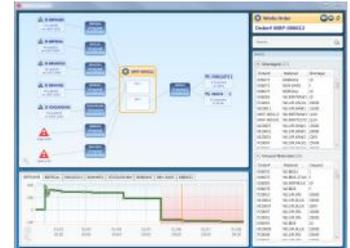
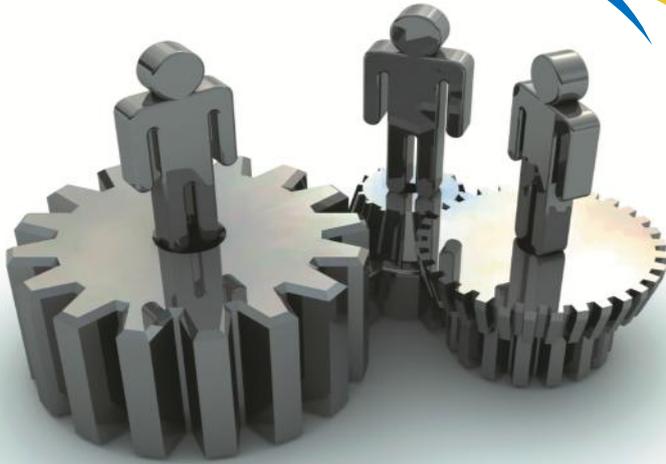




World Class  
Advanced Planning & Scheduling  
(APS)  
Locally Delivered



## PLANNING AHEAD WITH PREACTOR & SAGE

If you can answer “Yes” to any of the following then we can help:

- ◆ Our production plan is in a spreadsheet and it won't cope with the complexity of our processes or the increasing size of the company.
- ◆ We'd like to save time by automatically creating Works Orders.
- ◆ Customer delivery performance is suffering because we can't accurately predict when sales orders will be ready.
- ◆ Our purchasing department know how much material we need, but don't really know WHEN it is needed. So we tend to have either too much stock or sometimes shortages.
- ◆ Our MRP keeps telling us to “Bring PO Forward” but we know we can't. So really we need to move the production jobs back to later dates.
- ◆ It takes hours to re-plan when a change is forced upon us by any of:
  - > Machines breaking down
  - > Suppliers late with deliveries
  - > Customers changing quantities or dates

Preactor is a planning tool in which we can model your processes and capacity and then work out the best sequence in which to run the jobs. Enabling you to **predict material shortages and late deliveries** to customers whilst there is still time to do something about it. Then run “What-If” scenarios to test the effects of adding more resources or changing shift patterns..

Read on for more details on the potential benefits of using Preactor and information on how we integrate it with Sage Line 500 and ERP 1000.

### "What would happen if someone took away Preactor?"



For a start we would have to go back to holding high buffer stocks because purchasing would not have an accurate plan to work to.

Previously we just had a spreadsheet list of jobs that needed doing, now we have a colour coded Gantt chart view that is so easy to use when reacting to changes in the production environment or delays from suppliers.

Preactor ensures that we have a valid sequence of running the related works orders, with "Work-To" lists for each resource.

Shop-floor has visibility of the plan and they trust it because they know from experience that it works.

Our Production Director knows that he can make decisions based on the capacity graphs because nothing is planned in the past, which is vital because we frequently use temporary production staff.

And visibility for UPL means we can give visibility to our customers of the planned delivery dates."

**Steve Snelson - Planning & Warehouse Manager**  
Universal Products Ltd

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www.sl-ect.co.uk

Preactor is the world leader in production planning and scheduling software used by a wide range of businesses. These are a mixture of small, medium and large companies located in more than 60 countries.

**BENEFITS**

Preactor has a proven return on investment.

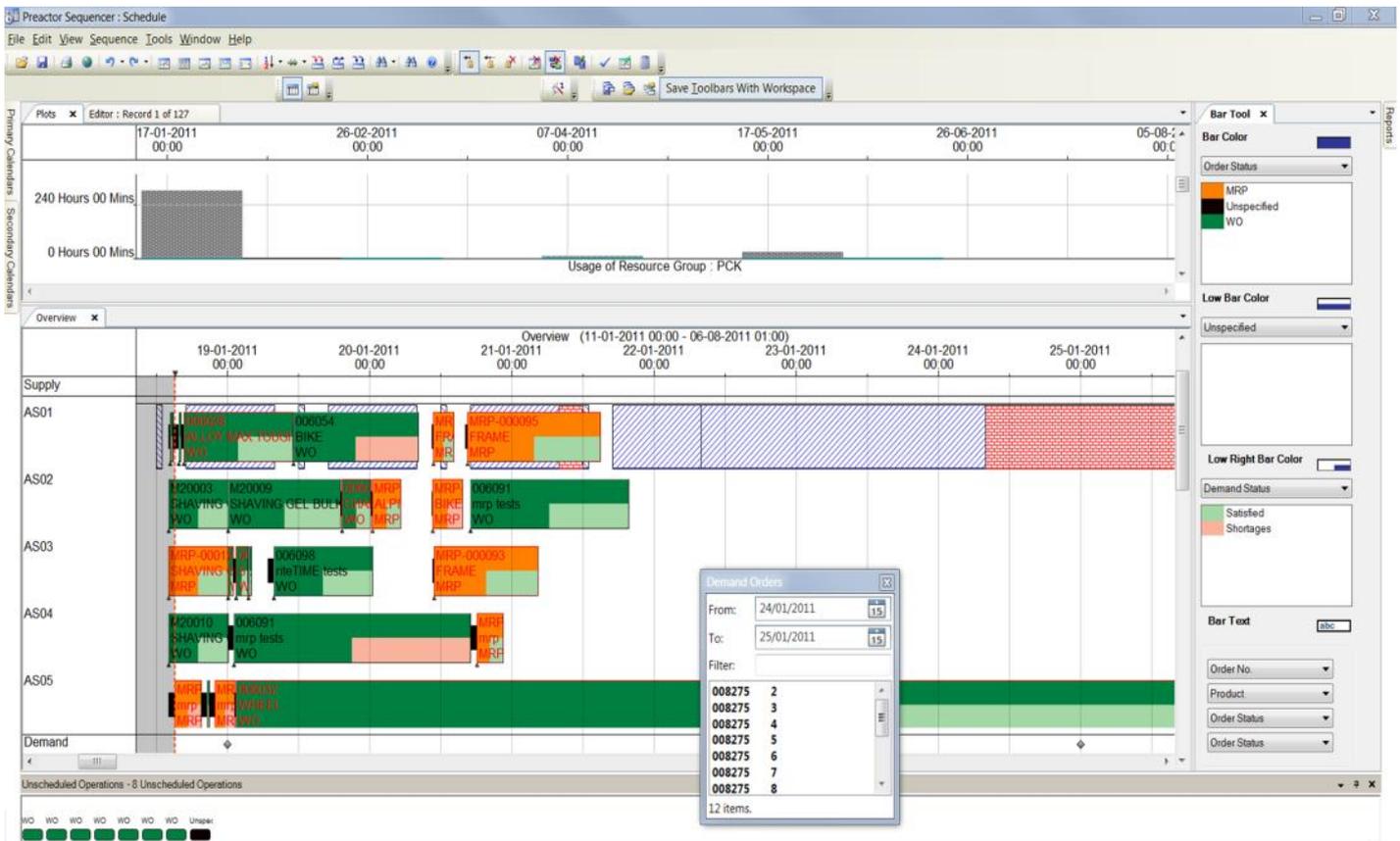
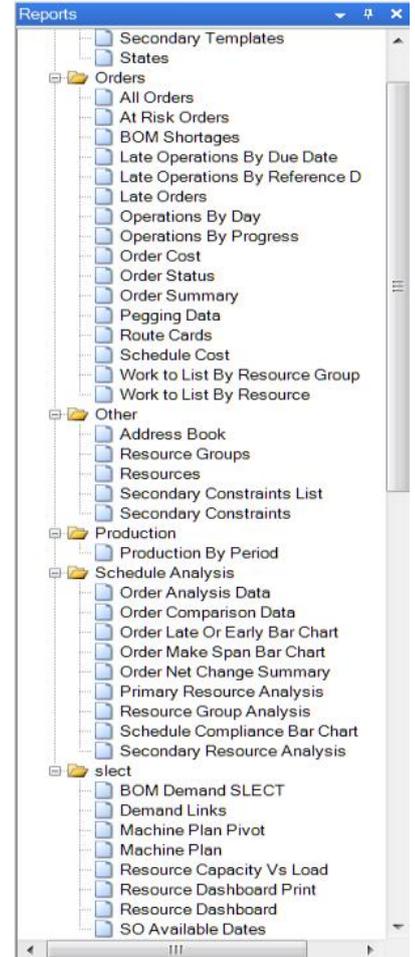
- ◆ **Improvement in productivity:** get more from what you already have. Eg. reducing the number of set-ups required.
- ◆ **Reduction in raw materials inventory:** synchronize the purchasing MRP with an achievable schedule.
- ◆ **Reduction in make-span time:** reduce WIP that slows down production flow.
- ◆ **Improvement in customer service:** increase on-time deliveries with better promises and early warning of potential lateness.
- ◆ **Planning agility:** react quickly to changes in materials supply, customer demand or the availability of resources.

Over 100 case studies available at [www.preactor.com/proof.aspx](http://www.preactor.com/proof.aspx)

**WHERE DOES IT FIT IN?**

Preactor does not work out what you need to make. It needs you to tell it the products, quantities and target dates of your intended production. Which you do using Works Orders (WO) or MRP/MPS Recommendations for the raising of new WO. These recommendations can then be selectively released to allow the automatic creation of WO. So Preactor is complimentary to the Sage MRP system rather than a replacement for it.

However it can be used as a alternative to the purchasing MRP if you are happy to work with manual entry of new purchase orders, based on easy to use shortage reports from Preactor (which will be based on the plan dates).



Gantt Chart view of the production schedule

**HOW DOES IT WORK?**

Typically you will first create a model of the production process by creating **Resources** and adding a calendar of **Shift Patterns** to represent the available capacity.

- Primary resources are machines.
- Secondary resources/constraints are people, teams, warehouse space, tooling, power consumption etc.

Primary resources belong to one or more **Resource Group**. The routing holds the required group using the Work Centre field (later Preactor will select the earliest available resource from the group during automatic scheduling).

Then Preactor will import **Works Orders** and/or **MRP Recommendations** for the raising of new **WO**, to represent the loading on resources.

**Sales Orders** and **Forecasts** can be imported to represent top level demand.

If the plan depends on the future supply of **Purchase Orders** and on **Current Stock** then you can import those too.

**Static Material Control (SMC)** can then run pegging rules to link together the producing and consuming orders to ensure a valid plan.

This includes a facility to deal with **multi-level BOMs** that represent both demand and supply of the relevant parts.

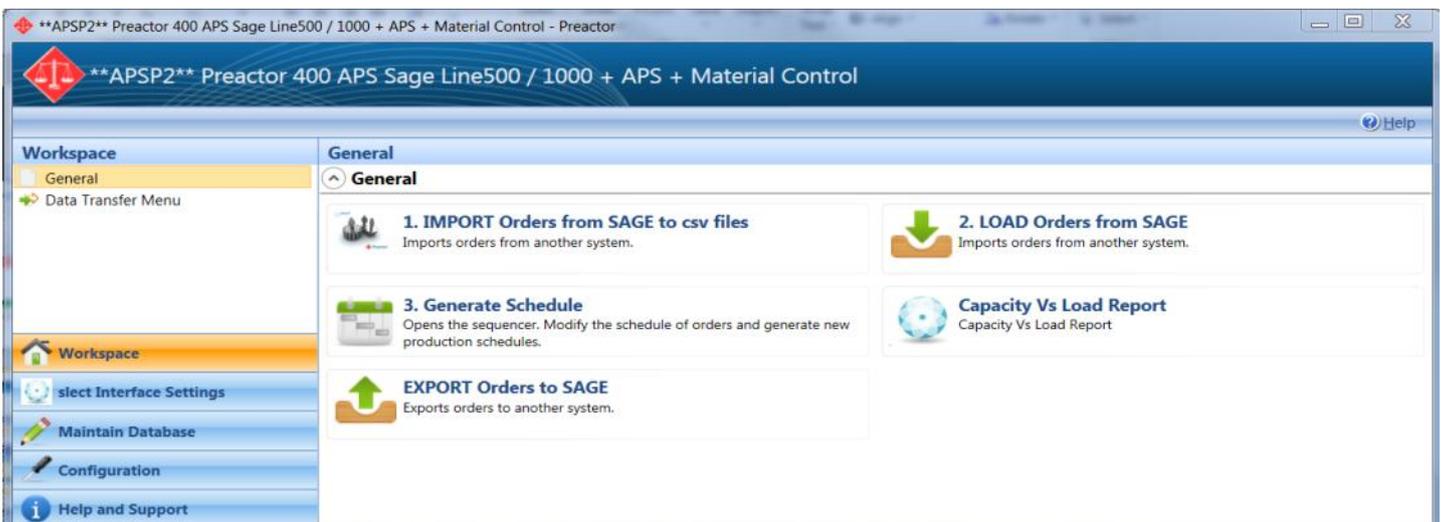
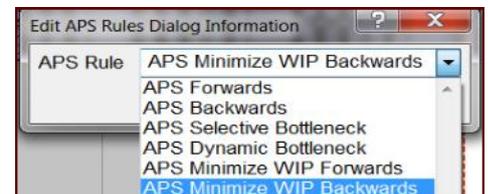
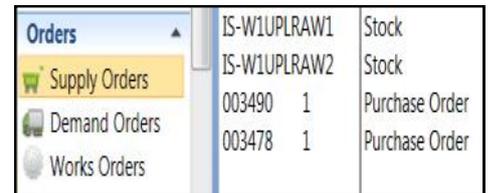
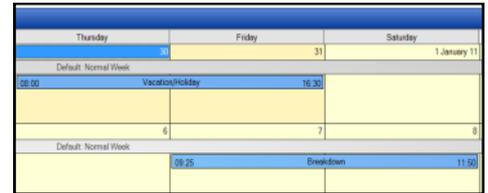
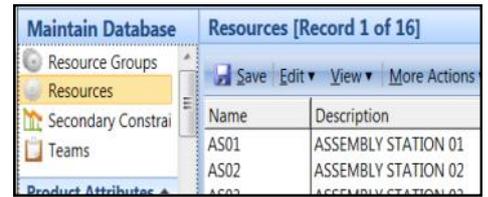
Then complex rules or **manual drag and drop** methods allow the planner to create the best sequence in which to run the jobs. And important **jobs can be locked** to a fixed machine and time.

Resulting in a **valid, achievable production plan** where you have tried to reduce setup times, reduce WIP or increase the number of on-time jobs.

**Customer Services** can now see when sales orders are to be expected, highlighting any that will be late unless action is taken. Or for new sales orders **the expected date can be used to make an educated promise date**, giving you the best chance of being on time!

**MRP recommendations** planned on or before a date horizon can be **automatically converted to Works Orders**, saving time over the manual creation methods.

And lastly you will want to run **MRP in Purchasing**, so that the supply of materials is driven from the new plan, rather than from fixed manufacturing lead times on the products.



**MATERIAL EXPLORER**

These images show Preactor Material Explorer displaying related (pegged) jobs and highlighting stock shortages. This is available from Preactor V11 onwards.

**WO 006032** makes a batch of 280 wheels on Jan 27th. Look closely and you'll see that this is also a Trial Kitting screen – the job could start now because AXLE, RIM and SPOKES are all supplied from **IS** initial stock. The made wheels then go off to be used at various times in many other WO. In particular 4 are used in WO 006069 which starts on Feb 27th and makes R2 BIKE2.

**WO 006069** itself has many components. Brakes are supplied from a PO 003485, frames from a MRP recommendation to raise a new WO, pedals from initial stock. But there is a problem with handle bars which have no stock or PO cover, so these appear on the shortage reports for purchasing to action, the date required being driven by the plan.

Finally the 2x BIKE2 are linked to a Sales Order 008294, which is required to ship on May 12th.

Available from V11 onwards, with P400 APS systems

The larger screenshot shows the Material Explorer interface for work order 006069. It displays a network of materials and work orders. A red warning icon indicates a shortage of 2 units for material BBH-BARS. A table on the right lists materials and their quantities across various work orders. Below the table is a 'Shortages' section with a table listing materials and their shortage quantities. At the bottom, a timeline graph shows the material balance for BBFRAME from 01/02 to 01/08.

Order#	Material	Quan
MRP-000093	BBFRA	70
MRP-000094	BBFRA	10
MRP-000095	BBFRA	10
IS-BBFRAME	BBFRA	389
IS-BBFRAME3	BBFRA	500
006070	BBFRA	1
006093	BBFRA	10
MRP-000010	BBFRA	46
006069	BBFRA	2
MRP-000011	BBFRA	92
MRP-000012	BBFRA	20
006077	BBFRA	20
006047	BBFRA	10

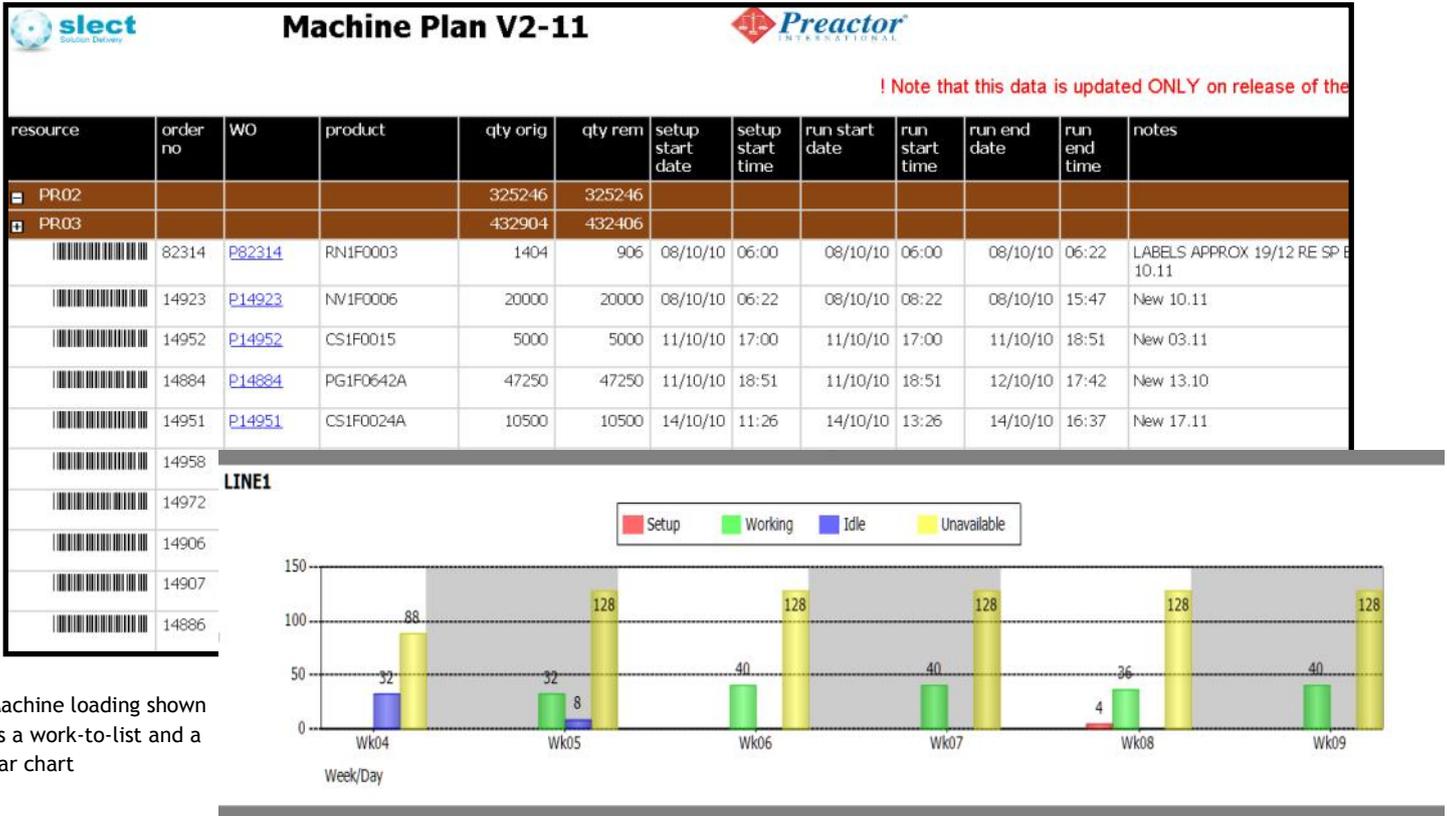
Order#	Material	Shortage
006075	BBBRAKE	10
006075	BBH-BARS	5
006075	BBPEDAL	10
006085	W1MRPRAW1	30
P20010	W1UPLPACK1	30000

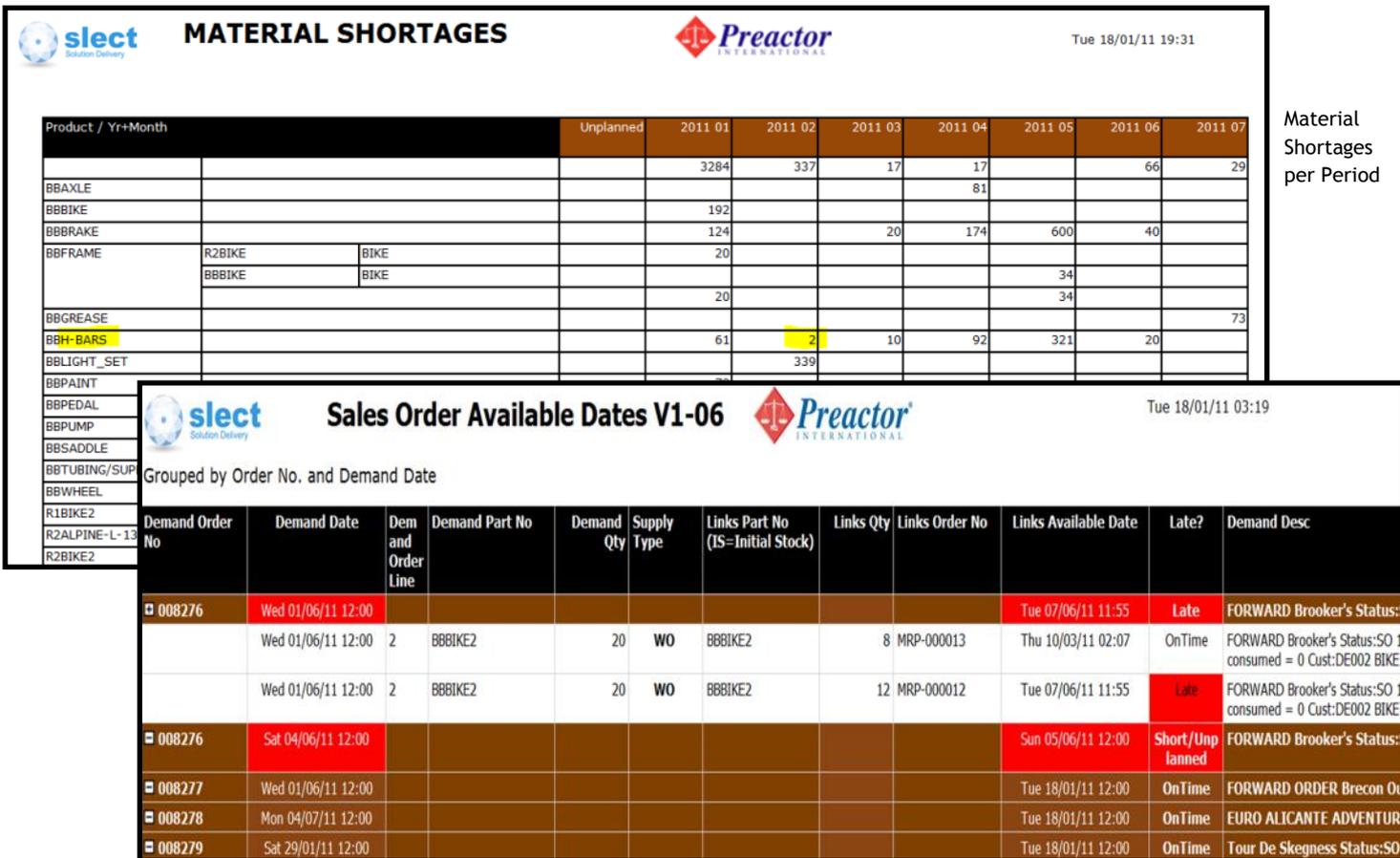
Order#	Material	Unusec
006070	W1BIKE2	1
006075	W1BIKE-STANC	5
006085	W1MRPBULK	30
006078	W1BIKE	5
P20010	W1UPLFIN	30000

WHAT ARE THE MAIN OUTPUTS?

As well as the Gantt view of the schedule and the Material Explorer, Preactor presents the output of the plan in many other ways, including the following:



Machine loading shown as a work-to-list and a bar chart



Material Shortages per Period

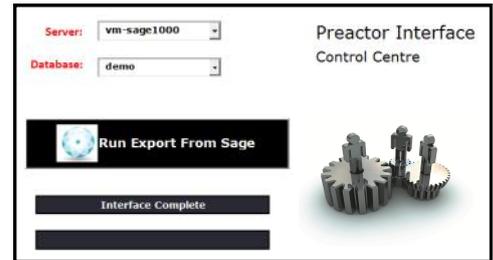
Sales Order no. 008276 line 2 for 20 units on June 1st is expected to be 6 days late. The first 8 will be available early on March 10th, but the last 12 won't be ready until June 7th.

**INTEGRATION WITH SAGE**

On its own the Preactor software is a modeling tool. The tool needs to understand the characteristics of your factory.

So Preactor needs 2 things to be able to function:

- 1) A **configuration** for Preactor:
  - Data table description of fields and their Preactor properties.
  - Definition of the menu system and the initial settings (similar to Sage system keys).
- 2) An **interface** for passing data from / to the ERP system:

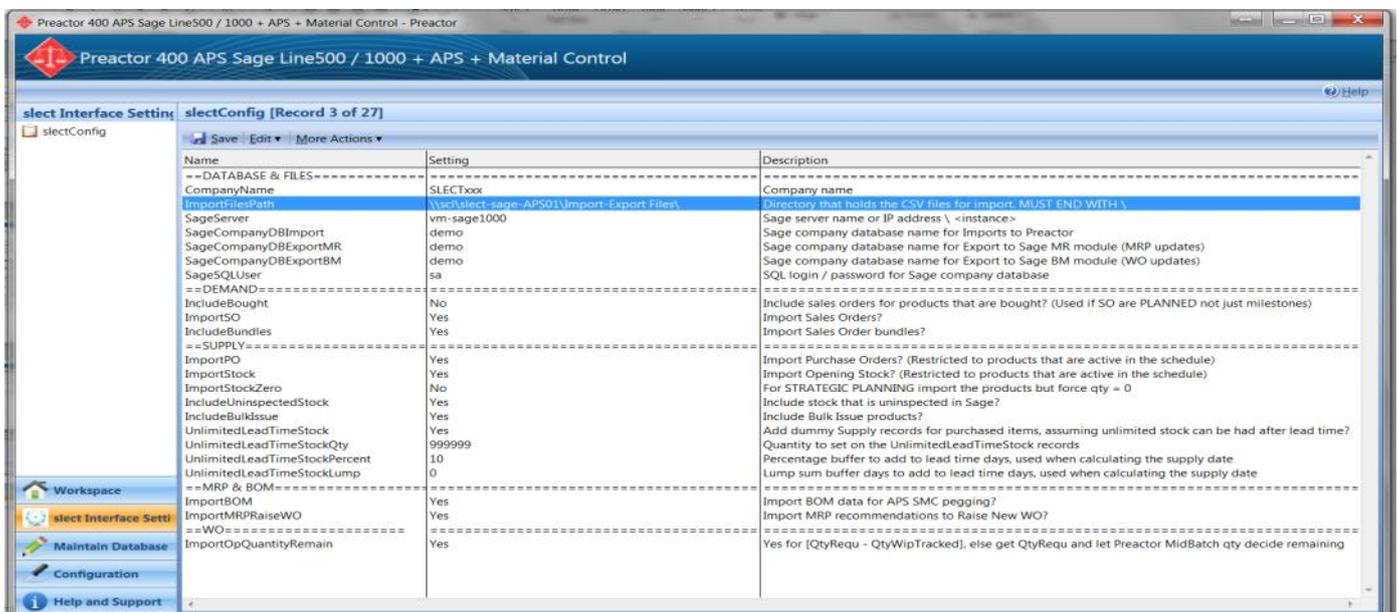


sl-ect has designed a “configuration” that is ready to accept the available fields from Sage and which utilises all the main features of Preactor. Including the new Material Explorer functionality.

To support this we’ve re-designed our “interface” to deliver a fast, flexible way of moving data between Sage and Preactor.

This is currently available for all versions of Sage Line 500 and Sage ERP 1000.

Also some updates take place in the reverse direction, after the plan is published. Sage is updated from Preactor to set various dates on WO and to release selected MRP recommendations for automated WO creation.



Interface configuration options

**FEATURES**

The combination of this configuration, interface and the new Preactor V11 provides the following features:

**Preactor**

- Preactor V11 look and feel and functionality.
- Preactor data in Microsoft SQL Server for easy reporting.
- Package of standard reports from Preactor.
- Schedules are automatically saved, with an audit report to show the changes in the plan over time for any works order.

**Material Explorer & Static Material Control (SMC)**

- Quickly and easily see the links between orders.
- Exception reports of future SO lateness.
- Aid transport planning by predicting when SO will be available for picking.
- Expedite Sales Orders by tracing back to the supplying production orders.
- Highlight direct shortages on any order.
- And upstream shortages on a linked order.
- Uses firm PO dates to force realistic start dates for manufacturing.
- WO are checked for a valid sequence between jobs.



**Flexible**

- Preactor system is un-compiled and therefore, with care, can be changed by the user.
- Up to 30 extra data fields can be sent to Preactor, by configuring a SQL View in the Sage database.
- Sage Routings module is preferred but not mandatory because, as a standard feature, process routes can be picked up from any other source. For instance a SQL table or a list in a spreadsheet.
- Option to run in “Strategic Planning” mode to load a 12 month sales forecast but ignoring current stock, PO and WO. Outputs show the resource capacities needed, and the material shortage reports are effectively a 12 month supplier forecast.

**Performance**

- Preactor now has the ability to hold the Stock, BOM, PO and SO “outside” of the main schedule data store so that the scheduling speed is not affected by these items.
- The interface does NOT import the entire set of Stock, BOM and PO records from Sage. Items are ignored if they are not part of the current demand-supply chain. This greatly improves the speed of fetching the data from Sage and of loading it into Preactor
- This also creates a list of the “active” products, and this is stored in a table for use in looking at obsolete parts in Sage.

**Technical Stuff**

- The interface supports Material Explorer functionality.
- Phantom BOMs are supported.
- “Held” works orders are imported.
- Jobs without routes are placed on a “NO OPS” resource.
- MRP recommendations can be imported at both “Held” and “Approved” status.
- No restriction on having commas in description fields.
- \*\*FILESDD system keys are supported.
- POSHIPDATE and OPSHIPDATE are supported.
- PO date/quantity can be imported from a schedule.
- WO line (bmwodm) dates can be updated with the planned start dates so that purchasing MRP is driven by a valid schedule instead of fixed manufacturing lead times.
- Automated WO creation from Preactor planned MRP recos.
- Only MRP WO recommendations to “Raise New” are imported, so ideally you will configure MRP filters so that these are the only suggestions made.

**Requirements**

- Preactor will run on any version of Microsoft SQL Server 2005 and above, including the free Express versions.
- The interface requires SQL Integration Services (SSIS) to be installed, ideally on the Sage server. Therefore the SQL edition must be Standard or Enterprise.
- Preactor reports are developed in SQL Reporting Services (SSRS). SSRS ReportServer installation is not mandatory, but we recommend it as a way of distributing the reports without the need to take up a Preactor license.

**TIME SHEET AUTOMATION**

We can also provide riteTIME software.

This is complementary to Preactor in that it is used to collect WIP Tracking information directly from the factory floor – replacing hand written time / job sheets to capture time and quantity for:

- ◆ People (direct and indirect labour time)
- ◆ Works Orders
- ◆ Machine activity

This data can be automatically imported to Preactor to show progress against the plan.

For more information go to:

[www.sl-ect.co.uk/riteTIME.aspx](http://www.sl-ect.co.uk/riteTIME.aspx)



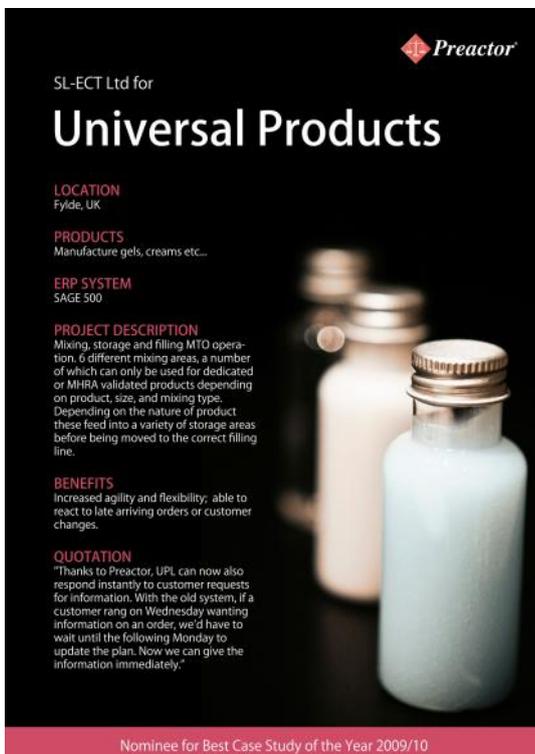
- Automated Timesheet Entry
- Efficiency Reporting
- Payroll Reconciliation
- Preactor Mid-Batch Updates

**PREACTOR PARTNER**

sl-ect is a Preactor Solution Provider and can provide:

- ◆ System design
- ◆ Implementation
- ◆ Training
- ◆ Support

For testimonials and more information go to:



**Preactor**

SL-ECT Ltd for  
**Universal Products**

**LOCATION**  
Fylde, UK

**PRODUCTS**  
Manufacture gels, creams etc...

**ERP SYSTEM**  
SAGE 500

**PROJECT DESCRIPTION**  
Mixing, storage and filling MTO operation, 6 different mixing areas, a number of which can only be used for dedicated or MHRA validated products depending on product size, and mixing type. Depending on the nature of product these feed into a variety of storage areas before being moved to the correct filling line.

**BENEFITS**  
Increased agility and flexibility; able to react to late arriving orders or customer changes.

**QUOTATION**  
"Thanks to Preactor, UPL can now also respond instantly to customer requests for information. With the old system, if a customer rang on Wednesday wanting information on an order, we'd have to wait until the following Monday to update the plan. Now we can give the information immediately."

Nominee for Best Case Study of the Year 2009/10

All trade marks acknowledged

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