Veloc Implementation Guide - 123 Go.

Introduction

Many years of experience has shown us that a systems implementation can be complex, expensive, time consuming and fraught with difficulties. Although Veloc is a complex and multidimensional planning and scheduling tool we have tried to make the implementation as simple as possible by breaking down the implementation into straightforward steps.

With an appropriate level of planning and preparation we believe that “Go Live” should be achievable within weeks. A target of one month is not unachievable.

At a macro level we have just 3 steps (hence 1, 2, 3 Go) and these are then each also broken down into a number of other steps. At each stage we provide a degree of support appropriate to each implementation.

The macro level steps are

1. ***Business and people preparation.***
2. ***Dataset building and testing.***
3. ***Managing the inputs and outputs.***

At each step, as a registered user, you can call on support from Veloc by using the website Support Helpdesk Functionality.

Additionally, of course, we are able to supply implementation consultants who can assist or lead your implementation process. We will happily provide a quote for these services.

Contents

Business and People Preparation

Before beginning – An explanation of Veloc Planning Logic and Concepts

Veloc is a Finite Capacity Planning and Scheduling system.

After extensive consultations with both our own clients and throughout a number of industries we have decided to separate the Infinite Capacity Planning and Finite Capacity Planning parts of the system. The initial planning is finite capacity with the exception that where capacity is insufficient on a particular resource production will be moved to the alternate resources for that item in priority order.

In order to ensure that the optimum first pass plan is achieved the MPS logic has been carefully designed to ensure that priority is given to items which cannot be accommodated on multiple resources.

Both Infinite Capacity Planning and the Finite Capacity Algorithms can be applied to both top level items only or completely through the Bill of Materials.

Many aspects of the planning algorithms are user customisable via the User Settings

Infinite Capacity Planning or Pass 1 Planning - Multi Level Master Scheduling Overview

Multi-Level Master Scheduling deals with the manufacturing environment where purchased components are manufactured, potentially into part finished, or sub assembly parts, through to the finished product which is sold. The discussion here is restricted to those aspects which relate to the operation of Veloc.

The Multi-Level capability of Veloc is based on a number of important assumptions about the business:

It is assumed that the intermediate level, part finished items:

- Have a unique Item code.
- May potentially, but not necessarily, be sold in their own right (e.g. spares sales)

The relationship between the purchased parts, the part finished, and the finished products is typically contained within a hierarchical definition known as a Bill of Materials, a Parts List, a Recipe, and many other names. In Veloc, this relationship is defined on the Product Component Structure table of the Master Product Database.

The Multi-Level MPS algorithms generate the MPS for all Items, including those identified on a Bill of Materials in the Product Structure table

Finite Capacity Planning

Once the finite capacity plan has been run there are two finite capacity planning algorithms which can be activated from the Capacity Charts.

Finite Capacity Planning Recovery

Where Capacity is exceeded in the immediate future and it is not possible to forward schedule production thereby stock building to avoid the capacity shortfalls the recovery algorithm will allow the user to resolve the issue.

Recovery Rules are pre agreed and set in the system whereby TMS can be trimmed by 3 levels of risk defined for each SKU. The system will then trim production for each SKU at each level (beginning with those that have the most impact on capacity) until a capacity solution is found or until all SKU's have been taken down to the lowest level of risk allowed.

If a capacity solution hasn't been found then the user will be informed and it may be necessary to allow the system to trim further – or even to zero (meaning sales are made to order). If it is necessary to trim below zero – then essentially you are determining which SKU's will not be supplied.

These rules are therefore used to progressively apply more extreme solutions until a capacity fit is found. Once a capacity fit has been achieved the system will then proceed to recover stocks back to TMS across subsequent buckets as soon as possible and will inform the user if this has not been possible. This whole process takes a few minutes only so that solutions to immediate capacity issues can be rapidly achieved.

Finite Capacity Planning – Optimisation

Where a capacity shortfall is in the future selecting Optimise will progressively forward schedule production – always respecting maximum stock or Shelf Life rules until a solution is found. If no solution is possible the user will be informed so that capacity increases can be applied in buckets leading up to the shortfall and Optimisation rerun.

Again the whole process takes minutes so that the user rapidly achieves solutions.

Of course it would be possible to link recovery and optimisation for all resources and indeed to trigger the routines immediately following Infinite MPS but it is our view and that of our clients that this is suboptimal and a better solution is to allow the user full visibility of the results of Infinite Capacity MPS before applying Finite Capacity Algorithms

For more detail on this as well as Scheduling processes and chart interaction etc. please refer to the Veloc User Manual. It is highly recommended that before implementing the system at least one project member is trained by Veloc in the use of the system as in the interactive training environment many questions can be answered quickly and easily.

The first steps in this section should come before the system/ vendor is selected and then once this has been accomplished the later stages should be carried through. It is vital for the success of the remaining stages of the implementation that the steps in this stage are completed thoroughly.

The Business Need

The very first stage must be to define the need for the business.

Veloc provides production and capacity planning in the short term (operational plans and schedules), medium term and long term (capacity planning, what if planning and schedule evaluations). As well as products and production the system allows for management of components, sub-assemblies, materials and labour.

It provides tools for achieving these things throughout a single factory or multiple locations and throughout a Bill of Materials. Time horizons and buckets can be minutes, hours, days, months, years etc.

But….

Let's first take a step back from even this stage and look at the business need in terms of issues and/ or benefits required, this is likely to be at the heart of the desire to implement a system.

Some of the benefits the business may want/ need could include:-

- ***Reduced or optimised inventory levels***
- ***Improved service***
- ***Reduced manufacturing costs***
- ***Reduced waste/ write off***
- ***Reduced labour costs***
- ***Improved manufacturing efficiency***
- ***Reduced planning overhead costs***
- ***Increased speed of planning***
- ***Improved capacity management***

There may be many others but it is important in each case to agree with the system vendor what the benefits being pursued are and how the system is going to deliver or help to deliver the benefits. If the delivery of the benefit(s) is dependent on other things than the system itself then the other elements should be agreed and included in the implementation plan.

Veloc can deliver or help to deliver all of the above and many more benefits and the first step of our 123 Go program is to ensure these are properly specified.

Before proceeding to the next step you should produce a clear and concise description of the business need in terms of benefits, the need in terms of functionality that will drive those benefits and how the system/ other business processes will deliver the benefits.

The Project Scope and Key Functionality

- What is the project team? Who is project lead? What is the required timescale to Go Live?
- Is the system to cover one location or several?
- How many products?
- Top level only or multi-level (multi components and/ or raw materials)?
- What is the mode of operation of the supply chain – make to order, make to stock or a mix of both?
- How many people will operate the system and will they have a common set of functionality or just one set? (e.g. will there be some users who can just look at outputs whilst others can variously plan, schedule, change parameters etc.?)
- How many production resources?
- What is the capacity measure (hours, machine hours, man hours)?
- What is the planning bucket size? (Veloc can handle multiple bucket sizes in one dataset but we do not recommend this as we have found it leads to confusing messages). There may be several different datasets for different purposes – each using common base data but with different bucket sizes and time horizons)
- Define interfaces (input and output) required. These will be configured in stage 3 but it is important to specify here.
- Any other key scope or functionality definitions should be described and agreed with the vendor.
- Do you need the ability to flex any of the following across the time horizon
    - Run rates
    - Changeover times
    - Machine efficiencies
    - TMS (you might need/ want higher TMS cover in periods of promotional activity)

At the end of this step you should produce a full description of scope and required functionality as well as defining the team, project leader and timescale. This should be agreed internally and with the system vendor.

Integration with the business

At this point it is important to define the planning processes (operational and medium term strategic) and how they will fit with the rest of the business processes.

The Importance of this step should not be underestimated. A planning system is only a tool with which to deliver results. The use of the tool with an effective process which is right for the business in question is paramount.

One does not buy a spade and expect it to dig the garden on its own!

Integration for operational process:-

- How often is planning carried out/ to cover what timescale?
- How are results of planning communicated and to whom/ how frequently

- Is there a “locked or fixed” time at the front of the planning horizon if so how long and what is the procedure should the need arise to override it?
- If issuing paper or spread sheets as outputs how are you going to control the documentation to ensure all live issues are the latest version etc.?
- How do you get forecast data/ actual orders – at what dates/ times and what horizons are covered?
- How is defined capacity agreed?
- How are changeover times agreed?
- How are optimal sequences defined/ agreed?
- How is capacity consumption (run rates/ production rates/ labour levels) defined/ agreed? What is the procedure for updating the system?
- Where is data held/ updated? (In the planning system or other central place – e.g. ERP system)?
- How/when is data transferred between systems?

Integration for Strategic Processes:-

- How does the planning system provide input to the S&OP/IBP process?
- What inputs to S&OP are required and in what format?
- What is the process for feeding back KPI’s such as run rates/ changeover times?
- What are the timings of inputs/ what timescales are required?
- Do you need to show “amber” capacity consumption (e.g. items/ volumes that are not finalised at present)?
- Do you need to show promotional volumes and capacity consumption separate from on-going volume?

At the end of this step you should produce a document and table which shows exactly how the system will interface with the current business systems/ processes along with details of the required inputs and outputs (times, formats, data inclusion etc.) N.B. All Veloc system imports follow a file specification as defined in the appendices of the Veloc User Manual. Whilst other file formats can easily be accommodated these would require specific user functionality and provision for this should be made in the scope/ costing of the project.

Business IT preparation.

- You need to make a number of decisions about system deployment and prepare the platform accordingly.
- Veloc requires a windows 7 or newer operating system (either 32 bit or preferably 64 bit) and Office 2007 or 2010 for the interface (We are current testing functionality with office 2013 and do not recommend this at present)
- Are you going to deploy on:-
    - One single desktop machine
    - A server with the configuration that the system runs on the server using server resources
    - A server and runs on individual desktops using desktop resources (N.B. all desktops will need the system specification for hardware and software)

- Are you going to have multiple users logging into the system?
- Will you need more than one level of user – if so you need to specify user levels and set up administrator/ user/viewer levels accordingly (by default the system has administrator / user/ viewer levels but more can easily be added at implementation time or thereafter.
- Will you be using the Veloc default database or will you require SQL server?
- System Login:

  User login requires access to our login server at
  http://www.sartsolutions.co.uk

  In addition we advise that users have access to
  http://www.veloc.co.uk and
  http://www.veloc.uk
  where we post occasional system updates and provide corrections etc. following support requests.

- Support is usually provided via email so we advise that our emails Support@veloc.co.uk and stevea@veloc.co.uk are whitelisted.

At the end of this stage you should have a clear system brief and IT should have been provided with what is required so that they can make appropriate purchases etc.

People Preparation.

Although coming last in this section it is imperative that this part of the process is not underestimated. It is the people who will be using the system and who will ultimately determine the success or otherwise of the project.

It is worth spending some time planning for and executing people involvement and training to gain sign on to both any new operating methods/ ways of working and also to the benefits that are expected to result.

Briefing

All users of the system and also those from whom information is required or who will be using outputs of the system should be briefed thoroughly on the system, the planned benefits and any new ways of working/ new information (including changed formats).

Let's use the word stakeholder as a shortcut to define all these interested parties

Involvement

You should agree with all stakeholders what stages of involvement will occur and when/ how this will happen.

You should agree what aspects are available for consultation and what are given.

Training

All users of the system should at this stage undergo initial system training and familiarisation using standard demonstration data. We recommend a full day at this stage so that a thorough grounding can be accomplished and any issues/ concerns highlighted and brought into the scope of the project.

At the end of this step you should have agreed an involvement process, should have briefed all interested parties and should have carried out a full days system familiarisation with all prospective system users.

On completion of all of the above stages you will now be ready to move onto the second stage of building the dataset and testing the data.

Dataset Building and Testing.

This phase of the project is the most detailed and usually takes up most time. If you have successfully completed all steps in Stage 1 then this stage should progress steadily but surely to the point where you have a complete stand-alone system planning as you would like it and ready for data integration steps.

We will progress through each data element and at each stage you should ensure that:-

- the data is complete and accurate
- that you have a process for keeping it up to date and accurate
- that you have defined who is responsible for data verification and when it will be carried out.

Many of the data elements will be self-checking in the system but there are some peripheral/ user specific elements (e.g. Time variable TMS and recovery rules) that cannot be checked for completeness as by their nature not all items are necessarily included. You need to agree a procedure for ensuring that these are verified whenever they are changed or when new items are incorporated into the system.

It recommended that this stage of the implementation process is carried out on a stand-alone desktop or laptop machine even if the final deployment will be server based. It is also recommended that this process is followed first for a few items (no more than 10) so that a good understanding of how the different parameters drive different results can be fully appreciated without too much complexity. When the user is comfortable with this then further items can be added.

The 123 Go approach adopted by Veloc Ltd is very much built on a principle of starting simply and gradually layering on required complexity. Thorough testing of functionality at each step will ultimately result in a shorter implementation process.

Install and set up the system

Using the Veloc setup file you have received from Veloc Ltd install the system on your machine in the folder C:\Veloc

You will require read/write access to this folder and all subfolders.

Start MS excel and under the Excel options tab go to the Trust Centre settings and make the following changes if required

1. Set up a trusted location of C:\Veloc and click the option to include all subfolders. (You use the Add New Trusted Location button to do this).
2. Under Macro Settings set Trust access to the VBA project object model to be true and set Macros settings to "Disable all macros WITH notification".

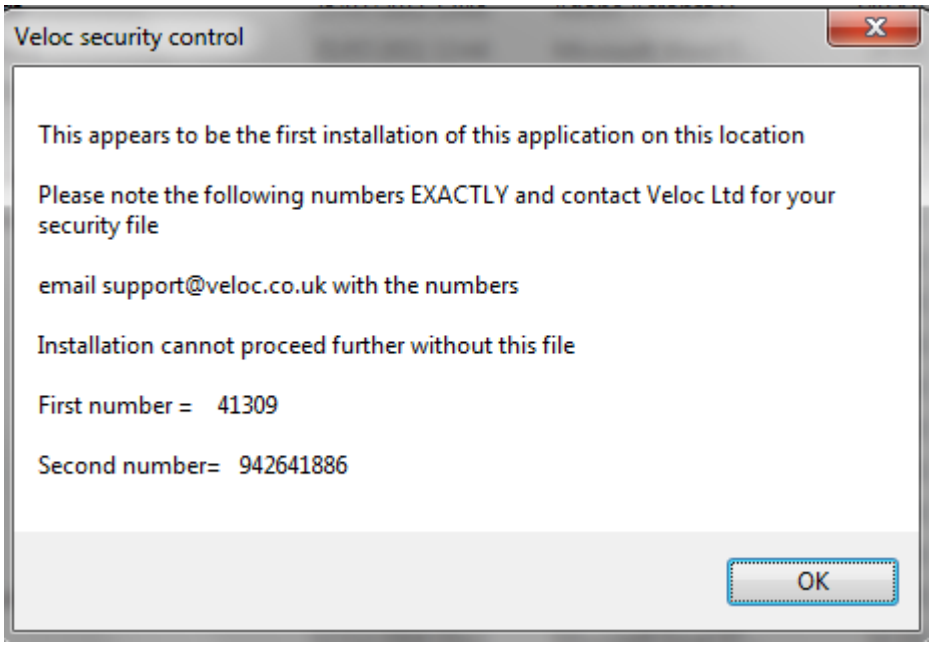
Click OK to return to Excel – exit and then enter again and ensure the settings you created have been saved. It is possible you have settings which are determined on your profile by IT. You need to ensure that they have set the above settings to be true and saved for you.

Make a copy of the shortcut to Veloc shortcut from the Veloc folder and place this on your desktop and/or in the Start Button program list for ease of access to the system.

You are now ready to access the system for the first time.

Open Veloc using the shortcut and log in using the username Admin and the password Admin. This will give you full administrator access to the system and you can change add new users as required. For now just proceed using this log in.

On first use you will be presented with a message that looks like this



You must send the numbers to Veloc Ltd as described and wait for your security file to be sent. Each system (whether server or desktop/ Laptop carries its own unique security file and this must be provided before you can proceed. Once you have made a note of the numbers exit the system.

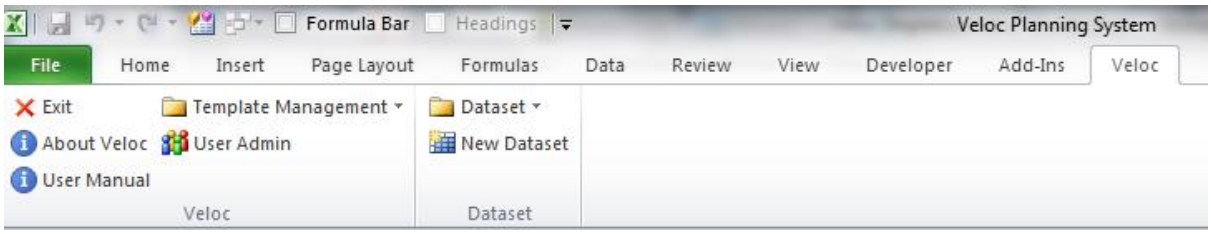
When you have received your security file and deployed it in the Veloc folder restart Veloc and Login as above.

At the end of this step you will have a fully installed and validated system ready to begin operations. As part of the install a sample dataset is also installed. This is used in the next step.

System Familiarisation

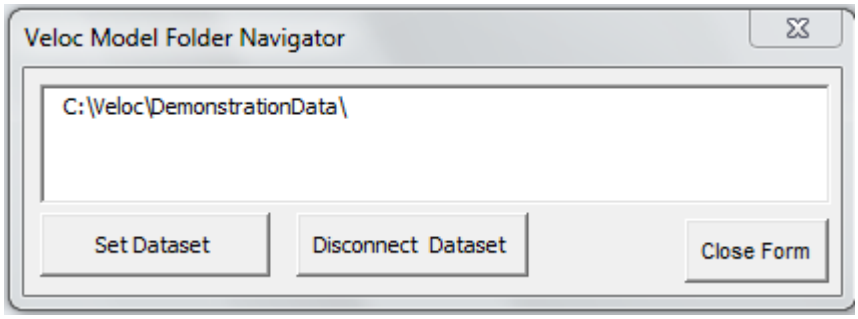
If Stage 1 was completed properly you will already have received system training but it's still worth taking a tour through the system using the Demonstration data which is installed as part of the system installation.

Locate the Veloc tab on the excel ribbon and familiarise yourself with the control buttons under the Veloc tab of the Veloc ribbon (ignore the Dataset part of the Veloc ribbon for now)



Note how to Exit the system using the exit button

Upon logging in you should have been presented with the initial Dataset Navigator.



If you cannot see this on screen you can access it by selecting **DATASET – SET DATASET** from the Veloc ribbon.

(N.B. Throughout this document we will use the same convention for selecting from the menus. The format used above indicates that you should select from the Veloc ribbon with a – indicating a submenu selection.)

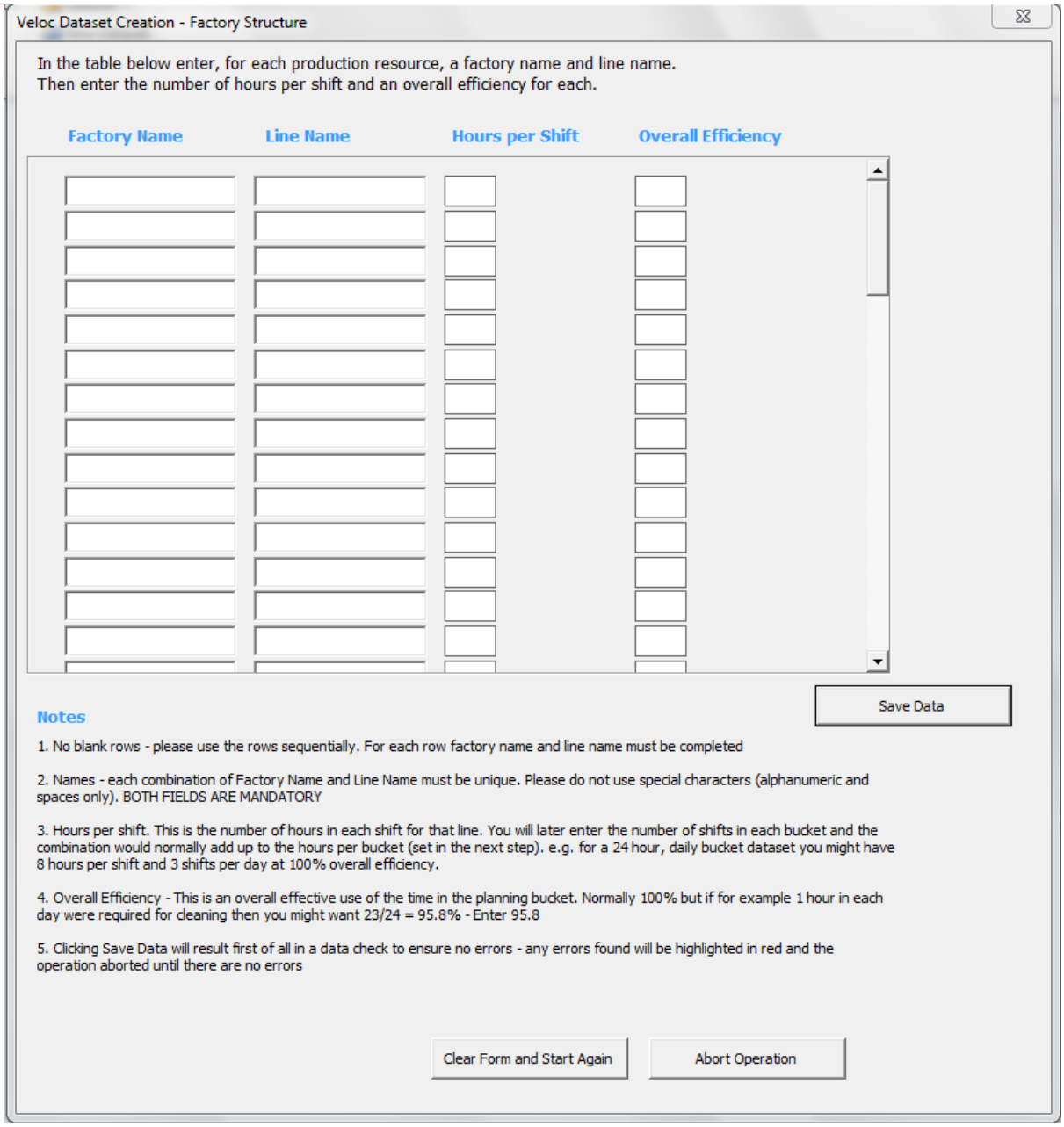
By default the system on first opening should be set to point to the dataset contained in "C:\Veloc\DemonstrationData" i.e. the demonstration data installed as part of the Veloc install. If this is not the case then you should use the Set Dataset button from the above dialogue and then navigate to the Demonstration Data and select any of the files therein and press open.

This action points the system at that dataset but does not actually connect with the data tables. To connect with the data tables in any dataset press the Connect Dataset button once the dataset in question is shown in the above dialog.

It is now suggested that you spend some time familiarising yourself with the data, results and the various elements of Veloc functionality using this dataset in combination with the Veloc User Manual which can be accessed from the Veloc Ribbon **USER MANUAL** button.

On completion of this step you should be familiar with the basic Veloc data structure and be able readily to navigate the data and also to find and run the various Veloc functions.

Building the Data – Production Resources.



In Veloc the resources used to create inventory (usually manufacturing resources but could equally by suppliers) are specified in the resources table. Each resource name is made up of two parts Factory Name and Line Name. The combined full name must be unique for each resource. Resources can be added, deleted or be renamed later but at this stage you should try to create as comprehensive a list as possible. By default the system can deal with up to 50 resources per dataset but this can be expanded by Veloc support.

The definition of capacity per bucket is specified in Veloc as a combination of a number of hours per shift and then the number of shifts per bucket (by setting the number of hours per shift to 1 you are then essentially setting the number of hours per bucket directly where you set the number of shifts per bucket). The number of hours per shift is set in this dialog (again it can be changed later by using

DATA NAVIGATION – RESOURCE MANAGEMENT – EDIT RESOURCE PARAMETERS) as is the Overall Efficiency.

Overall Efficiency refers to a percentage applied to the total hours per shift. For example if you set 8 hours shifts but 45 minutes of that time is not available for production due to line downtime for meal breaks etc. then you would set the overall efficiency at 90.625% (or probably just 90%).

When you select Save Data the data will be checked for inconsistency and errors and if any are found they will be highlighted and error messages produced. Data Saving cannot be complete until it is error free.

This step results in a set of resources against which production and/ or purchase will be placed by the system and which will have capacity consumed by that production. You will now be ready to build the basic Master Product Data. Remember the resources can be changed later.

Building the Data – Master Product Data

A key principle of this implementation process is the step by step approach, building and testing each part before moving on to more complex functionality and/ or parts of the dataset. Again we will initially build this inside Veloc – data integration being one of the later steps of the process.

With this in mind we will now proceed to put in place the basic elements of the Master Product Data required for the MPS (or infinite capacity) functionality.

The input for the core data (like much else in the system) is via a fairly simple spread sheet with the following columns for each item

Basic Item Specific Parameters

Master Product Data Field	Details
ITEM CODE	Alphanumeric up to 256 characters - no "special characters
DESCRIPTION	Free field
Descriptor 1	Free field
Descriptor 2	Free field
Descriptor 3	Free field
Prod change group	Integer field - will refer to a group of products to be treated as related for sequencing purposes
TMS (Days)	Numeric field refers to the Target Minimum Stock (the stock cover level at which stock will be planned to be replenished. See also TMS Calculation in the Veloc User Manual.
PPU per tonne	Conversion factor used to convert plan results for output - in this case conversion from Planning Unit to Tonnes
PPU per Pallet	Conversion factor used to convert plan results for output - in this case conversion from Planning Unit to Pallets
PPU per std unit	Conversion factor used to convert plan results for output - in this case conversion from Planning Unit to any other unit used by the business (SCE's etc.)
cost per PPU	Conversion factor used to convert planned inventory results into value.
Item lead time	The period of time the item is required to have been finished prior to either sale or use in the next step of a process. For planning purposes is this is less than the size of the planning bucket it is ignored but for scheduling purposes it can be any quantity.
Max Stock (days)	The level of stock cover beyond which the system should not plan to go. Usually internal shelf life or some related factor. Expressed as the maximum number of buckets to be covered - does not need to be whole numbers.

Production Resources by Item

Next the resources which are used to prepare each item are specified in priority order – in other words the system will always use the first resource unless this is full in which case it will use the next priority and so on.

Resource	Details
Priority line 1	The first priority resource - N.B. must be one of the resources specified in the system
Priority line 2	The second priority resource - N.B. must be one of the resources specified in the system
Priority line 3	The third priority resource - N.B. must be one of the resources specified in the system
Priority line 4	The fourth priority resource - N.B. must be one of the resources specified in the system
Priority line 5	The fifth priority resource - N.B. must be one of the resources specified in the system

Master Data - Planning Drivers

Now for each item resource combination there are a number of parameters known as “Planning Drivers” which need to be specified.

Parameter	Details
Capacity Multiplier Option 1	The production run rate for the item on Resource Priority 1
Capacity Multiplier Option 2	The production run rate for the item on Resource Priority 2
Capacity Multiplier Option 3	The production run rate for the item on Resource Priority 3
Capacity Multiplier Option 4	The production run rate for the item on Resource Priority 4
Capacity Multiplier Option 5	The production run rate for the item on Resource Priority 5
Minimum Batch Size Option 1	The minimum batch quantity for Resource Priority 1
Minimum Batch Size Option 2	The minimum batch quantity for Resource Priority 2
Minimum Batch Size Option 3	The minimum batch quantity for Resource Priority 3
Minimum Batch Size Option 4	The minimum batch quantity for Resource Priority 4
Minimum Batch Size Option 5	The minimum batch quantity for Resource Priority 5
Incremental Lot Size Option 1	The incremental lost size (ir the amount by which planned production quantities can be increased after mimum batch is met) for Resource Priority 1
Incremental Lot Size Option 2	The incremental lost size for Resource Priority 2
Incremental Lot Size Option 3	The incremental lost size for Resource Priority 3
Incremental Lot Size Option 4	The incremental lost size for Resource Priority 4
Incremental Lot Size Option 5	The incremental lost size for Resource Priority 5
Set Up Time Option 1	The amount of time required to prepare to make this product on this resource. Assumes a standard or optimum production sequence and is used for planning purposes (For Sequencing the individual changeover times within and between Product Change Groups are used) Refer to Product Change Groups in User Manual
Set Up Time Option 2	As above for Resource 2
Set Up Time Option 3	As above for Resource 3
Set Up Time Option 4	As above for Resource 4
Set Up Time Option 5	As above for Resource 5
Production Pattern Option 1	An integer value used to specify a production pattern (e.g. once per bucket, every alternate bucket, for the next 5 buckets only etc.) The patterns are defined in the Calndar later. At this stage you only need to know whether any items are likely to have unique patterns. The default - pattern no 1 is every bucket. N.B. Pattern number zero (or blank entry) = "Do not produce"
Production Pattern Option 2	As above for Resource 2 for this item
Production Pattern Option 3	As above for Resource 3 for this item
Production Pattern Option 4	As above for Resource 4 for this item
Production Pattern Option 5	As above for Resource 5 for this item

Master Data - Other Parameters

And finally there are three more optional parameters which need to be specified

Max Stock Cases (or Planning Units) – An absolute number of planning units beyond which stock should not be planned to go. This provides an overrider for Max stock as cover and will limit inventory even if max stock cover has not been reached.

Min Stock Cases (or planning units) – an absolute minimum value in planning units beyond which the system will not plan to go even if TMS has not been reached.

And

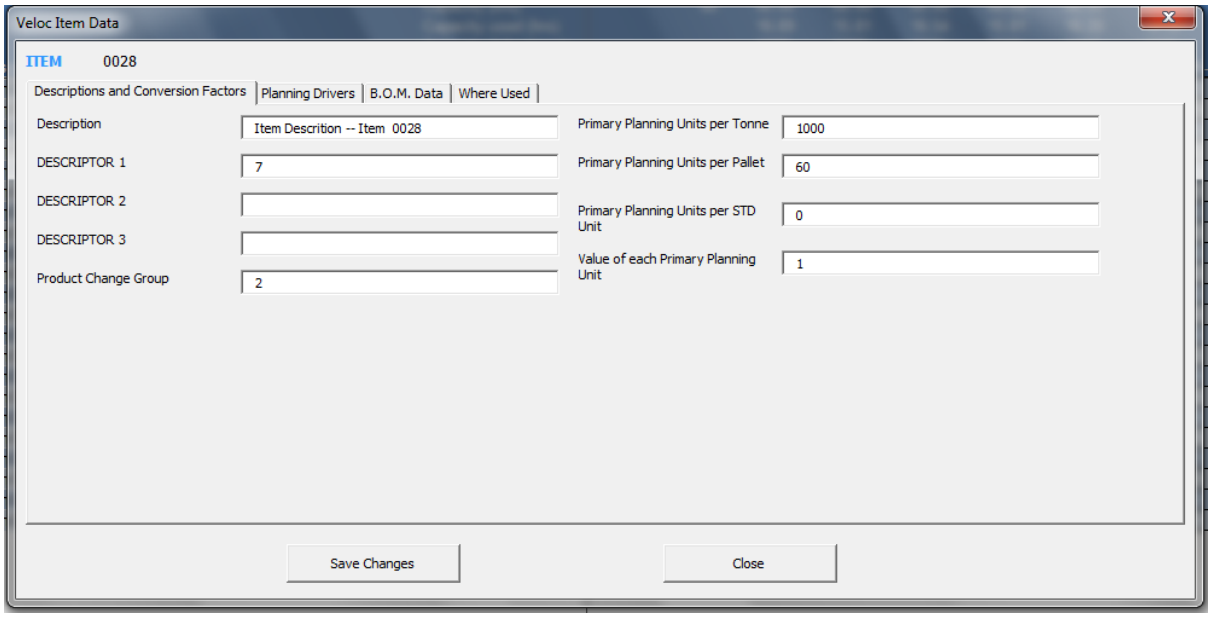
Rephase unconsumed Forecast in H.Roll Forecast option (1=Yes) **-** field to specify whether unconsumed forecast should be “rolled” into subsequent planning buckets when the planning process “Horizon Roll” is carried out. For more detail see Horizon Roll task in the User Manual.

Completing the Master Product Data Template

All of these parameters are added to an excel spread sheet template accessed via **DATA NAVIGATION – PRODUCT DATA – MASTER PRODUCT DATA.**

Data can be pasted into the template, sorted, etc. When complete the Check Data option will check for inconsistencies and errors. It will not be possible to save the data until all these are resolved.

Once complete the data for any individual item can be accessed by right clicking the item in any of the system data tables. This will show both editable data and other data for that item as follows. The full data table can be accessed and amended using the menu navigation as above.



On completion of this step of the implementation you will have prepared a basic Master Product Data for each item which is enough for the system to be able to carry out initial MPS (or infinite capacity planning) calculations.

Further fields can be added to this data table for either custom functionality or for use in scheduling rules – we will cover this later.

The next step now is to define the planning horizon, the individual buckets, capacities, production patterns etc.

Building the Data – The Calendar Data

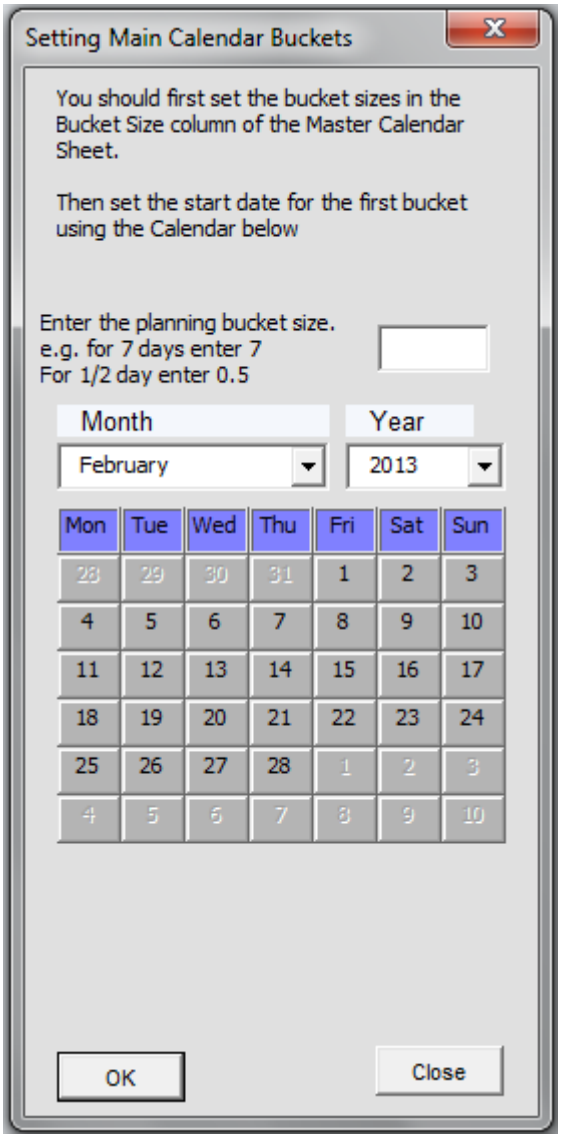
Creating the Master Calendar

The next stage in building the dataset is to specify the Planning Calendar and associated settings.

The first step is to specify the planning bucket sizes and the starting date; the system will then calculate the starting dates for all subsequent buckets. N.B. It is important at this stage to set the correct start point for your buckets or you will not be able to select appropriate points when selecting the initial planning horizon in the next step.

So – taking weekly buckets as an example – it is important to decide what day the week starts on.

Selecting **DATE SETTING – SET MAIN CALENDAR** from the Veloc ribbon results in the following dialogue being displayed.



The bucket size is entered in the first box (this can be whole numbers or parts of days (e.g. for 8 hour buckets enter 0.33333, for weekly buckets enter 7).

It is possible to set Veloc to have variable sized buckets across the horizon but we do not recommend this as it requires a significant degree of on-going maintenance and it is our experience that the results can be confusing to interpret. If you feel this is a must then please contact Veloc Ltd who will assist.

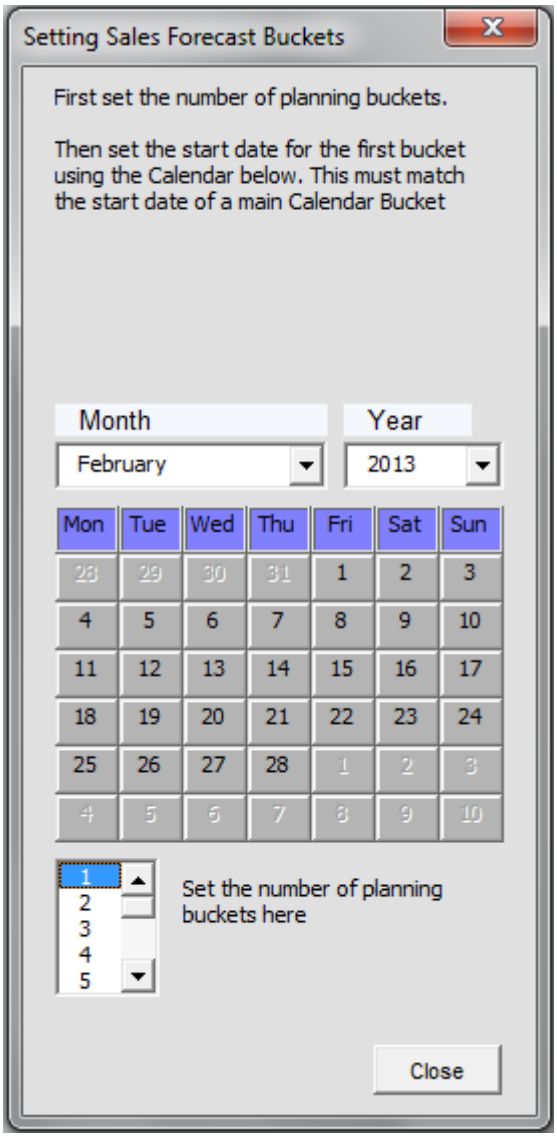
To set the start date for the range of buckets the month and year are first selected from the drop down boxes and then the date is selected from the array of days. So, for a weekly bucket starting on Sunday 3rd February 2013, the appropriate selections would be made in the dialog as above and then OK would be pressed.

N.B. This would then result in all subsequent weekly buckets beginning on Sunday!

Once this step is complete we need to proceed to set up the initial planning horizon (which by default can be up to 100 buckets – if more are required please contact Veloc Ltd).

Setting the Planning Horizon

The next dialogue is shown by selecting **DATE SETTING – SET CURRENT DATE RANGE**.



First the number of buckets is set in the bottom scroll box and then the start date for the planning horizon is selected. N.B. until a correct start date which matches one set up in the previous step (e.g.

A Sunday) is selected no OK button will be visible. A correct start date must be selected in order to proceed.

Completion of these two steps has created a Master Calendar and then an initial planning horizon for the system we can now proceed to populate the characteristics of each planning bucket for each resource.

Setting the Bucket Capacities

Reminder – the shift length was set in an earlier process during resource set up. The number of shifts per bucket for each resource is now needed. The table to set this up is accessed via

DATA NAVIGATION – CALENDAR – CAPACITIES

This reveals a table where the capacities (shifts per bucket) can be specified

CAPACITY DEFINITIONS				Number of shifts per bucket	
	Bucket comme	Bucket size (days)	Bucket number	Factory A Line 4	Factory A Line 5
Key parameter	18-Sep-2011	7	1	20	10
shifts	25-Sep-2011	7	2	20	10
Chart axis title	02-Oct-2011	7	3	20	10
M/C hours	09-Oct-2011	7	4	20	10
	16-Oct-2011	7	5	20	10
	23-Oct-2011	7	6	20	10
	30-Oct-2011	7	7	20	10
	06-Nov-2011	7	8	20	10
	13-Nov-2011	7	9	20	10
	20-Nov-2011	7	10	20	10
	27-Nov-2011	7	11	20	10
	04-Dec-2011	7	12	20	10
	11-Dec-2011	7	13	20	10
	18-Dec-2011	7	14	20	10
	25-Dec-2011	7	15	14	6
	01-Jan-2012	7	16	17	7
	08-Jan-2012	7	17	10	10
	15-Jan-2012	7	18	10	10
	22-Jan-2012	7	19	10	10
	29-Jan-2012	7	20	10	10

Reminder – the total available hours per bucket will be the entry here multiplied by the hours per shift entry in the resource details.

Data for all known buckets should be entered.

Setting Capacity Adjustment

One of the features of the Veloc APS system is the ability to change production rates for a given resource and for any bucket (for example if part of a production resource will be out of commission for a period or if there is to be a ramp up to normal rates after a major outage).

These adjustments to normal run rates are entered by selecting **DATA NAVIGATION – CALENDAR – CAPACITY ADJUSTER** which brings up the following table.

CAPACITY ADJUSTMENTS

Enter less than 100% for negative adjustment - more than 100% for positive adjustment

Bucket commencing	Bucket size (days)	Bucket number		Factory A Line 4	Factory A Line 5	Factory A Line 6	Factory A Catering	Factory A Crumb Line	Granule Plant Belt 01
18-Sep-2011	7	1		100%	100%	100%	100%	100%	100%
25-Sep-2011	7	2		100%	100%	100%	100%	100%	100%
02-Oct-2011	7	3		100%	100%	100%	100%	100%	100%
09-Oct-2011	7	4		100%	100%	100%	100%	100%	100%
16-Oct-2011	7	5		100%	100%	100%	100%	100%	100%
23-Oct-2011	7	6		100%	100%	100%	100%	100%	100%
30-Oct-2011	7	7		100%	100%	100%	100%	100%	100%
06-Nov-2011	7	8		100%	100%	100%	100%	100%	100%
13-Nov-2011	7	9		100%	100%	100%	100%	100%	100%
20-Nov-2011	7	10		100%	100%	100%	100%	100%	100%
27-Nov-2011	7	11		100%	100%	100%	100%	100%	100%
04-Dec-2011	7	12		100%	100%	100%	100%	100%	100%
11-Dec-2011	7	13		100%	100%	100%	100%	100%	100%
18-Dec-2011	7	14		100%	100%	100%	100%	100%	100%
25-Dec-2011	7	15		100%	100%	100%	100%	100%	100%

In this table the production rates for any resource and any bucket can be adjusted by entering a figure different from 100%.

A figure greater than 100% would mean that rates were higher than normal – i.e. less capacity would be consumed for a given production volume.

A figure less than 100% would mean that rates were lower than normal – i.e. more capacity would be consumed for a given production volume.

By default the system is set to 100%.

At the end of this step the system planning buckets have been defined and the planning horizon set. In addition any Capacity Adjustment of specific lines in specific Buckets has been set.

Setting Production Patterns

In the Master Product Database each item/ resource combination is allocated a production pattern number. In this step we will set examine the default patterns and look at how to create a new pattern. Finally we will revisit the Master Product Database check pattern assignment is correct and to make any changes.

DATA NAVIGATION – CALENDAR – PRODUCT PATTERNS

Product Production Patterns

Bucket commencing	Bucket size (days)	Bucket number	0	1	2	3	4	5	6	7	8
18-Sep-2011	7	1	0	1	1		1	0	0	0	
25-Sep-2011	7	2	0	1		1	0	1	0	0	
02-Oct-2011	7	3	0	1	1		0	0	1	0	
09-Oct-2011	7	4	0	1		1	0	0	0	1	
16-Oct-2011	7	5	0	1	1		1	0	0	0	
23-Oct-2011	7	6	0	1		1	0	1	0	0	
30-Oct-2011	7	7	0	1	1		0	0	1	0	
06-Nov-2011	7	8	0	1		1	0	0	0	1	
13-Nov-2011	7	9	0	1	1		1	0	0	0	
20-Nov-2011	7	10	0	1		1	0	1	0	0	
27-Nov-2011	7	11	0	1	1		0	0	1	0	
04-Dec-2011	7	12	0	1		1	0	0	0	1	
11-Dec-2011	7	13	0	1	1		1	0	0	0	
18-Dec-2011	7	14	0	1		1	0	1	0	0	
25-Dec-2011	7	15	0	1	1		0	0	1	0	
01-Jan-2012	7	16	0	1		1	0	0	0	1	
08-Jan-2012	7	17	0	1	1		1	0	0	0	
15-Jan-2012	7	18	0	1		1	0	1	0	0	
22-Jan-2012	7	19	0	1	1		0	0	1	0	
29-Jan-2012	7	20	0	1		1	0	0	0	1	
05-Feb-2012	7	21	0	1	1		1	0	0	0	
12-Feb-2012	7	22	0	1		1	0	1	0	0	
19-Feb-2012	7	23	0	1	1		0	0	1	0	
26-Feb-2012	7	24	0	1		1	0	0	0	1	

In the above table the planning buckets occupy each row and in each of the columns (0, 1, 2 etc.) the production status is set to 1 or any other value. An entry of “1” (and only 1) sets the bucket to enabled for that pattern number (the column header number) and that bucket.

An entry of anything other than a simple 1 sets the production to “off”.

Patterns 0 to 7 are pre-defined in the system such that:-

- Pattern 0 has no entries of 1 so production is off for every bucket – no production would be planned for an item/resource combination set to pattern 0.
- Pattern 1 (the norm) is set to enabled for every bucket.
- Pattern 2 is set to enabled on every alternate bucket

And so on

Patterns 8 and beyond are configurable by the user so for example setting pattern 8 to 1 on buckets “04-Dec-2011”, “11–Dec-2011” and “01-Jan-2012” would create a pattern where production was enabled only on those weeks. Setting an item/ resource combination to this pattern would then enable production on these buckets for that combination.

In this table changes are automatically saved to the dataset whenever they are made – there is no need to specifically save changes so once complete other navigations/ actions can simply be selected from the menus.

Once patterns are understood and/ or created in this table revisiting the Master Product Database.

DATA NAVIGATION – PRODUCT DATA – PRODUCT DATABASE

Production Patterns can now be set in the columns headed “Production Pattern Option 1” etc. where Option 1, 2, etc. refers to the resources set for each item.

N.B. A blank entry in any of these item/ resource combinations will be interpreted by the system as a pattern of 0 and no production will be planned.

On completion of this step the Calendar for planning purposes is ready to use. The next step is now to enter some demand against which production can be planned.

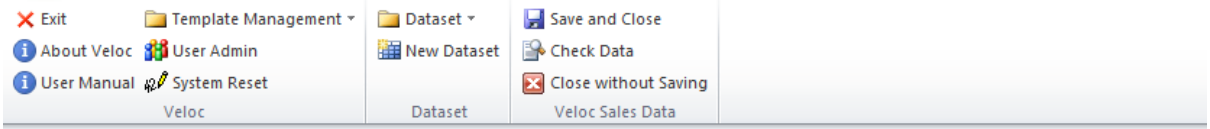
Building the Data – Demand Data

As with most other parts of the dataset the demand data will normally be imported into the system from a forecasting system, ERP system or both but at this stage, for commissioning and testing purposed, data can be manually entered into the system.

This is in line with the step by step approach of this implementation guide where the principle is to deal with system and data configuration first and then return later in the process to automate the interfaces with other systems.

Demand Data - Sales Forecast

DATA NAVIGATION DEMAND INPUT – SALES FORECAST brings up an excel spread sheet template where forecast data can be entered or pasted.



demand1.xlsm [Read-Only]

	A	B	C	D	E	F	G
1	Sales Forecast		Sales Period Commencing				
2	ITEM CODE	DESCRIPTION	18-Sep-2011	25-Sep-2011	02-Oct-2011	09-Oct-2011	16-Oct-2011
3	0003	Item Descrition -- Item 0003	38.6045	12	38.6045	38.6045	59.28325
4	0021	Item Descrition -- Item 0021	900	900	900	900	871.3705
5	0023	Item Descrition -- Item 0023	311.04775	311.04775	500	311.04775	325.2365
6	0025	Item Descrition -- Item 0025	16	16	16	16	95.9265
7	0027	Item Descrition -- Item 0027	357.86975	250	250	250	769.245
8	0028	Item Descrition -- Item 0028	206	206	2106	206	189.468
9	0029	Item Descrition -- Item 0029	69.55125	20	20	20	123.458
10	0033	Item Descrition -- Item 0033			575	575	450
11	0034	Item Descrition -- Item 0034			300	300	300
12	0035	Item Descrition -- Item 0035			200	200	
13	0060	Item Descrition -- Item 0060	61	61	61	61	62.554
14	0061	Item Descrition -- Item 0061	21.63175	5	5	5	27.026
15	0062	Item Descrition -- Item 0062	17.6915				15.01875
16	0063	Item Descrition -- Item 0063	160	80	80	80	142.4595
17	0082	Item Descrition -- Item 0082	542.4725	400	400	400	604.342
18	0083	Item Descrition -- Item 0083	373.0015	300	300	300	397.47025
19	0084	Item Descrition -- Item 0084	169.348	180	180	180	152.341
20	0185	Item Descrition -- Item 0185	2052.25	1880	1880	1880	3719

Items and forecasts for each bucket can be added manually or pasted into place from other sources.

The Check Data" menu option will verify data is correctly entered, highlighting any errors, duplications etc. and Save and Close will save the data to the dataset. Saving cannot be completed whilst there are errors.

As can be seen from the above example the forecasted figures for each bucket do not need to be whole numbers (although the accuracy above is somewhat spurious and probably represents output from a forecasting system which has not been set to whole number forecasts)

Once forecast data is saved the next step is to look at actual demand.

Demand Data – Actual Demand

Again the data can initially be added manually via the template which is accessed via

DATA NAVIGATION – DEMAND INPUT – ACTUAL ORDERS

Actual Orders

ITEM CODE	DESCRIPTION	DESCRIPTOR 1	DESCRIPTOR 2	DESCRIPTOR 3	DESCRIPTOR 4	No. of Calendar buckets to plan: 39 / Sales Period no.: 1 / Sales Period Commencing: 18-Sep-2011	2 / 25-Sep-2011	3 / 02-Oct-2011	4 / 09-Oct-2011
0003	Item Descrition -- Item 0003	7			2	2	61		
0021	Item Descrition -- Item 0021	7			2				
0023	Item Descrition -- Item 0023	7			2				
0025	Item Descrition -- Item 0025	7			2				
0027	Item Descrition -- Item 0027	7			2	372	262		
0028	Item Descrition -- Item 0028	7			2	35	34		
0029	Item Descrition -- Item 0029	7			2	33			
0033	Item Descrition -- Item 0033	7			2				
0034	Item Descrition -- Item 0034	7			2				
0035	Item Descrition -- Item 0035	7			2				
0060	Item Descrition -- Item 0060	7			2	5	50		
0061	Item Descrition -- Item 0061	7			2		10		
0062	Item Descrition -- Item 0062	7			2	16			
0063	Item Descrition -- Item 0063	7			2		80		
0082	Item Descrition -- Item 0082	7			2	43			
0083	Item Descrition -- Item 0083	7			2	20			
0084	Item Descrition -- Item 0084	7			2				

Obviously not every item will have actual orders and orders may exist for any bucket or for all.

Items cannot be added manually to the item list in this template but must first be added to the sales forecast data. (When it comes to data interfacing this is automated). Entries in this template are automatically saved to the dataset so there is no requirement for a specific save menu option. Once entry is complete navigating to any other part of the system or starting any function will close the template.

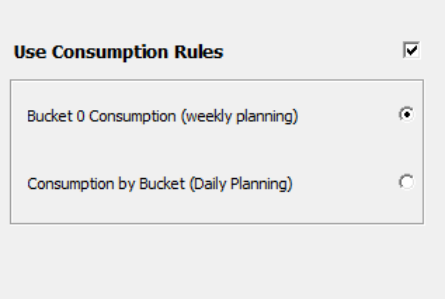
At this point it is appropriate to discuss Forecast Consumption Rules.

Demand Data – Forecast Consumption Rules

Veloc takes both a sales forecast and any actual orders as inputs to the system and uses these to plan appropriate production.

Usually most of the forecast period contains forecast only but there is a time band close to the present where there may be a combination of both forecast and orders. Dealing properly with the combination of actual orders and forecast in this period can have a dramatic impact on service.

In Veloc there are two different methods for handling this which are selectable in User Options.



If **USE CONSUMPTION RULES** is deselected then the default Veloc position is used.

In this case for any item in any bucket the higher of sales forecast or actual orders is used as the demand for that bucket.

If **USE CONSUMPTION RULES** is selected then either of the two alternative methods may be selected.

Method 1 – Bucket 0 Consumption is aimed at those situations where the majority of orders are received only for bucket 0 (The current bucket). This would be typical of a non short shelf life food business serving customers with day 1 for day 1, 2 or 3 order lead-times. The planning bucket would normally be weekly or more.

For each day of the planning bucket a figure (Daily Variable) is entered into the following Auxiliary Table.

Item Code	Make to Order? 1 or Y = Yes	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
3366	Y							
3331		0.5	0.3333333	0.166666667	0	0	0	0.833333
3338		0.5	0.33333	0.166667	0	0	0	0.666667
3342		0.2	0	0	0	0	0	0.2
3369		0.5	0.3333333	0.166666667	0	0	0	0.833333
3382		0.2	0	0	0	0	0	0.2
3383		0.2	0	0	0	0	0	0.2
3419		0.5	0.3333333	0.166666667	0	0	0	0.833333
3420		0.5	0.3333333	0.166666667	0	0	0	0.833333
3421		0.5	0.3333333	0.166666667	0	0	0	0.833333
3367		0.45	0.3	0.15	0	0	0	0.6
4794	Y							
4795	Y							
4796	Y							
4797	Y							
4798	Y							
4799	Y							
1669		0.5		0.75	0.9			
1670		0.5		0.75	0.9			

The system then detects the day on which planning is being run (allowing the user to override and select a different day) and applies the following rule.

Total Bucket 0 Demand = Actual Orders + (Forecast * Daily Variable)

Where an item is flagged as Make to Order forecast is ignored for Bucket 0.

Selecting **USE CONSUMPTION RULES** and then one of the options will tell the system to automatically the appropriate table under Auxiliary Tables and the data can be populated.

N.B. For any item which does not appear in the table the Default consumption rule will be used.

Method 2 – Consumption by Bucket is aimed at situations where it is important to be able to specify different consumption rules for many planning buckets. Typically each bucket is small so that the time position planning is carried out within the bucket is not relevant (e.g. Daily Planning).

For each bucket relative to bucket 0 a Bucket Variable is entered into the following table.

Item Code	Make to Order?	Bucket 0 - This bucket	Bucket 1	Bucket 2	Bucket 3	Bucket 4	Bucket 5	Bucket 6
510046-1		0	D	D	D	D	D	D
510048-1		0	D	D	D	D	D	D
510049-1		0	0.2	0.4	0.6	0.8	D	D
510050-1		0	0.1	0.2	0.3	0.4	0.5	0.6
510051-1		0	D	D	D	D	D	D

D = Default consumption rules as above.

Where a figure is entered the following rule applies

Total Bucket Demand = Actual Orders + (Forecast * Bucket Variable)

So in the above example in Bucket 0 only actual orders are used. For item 510050-1 in the bucket after the current one 10% of the forecast will be added to the actual orders.

Having completed this step the system has been populated with Sales Forecast Data, Actual Orders Data and the system has been configured to operate with appropriate rules regarding Forecast Consumption.

Building the Data – The Opening Position

Veloc requires information regarding the opening stock position. In addition the system regards the first bucket (today or this week) as already planned with manufacturing in the process of execution. The system needs to know the volumes that will be delivered in this first bucket.

The aim is that the system knows the opening position in terms of the first plan-able bucket (bucket 1).

There are two ways in which this data can be input at any point in time:-

Scenario 1 – Dynamic Live Position.

The stock at the time point of the input and the outstanding production at this time point are gathered and put into the system.

This scenario ideally also would have the sales for the current bucket updated to reflect those which have already been dispatched.

Whilst this scenario is the most accurate it can be difficult to get live data for all three inputs at exactly the same point. As a result many businesses opt instead for a less precise but more accurate position – Scenario 2.

Scenario 2 – Fixed Start Point.

All three inputs are gathered at one fixed point in time (often Saturday night or midnight daily) and are input to the system. With weekly buckets it is still valid if possible to update planned production figures with either actuals or with updated estimates and also to update forecasted demand based upon consumption rules as discussed earlier.

In either scenario the opening stock and Bucket 0 planned production is input to the system by using the template

DATA NAVIGATION – DEMAND INPUT – OPENING STOCK AND BUCKET ZERO PRODUCTION

Ultimately as with all other system data this can be imported automatically. We shall look at setting up these interfaces in Section 3.

The system now contains all data required to run the planning algorithms on top level products. It is highly recommended that at this point this is validated and a number of scenarios planned and checked. The plans should reflect the expected outcome and/or the user should be able to discover why certain results are achieved.

All relevant functionality should be tested and only when the user is happy that results are as expected or it can be seen what parameters are driving the discrepancy should implementation proceed to the next step.

Building the Data – Product Component Structure (B.O.M.)

Veloc will plan and schedule throughout a Bill of Materials (We call it a Product Component Structure) using standard MRP logic. The requirement for components is recalculated whenever the plan is manipulated or the finite capacity algorithms are run.

The Product Component Data can be accessed via

DATA NAVIGATION – PRODUCT DATA – PRODUCT COMPONENT STRUCTURE.

or by right clicking an item on any of the system tables.

In the Product Component Structure Table each item is specified on a row and there are then a number of fields for each component and the quantity of the component required per planning unit of the parent product.

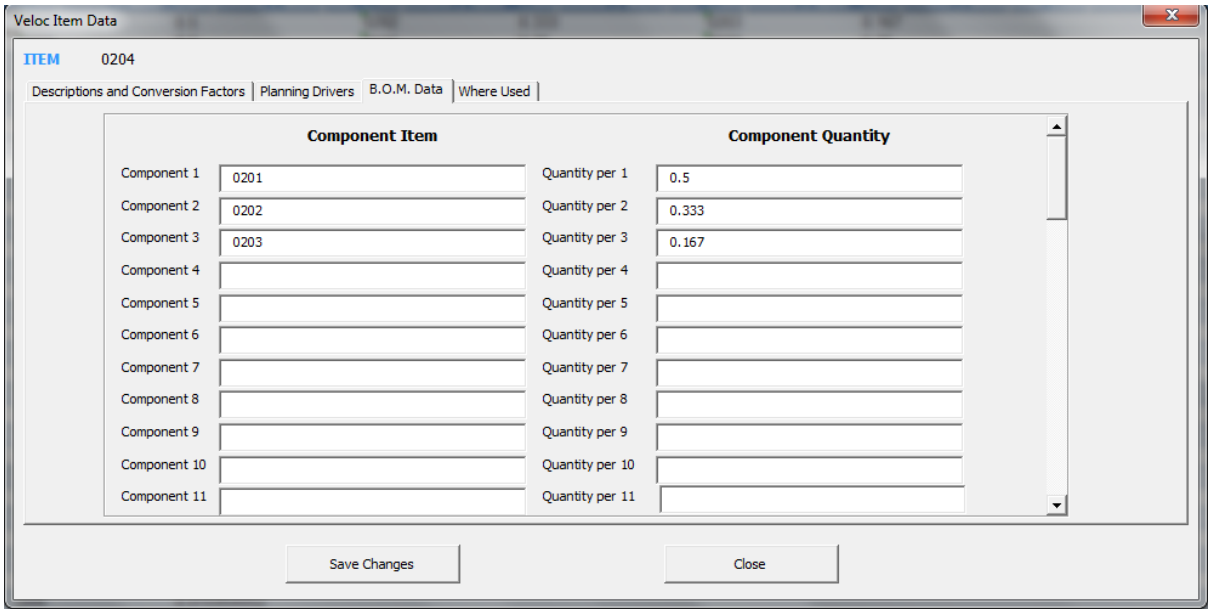
ITEM CODE	Component 1 Item	Component 1 Multiplier	Component 2 Item	Component 2 Multiplier	Component 3 Item	Component 3 Multiplier
0204	0201	0.5	0202	0.333	0203	0.167
0003	0021	0.5	0025	0.25	0023	0.25
0021	412	0.006	JA003	12.00	LI005	12.00
0023	413	0.005	JA003	12.00	LI006	12.00
0025	414	0.005	JA003	12.00	LI007	12.00
0027	412	0.003	JA003	6.00	LI005	6.00
0028	413	0.003	JA003	6.00	LI006	6.00
0029	414	0.003	JA003	6.00	LI007	6.00
0033	412	0.003	JA003	6.00	LI005	6.00
0034	413	0.003	JA003	6.00	LI006	6.00
0035	414	0.003	JA003	6.00	LI007	6.00
0060	198	0.004	JA003	6.00	LI003	6.00
0061	199	0.004	JA003	6.00	LI004	6.00
0062	198	0.009	JA003	12.00	LI003	12.00
0063	199	0.009	JA003	12.00	LI004	12.00
0082	412	0.007	JA004	6.00	LI005	6.00
0083	413	0.007	JA004	6.00	LI006	6.00
0084	414	0.007	JA004	6.00	LI007	6.00
0184	198	0.013	JA004	8.00	LI003	8.00
0185	412	0.009	JA004	8.00	LI005	8.00
0186	413	0.009	JA004	8.00	LI006	8.00
0187	414	0.009	JA004	8.00	LI007	8.00
0190	415	0.009	JA004	8.00	LI008	8.00

For example (from the above table):-

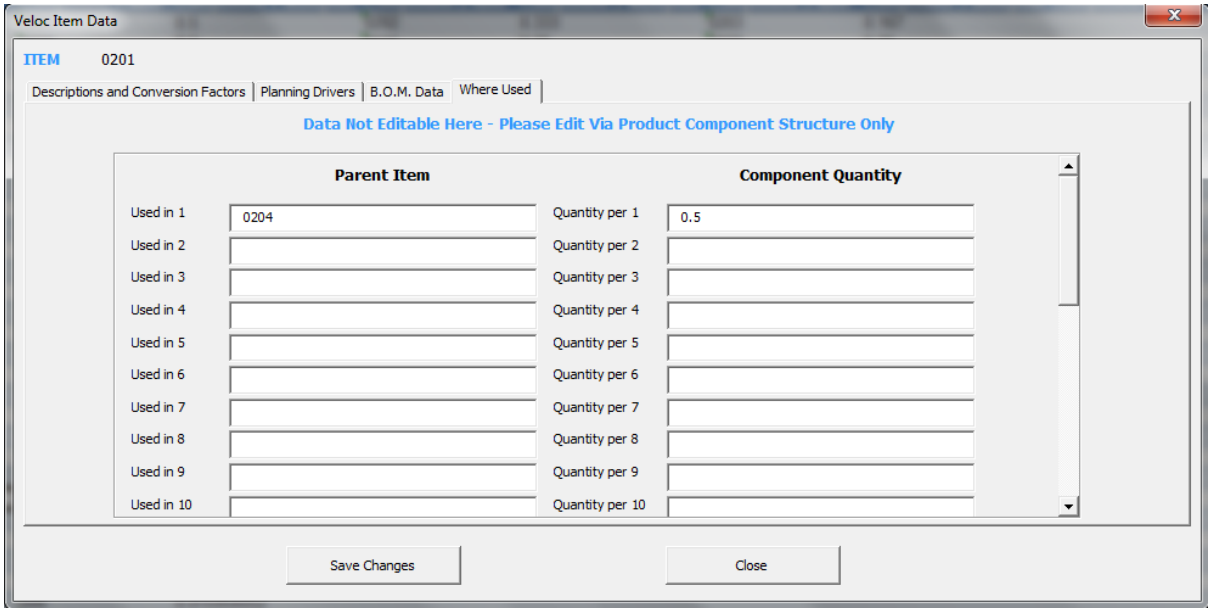
Product 0204 requires the following components:-

0201 – 0.5 units per unit of 0204
0202 – 0.333 units per unit of 0204
0203 – 0.167 units per unit of 0204

The Product Component Structure for any item can also be seen and edited in the following table (from right clicking the item in one of the system tables).



Additionally for each component in this view it is possible to view – but not edit – the "Where Used" information for the item. This can be useful in tracking which parents might be affected should there be stock issues with a particular item.



All items in the component structure table (whether parents or components) need to be present in the Master Product Data and manually entering a component will trigger it to be added to the Master Product Data Table…..although, obviously, without any data. This data must be complete before the system will properly plan through the component structure or B.O.M. Once all items are

in the component structure table and in the Master Product Data the system will properly plan and execute MRP. Capacity planning is also available at the component level.

When this stage is completed the system has all information to plan through the B.O.M. It is now recommended that further testing takes place to ensure parameters are properly set to give the results required. Specific reference should be made to Target Minimum Stock (TMS), Minimum Batch Quantities and Incremental Lot Quantities, Production Patterns and Item Lead-times.

Building the Data - User Settings

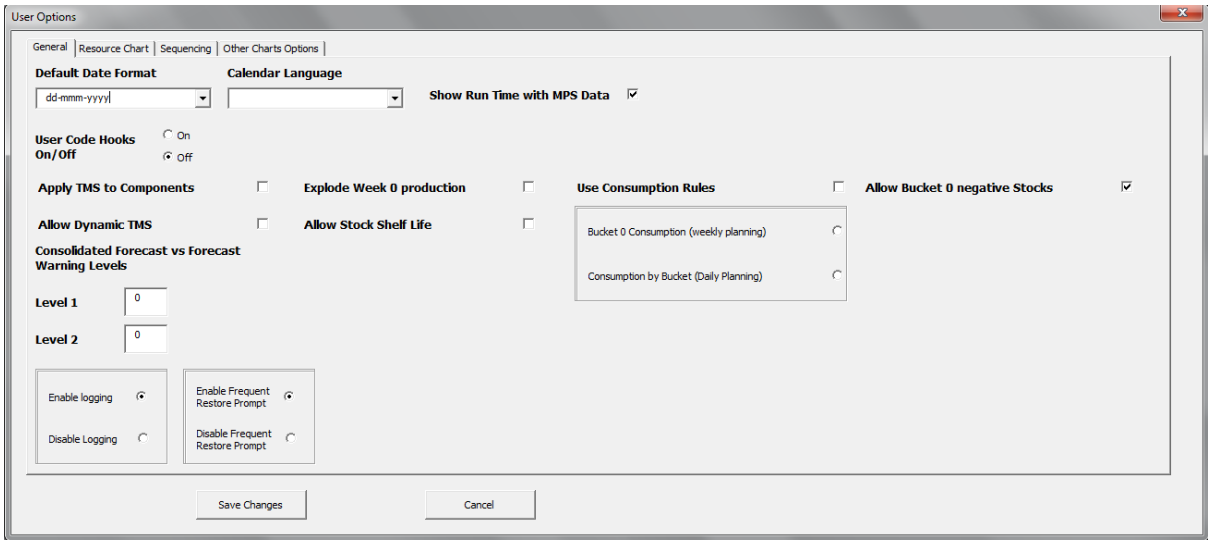
Once the data is set up in the system and basic operation has been validated to deliver the results you would expect it is worth reviewing the various user settings which can be used to fine tune:-

A. The way the system operates.
B. The ways data is viewed and reported.

User settings are accessed from the Veloc ribbon by simply selecting **USER SETTINGS**. The resulting dialogue has several tabs which contain settings for various areas of the system.

Once basic operation is as expected these settings should be reviewed and altered to fine tune the operation of the system. It is also possible that unexpected results could be as a result of settings being different from user assumptions, again this will be resolved with a review of all settings/

User Settings – General Settings



Default Date Format

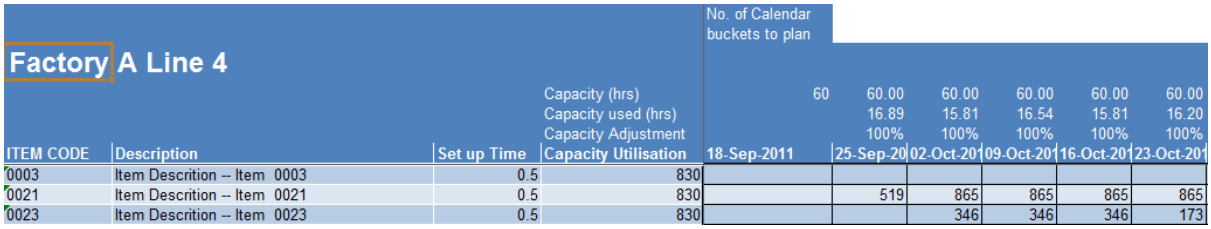
This sets the format which is used to display dates in the system so form the above the dates would look like 03-Sep-2013.

Calendar Language

Veloc is structured so that all dialogues will be displayed in the local language. In addition this will match the language of the local calendar (as set in the operating system of the computer on which the system is running. Setting the language to one which is different from that of the local operating system will result in Veloc not working correctly.

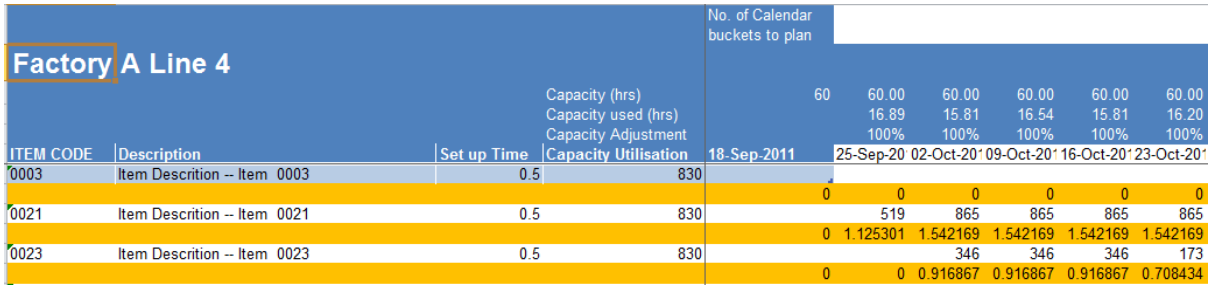
Show Run Time with MPS

Changes the MPS data view from



Factory A Line 4				No. of Calendar buckets to plan	60	60.00	60.00	60.00	60.00	60.00
			Capacity (hrs)			16.89	15.81	16.54	15.81	16.20
			Capacity Adjustment			100%	100%	100%	100%	100%
ITEM CODE	Description	Set up Time	Capacity Utilisation	18-Sep-2011		25-Sep-20	02-Oct-20	09-Oct-20	16-Oct-20	23-Oct-20
0003	Item Descrition -- Item 0003	0.5	830							
0021	Item Descrition -- Item 0021	0.5	830			519	865	865	865	865
0023	Item Descrition -- Item 0023	0.5	830				346	346	346	173

To the more complex view including run time data



Factory A Line 4				No. of Calendar buckets to plan	60	60.00	60.00	60.00	60.00	60.00
			Capacity (hrs)			16.89	15.81	16.54	15.81	16.20
			Capacity Adjustment			100%	100%	100%	100%	100%
ITEM CODE	Description	Set up Time	Capacity Utilisation	18-Sep-2011		25-Sep-20	02-Oct-20	09-Oct-20	16-Oct-20	23-Oct-20
0003	Item Descrition -- Item 0003	0.5	830							
					0	0	0	0	0	0
0021	Item Descrition -- Item 0021	0.5	830			519	865	865	865	865
					0	1.125301	1.542169	1.542169	1.542169	1.542169
0023	Item Descrition -- Item 0023	0.5	830				346	346	346	173
					0	0	0.916867	0.916867	0.916867	0.708434

The yellow rows contain run times (in hours) for the quantities on the row above. Either the run time or the quantity can be amended and the other element will be adjusted accordingly as well as the totals.

User Code Hooks

Veloc is designed to allow user specific algorithms to be linked to the core Veloc code in order to customise many aspects of the operation of the system. The User Code is always separate from the core code and so its presence does not remove the ability for the system to be updated with new releases.

Turning on User Code Hooks enables any user code.

Apply TMS to components

Target Minimum Stock (TMS) is expressed in Veloc as a number of days of cover and this is used at any point of the time horizon to determine the level of inventory in planning units (cases, kgs. etc.) which will cover the demand for that item for that number of days.

The Veloc planning algorithms are structured to plan any item to always stay above the TMS level.

TMS can be applied to all items whether top level items or components and this functionality can be used to tune where in the supply chain inventory is held. If TMS is required for components then this setting should be switched on.

N.B. in the special case where an item is both a component and a finished item turning this setting off will result in the system calculating TMS based only on external demand for the item via the sales forecast or actual orders and not from internal demand via the B.O.M.

Allow Dynamic TMS

By default Veloc takes the TMS setting from the Master Product Data for an item and this is applied uniformly across the time horizon (N.B. because TMS is set in days cover the actual level of TMS in units will vary with the demand at any point).

In certain circumstances the user may want to vary the level of TMS cover for different time periods. For example there may be a normal need for 10days cover of an item but this may need to increase to 15 days cover during promotional periods where there is more volatility and therefore less confidence in the forecast.

Veloc allows the user to change the TMS for any item and any time period using an auxiliary table.

Item	25-Sep-2011	02-Oct-2011	09-Oct-2011	30-Oct-2011
0204	15	15	10	10
6971	15	15	15	15
6972	15	15	15	15

In the above example each of the three items normally has TMS of 10 days but for items 6971 and 6972 this is changed to 15 days for the weeks of 25th Sept, 2nd Oct, 9th Oct and 30th Oct. (the weeks between 9th Oct and 30th Oct have no entry in the Dynamic TMS auxiliary table so the normal value of 10 days will be used.

With item 0204 there is also a need to increase the TMS for the weeks of 25th Sept and 2nd Oct but not for the other two weeks.

Note however that because these weeks exist in the table headers it is necessary to tell the system specifically to use 10 days (the normal value) for this item. If the cell in the table were left blank then the system would read this as zero and would apply zero days TMS to those weeks.

Explode Week 0 Production

In Veloc bucket 0 or the current bucket is not planned by the system but is the subject of imported stocks, demand and committed production. This option determines whether the imported committed production needs to be passed through the BOM planning module to determine accurate stocks of components and raw materials at the end of current bucket (option ticked) or not.

Allow Stock Shelf Life

With this option selected the stock import data specification changes to include a 3rd field for expiry date. The system then makes this stock unavailable to meet demand if it has not already been consumed by this date.

An element of stock would therefore have the following fields (example data used)

Item	Quantity	Expiry Date
6971	1000	02-Oct-11

In doing so the system assumes that First in First out stock usage is carried out.

With the above example the opening stock for the item 6971 would include an element of 1000 units which would expire on 2nd October 2011. If the demand between the opening date and 2nd October did not equal at least 1000 then the difference would be set as unusable by the system after that date.

Shelf life can apply to both top level items and to components.

Use Consumption Rules

See

Demand Data – Forecast Consumption Rules

Allow Bucket 0 Negative Stocks

This setting fine tunes the way in which stocks will be calculated at the end of the current (unplan-able) bucket.

If demand exceeds the combination of opening stock and production in this bucket then with normal settings the stock at the end of the bucket will be calculated as negative and will be replenished back to TMS (including replacing the element below zero) in the first available plan-able bucket.

Under certain circumstances this may not be appropriate in which case enabling this setting will disregard all bucket 0 stocks below zero.

Consolidated Forecast vs. Forecast Warning Levels

Not currently in use – ignore.

Enable or Disable Logging

Used mainly for troubleshooting.

With logging enabled many actions in the system are logged and recorded in a text file which is placed in the dataset folder. The file is created on login and is named according to the following structure

Username &LoginDate&LoginTime.txt

The file contains a number of time stamped lines with system actions

e.g.

Logged in
Sysreset001 19/Mar/2013-11:34
Prod data navigation 19/Mar/2013-11:35
Prod data navigation 19/Mar/2013-11:43
mpsnavigation 19/Mar/2013-11:52
Sysreset001 19/Mar/2013-11:54
mpsnavigation 19/Mar/2013-11:54
Sysreset001 19/Mar/2013-11:55
mpsnavigation 19/Mar/2013-11:55
Sysreset001 19/Mar/2013-11:58
Prod data navigation 19/Mar/2013-12:08
Navigate Auxiliary Data 19/Mar/2013-12:21
Demandnavigation 19/Mar/2013-12:36
Sysreset001 19/Mar/2013-12:44
Sysreset001 19/Mar/2013-12:54
filesclose 19/Mar/2013-13:02

The final line will normally be a fileclose operation referring to disconnection from the dataset. If this line is not present then this indicates that the system was not exited normally – i.e. as the result of a system crash.

Enable or Disable Frequent Restore Prompt

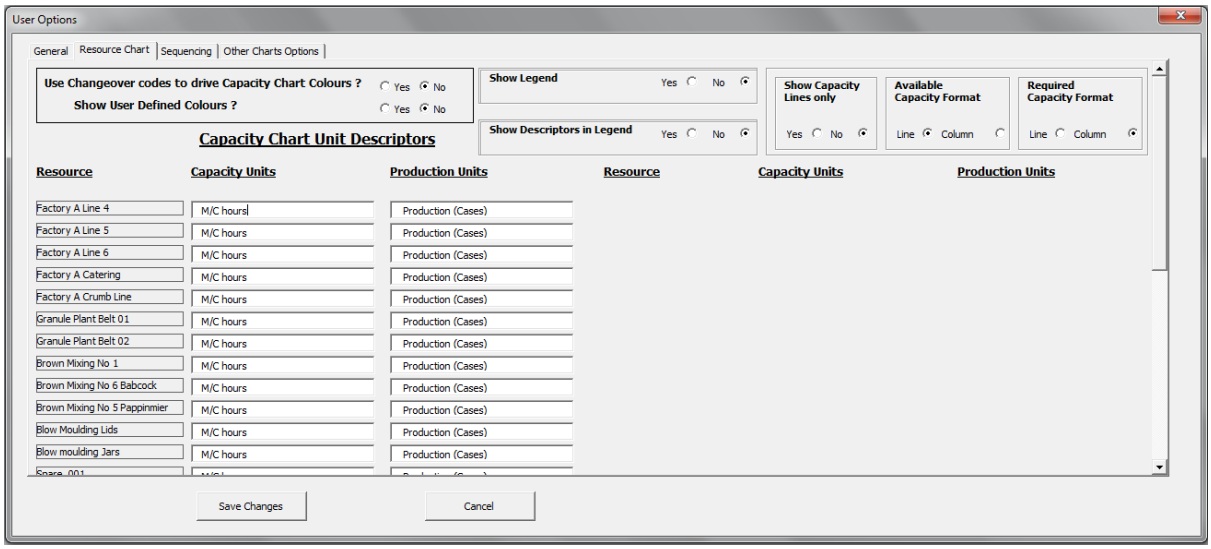
Using the **SET RESTORE POINT** menu option creates a backup file which contains all MPS data at the current position. Multiple backup files can be created in any session and the system can then be restored to that point by selecting the Restore from File button just below this one.

All system restore backups are session specific only and are automatically deleted once a dataset is closed. It should be noted though that if the system is not exited properly (e.g. in the event of a system crash, power failure etc.) then the .tmp files will remain in place and the dataset can be reopened and restored to the point of the last Restore Point. It is highly recommended that restore points are created frequently!

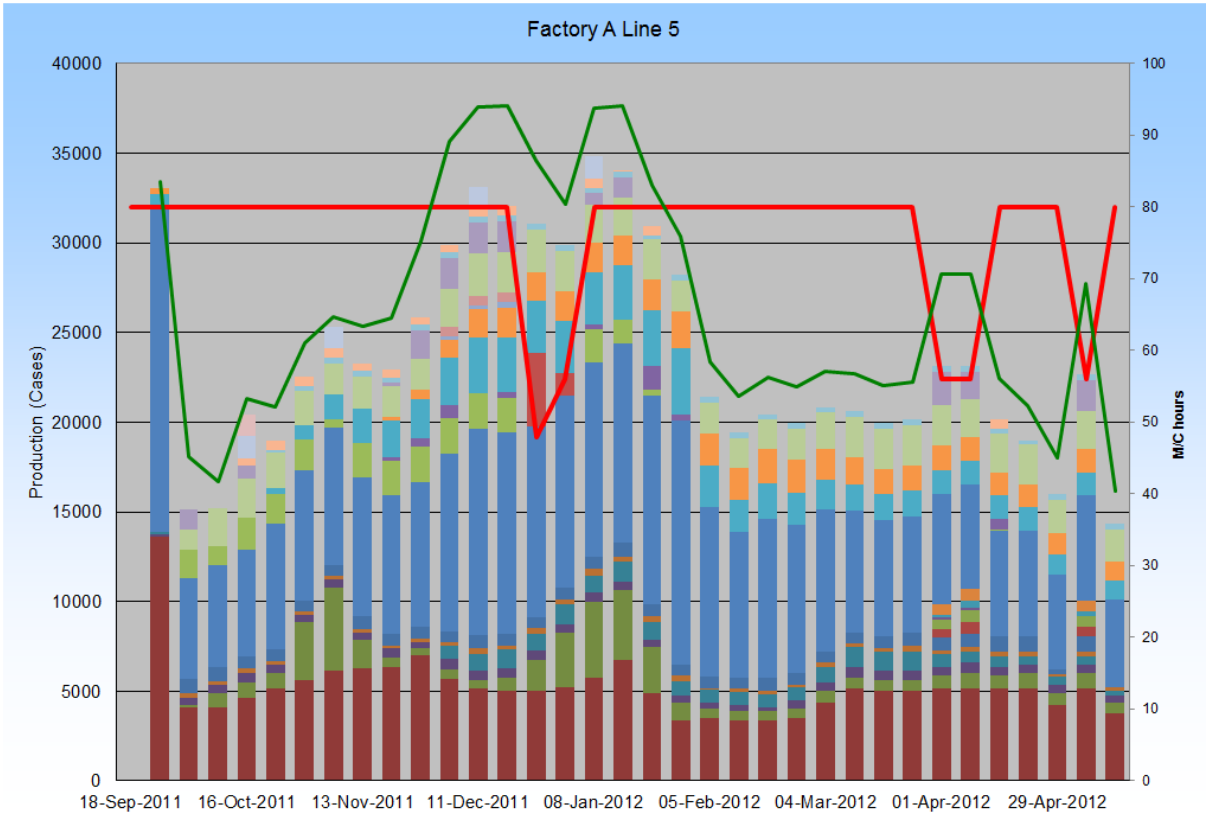
Enabling the frequent prompt will prompt the user to set a restore point at VERY frequent intervals (irritatingly so). The user can then select Yes or No.

This would normally only be used to drive home the habit of frequent restore point setting and then would be disabled.

User Settings – Resource Chart



Capacity Chart Colours



By default the colours of the chart are as follows

Red Line – Available capacity per bucket (typically hours)

Green Line – Required Capacity for the production plan for each bucket (again typically hours)

Both of these are measured against the right hand axis

The colours of the stacked bar (which represent the individual production batches) is, by default, randomly assigned by the system. Setting the option to **DRIVE CAPACITY CHART COLOURS USING PRODUCT** Change Groups will result in the system assigning colours to production batches dependent upon the product change group (See Master Product Data). N.B. If products are not assigned to any product change group then the colour will be white! If the whole stacked bar is white then this indicates that no product change groups have been assigned.

User specific colours are not currently available so this option should be ignored.

Capacity Chart Legend

The Capacity Chart legend can be set to show by selecting this option and it can also be set to show item descriptions as well as just item numbers.

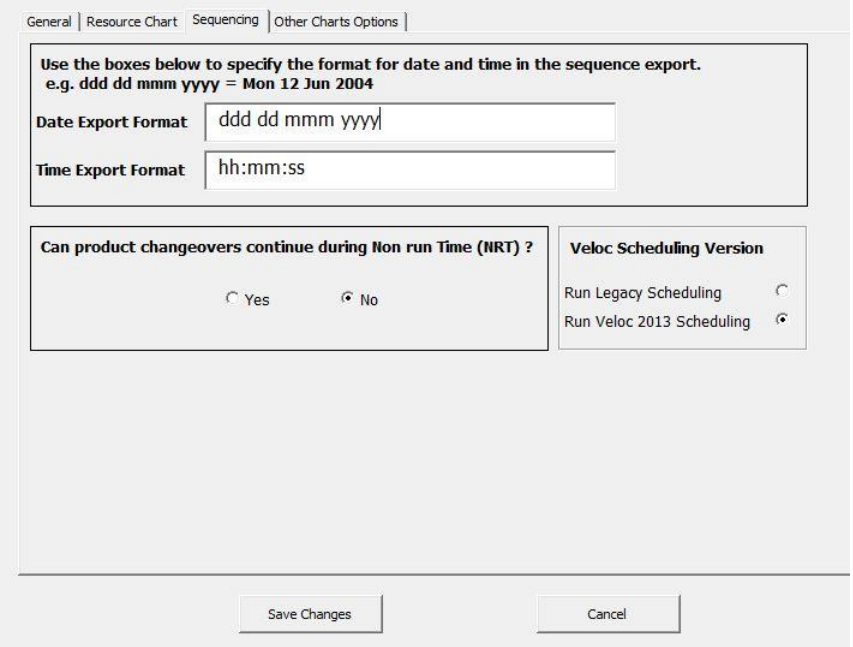
Chart Format

The chart as shown above is quite complex but does include functionality of use to the planner (Drag and drop, click to show item stock profiles and more) which is driven from the stacked bar elements.

For overview purposes such as presentation at S&OP the stacked bar can be removed by setting the user option for **SHOW CAPACITY LINES ONLY**. Once this option is enabled the format of each of the two capacity lines (available capacity and required capacity) can be set to be lines as default or bars.

In addition the axis descriptors for each line can be set using the options for Capacity Chart Unit Descriptors. It is possible to have different axis titles for each production resource – in the example here all are set to Capacity Units of M/C (Machine) Hours and the Production Units to Cases.

User Settings – Sequencing



Veloc currently includes two scheduling or sequencing options – Legacy or 2013. The key differences are a much more user friendly interface with the 2013 option plus this version has the ability to schedule automatically respecting B.O.M. and stock elements. The legacy version does not have a stock view within schedule but the 2013 version computes stock minute by minute throughout the bucket(s).

The 2013 version also has the ability to select how many buckets are to be scheduled whereas the legacy version can only schedule one bucket at a time.

The settings below are applicable to both versions

Sequence Export Date and Time Formats

In both versions of the scheduler the detailed schedule can be exported to an excel workbook (1 worksheet per production resource) and these settings determine the format of the time and date stamps of each production element.

Can product changeovers continue during non run time (NRT)

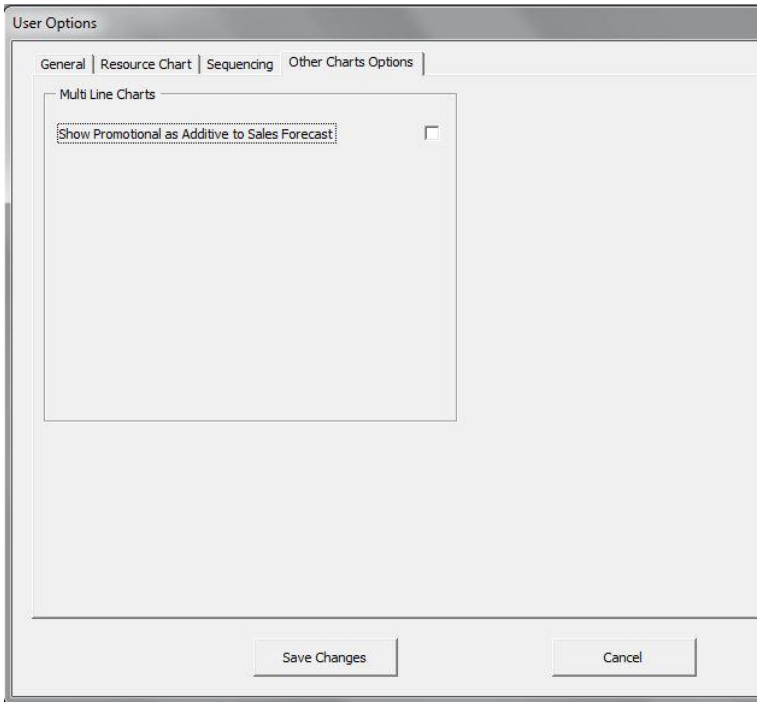
In the Veloc scheduler times when a resource is not available for production are called Non Run Times and are specified in the Non Run Time table in the system

DATA NAVIGATION – CALENDAR – NON RUN TIMES

The system schedules around these times but there is one exception to this normal rule. When a product changeover coincides with a Non Run Time (either in part or whole) it is possible that the product change can continue to take place even though the resource is not available for production. E.g. if the product change is largely cleaning it is possible that this cleaning can take place even

though the resource is in non-production mode. If this option is flagged as yes then the system will assume that any product change time remaining when a Non Run Time begins will continue during the Non Run Time. Flagging No will cause the system to carry remaining product change time to the end of the Non Run Time where it will continue.

User Settings – Other Chart Options



Currently there is only one setting in this section which determines how the system displays volume which has been imported as “promotional volume”.

In the Multi-Resource capacity charts it is possible to display promotional volume. Some businesses have this volume also included in the sales which are imported and planned by the system whereas others simply import promotional volume as additional volume not currently planned. In this latter case this option would be ticked as promotional volume is additive to the forecast – i.e. not included in the forecast.

With this option unticked the planned volume displayed on the multi resource capacity chart is reduced by a quantity which is the same as that displayed as promotional volume.

Using these User Options it is possible to fine tune the way the system plans, displays results and reports. Having configured them the way you want the data building section of the system implementation is complete. If you need further information on how to change things or how to set up further functionality such as time dependant TMS or others please refer to the user manual or contact Veloc Ltd for advice. Other functionality can normally be demonstrated via a short web demonstration.

If the system is not operating as you expect or want then, again please contact the Veloc Help desk via our website.

http://www.veloc.co.uk/index.php/support

You will need to be registered as a client and logged in to access the helpdesk.

The Support option is also available from the top menu of the website once logged in.

Managing Inputs and Outputs

If you have followed our advice then so far all inputs of data have been managed manually, Veloc however is designed to interface simply and easily with most other systems – e.g. ERP systems, accounts systems or forecasting systems.

In this section the user will learn how to create files for importing into the system and how to extract a variety of reports and data exports from the system.

It is possible to configure the system both to use non-standard import files and to export data in a variety of formats. This, though, though is beyond the scope of this process. If such customisation is required please contact either Veloc (support@veloc.co.uk) or your implementing consultant.

N.B. The system, as standard, does not connect directly to other system databases. It is the responsibility of the users business to create the extraction routines to put the import files in place. This is the case in order to vastly simplify the implementation process. If such direct connections are required then they can be configured but the cost and time for this should not be underestimated.

Managing Data Inputs

The standard data import routines are those in the imports Exports section of the Veloc menu, for each of them there is a standard data file format. All standard import files are txt files.

The routines also contain a range of data checking algorithms to ensure the data is complete, correct and matches the system settings. (e.g. the import routines for sales forecast and actual orders will test for compatibility between the dates in the data and the dates in the dataset currently loaded in the system.

It is recommended that a routine is established which places all files for import into a specific location prior to them being required by the system.

Import Sales Forecast

Field Name	Field Type	Comments
Item Code	Character	Mandatory
Bucket Date	Character	Mandatory, DD-MMM-YY, e.g. 09-Nov-10
Quantity	Numeric	Mandatory

As with other import routines this routine will ask the user to point to the import file and will then import the data accordingly. It is important to recognise that the sales forecast (and the actual orders) drive the system in terms of which items are planned. The system will attempt to plan all

items in the sales forecast and will create error logs for any items not found in the Master Product Data. An item will not be planned if it not either

a. In the sales forecast
b. In the imported actual orders
   or
c. Linked through the Bill of Materials to a parent item which is in either of the above

Importing Sales Forecast data will cause all actual orders data to be reset and this must be reimported after the import of the sales forecast.

Import Actual Customer Orders

Field Name	Field Type	Comments
Item Code	Character	Mandatory
Bucket Date	Character	Mandatory, DD-MMM-YY, e.g. 09-Nov-04
Quantity	Numeric	Mandatory

Customer orders must be imported after the sales forecast.

When the MPS algorithm is run the forecast will be consumed by the orders in accordance with the rules set out in the forecast consumption part of the dataset.

Import Stock and Committed MPS

These two elements are linked together as they both form part of the creation of the opening position for the system. It is possible however to import each of the 2 elements independently by simply pressing escape when prompted to point to one or other of the files. The remaining element can then be imported by rerunning the routine when ready. Similarly if one of the elements has changed and requires reimport this can be achieved without affecting the other by importing alone as described above.

Opening Stock

There are two options for opening stock depending on whether the dataset has been configured to respect shelf life of inventory or not.

If shelf life is not used then the format for the import file is

Field Name	Field Type	Comments
Item Code	Character	Mandatory
Quantity	Numeric	Mandatory

If shelf life is to be respected then the data format must be

Field Name	Field Type	Comments
Item Code	Character	Mandatory
Quantity	Numeric	Mandatory

Date	Character	Optional normally “dd-mmm-yyyy”

If shelf life is to be respected and the data format without is used then no shelf life expiry will be set and if shelf life is set not to be respected but a format with the expiry date is imported the field will be ignored.

Bucket Zero MPS (or remaining/outstanding/committed production)

Field Name	Field Type	Comments
Item Code	Character	Mandatory
Quantity	Numeric	Mandatory

N.B. All of the above imported elements – opening stock, committed production, forecasted sales and actual sales are constantly changing and impacting one on the other. It is essential that the business decides upon a snapshot time when all these elements are used to create the import files so that they accurately reflect a starting position.

Without proper consideration this can lead to errors and apparent planning discrepancies. It is highly recommended that this is thought through in a structured way and that the accuracy and compatibility of all import data is tested and verified.

The accurate starting position is essential for proper system function,

See also here for more information

Import Product Data

All of the Master Product Data can be imported and indeed it is highly recommended that if the business has an ERP system then this should form the main repository of the system parameters and they should be imported each time the system is run.

It is possible to enable a routine which always forces new data import with or without user confirmation on connecting to a dataset. If this is required contact Veloc or your implementing consultant and this will be set for your deployment of the system.

Field Name	Field Type	Comments
Item Code	Character	Mandatory
Description	Character	Optional
Descriptor 1	Character	Optional
Descriptor 2	Character	Optional
Descriptor 3	Character	Optional
Product Change Group	Character	Optional - Used for Sequencer Setup Groups
Target Minimum Stock (Days)	Numeric	Mandatory
PSU per Tonne*	Numeric	Optional
PSU per Pallet*	Numeric	Optional
PSU per Std Unit*	Numeric	Optional
Cost per PSU*	Numeric	Optional

Lead Time	Numeric	Mandatory
Max Stock (Days)	Numeric	Optional
Number of possible Production Routes	Integer	Mandatory, must equal the number of options
Priority Line 1**	Character	Mandatory, must be a valid Resource
Priority Line 2	Character	Optional, must be a valid Resource
Priority Line 3	Character	Optional, must be a valid Resource
Priority Line 4	Character	Optional, must be a valid Resource
Priority Line 5	Character	Optional, must be a valid Resource
Run rate per hour Option 1	Numeric	Mandatory
Run rate per hour Option 2	Numeric	Optional
Run rate per hour Option 3	Numeric	Optional
Run rate per hour Option 4	Numeric	Optional
Run rate per hour Option 5	Numeric	Optional
Minimum Batch Size Option 1	Numeric	Mandatory
Minimum Batch Size Option 2	Numeric	Optional
Minimum Batch Size Option 3	Numeric	Optional
Minimum Batch Size Option 4	Numeric	Optional
Minimum Batch Size Option 5	Numeric	Optional
Incremental Lot Size Option 1	Numeric	Mandatory
Incremental Lot Size Option 2	Numeric	Optional
Incremental Lot Size Option 3	Numeric	Optional
Incremental Lot Size Option 4	Numeric	Optional
Incremental Lot Size Option 5	Numeric	Optional
Set Up Time Option 1	Numeric	Mandatory
Set Up Time Option 2	Numeric	Optional
Set Up Time Option 3	Numeric	Optional
Set Up Time Option 4	Numeric	Optional
Set Up Time Option 5	Numeric	Optional
Production Pattern Option 1***	Integer	Mandatory, must be a valid pattern number
Production Pattern Option 2***	Integer	Optional, must be a valid pattern number
Production Pattern Option 3***	Integer	Optional, must be a valid pattern number
Production Pattern Option 4***	Integer	Optional, must be a valid pattern number
Production Pattern Option 5***	Integer	Optional, must be a valid pattern number

Import Product Component Structure (Bill of Materials)

Again this data should ideally be re-imported on connection to a dataset to ensure it is up to date and complete.

Field Name	Field Type	Comments
Item Code	Character	Mandatory
Component 1 Item	Character	Mandatory

Component 1 Multiplier	Character	Mandatory
Component 2 Item	Character	Optional
Component 2 Multiplier	Character	Optional

The structure of the Bill of Materials is based upon a "Quantity per" so for each parent item the quantity of each of the components is the amount required to complete one planning unit.

N.B. Waste should be built into these quantities in sufficient quantities to reflect reality.

Import Promotional Data

Field Name	Field Type	Comments
Item Code	Character	Mandatory
Bucket Date	Character	Mandatory, DD-MMM-YY, e.g. 09-Nov-04
Quantity of Base Volume	Numeric	Mandatory
Quantity of Promotional Volume	Numeric	Mandatory

Promotional volume is NOT used as a source of demand for planning purposes. Importing promotional data will not impact on the plans created by the system. The purpose of importing promotional data is to be able to highlight capacity consumption by promotional vs. standard or base volume in certain reports.

This completes the import of data into the Veloc system. Importing of data should be relatively simple and straightforward. It is our view that this is often overcomplicated by the desire of IT functions to tie system databases together. Whilst this is possible with Veloc we do not place this as part of the stand implementation. We are happy to quote for creating such integration.

Exporting Information from Veloc

Data or information exporting from Veloc is via either the standard data export (from the Imports Exports menu) or via a range of reports.

The system has many reports as standard but it is not uncommon for users to require custom reports. These can be created either by your implementing consultant or can be commissioned, inexpensively, directly from Veloc. Please contact Veloc with your requirements. (support@veloc.co.uk).

The Standard MPS Export

This is created using the menu option from the Imports Exports menu section.

The user will be asked for several options regarding the format of the report and this will then be produced as an extract from the system.

Reports

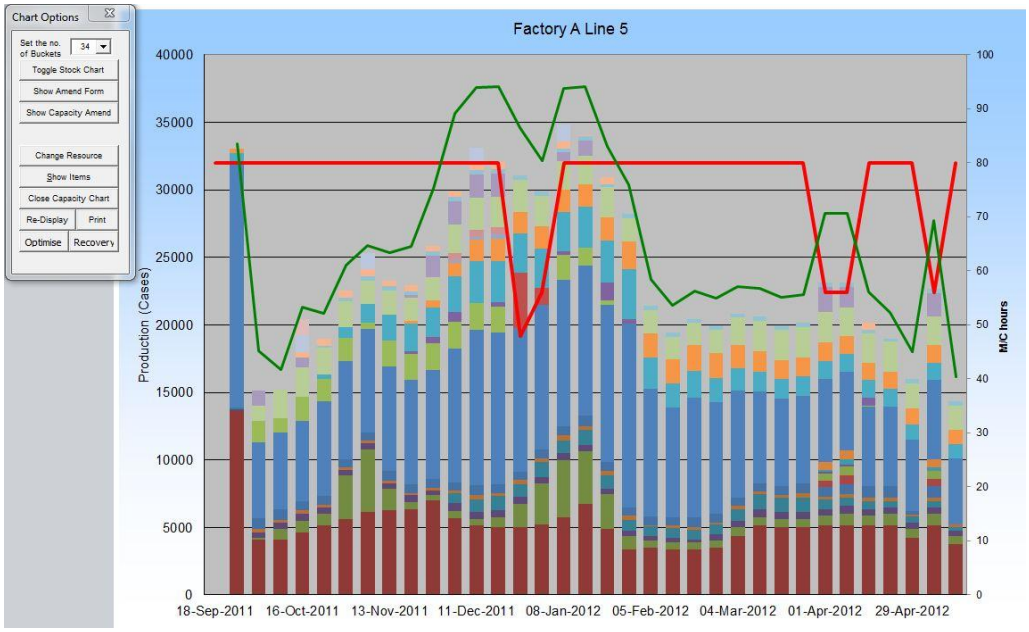
Veloc contains a number of reports as standard and all of these are presented using excel templates for ease of onward copying or export.

Reports are accessed from the Reports section of the Veloc menu and include:-

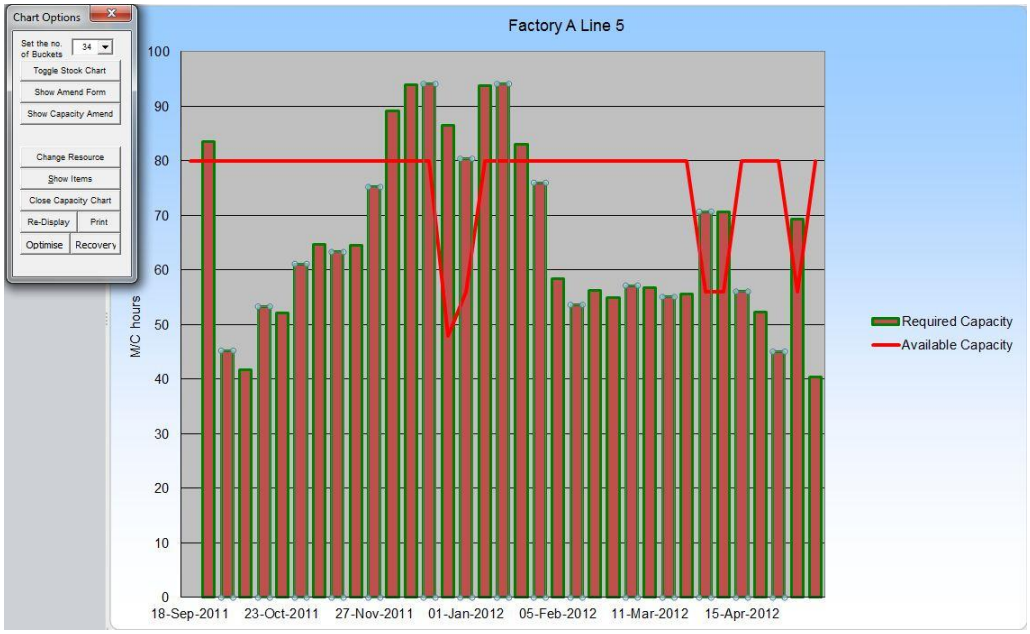
(Please see the Veloc User Manual for a more detailed description of content and functionality)

Capacity Chart

An interactive chart with drag and drop functionality and access to the advanced finite capacity planning options.

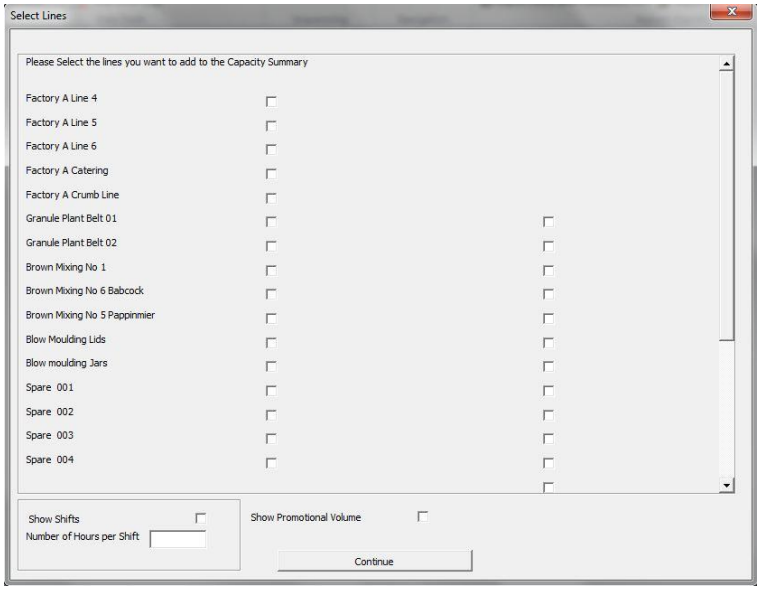


The format can also be changed via **USER OPTIONS** to omit the individual planned production batches.

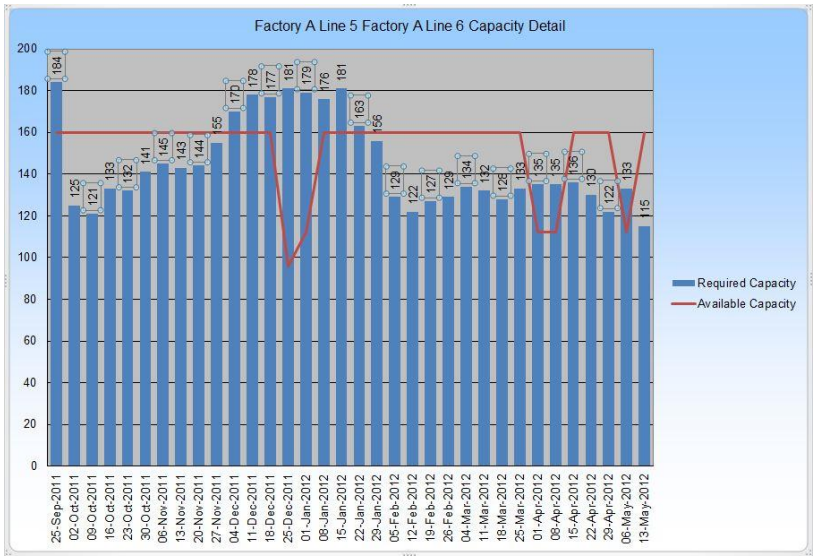


Multiline Capacity Chart

A summary chart showing capacity information for several production resources combined on one chart. The resources to combine along with other options including whether to display promotional information are selected via an options dialogue



And the resulting chart is then displayed



Other similar charts are also available

Filtered Multiline Chart

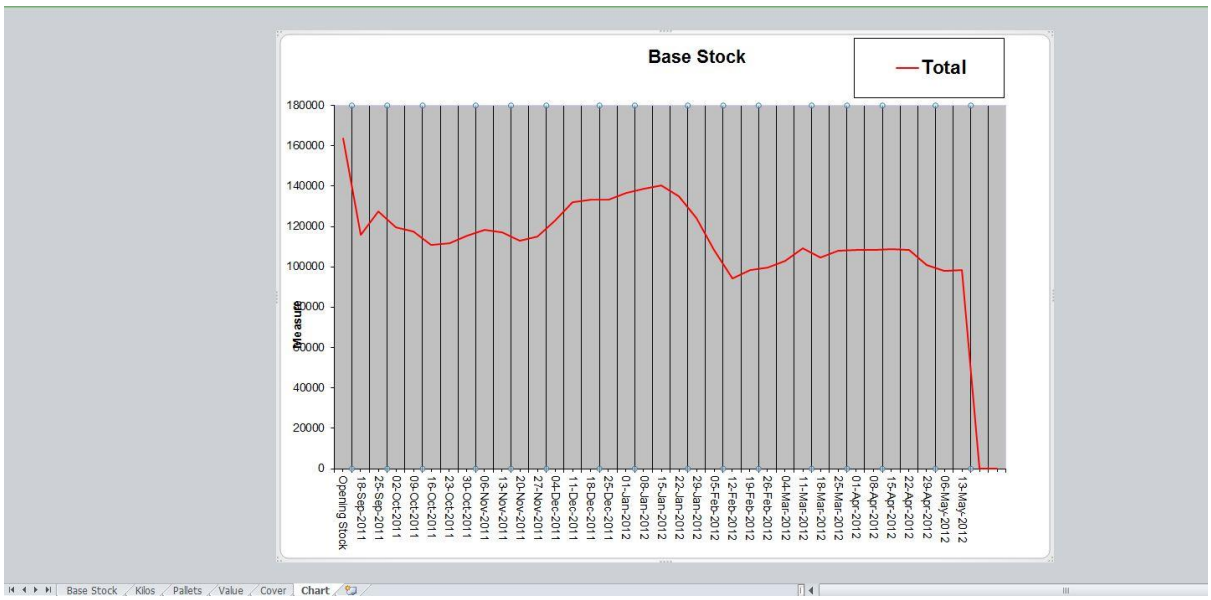
As above but with the ability to apply data filters to display on selected items.

Multiline Volume Chart

A Multiline chart showing planned production volume rather than capacity.

Inventory Report

This report allows information on projected stocks to be displayed as base planning units, pallets, value or kgs and can display information by various product groups or totals. All of the base information behind the stock projection is also collated as a series of worksheets behind the chart and the user can extract this information or save the whole workbook.



Standard MPS Report

Widely known as Report 11 due to the naming of the template used for the information, this displays item by item information for each planning bucket. The information includes

- Opening Stock
- Opening Stock Cover
- Forecasted Sales (along with consolidated forecast as a separate entry for current bucket)
- Planned Production
- Closing Stock
- Closing Cover

The report also includes a number of colour coded warnings for elements such as “Below Minimum Stock” etc.

Summary Planning Report

Item	Description	Descriptor 2	Resource	Useable Stock	Filter Low Stock	Filter High Stock	Filter Consolidated Forecast vs Forecast Wk1	Bucket	18-Sep-11				
								Opening Stock	Forecast	Consolidated Forecast	Production	Closing Stock	Closing Cover
0003	Item Descrition -- Item 0003		Factory A Line 4	100				602	39	39	0	563	76
0021	Item Descrition -- Item 0021		Factory A Line 4	100				2912	900	900	0	2012	16
0023	Item Descrition -- Item 0023		Factory A Line 4	100				1416	311	311	0	1105	21
0025	Item Descrition -- Item 0025		Factory A Line 4	100				690	16	16	0	674	68
0027	Item Descrition -- Item 0027		Factory A Line 4	100				1501	358	372	0	1129	24
0028	Item Descrition -- Item 0028		Factory A Line 4	100	BTMS			452	206	206	0	246	7
0029	Item Descrition -- Item 0029		Factory A Line 4	100				235	70	70	0	165	27
0033	Item Descrition -- Item 0033		Factory A Line 4	100	BTMS	Stock Unused		0	0		0	0	
0034	Item Descrition -- Item 0034		Factory A Line 4	100	BTMS	Stock Unused		0	0		0	0	
0035	Item Descrition -- Item 0035		Factory A Line 4	100		Stock Unused		294	0		0	294	17
0060	Item Descrition -- Item 0060		Factory A Line 4	100				272	61	61	0	211	24
0061	Item Descrition -- Item 0061		Factory A Line 4	100		Above Max		410	22	22	0	388	103
0062	Item Descrition -- Item 0062		Factory A Line 4	100		Above Max		214	18	18	0	196	135
0063	Item Descrition -- Item 0063		Factory A Line 4	100				393	160	160	0	233	20
0082	Item Descrition -- Item 0082		Factory A Line 4	100				1393	542	542	0	851	15
0083	Item Descrition -- Item 0083		Factory A Line 4	100				2153	373	373	0	1780	36
0084	Item Descrition -- Item 0084		Factory A Line 4	100	BTMS			322	169	169	0	153	6
0185	Item Descrition -- Item 0185		Factory A Line 4	100				3971	2052	2052	3828	5747	21
0186	Item Descrition -- Item 0186		Factory A Line 4	100				3480	1179	1179	0	2301	16
0187	Item Descrition -- Item 0187		Factory A Line 4	100	BZERO			0	862	862	0	-862	
0190	Item Descrition -- Item 0190		Factory A Line 4	100	BTMS			664	375	375	0	289	5
0204	Item Descrition -- Item 0204		Factory A Line 6	100				4646	950	950	0	3696	23
0831	Item Descrition -- Item 0831		Factory A Crumb Line	100	BTMS			279	213	544	265	0	
0832	Item Descrition -- Item 0832		Factory A Crumb Line	100	BTMS			5263	3300	3300	0	1963	5
0834	Item Descrition -- Item 0834		Factory A Crumb Line	100				2075	1105	1105	994	1964	14
6022	Item Descrition -- Item 6022		Factory A Catering	100	BTMS			936	480	1680	744	0	
6023	Item Descrition -- Item 6023		Factory A Line 6	100				1814	521	521	0	1293	30
6031	Item Descrition -- Item 6031		Factory A Catering	100		Stock Unused		402	0	40	0	362	Stock Unu
6034	Item Descrition -- Item 6034		Factory A Catering	100		Above Max		379	0		0	379	195
6051	Item Descrition -- Item 6051		Factory A Line 5	100	BTMS			3730	3727	3727	0	3	0
6052	Item Descrition -- Item 6052		Factory A Line 6	100	BTMS			3307	1930	1930	0	1377	6

As with all data extracts from Veloc the information is presented using an excel template thus allowing easy copying, pasting, filtering, reordering and saving.

Sequenced MPS Reports

A simple Sequenced MPS report is available directly from the Veloc planning interface. This lists planned production batches for either the first or first two plan-able buckets in a time sequence by production resource. The listing included item, quantity as well as opening stock and stock cover details.

		Sequenced MPS Report				Date:=	2-Apr-13
						Time Produced:=	12:24
Item	Description	Opening Stock	opening Cover	Production	Production Resource	Bucket Date	
JA003	Item Descrition -- Item JA003	0	0	38496	Blow moulding Jars	25-Sep-11	
JA004	Item Descrition -- Item JA004	0	0	43240	Blow moulding Jars	25-Sep-11	
LI005	Item Descrition -- Item LI005	0	0	16164	Blow Moulding Lids	25-Sep-11	
LI006	Item Descrition -- Item LI006	0	0	21958	Blow Moulding Lids	25-Sep-11	
LI007	Item Descrition -- Item LI007	0	0	33670	Blow Moulding Lids	25-Sep-11	
LI003	Item Descrition -- Item LI003	0	0	1644	Blow Moulding Lids	25-Sep-11	
LI004	Item Descrition -- Item LI004	0	0	1644	Blow Moulding Lids	25-Sep-11	
LI008	Item Descrition -- Item LI008	0	0	6656	Blow Moulding Lids	25-Sep-11	
006	Item Descrition -- Item 006	0	0	9	Brown Mixing No 1	25-Sep-11	
100	Item Descrition -- Item 100	0	0	5	Brown Mixing No 1	25-Sep-11	
198	Item Descrition -- Item 198	0	0	2	Brown Mixing No 5 Pappinn	25-Sep-11	
199	Item Descrition -- Item 199	0	0	2	Brown Mixing No 5 Pappinn	25-Sep-11	
6022	Item Descrition -- Item 6022	0	0	602	Factory A Catering	25-Sep-11	
6911	Item Descrition -- Item 6911	81	2	190	Factory A Catering	25-Sep-11	
0831	Item Descrition -- Item 0831	0	0	810	Factory A Crumb Line	25-Sep-11	
0832	Item Descrition -- Item 0832	1963	5	3320	Factory A Crumb Line	25-Sep-11	
6415	Item Descrition -- Item 6415	449	10	540	Factory A Crumb Line	25-Sep-11	
0834	Item Descrition -- Item 0834	1964	14	996	Factory A Crumb Line	25-Sep-11	
0187	Item Descrition -- Item 0187	-862	-6	3536	Factory A Line 4	25-Sep-11	
0033	Item Descrition -- Item 0033	0	0	1035	Factory A Line 4	25-Sep-11	
0034	Item Descrition -- Item 0034	0	0	690	Factory A Line 4	25-Sep-11	
6615	Item Descrition -- Item 6615	107	2	549	Factory A Line 4	25-Sep-11	
0190	Item Descrition -- Item 0190	289	5	832	Factory A Line 4	25-Sep-11	

A more comprehensive report with each production resource having its own worksheet and with start time and end time information is also available directly from the Veloc Scheduler (either legacy version or 2013 version). This report can easily be customised to include all information required for onward import into an ERP system – e.g. Production Order Number. If this is required your implementing consultant will liaise directly with Veloc Ltd to prepare the extract to your specification. You can also contact Veloc Ltd directly via support@veloc.co.uk or via the website help desk to initiate preparation of the report.

Extracting Data Manually

All data in the system can be accessed via the **DATA NAVIGATION** menu options

e.g. **DATA NAVIGATION – MPS – YOUR RESOURCE NAME**

or **DATA NAVIGATION – MPS – STOCK**

The data is presented using excel templates which facilitate easy copying, pasting or onward saving or export.

Custom Exports

If you have a reporting or export requirement which is not met by the above then please contact Veloc Ltd or your implementing consultant for a competitive quote to prepare the report which will be added to the Veloc Menus under

REPORTS – USER REPORTS

As with all Veloc customisations these are achieved via our unique User Code Hook facility so that the core system and it's updating/ upgrading is unaffected.

Step 4 – Go!

The Planning Process

Having prepared all data and built the system dataset it is worth revisiting the planning process outlined in section 1 – Business Preparation.

Often, in the light of building the system data, there may be changes to the original planning process and these should be clearly tested and documented before proceeding to the final testing phase.

An example of a planning process document is shown below – this includes detailed timings for inputs, planning actions and outputs.

The Planning Process

	Week 0	Week 1	Week 2		
	Plan	Make	Sell		
	Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
08:00	**Before 09.30am** All data files completed. All Factory updates done All weekend orders processed Data files prepared for planning - stock, production, forecast Sales order file prepared			**Before 09.30am** All data files completed. All Factory updates done All weekend orders processed Data files prepared for planning - stock, production, forecast	
08:30					
09:00					
09:30					
10:00				Sales Order file prepared for 11.00am	
10:30	Planning - Import data Plan Verify plan				
11:00		**Factory Updates done by 09.30am** Sequenced plan issued by 12.00 noon Daily Process	**Factory Updates done by 09.30am** Sequenced plan issued by 12.00 noon Daily Process	Planning - Import data Plan Verify plan	**Factory Updates done by 09.30am** Sequenced plan issued by 12.00 noon Daily Process
11:30					
12:00					
12:30					
13:00	Plan outputs - report 11 plan file for Preactor Preparation for Shorts meeting			Upload to Preactor and Upload 13 weeks Navision Plan outputs - report 11 plan file for Preactor Preparation for Shorts meeting	
13:30					
14:00					
14:30					
15:00	Shorts meeting			Shorts meeting	
15:30	Changes to plan committed Upload plan to navision			Changes to plan committed Upload plan to navision	
16:00	Issue plan to rest of business			Issue plan to rest of business	
16:30-17:00	Prepare sequenced plan			Prepare sequenced plan	

Rationale

The rationale of the process above is to maximise the ability to respond to issues whilst at the same time creating as much stability as possible. All changes to the system planned numbers should be driven by changes to forecast or to system inputs e.g. TMS

Inputs

By 17:00 Monday week 0 forecast for week 2 as up to date as possible
By 17:00 Wednesday forecast for week 2 finalised - after this time all changes will notbe forecast changes but will be covered by Expediting Process
Factory updates to Navision must be completed by 09:30 every day
Any Held Product must be notified immediately to the Planner/Scheduler - Louise Reddington
Any incidence of a factory being projected to fall more than 4 hours behind production plan must be notified to planner/scheduler - Louise

Expediting Process

In the event of any change in the short term which is likely to effect service an Expediting Meeting will be called by "The Initiator"
Examples of incidents requiring expediting include:-
Sales above forecast which exhaust stock
Factories falling behind more than 4 hours where transport or service will be effected
Held production resulting in service failure

Testing and Parallel Running.

This can be one of the most difficult phases of the implementation process, often driven by lack of clarity on what are the requirements, what are the metrics, what are the "pass" criteria etc.

Before beginning testing and parallel running the original scope and specification should be revisited and appropriate tests and test criteria should be set up so that a thorough evaluation of the system operation can be carried out.

A test regime with documented timings, test criteria and required results should be drawn up and this should be used to assess the implementation.

Parallel running can be even more difficult unless proper thought is given to the process. It is unlikely that the plan results will be the same as the existing system or process given different inputs, settings etc. so the purpose of parallel running needs to be carefully evaluated.

Much better than “is it the same?” is a parallel process which yields results in the form of “What would have happened if?”

What would the results in terms of inventory, service, capacity utilisation etc. have been if the Veloc system and the designed business process had been run? These results should then be evaluated against a. The results of the existing system/ process and b. The business requirements.

Coming out of the first phase of parallel running will be a series of system, input data or process amendments and the process should then be repeated until the desired result is achieved.

At this point the cutover programme can be defined and put in place.

Cutover

The very final step in the implementation process is the cutover process which needs to be designed taking into account:-

Retraining the users (The system and process will have changed since initial training).

What implementer support is required during initial runs?

What is the backup plan in case anything goes wrong?

At what point do you start using the outputs of the system and process for input to other systems and live execution?

A well designed process may well involve a continuation of the parallel running process whereby a switch is made from using the existing system for live execution but nevertheless that system and process is continued for a period of time to ensure that the new process does not run into any issues.

At a designated time an assessment should be made as to whether it is “safe” to turn off the old system.

Final Word

If all of these steps have been followed it should be possible to go from initiation to Go Live and Cutover in approximately 6 weeks. Faster implementation may be possible but would require significant upfront planning in terms of data preparation.

You may find it useful, at a time quite soon after Go Live, to arrange a demonstration of your system and process to the support function at Veloc Ltd or at the very least to send them a copy of your dataset. This will make future support much simpler.

One final, optional step is to switch from the Veloc custom database to a standard SQL database. This is a simple step and can be initiated simply by sending a request to the Veloc support team. The system functionality, including imports and exports, is unchanged by this process.

We would welcome feedback on both this document and your experience of implementation.