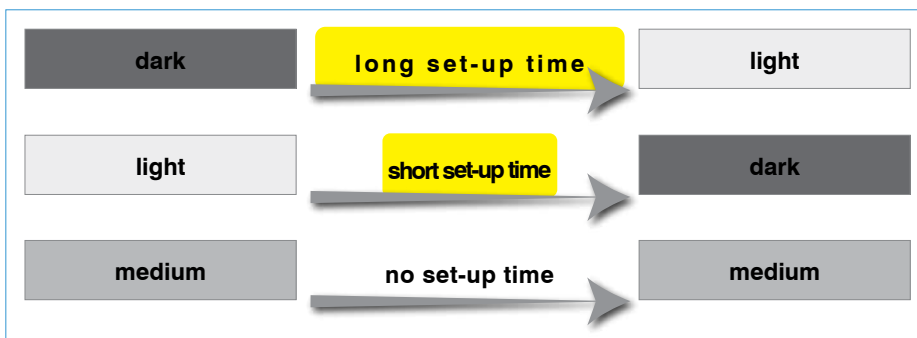
Item classification can save costs

This example calculation shows how lowering the set-up time by 35% can affect the cost of production.

The assumption:

A manufacturing company has 40 work stations and work takes place in two shifts with 4000 hours per year per station, of which eight percent is set-up time. Therefore, the set-up time is 12,800 hours per year. At a cost rate of 50 euros per hour each for one fitter and one work station, the annual set-up cost is 1,280,000 euros. Lowering the set-up times by 35% thus has an annual saving of 448,000 euros as a result. Compare this with a purchase of licenses, potential hardware costs and a few days initial installation.

Read more on the topic [here](#).



Set-up Time Optimization explained by using the feature 'color': When changes from 'dark' to 'bright' are avoided or kept to a minimum, the set-up times are much shorter as cleaning times are reduced.

Get the most out of your production

How? The production planning software FEKOR uses features such as material, color or shape of an article. By optimizing the production sequence, the system reduces set-up times to a minimum. The main idea is to identify the underlying cause of a set-up time, as the total time for the set-up is made up of several components.

Delivery is late?

Automated Plan Control knows alternatives, IMMEDIATELY.



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How does your production respond to unexpected events? Deliver on time, always.

Production plans are critical for any manufacturing company. The reason is simple: if short-term changes are not recognized quickly and plans are adjusted, the delivery dates and therefore customer relations, penalties and profits are at risk.

The impacts linked to a failure are not limited to the affected order or the affected workplace. Usually they also impact subsequent stages of other jobs.

The production planning software FEKOR displays for any changes immediately the interconnected impact for the entire operation. In FEKOR each event triggers an internal analysis, in which the system examines all the dependencies across divisions. The planner at the control centre will be informed of the consequences of the impacted order and all resulting consequences for the subsequent stages of the production and work stations. He can see the impact across the entire plan, for several weeks or months. The planner can instantly create an optimized plan through the system.

FEKOR provides a production planning, which detects changes, immediately shows impacts and creates the alternative plan in seconds.

- Fast response to unplanned events
- Flexible to last minute orders
- Increase profits by taking into account all costs when planning

Reference story: Bremer Hachez Chocolate GmbH & Co. KG

With the old system, two full days were required to create the production schedule for a week. Even though it was just a snapshot of the moment, the plan was used the entire week.

Any changes required during the course of the week could not be included in the planning. Improvisation was a daily routine.

Today: Responding quickly to unexpected events

The planner usually begins his day with editing the performance reports of the production from the previous day. Those were reported overnight. If there are unprocessed orders of the previous day, he adds them to the schedule and runs a new optimization within a few minutes.

FEKOR is so fast that the optimization of the production plan can be done multiple times per day, as each optimization takes only a few minutes. Even planning for 120 days ahead will only take about ten minutes.



Download the full reference story of Hachez [here](#).

Is your production at its limits?

We discover the hidden potential of existing resources.

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10 production orders on 1 machine result in ... 3.6 million possible combinations.

FEKOR has all the information to create an ideal production plan according to the company's objectives, to deliver on time and to minimize costs.

During the process of production optimization the system does comparative calculations that consider delivery dates, staff, machines, production tools and material costs. It also considers the costs of worse alternatives, set-up costs, inventory costs and costs of tied-up capital.

The production orders are controlled based on delivery dates, evaluated by costs and compared with other possible positions in the production schedule. The FEKOR production optimization selects the optimal sequence according to the principle: we deliver on time and produce with minimal costs along the supply chain.

The FEKOR production optimization selects the best sequence and takes into account all resources and cost factors. It lowers:

- Your set-up costs by 15 - 35 %
 - Your stock-keeping / capital lockup by 25 - 50 %
- and uses your capacities to the greatest extend.

Materials management

FEKOR considers production planning and materials management as a unit. This is imperative in order to accommodate realistic conditions at any time.

Production planning constantly needs to exchange information with the materials management, regarding which materials are needed. Or, the other way around, only materials which are available can be scheduled for production. Only through an integrated approach, a realistic and executable production plan can be achieved.

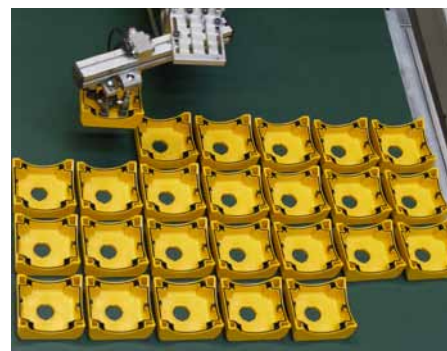
Benefits overview:

- Flexibility through fast reaction to changes of orders and sequences
- Optimize and re-schedule efficiently
- Avoid unnecessary down times or waiting periods of personnel and machines

Reference story: Eaton Industries

Win 2.200 hours in three minutes.

Usually after the first optimization of the day there are 5-10 re-schedulings taking place throughout the day. This is due to last minute changes or when unexpected events occur, such as a tool breaking.



The optimization with FEKOR takes only a few minutes, even if more than 1,000 jobs are in the system. An example from everyday production: in a new plan-

ning run FEKOR has reduced the set-up and waiting times in the molding department from 5,500 to 3,300 hours, within three minutes.

Download the full reference story of Eaton Industries [here](#).

You are ready. Start your journey into a new world of production planning.

We know from experience that the topic of production planning and control often exists as an idea in a business. However, the first steps are a bit tedious, similar to when a child is learning to walk. There are concerns to make any changes to the production planning process, the heart of any manufacturing company.

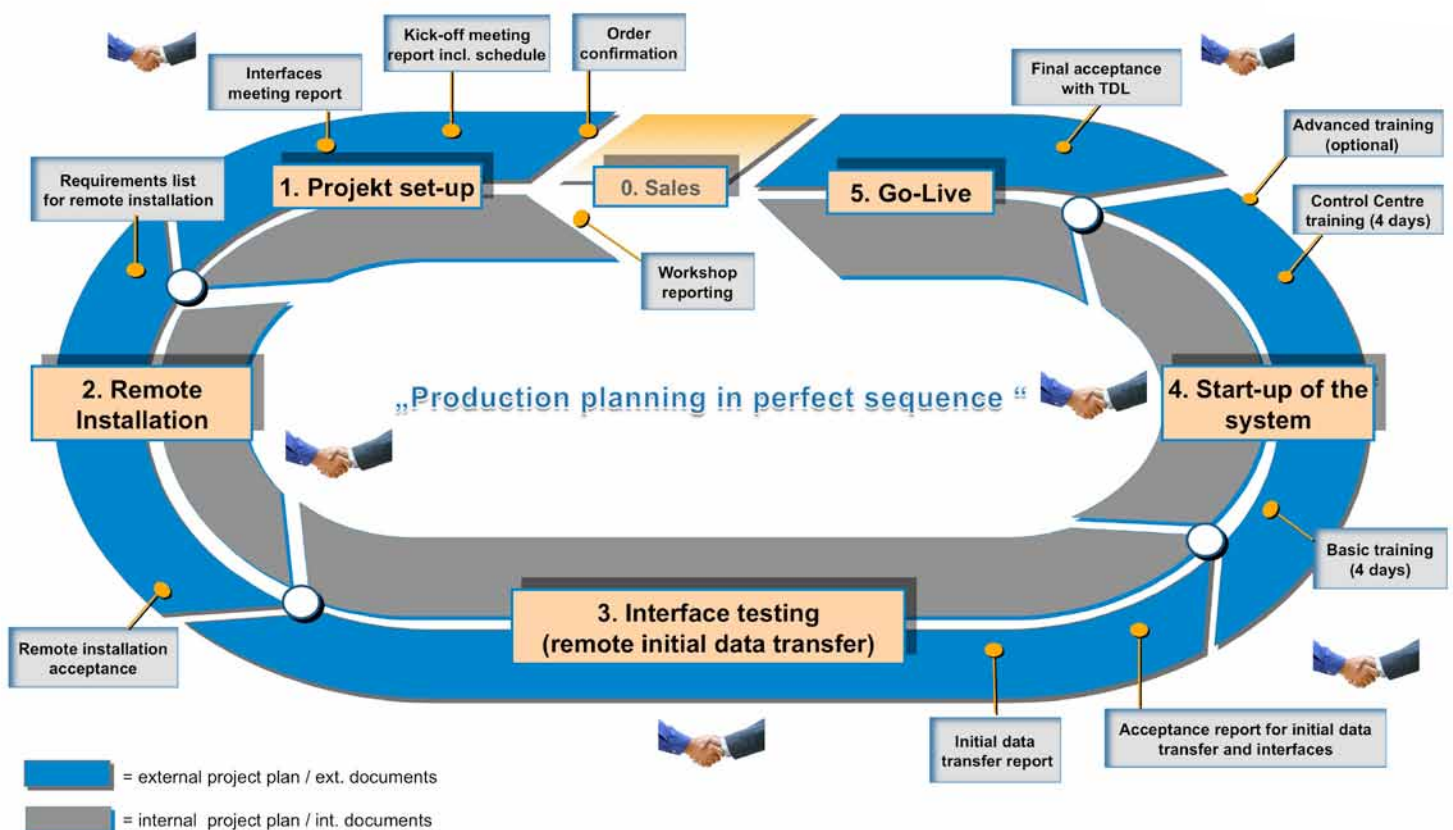
Prepare yourself to make those important next steps and use the possibility to book a two-day workshop with an FLS expert. During the workshop we will analyze your current situation and discuss the potential of using a production planning and control system for your business. Next we define the framework conditions that are required for implementing the software and if necessary, create a project plan together with you.

In over 35 years we have built solid industry knowledge.

We will help you to analyze processes and define requirements. The aim is to develop a concept tailored to your needs and to implement it successfully. Our consultants bring along many years of experience and will work with you to ensure the successful outcome of your project. Additional consulting services include project management, requirements analysis, support in preparation of functional specification documents and training.

Prepare yourself for your journey.

[Contact us](#) for more information.



FLS-Loop version 2.0 March 2013

Why FEKOR?

Reasons for buying FEKOR.

Several years of industry expertise

FLS has more than 35 years of experience of introducing planning systems in the manufacturing industry. Our system FEKOR is characterized by its sophisticated and practical functionalities.

Short introduction phase

Available functions and modules required for your operations are selected from the system. This 'tailored suit' is installed as a standard, rather than a development project.

As an outcome your staff has a short and manageable introduction phase and therefore can ensure a rapid and successful implementation of the software, with a fast return on investment.

Predictable project volume & costs

Our industry-specific experiences enable us to create reliable project offers and avoid unforeseen additional expenses and investments. You will receive our project offer as a fixed price.

Investment security & interfaces

FEKOR is a solution with standardized interfaces to leading ERP systems such as SAP and Microsoft Dynamics NAV. In addition you are completely free in your choice of the DAQ system selected. We work with a variety of system vendors.

About FLS

FLS FertigungsLeitSysteme (production control systems) was founded in 1979 by Dr. Hanns Jürgen Hüttnert in Aachen. With the production planning system (PPS) FEKOR for production coordination, FLS has been the expert for production planning and material flow detection on the market ever since.

GRP, also founded in 1979 in Aachen, specializes in the process of the entire shop floor in the manufacturing industry (MES, CAQ, DNC, TPM, etc). In 2010, Manfred Keuters, as the current Managing Partner, takes over GRP and has continued to lead the company successfully and with steady growth, particularly on the international market.

The importance of a reliable Manufacturing Execution System (MES System) for production, which controls the growing complexity of today's requirements, is unquestionable. The systems of FLS and GRP have been successfully implemented at joint customers for decades and complement each other ideally.

Since 2016, both systems are combined under one roof in order to foster the expertise of both divisions even more. Together, Manfred Keuters (Managing Director of GRP) and Janina Keuters (Managing Director of FLS) will lead both companies into the future. The merger of these two pioneers will enable customers to benefit from the long-term know-how of both systems and will be used as an industrial platform in the future.

FLS and GRP systems are used in numerous companies within the plastics, food, machinery, automotive and metal industries. Among others, GRP and FLS customers include world leaders such as Eaton, MöllerTech, Hachez, Geberit, AS Tech, Ceralia, Münz-Prägstatt, DELPHI, Brück, P & G, HEWI and Georg Fischer.

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