



ENABLING ERP with Preactor

Installed by more than 3,000 companies in 67 countries around the world.

5 IMPORTANT FACTS ABOUT PREACTOR

Preactor is designed to enable rather than replace ERP software. It provides the detailed planning and scheduling functionality that is required for many companies to be more agile and respond to changes in demand.

1 | EASY INTEGRATION

Importing and exporting of orders, routing and completion updates can be internal or external message driven for tight integration with ERP.

2 | MATERIALS CONSTRAINTS

Using BoM information provided by ERP, producing and consuming orders in Preactor 400 APS can be linked to reflect material dependencies during schedule generation.

3 | INCREASED VISIBILITY

Easy to see the current load and identify late orders using Preactor's interactive Gantt Charts and plots.

4 | OPTIMISED SEQUENCING

In Preactor 400 APS Order and Operation attributes can be used to optimise sequences on resources to minimise change-overs, and maximise efficiency.

5 | WHAT-IF CAPABILITY

The planner can carry out multiple what-if scenarios and compare the options before updating ERP. They can also run ad-hoc CTP enquiries with multiple level BoMs.

ENABLING ERP SYSTEMS

Modern ERP software systems in themselves are critical tools for every manufacturing vertical. However, the addition of Preactor can take a manufacturer's ERP package into another league without disturbing the existing functionality of their system.

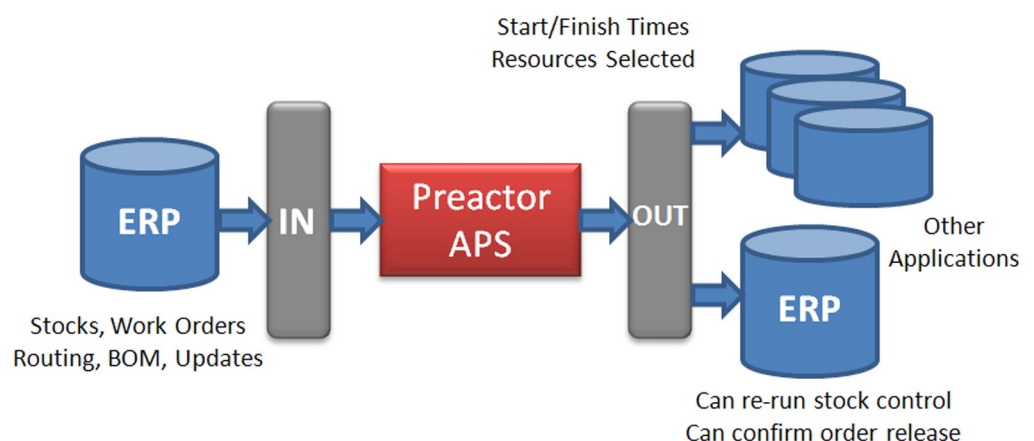
ERP systems typically do not have the data to model a system in enough detail to manage the shop floor. They have a long term plan that does not easily provide the functionality to manage production on a day-to-day basis. Preactor would seem to overlap with ERP but in fact it provides complementary features.

ERP is good at costing, inventory control and transaction control for key business processes. Preactor is good at drilling down to the shop floor to manage individual orders or individual resources in real time. It generates achievable production schedules that take into account all potential or existing constraints on the shop floor. It can increase throughput, reduce work in process and raw material inventory. It provides a 'crystal ball' for the planner to use at shop floor level.

EASY INTEGRATION

Some APS solutions have functionality that overlaps ERP particularly in the area of Bill of Materials (BoM), order generation and stock control. This may lead to synchronization issues. Preactor takes a different approach. It adds functionality, enables ERP and does not overlap so avoiding synchronization of data.

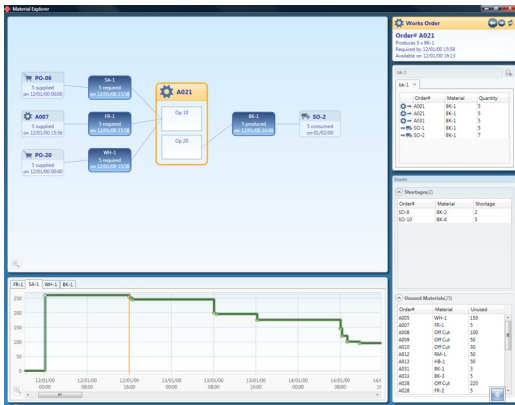
Preactor is designed for integration with ERP and data can be passed easily between them without affecting the others performance. Scheduling systems need 'in memory' data to aid scheduling speed whereas ERP systems are more transactional based. It is unacceptable for the performance of the scheduling system to be compromised by a 'report run' on the ERP system. Separate programs are essential.



There are many options to integrate Preactor with an ERP system. This can range from simple batch file transfer (orders with routing and updates being passed to the APS, start-finish times for each operation and resources used in the schedule generated being passed back) to event driven messaging integration using XML files constructed to the latest standards such as ISA95.

MATERIALS CONSTRAINTS

When materials from one order (manufacturing order or purchase order for example) is used by another they are said to be dependent. It is quite common for ERP systems to generate an order for each part of the BoM structure for a product. To ensure that this dependency is utilized when generating a plan or schedule they must be connected in some way. The simplest way to do this is to make the start date of the dependent order the same as the due date of the producing order. However this does not work very well where the real constraints of the plant must be taken into account or delays occur.



Preactor 400 APS and higher versions have features to connect orders together so it can take into account the real constraints and unexpected delays automatically. SMC or 'Standard Material Control' is a function that creates links between orders (pegging of materials). These links can then be used by Preactor to ensure that only when materials are available from one or more producing orders can the consuming orders connected to them by SMC start.

Rules can be applied by the user to control the selection of which producing orders to link to a consuming order. These rules can be used in a variety of ways. For example if you wanted to allocate stock to sales orders from two possible locations according to some conditions or attributes of a consuming order then this can be done using an SMC rule set.

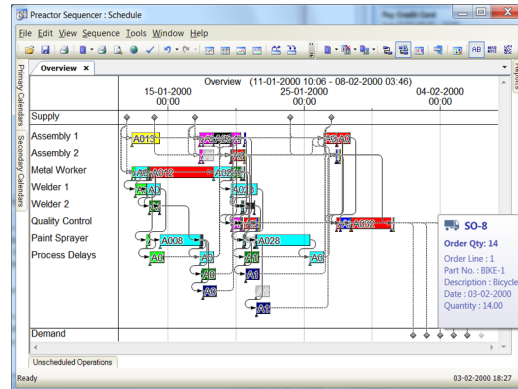
INCREASED VISIBILITY

The user interface provided by Preactor can show order status in a variety of ways. This provides the planner with a complete picture of demand, capacity, resource usage and operation sequence, as well as the expected completion time for each operation in a Gantt chart. The planner can drag and drop operations, change priorities and manipulate the schedule in whichever way needed to meet business objectives, then see the impact on all orders before committing changes back to ERP.

OPTIMIZED SEQUENCING

When ERP systems use capacity to restrict the loading of operations into 'buckets' of time it will not take into account the sequence of loading within them. For example it may be important to

group like operations together to minimize changeover time on one or more resources within the system. Preactor 400 APS has a wide range of optimization rules as standard to handle these requirements and in addition they can be customized to meet specific needs.



ON-DEMAND CTP

The ability to make ad-hoc enquiries to establish when an order can be shipped is often a critical requirement. So called 'Available To Promise', ATP, (usually defined as a calculation based on the availability of current stock, work in process or fixed lead times) does not necessarily meet the needs of many companies.

Capable to Promise, CTP, (generally defined as taking into account the current status of production and the finite capacity of resources) is often what is really required. This is a more complex calculation based on data that most ERP systems do not have, so many offer instead, a simpler calculation based on finite capacity at a bucketed level e.g. daily or weekly buckets of capacity. This takes no account of the effect of sequencing on resources within a bucket which may effect changeover time, nor does it take account of additional constraints e.g. staff, tooling, space etc.

To do this properly the ERP system needs to have access to a multiple constraint, bucketless production scheduling system that can receive ad-hoc enquiries, access the process routing and BoM structure and schedule the operations onto the current live production schedule on a 'what if?' basis.

Preactor enables ERP to do real-time, on-demand CTP.

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OF OUR CUSTOMER TESTIMONIALS

1 | BREVINI

"It's amazing how easy the implementation of the project was. We started to use Preactor just the day after the software was installed, leaving behind our previous working methods. Before the major amount of my time was spent adjusting the schedule due to delays in supplies or breakdown of machines with little visibility. Now we can focus on real exceptions and anticipating problems in advance."

*Renato Castagnetti,
Scheduling Manager*

2 | FOILEX

Linked to our ERP Dynamics NAV, the primary objective of reducing tool changes was achieved, and over the first 2 months, was reduced by 20%. This has now extended to a 40-50% reduction which correlates to a rise in production of the same magnitude. To achieve this reduction in tool changeovers, makes Preactor worth every penny in itself. But we have also obtained a number of significant other benefits which add further to the value of our Preactor solution".

Karl Draper, Planning Manager

3 | HOLLAND COLOURS

"Ross ERP and Preactor have helped Holland Colours to become a more global company. A lot of our procedures can now be, and are synchronised. Our CTP dates are much more accurate due to better planning and scheduling which has a 2-fold benefit. Firstly, we have greater confidence in the accuracy of dates, which fall into 80% of our customers' acceptable parameters. This ensures we keep these customers happy. It also frees up more time and resource and gives much greater fine-tuning capability to apply intelligent scheduling to the remaining 20% of our customer requirements."

Gert Jan Luiten, CFO