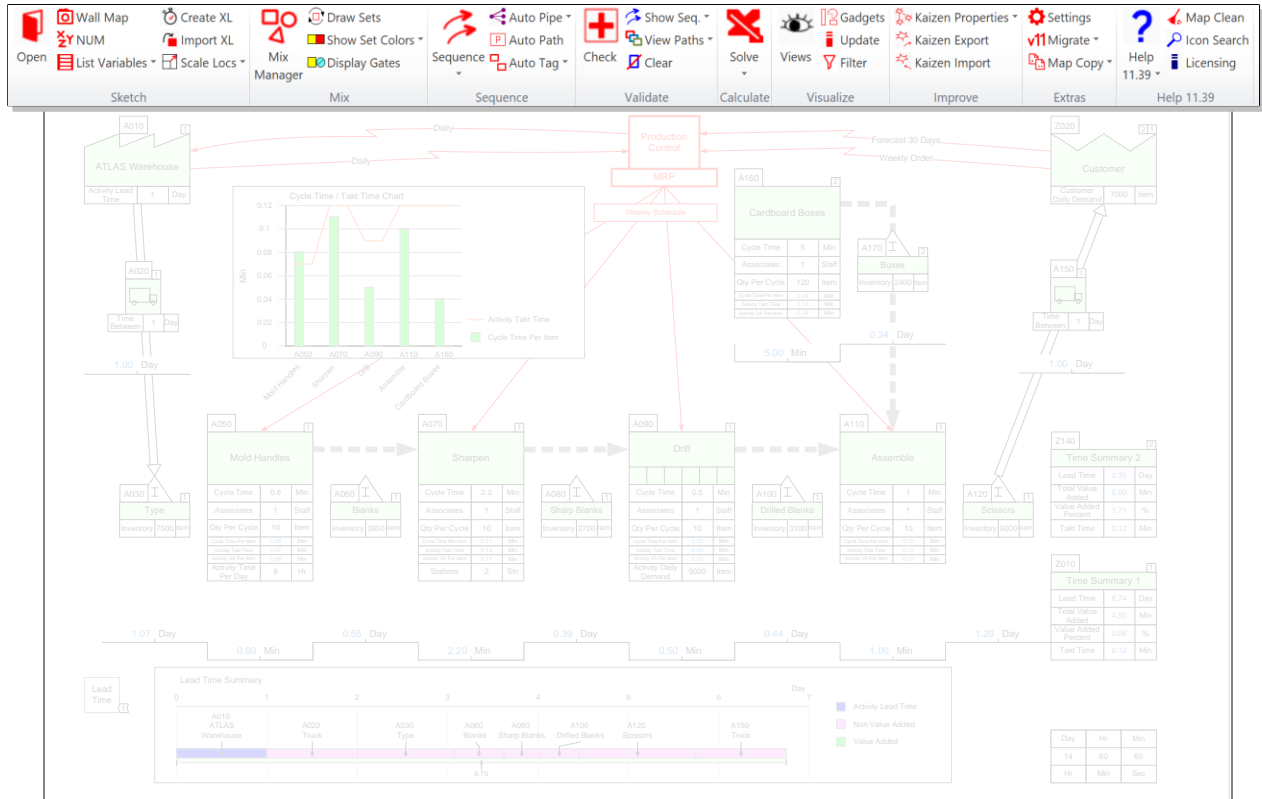


# eVSM v12

## Toolbar Reference Guide



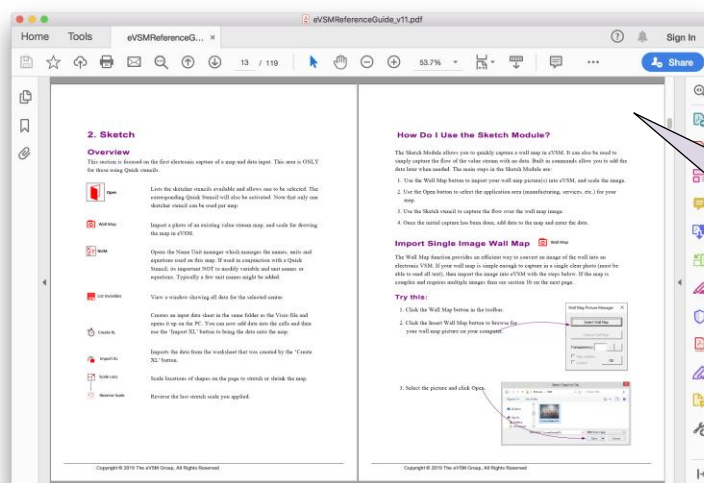
This reference manual complements eLearner with functional descriptions of all the buttons in the eVSM toolbar (ribbon) and some other core functionality.

## How to use this book

New users of eVSM should begin with eLearner, the eVSM learning and certification site at <https://evsm.com/learn>. eLearner is a points based fun learning environment which uses multi-media and facilitates anytime, anywhere, individual, or team based training. The eVSM Group also offers live instructor-led training, see details at <https://evsm.com/services>.

This reference guide complements eLearner with functional descriptions of all the buttons in the eVSM toolbar.

The manual is designed for both on-screen viewing, and print. For on-screen viewing, save the PDF file to your PC and then open it in Acrobat Reader (not in a web browser). In the Acrobat menus, click “View>Page Display”, make sure “Show Cover Page in Two Page View” is checked and then select “Two Page View”.



For hardcopy, print the manual on double-sided paper and use the table of contents or the index to quickly find answers to your questions.

# Table of Contents

<b>1. Sketch</b>	<b>2</b>
<b>2. Mix</b>	<b>26</b>
<b>3. Sequence</b>	<b>30</b>
<b>4. Validate</b>	<b>36</b>
<b>5. Calculate</b>	<b>40</b>
<b>6. Visualize</b>	<b>42</b>
<b>7. Improve</b>	<b>56</b>
<b>8. Extras</b>	<b>64</b>
<b>9. Help</b>	<b>72</b>

# 1. Sketch

## Overview

This section is focused on the first electronic capture of a map and data input. This area is ONLY for those using Quick stencils.



Open

Lists the sketcher stencils available and allows one to be selected. The corresponding Quick Stencil will also be activated. Note that only one sketcher stencil can be used per map.



Wall Map

Import a photo of an existing value stream map, and scale for drawing the map in eVSM.



NUM

Opens the Name Unit manager, which manages the names, units, and equations used on this map. If used in conjunction with a Quick Stencil, it's important NOT to modify variable and unit names or equations. Typically, a few unit names might be added.



List Variables

View a window showing all data for the selected center.



Restack

Re-arrange stacking of data shapes for add-ons to their default position.



Create XL

Creates an input data sheet in the same folder as the Visio file and opens it up on the PC. You can now add data into the cells and then use the 'Import XL' button to bring the data onto the map.



ERP Import

Convert ERP format Excel file into eVSM Excel format.



Import XL

Imports the data from the worksheet that was created by the 'Create XL' button.



Scale Locs

Scale locations of shapes on the page to stretch or shrink the map.



Reverse Scale

Reverse the last stretch scale you applied.

# How Do I Use the Sketch Module?

The Sketch Module allows you to quickly capture a wall map in eVSM. It can also be used to simply capture the flow of the value stream with no data. Built in commands allow you to add the data later when needed. The main steps in the Sketch Module are:

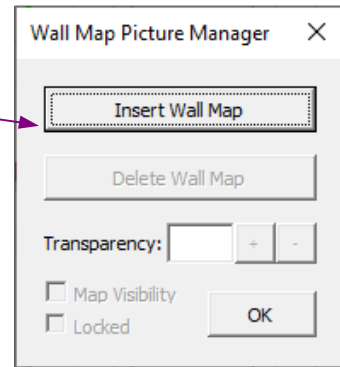
1. Use the Wall Map button to import your wall map picture(s) into eVSM, and scale the image.
2. Use the Open button to select the application area (manufacturing, services, etc.) for your map.
3. Use the Sketch stencil to capture the flow over the wall map image.
4. Once the initial capture has been done, add data to the map and enter the data.

## Import Single Image Wall Map Wall Map

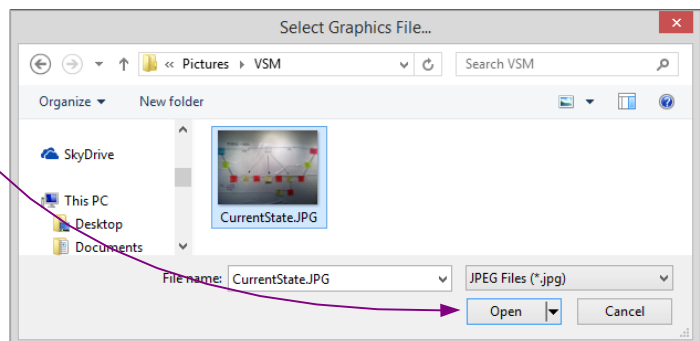
The Wall Map function provides an efficient way to convert an image of the wall into an electronic VSM. If your wall map is simple enough to capture in a single clear photo, (must be able to read all text), then import the image into eVSM with the steps below. If the map is complex and requires multiple images, then see section 1b on the next page.

### Try this:

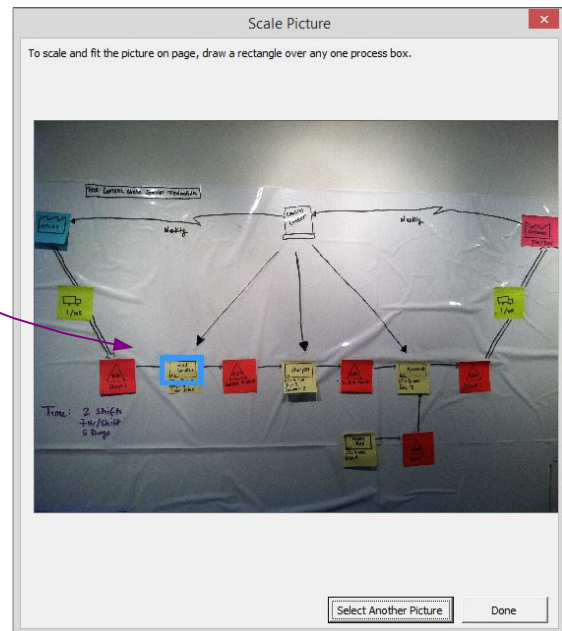
1. Click the Wall Map button in the toolbar.
2. Click the Insert Wall Map button to browse for your wall map picture on your computer.




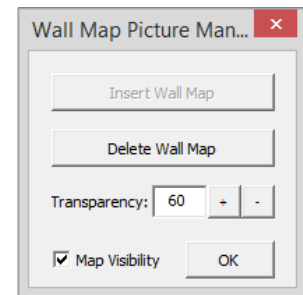
3. Select the picture and click Open.




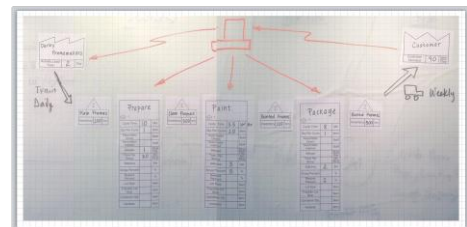
- To scale the picture, draw a rectangle over any one process box. Click the Done button when finished.



- Next a form will appear allowing you to change the transparency of the picture, make it visible/invisible on the page, or delete the picture. After you click OK, if you need to get back to this form, click the Wall Map button in the toolbar again.  Wall Map



- The image will become the background of the Visio drawing page, allowing you to drop shapes on top without it moving. To delete the image, click the Wall Map button in the toolbar.  Wall Map



For more complex maps requiring multiple images, here are some tips for good results:

- a.) Take all photos from approximately similar distance from the wall. This will ensure similar scale.
- b.) Capture sufficient overlap between pictures so nothing is missed.
- c.) Ensure lighting is similar for all photos.
- d.) Hold camera square to the wall to minimize skewing of the image.

1. Use the Insert>Picture option in Visio to import all of the pictures on your Visio page.

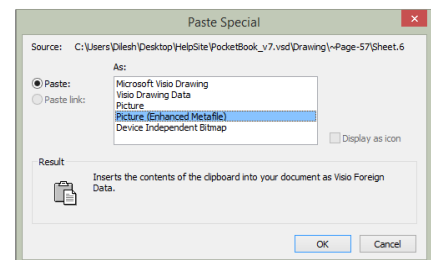
2. Line up the pictures so that the wall map is aligned properly.



3. Hold down the SHIFT key and select each picture. Right-click on the selected images and choose “Copy”.

4. Delete the images from the Visio page.

5. Right-click on the page and select “Paste Special”. Choose the “Picture (Enhanced Metafile)” option and click OK.



6. All of the images should now be joined into one single image. Crop or resize the image to fit the desired drawing page size.



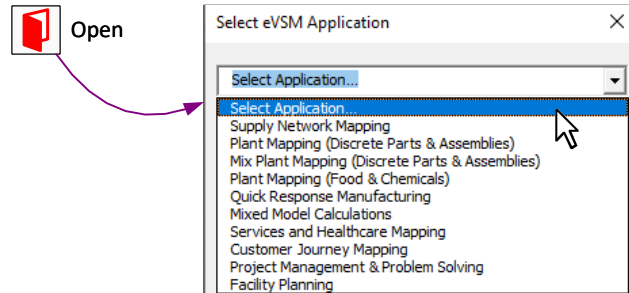
7. Click File>Save As. Name the image and then in the “Save as Type” dropdown, select “Graphics Interchange Format (\*.gif)”. Click Save.



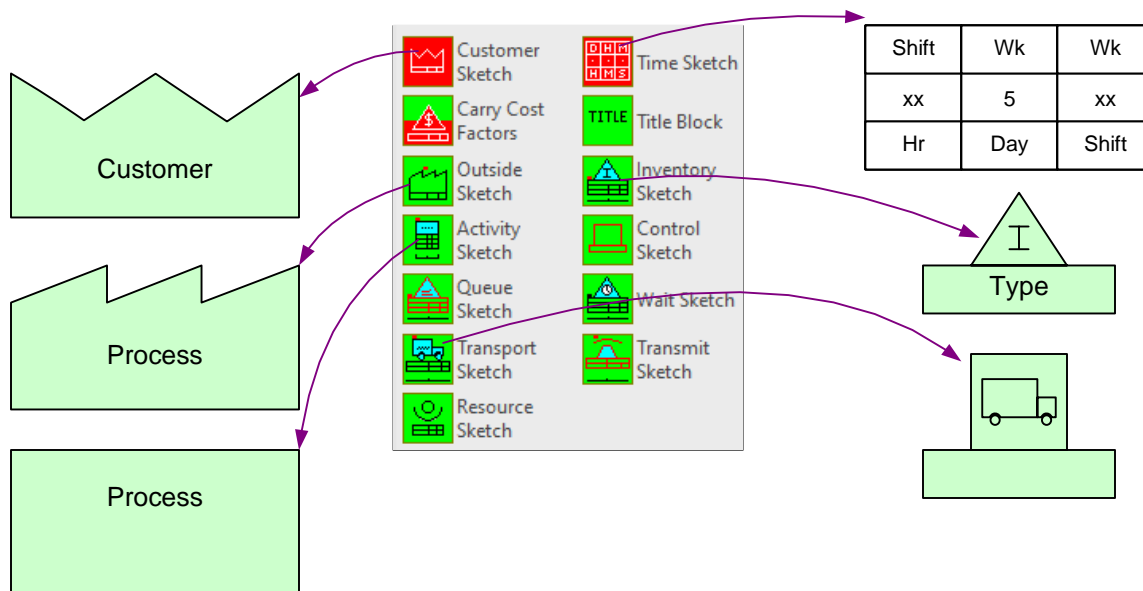
8. Click the Wall Map button in the toolbar, and follow the steps on the previous page of 1a.

## Try this:

1. To start drawing on your map, click on the Open button in the toolbar to open up the Sketcher stencil. From the pop-up menu, select which kind of map you're drawing, for example, Quick Manufacturing.



2. Once you select what type of map you're drawing, the corresponding Quick Stencil will be placed in the forefront of the other Quick Stencils. Also, the Sketcher stencil will open with all of the shapes associated with that type of map.



The shapes shown above are those used in the example map.

As with all eVSM drawings, start your map by dragging out the red shapes (Customer Sketch and Time Sketch) first.

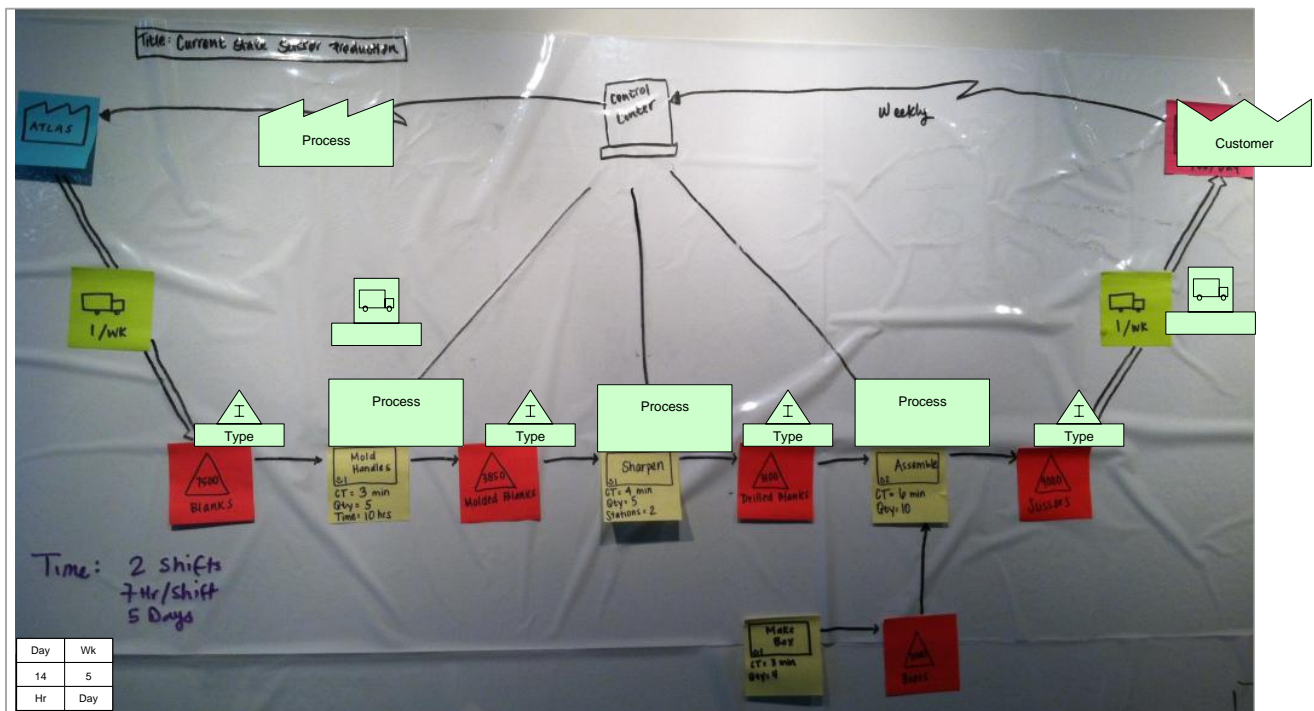
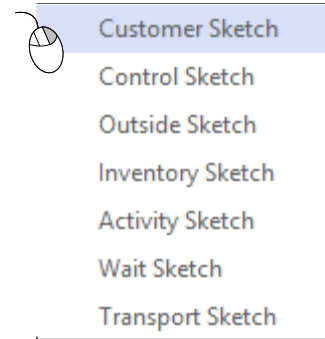


### 3. Capture the Flow with the Sketch Stencil

If you're using a picture of a hand-drawn map as a guide, start dragging out the different Sketch shapes on top of each process as shown below. Otherwise, just recreate your basic process using the different Sketch shapes.

An alternative method can be done once a red shape has been placed on the drawing page. You can use the right mouse button menu, (shown to the right), and select the various Sketcher shapes to drop them at the location clicked on the page.

Note: If you need additional map space, hold down CTRL and click and drag the edge of the page.

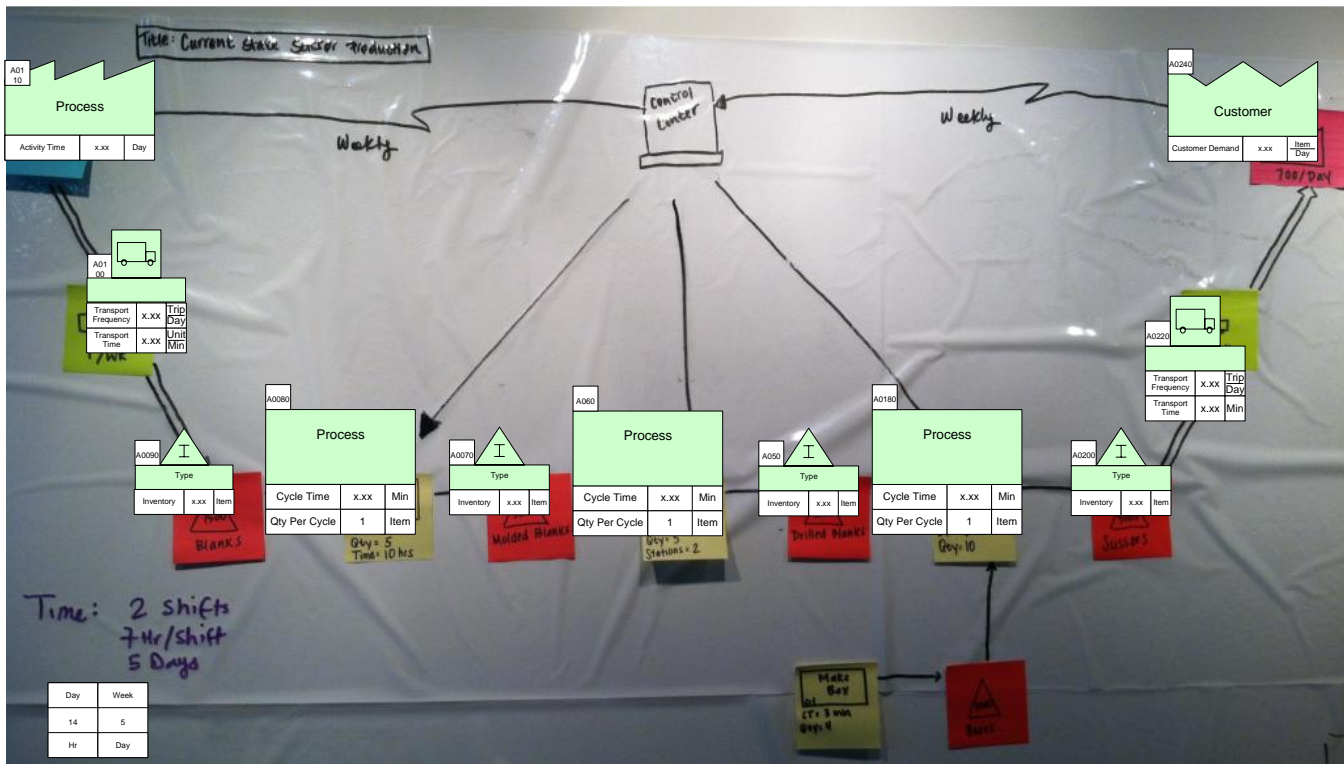


## 4. Add data to the map

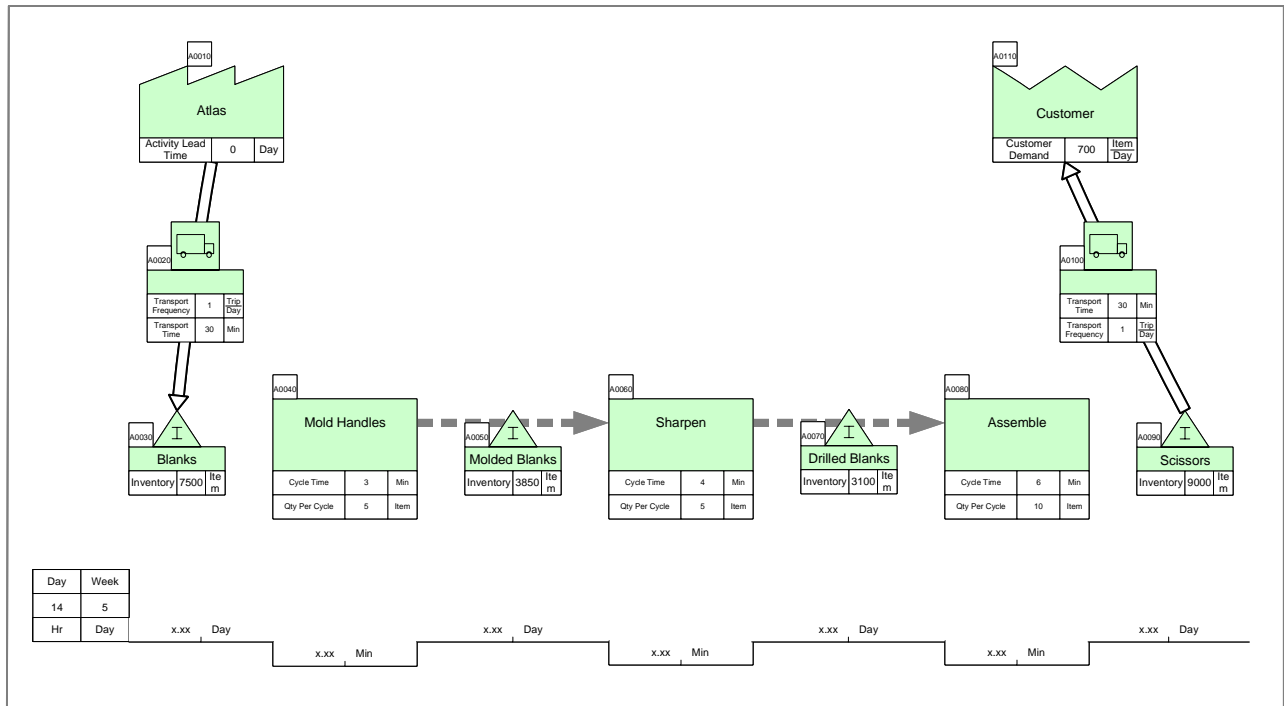
Now you can either add data to an individual shape, or to the whole map. If you right-click on any shape, you will see 4 options regarding the adding and removing of data:

- Add all data (shape): adds input and calculated data to the specific shape that you have selected
- Add all data (page): adds input and calculated data to all shapes on that particular page
- Remove all data (shape): eliminates the input and calculated data from the specific shape that you have selected
- Remove all data (page): eliminates the input and calculated data from all shapes on that particular page

For this example, right-click on any shape and select “Add all data (page).”



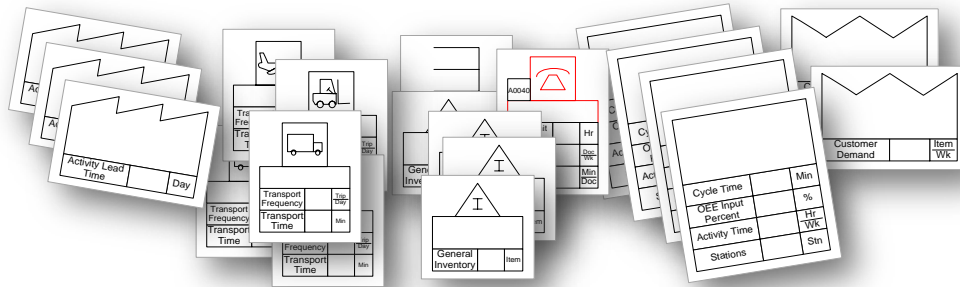
Annotate the map and fill in the values according to your wall map. Now you can finish the map by adding arrows from the eVSM Arrows stencil and add-on variables from the Quick stencil.



## Creating Paper Templates for Wall Maps

Wall maps can be drawn with any combination paper, pencils, markers, post-it notes, etc. However, such hand-sketches often result in a messy view, causing confusion instead of clarification.

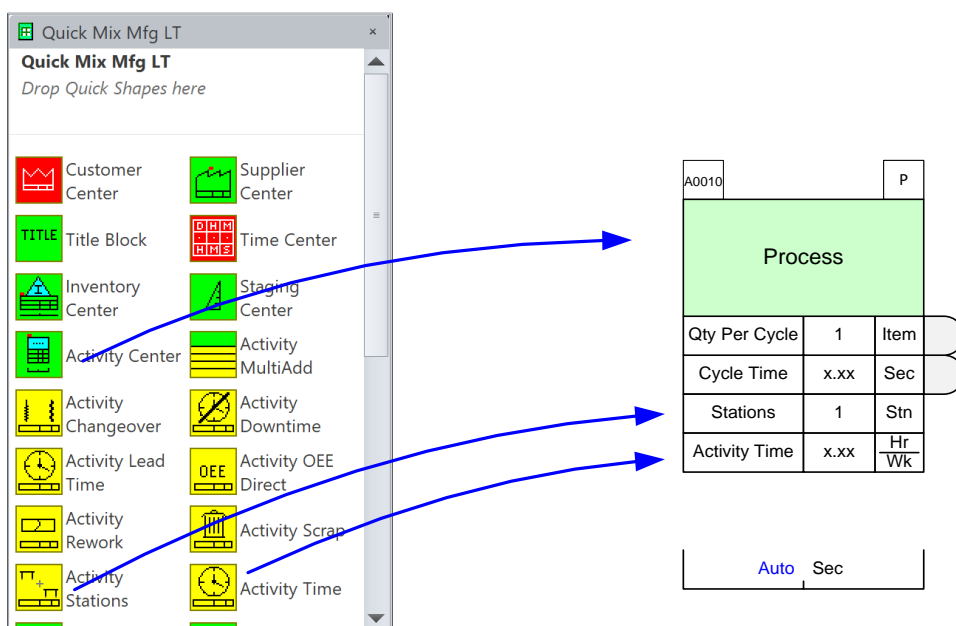
With eVSM, you can create simple paper templates which facilitate efficient comprehension and help ensure no critical data is missed.



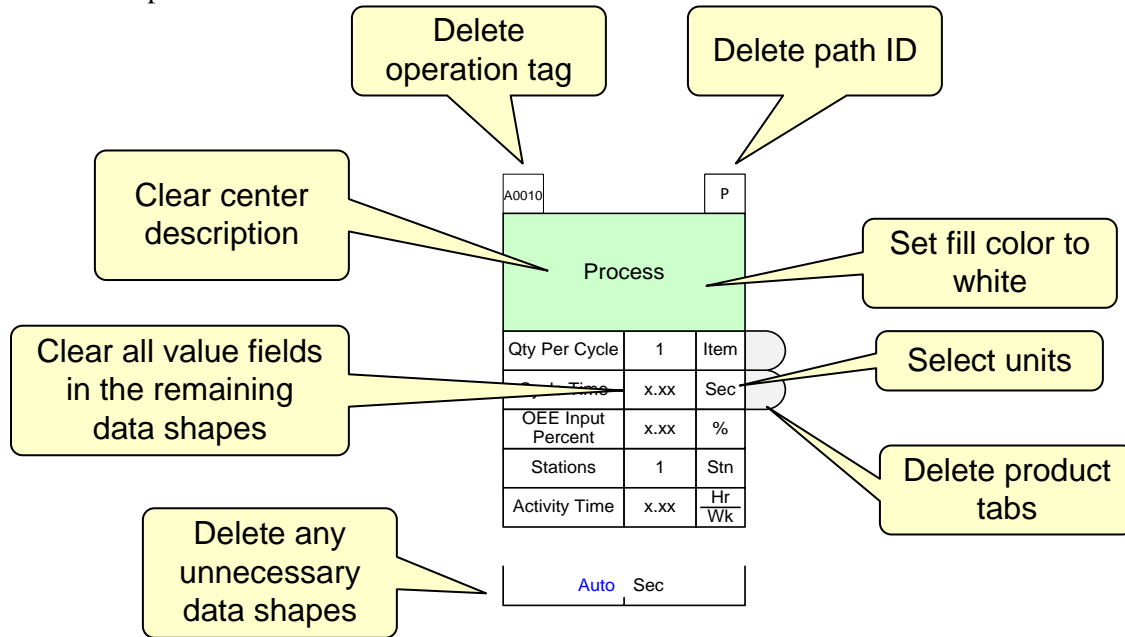
The templates can be customized for size, colors, units, and for the data items that need to be collected. Such paper templates work very well on smartsheets (electrostatic plastic sheets), magnetic boards, or even with just tape on a wall.

## Steps to Create Paper Templates

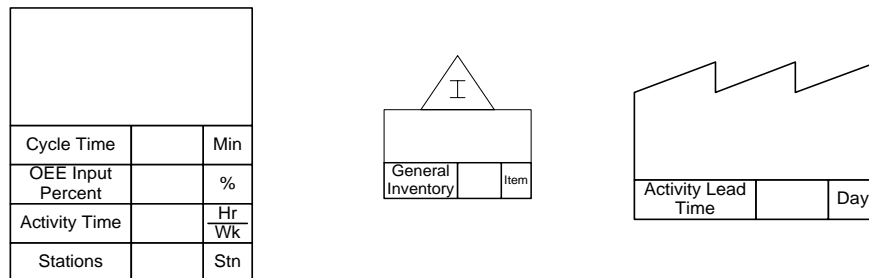
1. On a new page, open the application stencil you want, drop the desired center on the page, and attach any add-ons you need.



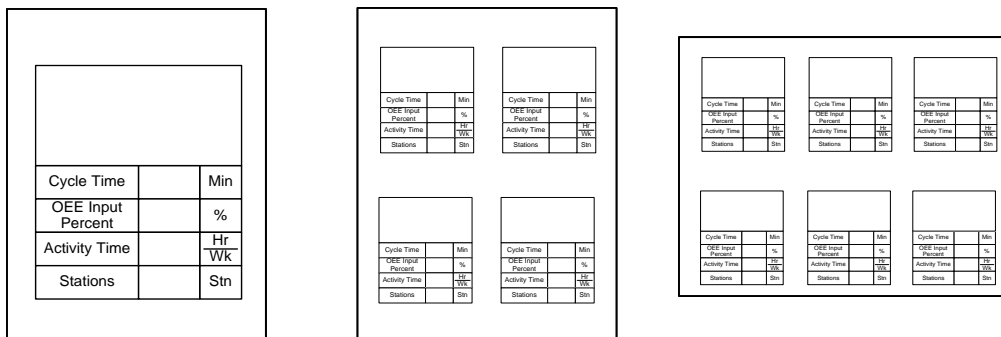
2. Clean-up the center



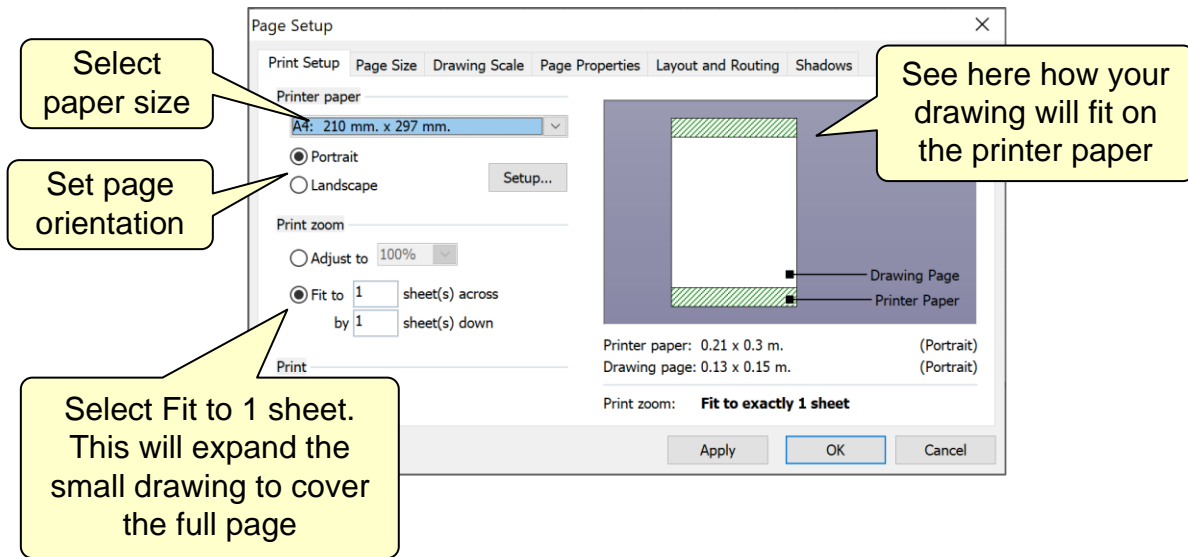
After clean-up, the centers may look like these:



3. For the printouts, do not resize the shapes. Just lay out one of more shapes on the page and then make the page small enough to just accommodate the shapes. Visio then allows you to blow up this page to whatever size paper you wish to print on. Here are examples of possible layouts. Our recommendation is to print at approx. 2.5x normal size. So the activity center in the example below would be 4.5 inches (110 mm) tall.




4. When your page is ready, open the Visio Page Setup dialog box and set as shown here.



5. Print and cut/trim the pages as needed.

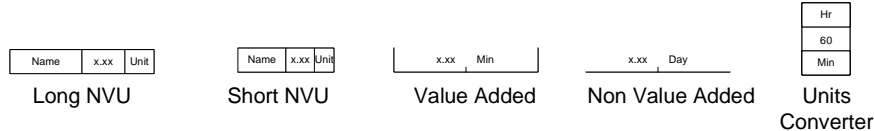
## Managing Names & Units

The Name & Unit Manager (NUM) provides a simple way of managing the names and units on a map via this toolbar button.  NUM

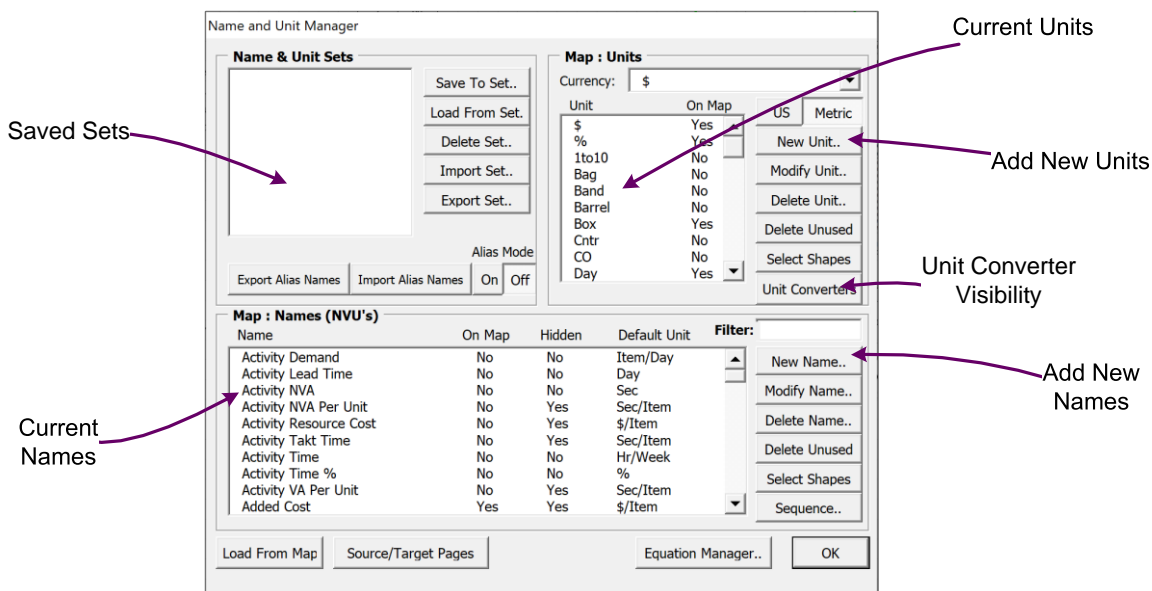
The purpose of this management environment is to:

1. Provide a means to type in a name only once and then use it consistently through out the map.
2. Provide a means to associate a default unit with a name so that when a name is selected, the unit is automatically set.
3. Provide a means of creating a starter set of names and units for different application areas such as manufacturing, healthcare, etc. This will allow a company to create standard variable sets and deploy them easily.

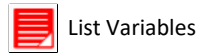
The NUM function does not allow editing of names and units directly in the data shapes. New names must first be added to the NUM form. Then they can be accessed via right mouse button menus on the following data shapes.



The NUM form is divided into three parts: Sets, Units, and Names. Names and units visible in this dialog box represent the Current Set. Only the Current Set names and units are available on the right mouse button menu of datasets.



# List Variables



To see a list of all of the data on a selected center, using the “List Variables” button will bring up a form with all of the hidden and visible data.

## Try this:

1. Select the green part of any center on your map.
2. Click the List Variables button in the toolbar to bring up this form.

A0080	#0
Milling Station	
1	
Cycle Time	10 Sec
Qty Per Cycle	2 Item
Capacity	Auto Item Day
Pre OEE Capacity	Auto Item Day
OEE Percent	Auto %

View Center Data

Milling Station

A0030

**[ ] Cycle Time** >200<320 Sec

**[ ] Qty Per Cycle** 1 Item

**Value Added** 256.50 Sec

**Activity Inv Carry Cost** Auto \$/Year

**[ ] Activity Inv Value** 0 \$

**[ ] Activity Inventory** 0 Item

**Activity Period Cost** 0.00 \$/Day

**Activity Resource Period** 0.00 \$/Day

**[ ] Activity Resource PT C** 0 \$/Item

**Activity Scrap Cost** 0.00 \$/Day

**Activity Takt Time** 28.80 Sec/Item

**[ ] Activity Unit Cost** 0 \$/Item

**[ ] Activity VA Per Unit** >200<320 Sec/Item

**Added Period Cost** 0 \$/Day

**[ ] Added Product Cost** 0 \$/Day

**[ ] Added Scrap Cost** 0 \$/Item

**[ ] Added Unit Cost** 0.00 \$/Item

**Associates** 1 Staff

**Availability Capacity Los:** 0.00 Item/Day

**[ ] Bad Parts Scrapped** 0 Item/Day

**Capacity** 112.28 Item/Day

**Changeover Utilization** 0.00 %

**Computed Activity Time** 8.00 Hr/Day

**[ ] Computed Demand** >100<300 Item/Day

**[ ] Computed Inventory** 1 Item

**[ ] Cumulative Unit Cost** 0 \$/Item

**[ ] Cycle Time Per Unit** >200<320 Sec/Item

**Delivery Takt Time** 256.50 Sec/Item

**[ ] Eff Cycle Time Per Unit** >200<320 Sec/Item

View All Variables

Double-Click Variables to Edit

[ ] for distribution data. Only in eVSM Mix

Blue indicates calculated values

Black for input values. These can be edited here, just double-click.

This switch allows you to shorten the list. What goes in the short list is controlled in the Views dialog.

The “List Variables” form can be left open as you click on different centers on the map. The form will update.



Since the List Variables form can get very long, you can customize what variables are shown in the list through the “Variable Visibility” form. Click the “Views” button in the toolbar.



Center/Addon Name		Variable Name(s)	Visibility	Show in List Vars
			<input type="checkbox"/> All	<input checked="" type="checkbox"/> All
-	Customer Center	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Customer Demand	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Effective Demand	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Share %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
+	Carry Cost Factors			
+	Takt Center			
+	Outside Center			
-	Inventory Center	-	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Added Cost	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Annual Inv Carry Cost	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Computed Inv Demand	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Cumulative Cost	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		End Time	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Non Value Added	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Duration	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Inventory	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Inventory Value	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Default Variable Visibility   Hide Auto Variables   Cancel   OK

The “Show in List Vars” column allows you to select which variables will appear in the List Variables form.

## Re-arrange data shapes for add-ons to default position Restack

Often as you attached add-ons incrementally to centers, the data shape stack begins to look like this.

A0020		P	
Process A			
Qty Per Cycle	1	Item	
Cycle Time	x.xx	Sec	
Associates Direct	1	Staff	
Associates Indirect		Staff	
Changeovers	1	CO Day	
Time Per Changeover	x.xx	Min CO	
Electricity	x.xx	kW	
Gas	x.xx	kW	
Compressed Air	x.xx	kW	
Energy Intensity	Auto	Wh Item	

A0030		P	
Process B			
Qty Per Cycle	1	Item	
Electricity	x.xx	kW	
Gas	x.xx	kW	
Compressed Air	x.xx	kW	
Energy Intensity	Auto	Wh Item	
Cycle Time	x.xx	Sec	
Associates Direct	1	Staff	
Associates Indirect		Staff	
Changeovers	1	CO Day	
Time Per Changeover	x.xx	Min CO	

A0040		P	
Process C			
Qty Per Cycle	1	Item	
Cycle Time	x.xx	Sec	
Changeovers	1	CO Day	
Time Per Changeover	x.xx	Min CO	
Electricity	x.xx	kW	
Gas	x.xx	kW	
Compressed Air	x.xx	kW	
Energy Intensity	Auto	Wh Item	
Associates Direct	1	Staff	
Associates Indirect		Staff	

With variables in different positions at each center, it is difficult for the author and the audience to find the values they need to see. The Restack button, re-arranges the stack into a default order as shown below.

A0020		P	
Process A			
Qty Per Cycle	1	Item	
Changeovers	1	CO Day	
Time Per Changeover	x.xx	Min CO	
Electricity	x.xx	kW	
Gas	x.xx	kW	
Compressed Air	x.xx	kW	
Energy Intensity	Auto	Wh Item	
Associates Indirect		Staff	
Associates Direct	1	Staff	
Cycle Time	x.xx	Sec	

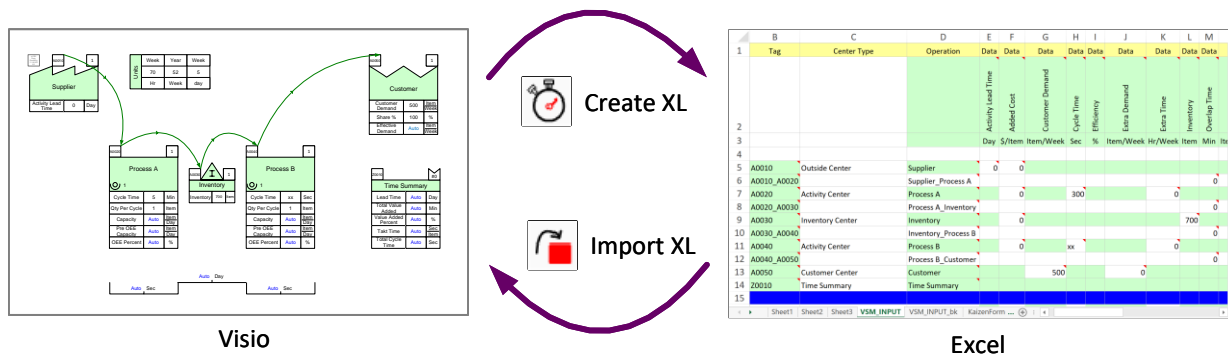
A0030		P	
Process B			
Qty Per Cycle	1	Item	
Changeovers	1	CO Day	
Time Per Changeover	x.xx	Min CO	
Electricity	x.xx	kW	
Gas	x.xx	kW	
Compressed Air	x.xx	kW	
Energy Intensity	Auto	Wh Item	
Associates Indirect		Staff	
Associates Direct	1	Staff	
Cycle Time	x.xx	Sec	

A0040		P	
Process C			
Qty Per Cycle	1	Item	
Changeovers	1	CO Day	
Time Per Changeover	x.xx	Min CO	
Electricity	x.xx	kW	
Gas	x.xx	kW	
Compressed Air	x.xx	kW	
Energy Intensity	Auto	Wh Item	
Associates Indirect		Staff	
Associates Direct	1	Staff	
Cycle Time	x.xx	Sec	

# Create XL/Import XL

## Overview

It is sometimes easier to capture the value stream flow before any data is collected. This can help clarify what data is necessary. The data can be typed directly into data shapes on the map. Alternatively, the data can be collected in an Excel datasheet. Input is easier in Excel, and it also allows you to collect data directly in the Gemba on a mobile device (anything that Excel can run on). It also allows you to more easily have other people collect the data. The Create XL and Import XL functions allow you to create a datasheet for your map and then import the data onto the map.



## Create XL



Create XL

Creates an input data sheet in the same folder as the Visio file and opens it up on the PC. The new datasheet will be given the Visio page name along with “\_INPUT”. If a previous datasheet already exists, it will be renamed to “\_INPUT\_bk” so any prior data entered is not lost.

You can add data into the cells, and then use the ‘Import XL’ button to bring the data onto the map.

## Import XL



Import XL

Imports the data from the worksheet that was created by the ‘Create XL’ button. The format of the Excel datasheet must not be altered. Also, the location, filename, and the worksheet name must not be changed.

## Draw map with Import XL

The Import XL button also allows you to draw centers, (Activity center, Inventory, Transport, Supplier, etc.), automatically on the map. See instructions below.

1	Tag	Center Type	Operation	Data	Data	Data	Data	Data	Data	Data	Data	Data	Data	Data	Data
2				Activity Lead Time	Added Cost	Customer Demand	Cycle Time	Efficiency	Extra Demand	Extra Time	Inventory	Overlap Time	Period Demand	Process Time	Qty Per Cycle
3				Day	\$/Item	Item/Week	Sec	%	Item/Week	Hr/Week	Item	Min	Item/Year	Min/Doc	Item
4															
5	A0010	Outside Center													
6	A0010_A0020														
7	A0020	Activity Center					300			0		0			1
8	A0020_A0030														
9	A0030	Inventory Center								700		0			
10	A0030_A0040											0			
11	A0040	Activity Center	Process B		0		xx			0		0			1
12	A0040_A0050		Process B_Cu									0			
13	A0050	Customer Center	Customer			500									
14	Z0010	Time Summary	Time Summary												
15															
16		Activity Center	Milling												
17		Inventory Center	Milled Parts												
18		Activity Center	Polishing												
19		Inventory Center	Finished Goods												
20		Add Center...													

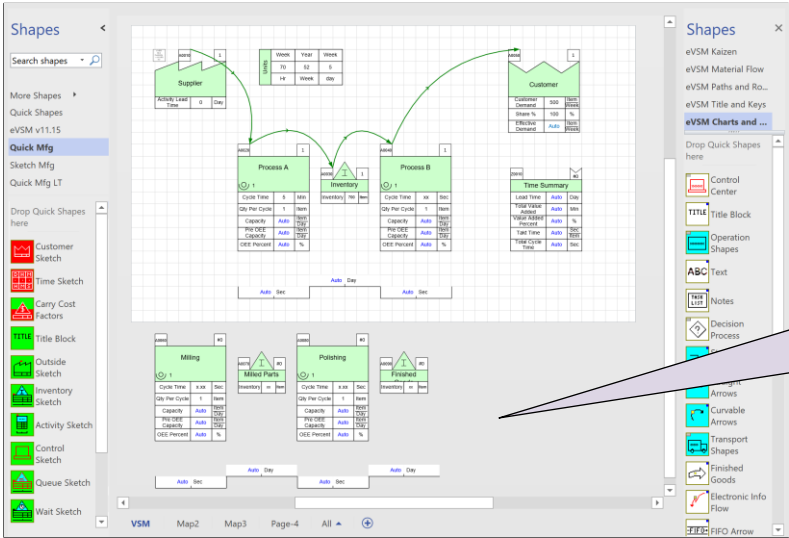
New centers are added below the blue row

Select center type from pulldown list in this column

Enter center name

The data values are entered in the white cells

The data values must be in the units shown here



The new centers appear below the drawing page. These can now be moved to the required location

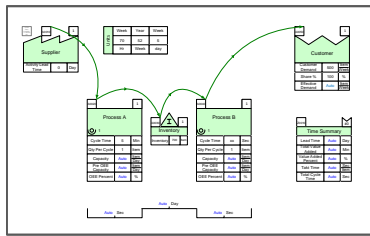
# ERP Import ERP Import

The eVSM Import XL function can import data to the map from Excel. However, the Excel data has to be in a very specific format. The ERP Import function provides a rules based translator which can convert any ERP (Enterprise Resource Planning) data in Excel into the eVSM Excel format. To use this function, you need:

- The Visio Map file
- The ERP data in an Excel file
- An Instructions Excel file containing the conversion instructions

## Files and Process Overview

**1** Prepare the three files. All three files must be in the same folder.



Map Visio File (vsdx)

Product	Center	Cycle time	Qty Per Cy	Product In	Customer Demand
p1	A1	10	1		
p2	A1	15	1		
p3	A1	12	2		
p4	A1	11	1		
p1	A2	5	2		
p2	A2	3	2		
p3	A2	2	3		
p4	A2	5	4		
p1	Inv1			10	
p2	Inv1			100	
p3	Inv1			50	
p4	Inv1			70	
p1	abc			100	
p2	abc			200	
p3	abc			500	
p4	abc			100	

ERP Source Data (xlsx)

Active Excel File	Worksheet	Product ID Column	ID Center Column	Variable Name	Variable Column
Sample_Data.xlsx	MV Test	A	B	Cycle time	FR(2)
Sample_Data.xlsx	MV Test	A	B	Qty Per Cycle	FR(2)
Sample_Data.xlsx	MV Test	A	B	Product Invenst	FR(2)
Sample_Data.xlsx	MV Test	A	B	Customer Dema	FR(2)

Instructions File (xlsx)



ERP Import

**2** Run ERP Import to generate the data input file for eVSM



Import XL

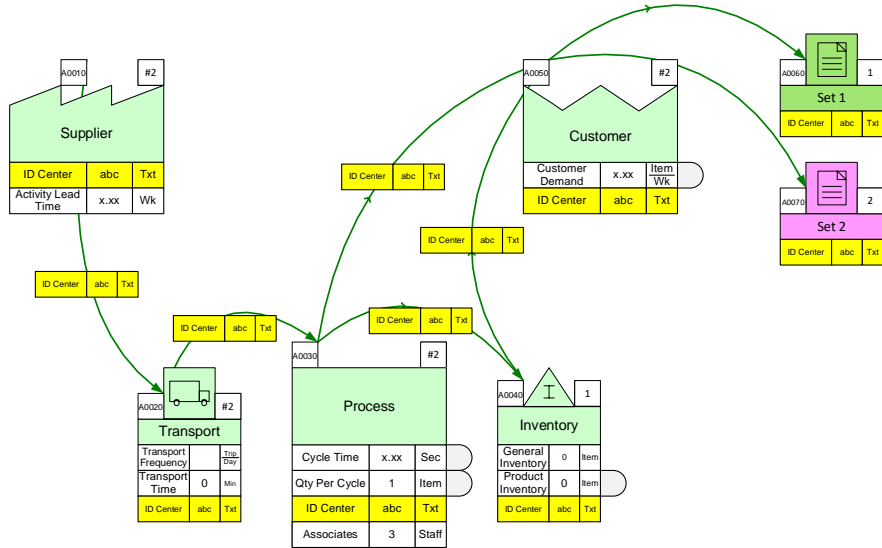
**3** Run Import XL to populate the map with ERP data

Tag	ID	Type	Prod.	Variable	Value	Unit
A0020	Set 1	Product Set Center	ID Center	s1	10	Sec
A0030	Set 1	Product Set Center	Set ID	s1	10	Sec
A0030	Set 2	Product Set Center	ID Center	s2	10	Sec
A0030	Set 2	Product Set Center	Set ID	s2	10	Sec
A0040	Customer	Customer Center	Default	Customer Demand	0	Item/Wk
A0040	Customer	Customer Center	p1	Customer Demand	100	Item/Wk
A0040	Customer	Customer Center	p2	Customer Demand	200	Item/Wk
A0040	Customer	Customer Center	p3	Customer Demand	500	Item/Wk
A0040	Customer	Customer Center	p4	Customer Demand	100	Item/Wk
A0040	Customer	Customer Center	ID Center	abc	10	Sec
A0050	Machining	Activity Center	Default	Cycle Time	xxx	Sec
A0050	Machining	Activity Center	p1	Cycle Time	10	Sec
A0050	Machining	Activity Center	p2	Cycle Time	15	Sec
A0050	Machining	Activity Center	p3	Cycle Time	32	Sec
A0050	Machining	Activity Center	p4	Cycle Time	32	Sec
A0050	Machining	Activity Center	Default	Qty Per Cycle	1	Item
A0050	Machining	Activity Center	p1	Qty Per Cycle	1	Item
A0050	Machining	Activity Center	p2	Qty Per Cycle	1	Item
A0050	Machining	Activity Center	p3	Qty Per Cycle	1	Item
A0050	Machining	Activity Center	p4	Qty Per Cycle	1	Item

eVSM format Excel file

## Prepare the Map

A hidden variable called “ID Center” is pre-built into all centers. These can be revealed via the “Views” button.



For each center requiring data import, set the ID to a unique short value such as XY23.

## ERP Data File

The ERP data file must be in Excel format and contain the unique ID’s as specified above. Other than that, the data may be organized in any convenient row/column layout. And may exist in multiple files and/or worksheets.

Unique ID's

Unique ID	Product ID	Cycle Time	Qty Per Cycle	Product Inventory	Customer Demand
A11	P1	40	8		
A11	P2	50	9		
A11	P3	60	10		
I01	P1			600	
I01	P2			700	
C01	P1				100
C01	P2				120
C01	P3				140

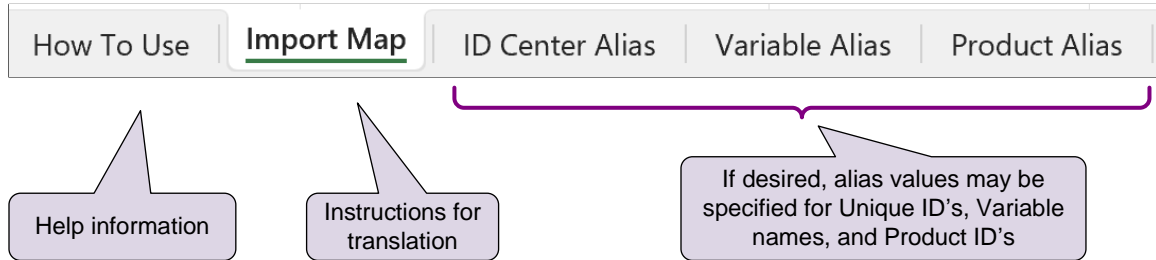
Unique ID's

Product	Cycle Time (Sec)			
	Stamp	Drill	Mill	Assemble
	A11	A12	A13	A14
P1	203	98	120	301
P2	160	45	120	205
P3	173	55	120	228
P4	130	70	120	200
P5	150	90	120	240
P6	144	72	120	216
P7	150	70	120	220

We recommend keeping the product-specific vs product-independent data in separate worksheets.

## The Instructions File

The instructions file (Import Instructions.xlsx) provides the rules for the data translation. It is an Excel workbook with the following worksheets.



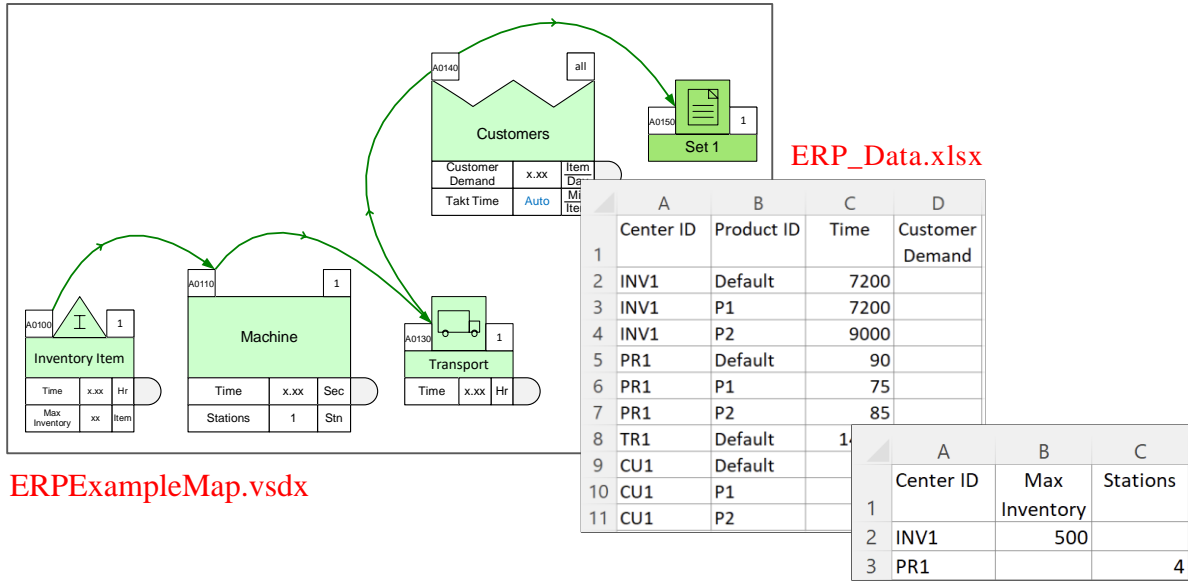
### The Import Map Worksheet

The “Import Map” worksheet is where the instructions for the data translation need to be entered. Each row contains one instruction. Here are the columns in this worksheet.

Column Name	Column Function
Active	Y = Execute instruction, N = Ignore (skip) instruction.
Excel File	ERP data Excel file name
Worksheet	Excel Worksheet name
Product ID	Specify the column or row the product ID's. e.g. Col(F) or Row(3)
Center ID	Column or row that contains the unique ID's that match the “ID Center” values on the map
Variable Name	Column or row the variable names are in. If it is a single variable, you can provide the exact variable name here.
Value	Column or Row the data values are in
Num. Unit	Numerator units for the data values in the ERP data file
Denom. Unit	Numerator units (if they apply) for the data values in the ERP data file
Start Row	Start importing data from this row.
End Row	Stop importing data after this row
Start Colum	Start importing data from this column
End Column	Stop importing data after this column

# Step-by-Step Example

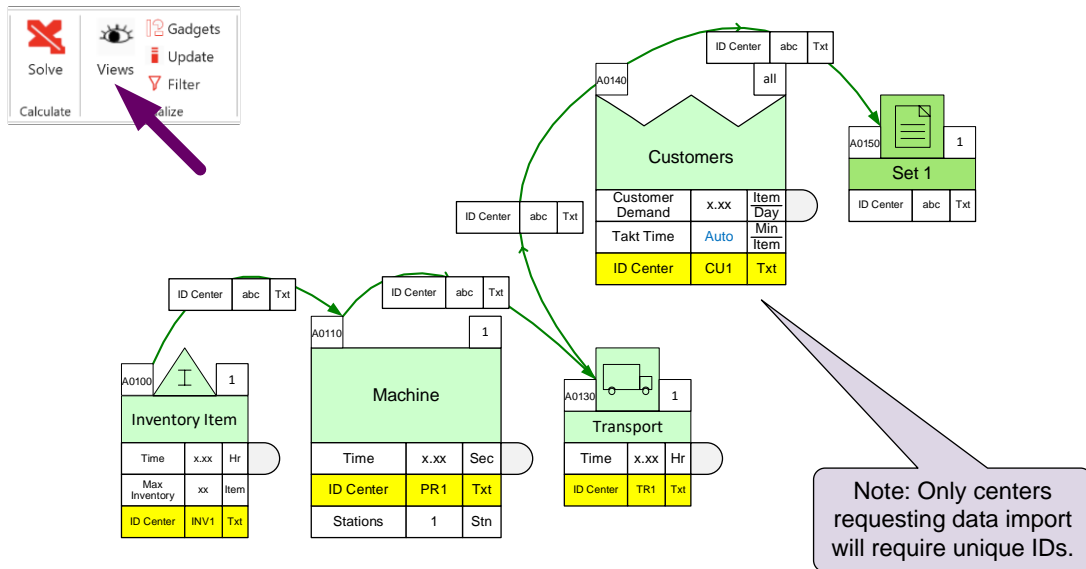
We will use this simple map and spreadsheet to walk through the steps to prepare the files and import ERP data to the map.



ERPEXampleMap.vsdx

## 1. Prepare the Map

Make the “ID Center” variable visible on the map through the Views button in the eVSM toolbar. Enter a unique ID ONLY for each center you wish to import data for. The ID’s should be kept short. Only the highlighted IDs have been input in this example.





## 2. Prepare the ERP Data File

Copy the ERP data Excel file to the map folder. Add the unique ID's to the spreadsheet if the ERP system has not already provided unique short names for each center.

Worksheet: ERP Report MP

	A	B	C	D
	Center ID	Product ID	Time	Customer Demand
1				
2	INV1	Default	7200	
3	INV1	P1	7200	
4	INV1	P2	9000	
5	PR1	Default	90	
6	PR1	P1	75	
7	PR1	P2	85	
8	TR1	Default	14400	
9	CU1	Default		
10	CU1	P1		120
11	CU1	P2		150

Worksheet: ERP Report SP

	A	B	C
	Center ID	Max Inventory	Stations
1			
2	INV1	500	
3	PR1		4

All values in each column must use the same units.

The center IDs here must match the map

Product IDs are required for product specific variables.

## 3. Prepare the Instructions File

Copy the instructions template file (Import\_Instructions.xlsx) from “C:\Program Files (x86)\eVSM\Setup\Resource” to your local map folder, and add instructions as shown here.

	A	B	C	D	E	F	G	H	I
1	Active	Excel File	Worksheet	Product ID	Center ID	Variable Name	Value	Num. Unit	Denom. Unit
2	Y	ERP_Data.xlsx	ERP Report MP	Column(B)	Column(A)	Time	Column(C)	Sec	None
3	Y	ERP_Data.xlsx	ERP Report MP	Column(B)	Column(A)	Customer Demand	Column(D)	Item	Day
4	Y	ERP_Data.xlsx	ERP Report SP		Column(A)	Stations	Column(C)	Stn	None
5	Y	ERP_Data.xlsx	ERP Report SP		Column(A)	Max Inventory	Column(B)	Item	None

Each row specifies import instructions for one variable. Here is the explanation for row 3.

Column A: “Y” indicates this instruction is active and needs to be executed

Column B: ERP data Excel file name

Column C: ERP data worksheet name

Column D: Specifies column containing the product IDs. For non product specific data, this would be blank.

Column E: Column containing the unique center IDs

Column F: The variable for this instruction is Customer Demand

Column G: Specifies column containing the data values

Column H: Numerator units for the source data

Column I: Denominator units for the source data

## 4. Run ERP Import.

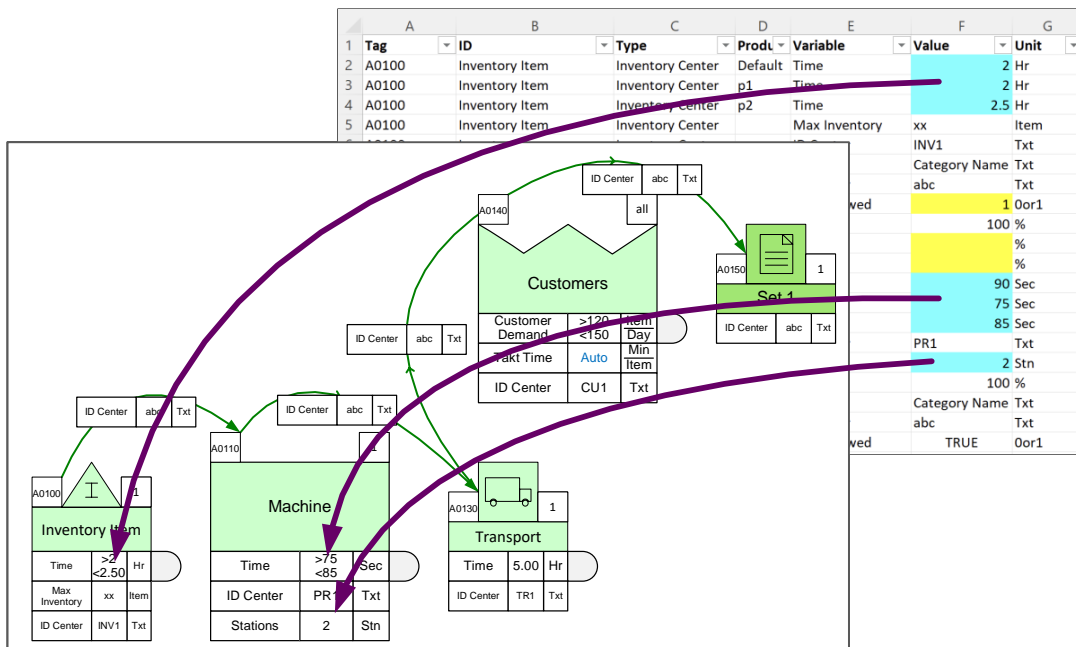
Save and exit any open Excel files and run ERP Import. This will create (or replace) an Excel import file in your current map folder. Check this Excel file to verify that the expected data has been imported. All imported values will be highlighted blue.

1	Tag	ID	Type	Produ	Variable	Value	Unit
2	A0100	Inventory Item	Inventory Center	Default	Time		2 Hr
3	A0100	Inventory Item	Inventory Center	p1	Time		2 Hr
4	A0100	Inventory Item	Inventory Center	p2	Time		2.5 Hr
5	A0100	Inventory Item	Inventory Center		Max Inventory	xx	Item
6	A0100	Inventory Item	Inventory Center		ID Center	INV1	Txt
7	A0100	Inventory Item	Inventory Center		Category	Category Name	Txt
8	A0100_A0110	Inventory Item_Machine	Sequence Center		ID Center	abc	Txt
9	A0100_A0110	Inventory Item_Machine	Sequence Center	s1	Sets Allowed	1	0or1
10	A0100_A0110	Inventory Item_Machine	Sequence Center	Default	Flow	100	%
11	A0100_A0110	Inventory Item_Machine	Sequence Center	p1	Flow		%
12	A0100_A0110	Inventory Item_Machine	Sequence Center	p2	Flow		%
13	A0110	Machine	Activity Center	Default	Time		90 Sec
14	A0110	Machine	Activity Center	p1	Time		75 Sec
15	A0110	Machine	Activity Center	p2	Time		85 Sec
16	A0110	Machine	Activity Center		ID Center	PR1	Txt
17	A0110	Machine	Activity Center		Stations	2	Stn
18	A0110	Machine	Activity Center		CA	100	%
19	A0110	Machine	Activity Center		Category	Category Name	Txt
20	A0110_A0130	Machine_Transport	Sequence Center		ID Center	abc	Txt
21	A0110_A0130	Machine_Transport	Sequence Center	s1	Sets Allowed	TRUE	0or1

All imported data values are highlighted in blue

## 5. Run Import XL

This will populate the imported data on the map.



ERPEXampleMap.vsdX

Once the data has been imported and verified on the map, you can switch the visibility of the ID Center variables.

## Another ERP Import Example

In this example, the worksheet contains data only for the “Time” variable. The columns represent the centers and the rows represent the products. The units for all values is “Sec”.

	A	B	C	D
1		INV1	PR1	TR1
2	Default	7200	90	14400
3	P1	7200	75	
4	P2	9000	85	

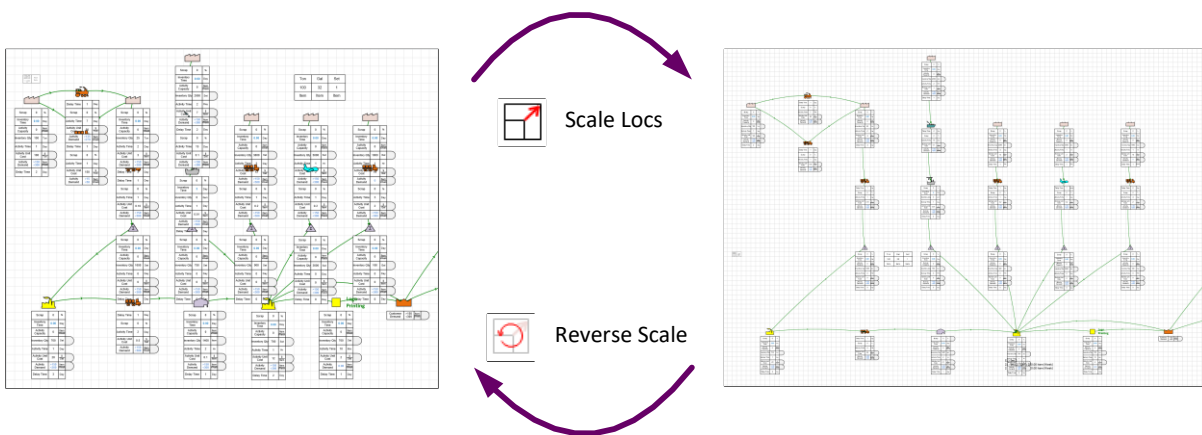
	A	B	C	D	E	F	G	H	I
1	Active	Excel File	Worksheet	Product ID	Center ID	Variable Name	Value	Num. Unit	Denom. Unit
2	Y	ERP_Data.xlsx	ERP Report MPT	Column(A)	Row(1)	Time		Sec	None

## Scale Locs



Scale Locs

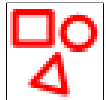
While working on a map, you may need to keep many input and calculated values visible on the map. Your map could start looking like the one on the left below. The Scale Locs function explodes the view to look like the one on the right. The Reverse Scale function reverses the last scale expand.



## 2. Mix

### Overview

eVSM Mix is a separate product, and needs to be licensed/activated separately. The Mix icons in the toolbar and the Mix Stencils are only available if a valid license is active for eVSM Mix.



Mix Manager

Allows definitions of sets and the products within them.



Draw Sets

Draw needed Product Set Centers for any sets in the product data.



Show Set Colors

Shows set colors on the map.



Isolate Set

Highlight activities for a selected Set Center.



Display Gates

Show set gates on map, where set is not allowed, shows a circle

### Mix Manager



Mix Manager

The Mix Manager dialog box is where the products and sets are declared for the Value Stream. The Mix Manager allows you to add new products/sets and edit/delete existing items. It also includes functions to create products and sets via Excel.

## Importing the Product Matrix

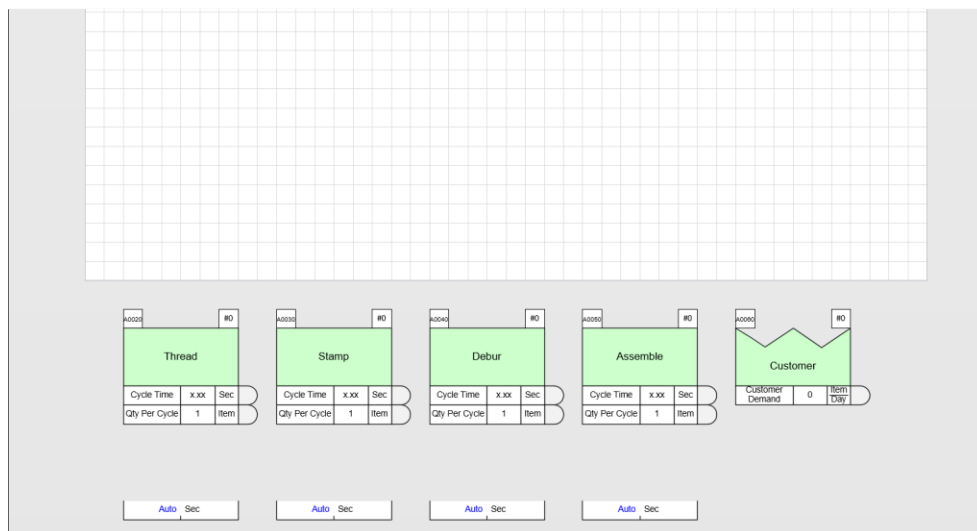
Once the matrix has been used to identify the common routes, the data can be imported into eVSM by clicking the “Mix Manager” button in the toolbar, and then the “Import” button on the dialog box.

Products:						
ID	Name	Set	Can Merge?	Must Merge?	Is Merged?	Description
p1	Product 1	s1	Y	N	N	Auto-gen product 1
p2	Product 2	s1	Y	N	N	Auto-gen product 2
p3	Product 3	s2	Y	N	N	Auto-gen product 3

Sets:			
ID	Name	Description	Tag
s1	Set 1	Auto-gen set 1	
s2	Set 2	Auto-gen set 2	

The import brings the products and routing sets into the dialog and also draws the activities at the bottom of the page. They can be moved into their map positions from there. You can add new products, or edit their routings directly in the dialog.

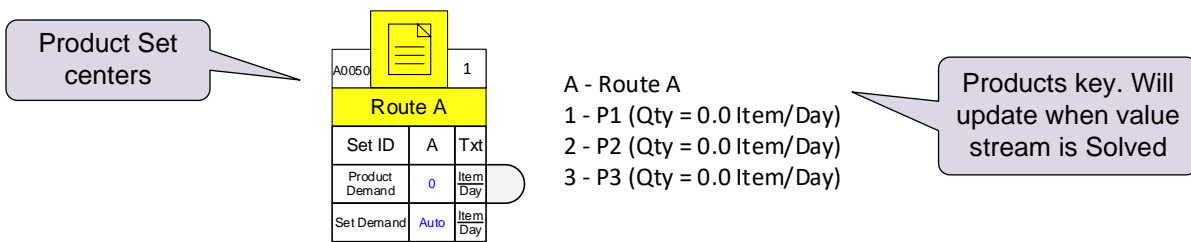


## Sets

Route sets in eVSM are used to group all products which go through exactly the same route. Routes are specified with sequence arrows. Where multiple sets share a sequence arrow, you can specify which sets can pass through with the “Sets Allowed” variable built into the sequence arrows. This variable can be made visible via the Views dialog box, or can be accessed through the List Variables button. There is also an “Edit Set Gates” command available in the right-mouse menus of the sequence arrows.

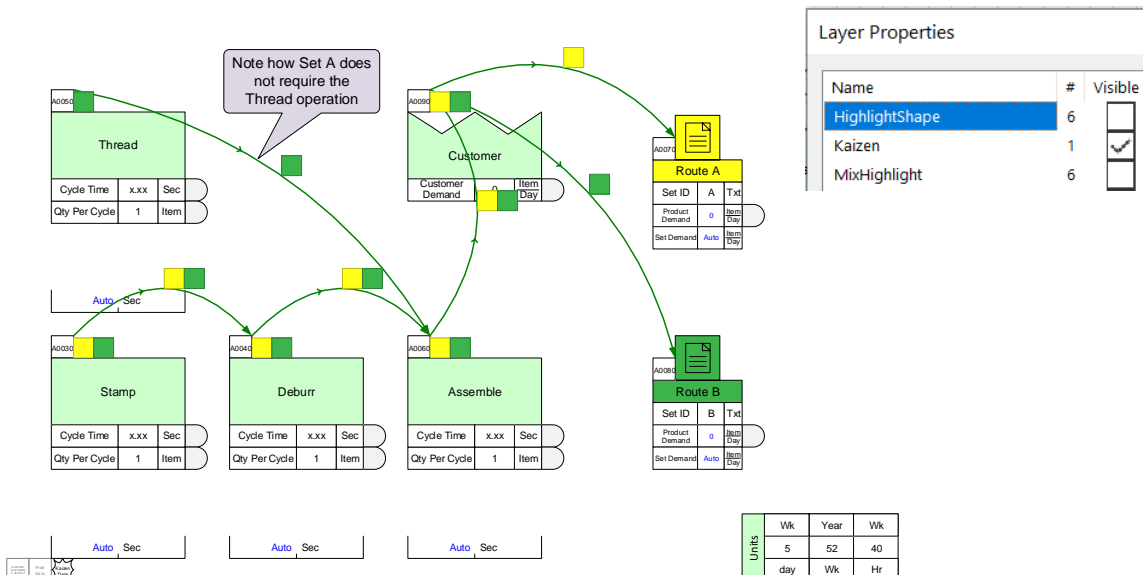
## Draw Sets Draw Sets

The Draw Sets button draws any sets that are defined in the Mix manager dialog which do not exist on the drawing page. The Product Set centers, (along with the product key), are drawn on the right side of the drawing page and can be moved to any desired location.



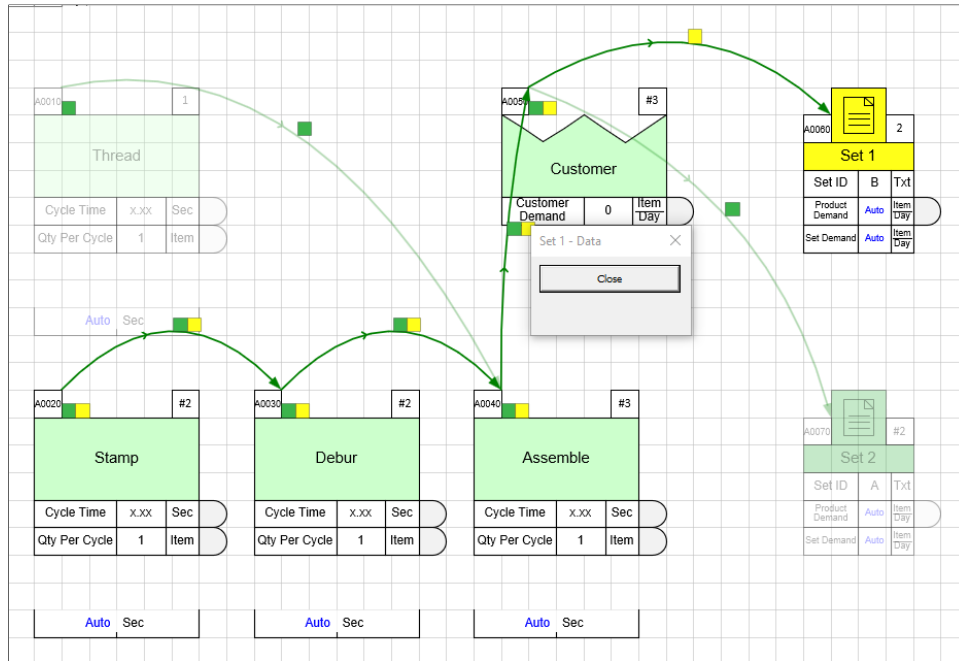
## Show Sets Show Set Colors

The Show Set Colors button will create small colored squares for each set on applicable paths and activities, shown below. You can hide these squares using Visio layers(button on home tab), all you need to do is hide the layers “MixHighlight” and “HighlightShape” layers.



## Isolate Sets Isolate Set

Select a Set Center and click the 'Isolate Set' button. This will fade away any paths or centers that are not on that set's production path. Set B was isolated in the example below.



## Display Gates Display Gates

The Sets Allowed variable can be edited directly on each sequence arrow, however, for complex maps this can be very tedious. The Display Set Gates command makes this much easier.

The command shows all set gates on all sequence arrows. Open gates are shown as squares and closed ones as circles. A right-mouse command, Set Gate Open, can be toggled to open/close set gates.

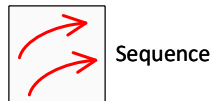
## Add/Remove Sets Add Set Remove Set

These commands allow you to select a set center, and sequence arrows, and then click the Add/Remove set buttons to open/close set gates.

## 3. Sequence

### Overview

Many of the calculations on the value stream map rely on the process sequence. This is defined on the map by using tag sequence arrows.



Sequence

First, select the activity shapes using the shift key in the CORRECT sequence, and then click this button to create sequence arrows. This can be done a few shapes at a time. Note that the 'Check' section in the toolbar does have a hide/show for sequence arrows. No sequence arrow loops are allowed.



Seq One to Many

Select the source activity and using the shift key, select all downstream activities to connect the source to with tag sequence arrows. This button is located in the dropdown of the Sequence button.



Seq Many to One

Using the shift key, select the source activities from which to originate tag sequence arrows to a single downstream activity (the final shape you select while still holding down the shift key). This button is located in the dropdown of the Sequence button.



Auto Pipe

Select the activity from which to originate the pipe arrows, then hold down the shift key and select one or more activities to pipe to.



Auto Pipe - Many to One

Select the activity to be at the head of the pipe arrow(s), then hold down the shift key and select one or more activities to pipe from.



Auto Path

Identifies each unique path through the value stream (via sequence arrows) and adds path ID's to steps.



Auto Tag

Assigns tags in the order provided by sequence arrows.



Tags

Set tag defaults that are used for auto-numbering shapes as they are dropped on the page.



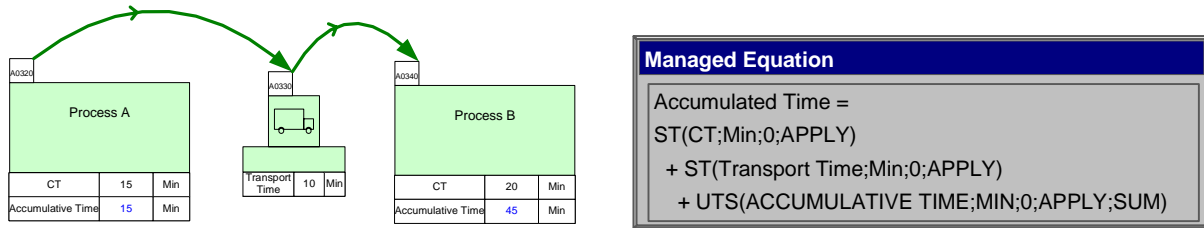
# Sequence



Sequence

The Tag Seq Arrow is used with Managed Equations and allows you to perform upstream and downstream calculations. This example shows how Accumulative Time can be calculated along the value stream with the use of Tag Seq Arrows.

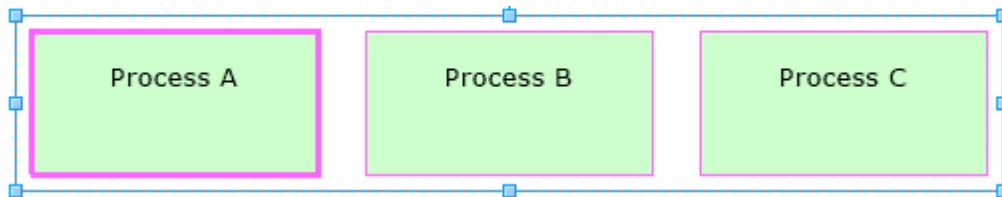
A0340



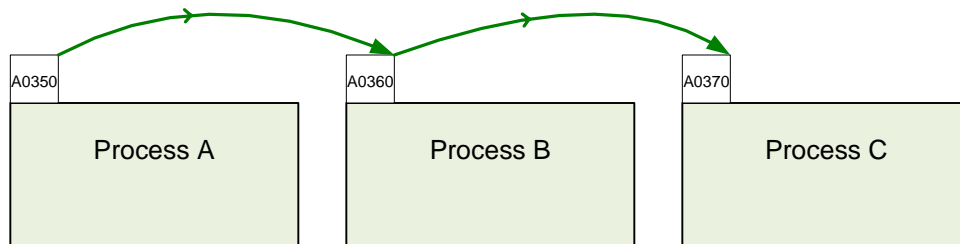
To attach tag sequence arrows to tags, select a series of tags (or activities) in the correct sequence, and then click the Sequence button in the toolbar.

## Try this:

1. Select the shapes in the correct order using the SHIFT key.



2. Click the Sequence button in the toolbar to automatically create sequence arrows to the shapes. If these shapes do not already have tags, using the Sequence button after having selected them in order will automatically attach tags to each shape.



## Auto Pipe



Auto Pipe



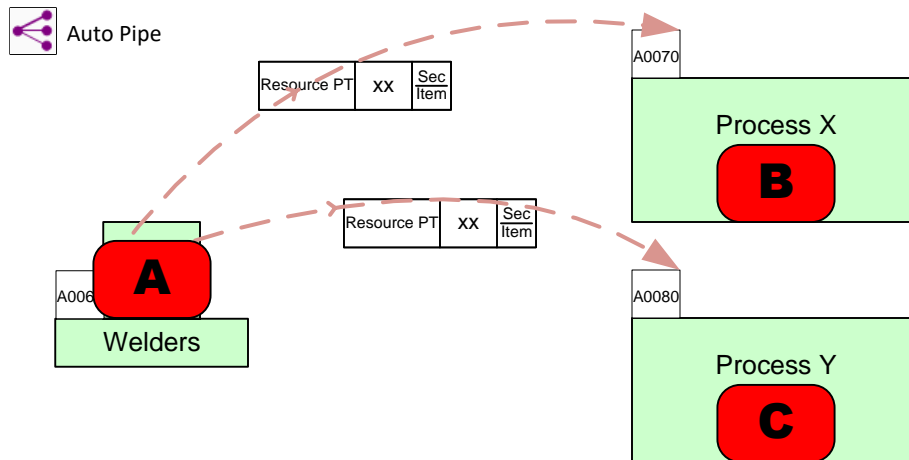
Auto Pipe – Many to One

Pipe arrows are special arrows which allow data to flow between eVSM centers. Example usage: allocate resource hours to an activity center, or collect costs from select activities.

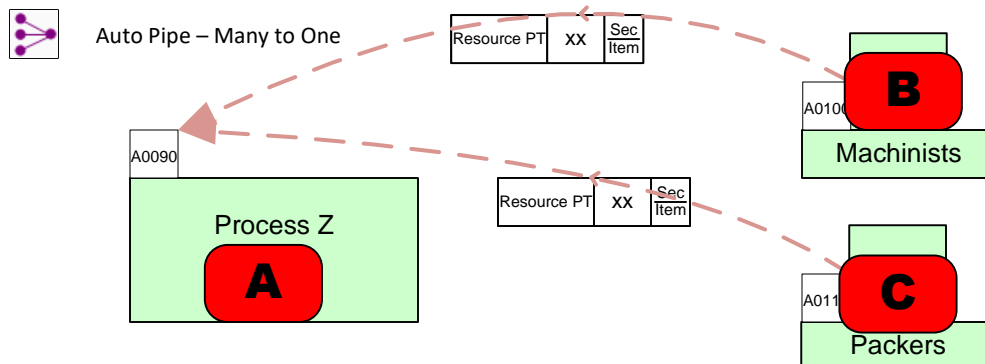
The Auto Pipe functions allow you to automatically create pipe arrows from one center to another, one to many, and many to one.

### Try this:

1. To use this function, select the center from which to originate the pipe arrows, hold down the SHIFT key, and then select one or more centers to pipe to. Resource A was selected, and then while holding the SHIFT key, Activity B and C were selected.
2. Click the “Auto Pipe” button to automatically create pipe arrows from one activity to many activities.
3. Fill in the pipe arrow data of Resource Process Time. This shows that Resource A is used for 2 minutes per item for Activity B, and 5 minutes per item for Activity C.



Alternately, you can use the Auto Pipe – Many to One button, which is in the dropdown menu of the Auto Pipe button, to create pipe arrows from multiple Resources into an Activity.



## Auto Path



After your shapes have been sequenced, there is an option to automatically generate the path IDs for all the possible paths on the map based on the sequence arrows. After shapes have been sequenced using the “Sequence” button in the toolbar, click “Auto Path” in the toolbar. This will automatically give paths to the shapes in the order that they have been sequenced. If you make changes to the sequence, just click Auto Path again to update the path IDs.

**Warning:** Auto Path regenerates path numbers for all shapes connected by sequence arrows, and does this without consideration of the current path number on these shapes.

## AutoTag Auto Tag

A quick way to tag activities in order of the sequence arrows is to use the eVSM Auto Tag button.

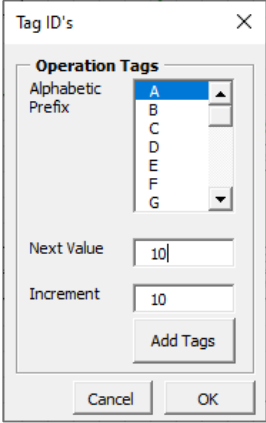
The Auto Tag function works by re-tagging the whole map, so it disregards what you want as the “Next Value” in the Tag and Paths form. It orders the shapes by tag sequence arrows and then z-order (for un-sequenced rows). It then goes through the sequence, and increments each tag by the user-assigned interval (in the Tag and Paths form), with numbers starting at 0010 for each letter prefix.

Tag numbers can also be named manually by double-clicking to edit the text, however, the name must be unique, and must be one letter followed by four numbers.

Charts are generally plotted in alphanumeric tag sequence, and the Auto Tag button does a great job to help charts plot in upstream to downstream sequence.

## Tags Tags

You can set preferences for activity tag numbering using the “Tags” form.



To add or change an Operation Tag, first select the shapes you wish to attach a tag shape to. Click on the “Tags” button in the toolbar. After you choose a tag prefix letter, next value, and increment value, click the “Add Tags” button.



## 4. Validate

### Overview

This section contains checking functions to validate the model ahead of analysis.



Check

Must do this before using the Solve button. Performs numerous checks on the model and reports back any problems.



Show Seq.

A visibility toggle switch for tag sequence arrows. Generally recommended that you work with these visible so you can fix sequence arrows as you modify the map.



Show Pipes

Just a visibility toggle switch for pipe arrows. Generally recommended that you work with these while visible so you can fix pipe arrows as you modify the map.



View Paths

View and highlight all the paths on the map.



Same Paths

Select centers on map and then click the “Same Paths” button. This will highlight the common paths that pass through ALL of the selected centers.



All Paths

Select centers on map and then click the “All Paths” button. This will highlight the paths that pass through ANY of the selected centers.



Clear

Removes various highlighter shapes used for glue display, or problems displayed by the software.

## Check Check

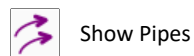
The Check function checks the map and highlights (with a red circle) some common problems. It also automatically fixes somethings such as unglued operation tags, unglued data shapes, and duplicate data shapes.

Examples of problems the Check function will report:

- Missed mandatory data values
- Orphaned data shapes
- Unresolved units (missing units convertors)

When the Check function finds a problem that requires attention, it provides useful information to fix it. Be sure to read this information so you can quickly resolve the issue.

## Hide/Show Sequence Arrows and Pipe Arrows



## Clear all Highlighting Clear

The Clear button clears the highlighting generated by the Check function, path highlighting, Set colors, etc.

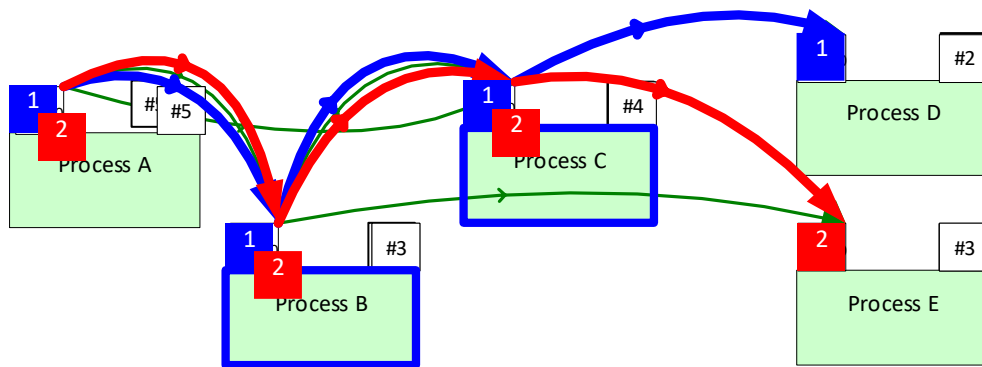
## View Same Paths



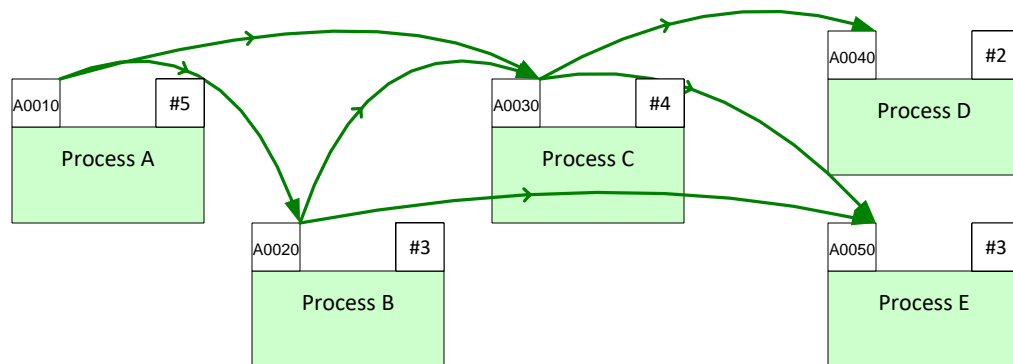
If you have various paths on the map, and want to see the common paths that go through multiple centers, then use the Same Paths button in the toolbar.



You must first select which centers on the map you'd like to view the paths for. Hold down the SHIFT key if you want to select more than one center. In this example below, Process B and Process C are selected.



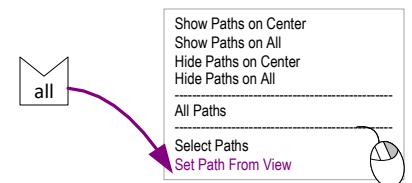
After the Same Paths button is clicked, Process B and Process C are highlighted, reminding you which centers were selected. Only the paths that go through both centers are highlighted, which are 1 and 2, shown in blue and red.



To start a view with different centers, click the Clear button in the toolbar to clear all highlights. Alternatively, if you want to add centers to the original two you selected, just hold down the SHIFT key and select the new centers to add. Then click the Same Paths button again.



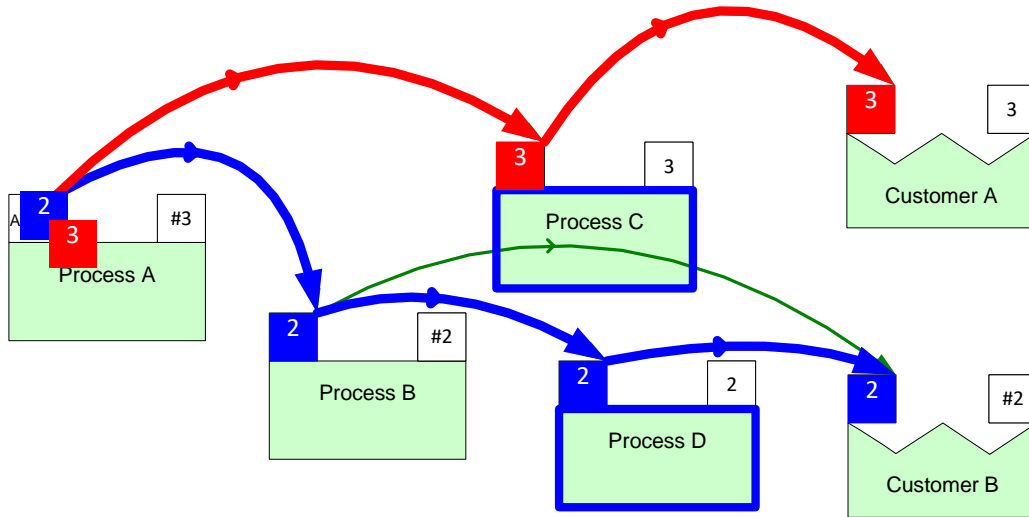
If you have a view of the paths that you would like to set into a Path Filter for a summary or chart, use the right-mouse option on the Path Filter, and select "Set Path from View". This was done for the example view above for paths 3 and 4.





## View All Paths

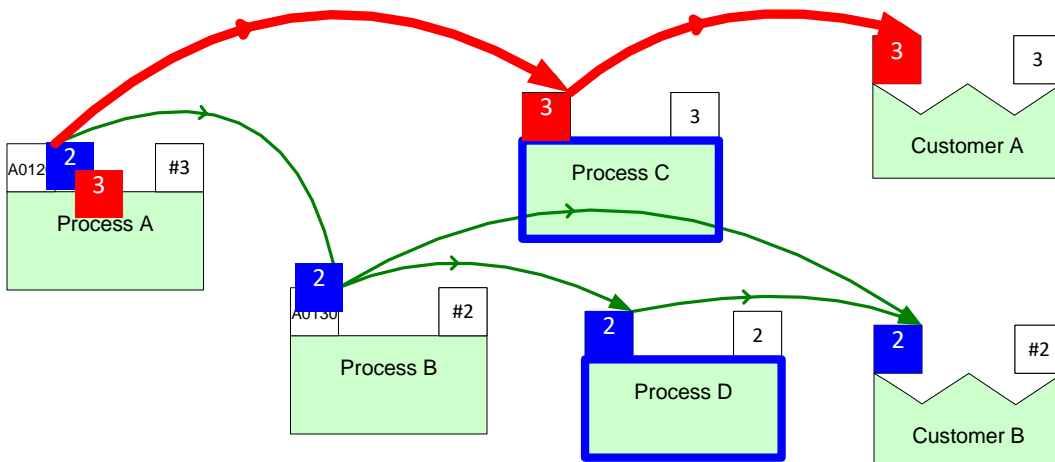
If you have various paths on the map, and want to see all of the paths that go through multiple centers, then use the All Paths button in the toolbar. In the example below, Process C and Process D were selected using the SHIFT key, and then the All Paths button was pressed. All of the paths are highlighted from Process C (3), and Process D (2).



The right-mouse option on the Path Filter of “Set Path from View” will work for this function as well.

## Highlight Path Arrows

If you have multiple paths highlighted, like the red, green, or blue boxes, you can view their path by highlighting the sequence arrows in the matching color. If you right-click on any of the highlighted path boxes, there is an option to “Highlight Path Arrows”. This has been done for path 3.



# 5. Calculate

## Overview

This section links the map to an underlying Excel spreadsheet to perform lean calculations with the results displayed back on the map.

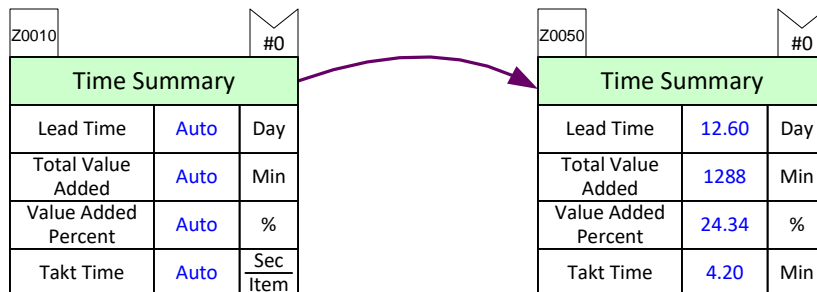
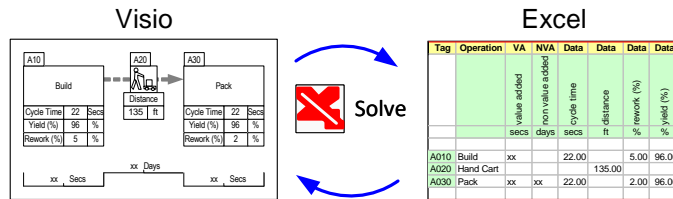


Solve

Writes data out to excel, performs any calculations specified via managed equations, and, displays results back on the map. Also updates gadgets and charts on the map.

## The eVSM Calculator

The eVSM Solve button in the toolbar provides bi-directional transfer of information between the map and a spreadsheet. When the button is clicked for the first time in a map, eVSM automatically creates a new Excel file and puts it in the same folder that the Visio file is saved in. The function only operates on the current map page. All blue “Auto fields” will calculate to the appropriate values on the map.





## 6. Visualize

### Overview

The view capability simplifies maps with better utilization of map space. it also allows the visualization of the numbers using gadgets and charts.



Views

Opens a window for modifying variable visibility settings for the map.



Gadgets

Allows management of gadget families, providing geometric views of key numbers of the map with color coding, scale factors, and hide/show.



Update

Updates all the geometric gadgets based on the current map values.



Filter

Lets you hide Quick Centers on your map by having their corresponding rows in Excel hidden. This lets you keep as much data as you want in Excel, and use Excel's built-in filtering tools to control visibility in eVSM.

You can make a view permanent using the 'Copy Filter View' button, and make calculations on your map using that view.

### Hiding & Showing Variables



Views

To prevent maps from looking crowded, there are a large number of variables in eVSM that are hidden. The views capability allows you to manage which variables you would like to be hidden/visible on the map.

#### Try this:

1. Click the Views button in the toolbar.
2. This will open the form below which allows you to manage the visibility of variables on the map. The dark gray boxes indicate the hidden variables on the map, and white boxes represent the visible variables on the map.
3. Check the boxes of some variables that are currently grayed out.
4. Click OK and the changes will apply to all centers on the map.

Switch off to hide all data shapes on map

Variable Visibility

Center/Addon Name	Variable Name(s)	Visibility	Show in List Vars
[-] Customer Center	Customer Demand	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Effective Demand	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Share %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
[+] Carry Cost Factors			
[+] Takt Center			
[+] Outside Center			
[-] Inventory Center	Added Cost	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Annual Inv Carry Cost	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Computed Inv Demand	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Cumulative Cost	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	End Time	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Non Value Added	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Duration	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Inventory	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Inventory Value	<input type="checkbox"/>	<input checked="" type="checkbox"/>

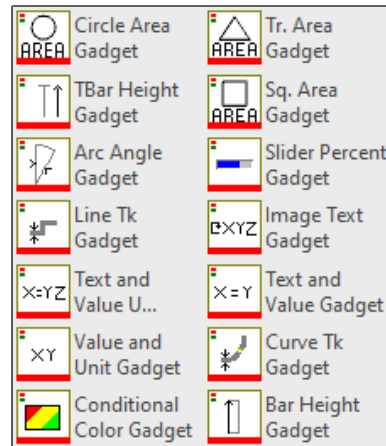
Default Variable Visibility   Hide Auto Variables   Cancel   OK

Reverts all Views settings to the Default, as they were when the map was first started.

Hides all the (blue) calculated data shapes

## Using Gadgets to Visualize Data Gadgets

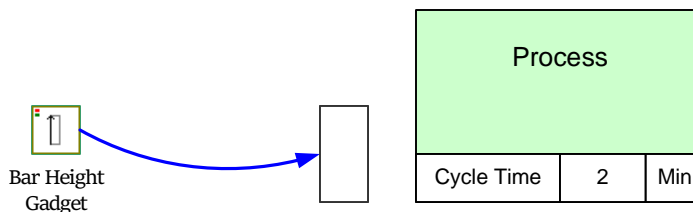
Any data on the map can be linked to visual gadgets that change in size and color with change in the data. Some gadget types are shown below:



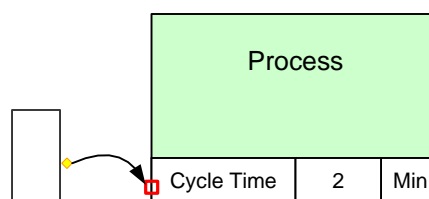
Each gadget has exactly one size parameter that can be tied to a data value on the map. Here's the typical means used to apply and manipulate gadgets:

### Try this:

1. Drag out the gadget from the eVSM Visuals stencil and position it near the data value with which it will be associated (in this case the "Cycle Time"). In this example, the Bar Height Gadget is being used.

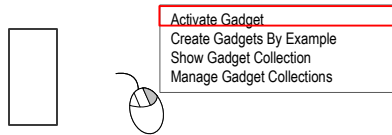


2. This system shape will be automatically dropped on the page the first time a gadget is used. If you copy a map to a new page, make sure you also copy this shape, because it is used to hold gadget data for the map.
3. Select the gadget, drag and glue the gadget's yellow flying connector to the side of the NVU data shape (avoid gluing to the top or bottom of the data shape).

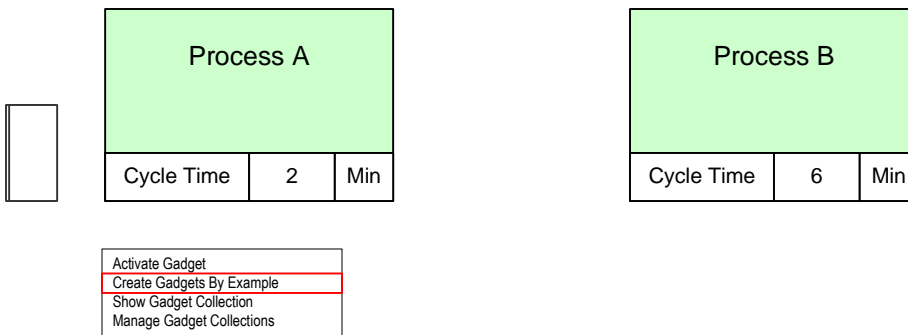


- Right-click on the gadget and use the “Activate Gadget” option to create a new gadget collection. The collection name will be “Bar\_Cycle Time”. The name is created from the gadget type and the data variable name.

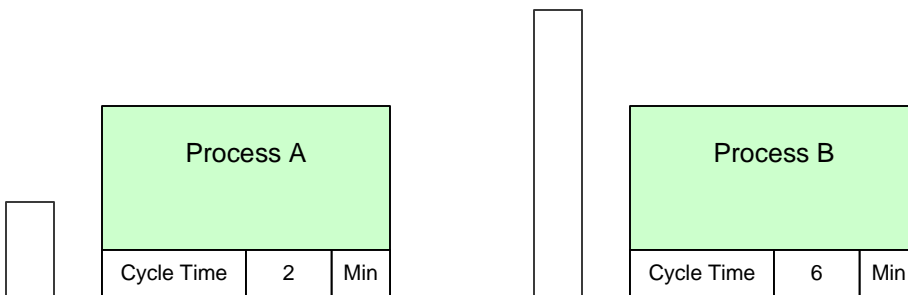
A gadget can only belong to one collection. Each collection can only have a single type (e.g. “Bar”) of gadget.




- You can change gadget scale factors and color code them by modifying the properties of the associated Gadget Collection. You can easily create additional gadgets tied to other instances of the same data on the map. Just click on the gadget and use the right mouse button to select, “Create Gadgets By Example”, to create the gadget for Process B below.

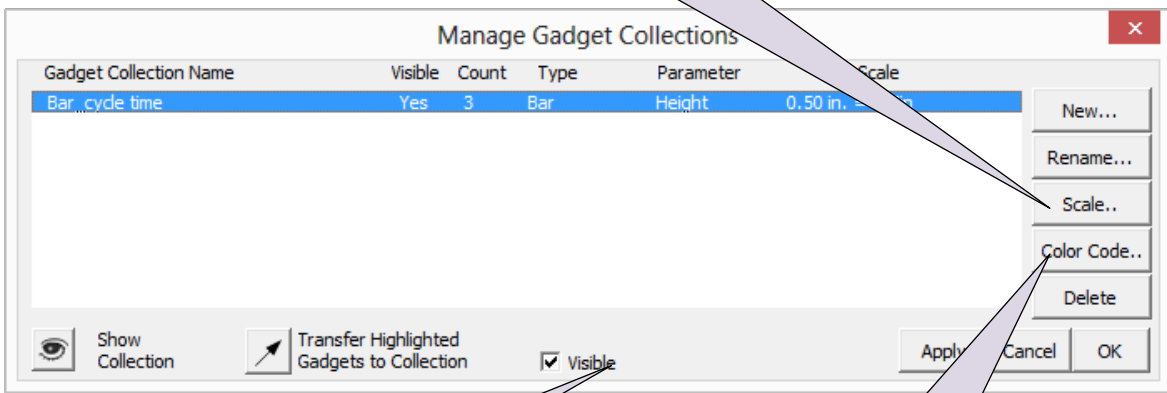


- Note that the new gadget is automatically positioned, scaled, and put into the same “Bar Cycle Time” collection. If you do not wish to have new gadgets created for the whole map, first select the original gadget, then sub-select an area of the map before using the “Create Gadgets By Example” menu.



- To modify a gadgets scale factor, or to color code it, you need to change the properties of its associated collection. Right mouse click on the gadget and select “Manage Gadget Collections,” or click the Gadgets button in the toolbar.  Gadgets

You can modify the scale factor for a collection that controls gadget size in relation to data value. Use the Apply button to see the new gadget sizes on the map before exiting the form.



To hide or show gadgets in a collection, first select the collection from a list, then click this button.

Note: the collection list has a column indicating visibility status.

You can color code the gadget fill and font colors based on the value of the data to which the gadget is glued. You can also simply “inherit” the color from the data shape, or assign a color to a gadget manually.



## Gadget Tips:

- Gadgets have a single size parameter that will scale to the data value in which a gadget is glued via the flying yellow connector.
- Gadgets are typically glued to NVU, VA or NVA shapes. When gadgets in a collection are glued to data shapes with different units, Units Converters are needed on the map to compute the correct scale factors.
- Gadgets have to belong to a collection. They can be put into a collection using the Activate Gadget command, or by transferring them into a collection via the Manage Gadgets form.
- Gadget scale factors and color coding can be controlled via the Manage Gadgets form.
- An easy way to create a gadget “set”, after creating a first gadget, is to use the Create Gadgets By Example in the right mouse button menu.
- The Visible switch on the Manage Gadgets form is very useful in showing different metrics on the map in a presentation environment.
- See the “Examples” section on the eVSM help site ([www.evsm.com/help](http://www.evsm.com/help)) for usage examples of the different gadget types.
- A starter set of gadgets is provided with eVSM. Additional gadgets can be requested by contacting [support@evsm.com](mailto:support@evsm.com).

## Image/Text/Value/Unit Gadget

There are three gadgets that can be used to visualize hidden data in shapes on the map:

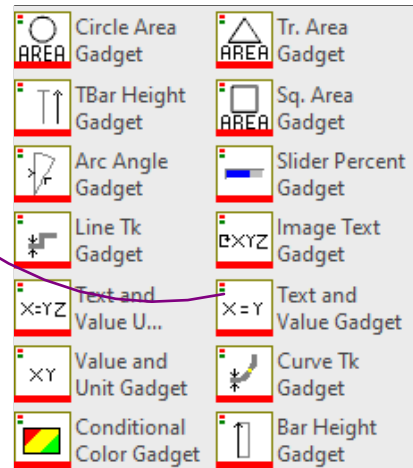
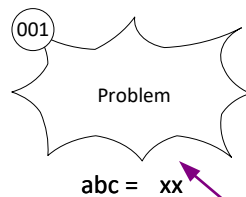
Image Text Gadget: ☆ Name = Value Unit

Text and Value Unit Gadget: abc = xx Unit

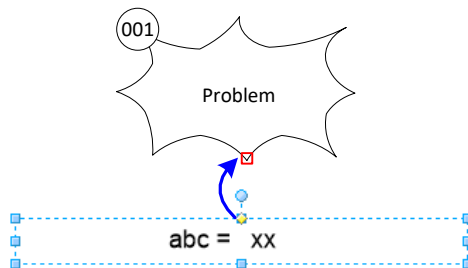
Text and Value Gadget: abc = xx

For example, if you have kaizen bursts with various properties assigned, you can visually see them with the combination of image, text, value, and units. You can customize the font, color, and size of the gadget to apply map wide. The instructions below will explain how to visualize the Impact number with the Text and Value Gadget.

1. The kaizen burst must have the properties you want to visualize already assigned. From the eVSM Visuals stencil, drag out the Text and Value Gadget and place it near the starburst.



2. Select the gadget, drag the yellow flying connector, and glue it to a glue connection along the edges of the starburst. Make sure a glue connection appears.

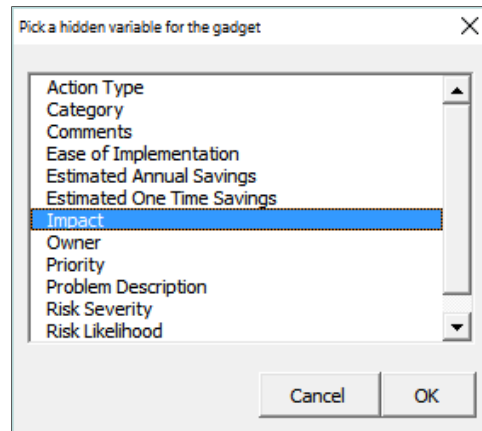


3. To change the “abc” to “Impact”, click the abc text box, and click the “F2” button on your keyboard to edit the text. This is where you can also customize the font size, color, and positioning as the standard.

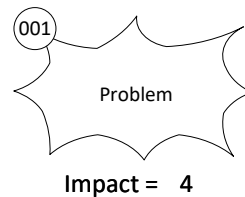
Impact = xx

4. Right-click the gadget and select “Activate Gadget”.

5. Select “Impact” from the list.



Once you click OK, the Impact number from the kaizen will be input into the gadget.



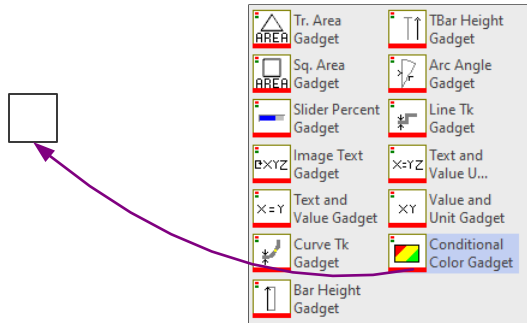
6. To apply this gadget to the rest of the kaizens on the map, right-click the gadget and select “Create Gadgets by Example”. You can manually move the gadgets, otherwise they will be created in the same location in relation to the starburst as the original one.

7. If you change any of the values shown by gadgets, you can click the “Update” button in the eVSM toolbar to update all gadget values.  Update

# Conditional Color Gadget

The Conditional Color Gadget allows the ability to color code values based on value ranges.

1. Drag out the Conditional Color Gadget from the eVSM Charts and Gadgets stencil.



A0020		#0
Process		
1.00		
Cycle Time	15	Sec
Qty Per Cycle	1	Item
OEE Percent	95.00	%
Scrap Percent	5	%

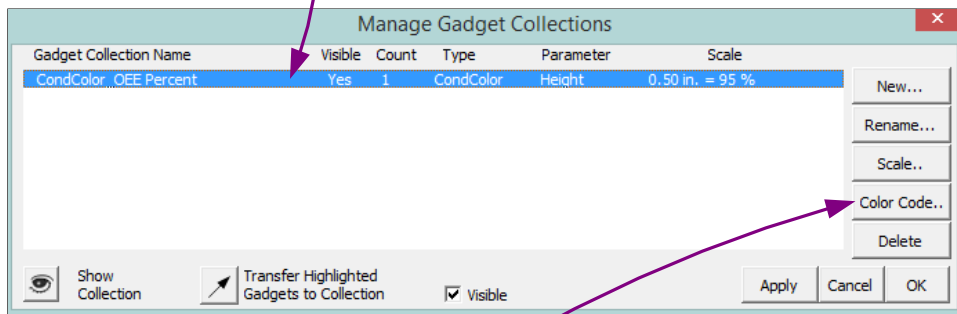
2. Click on the gadget, and use the yellow flying glue connector to glue to any side of a variable. Make sure a glue connection appears, confirming that it is glued.

3. Right-click the gadget and click “Activate Gadget” if there is only one on the map, or select “Create Gadgets by Example” if you would like to add a gadget for that variable map wide.

15.00	Sec
-------	-----

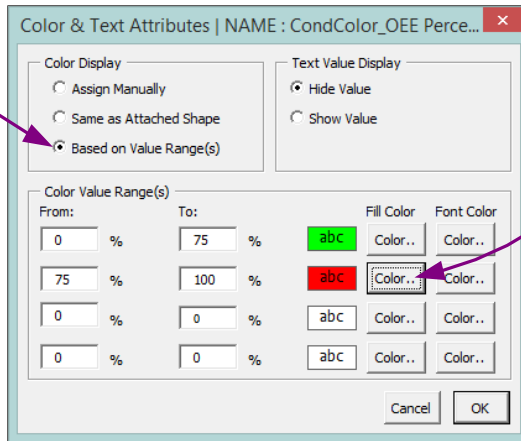
4. Click the Gadgets button in the toolbar. Gadgets

5. Select the Gadget collection.




6. Click the “Color Code” button.

7. Select “Based on Value Ranges(s).”




8. Fill in the desired ranges with the fill color.

9. The Gadget will change to the color chosen. If values change, so will the gadget color after Solve is run.

A0030		#0
Process		
 1.00		
Cycle Time	15	Sec
Qty Per Cycle	1	Item
OEE Percent	95.00	%
Scrap Percent	5	%

15.00	Sec
-------	-----

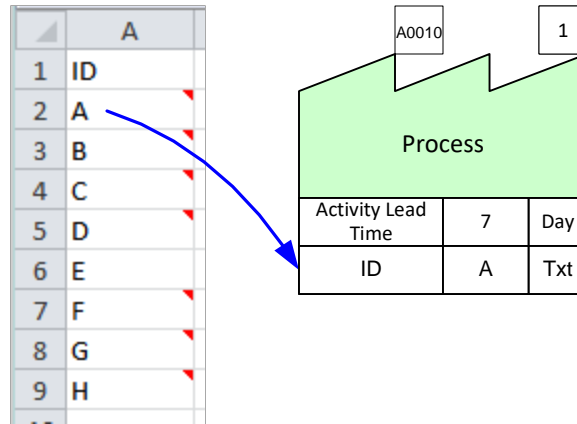
## Filtering Views

The Filter button in the eVSM toolbar lets you hide Quick Centers on your map by having their corresponding rows in Excel hidden. This lets you keep as much data as you want in Excel, and use Excel's built-in filtering tools to control visibility in eVSM.  Filter

## Configuring Excel

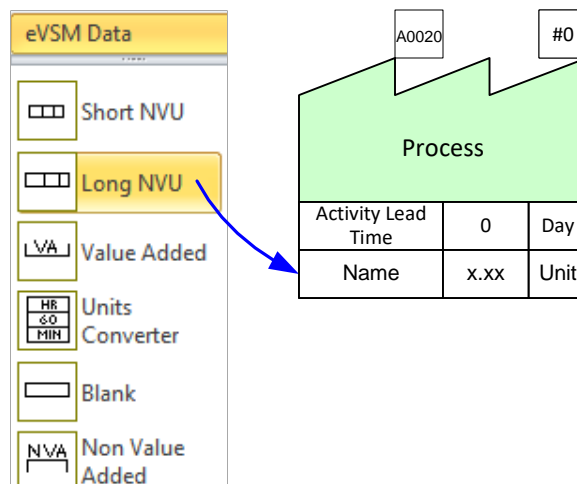
The corresponding page name in Excel must be the page name you are using in Visio + “\_ID”. So if the page name in Visio was “VSM”, then the Excel page name needs to be “VSM\_ID”.

The data must be started on row 2, with headers on row 1, and the first column named “ID” to identify the centers. Below is an example of the Excel sheet with the corresponding ID on the Activity Center.

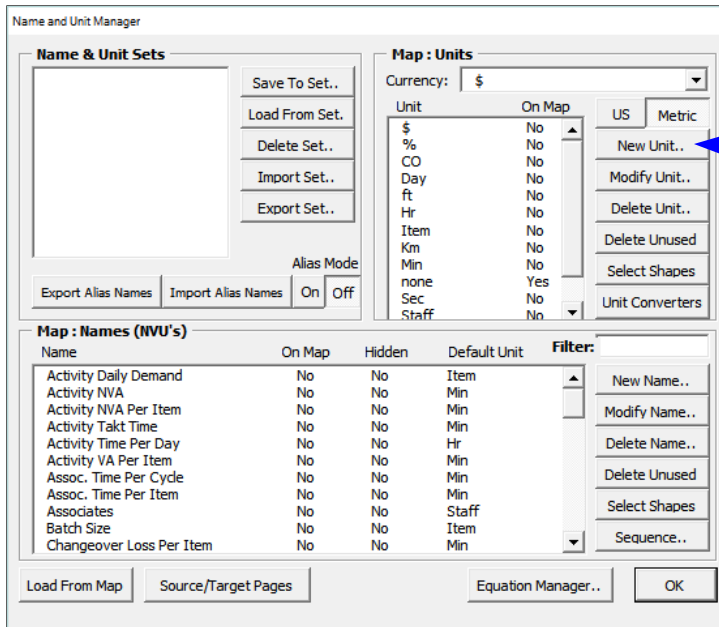


## Configuring Visio

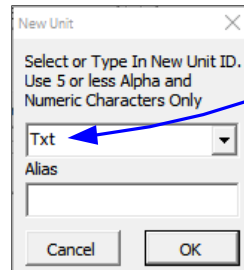
1. In order to specify the Quick Centers from Visio to Excel, an ID shape must be glued to it. From the “eVSM Data” stencil, drag out the “Long NVU” shape and glue it to the center.



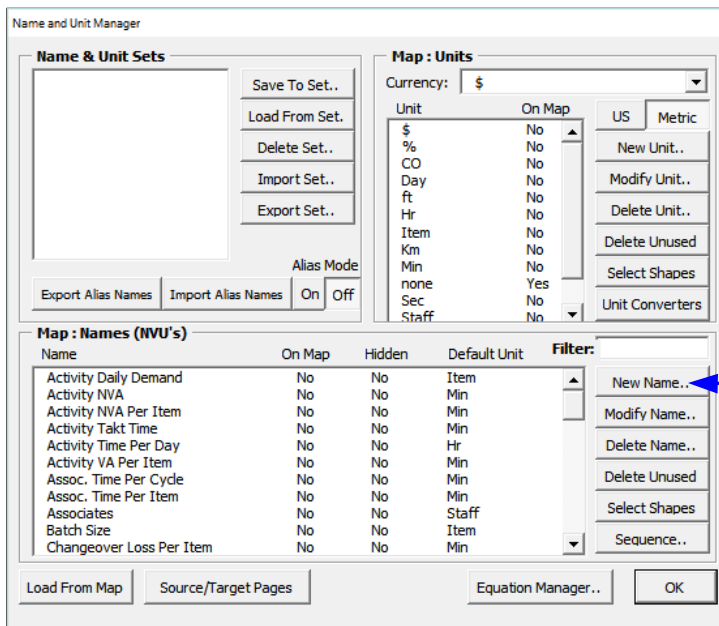
2. Then click the NUM button in the toolbar to create an ID variable.  NUM



3. Click the “New Unit” button.



4. Enter the unit name of “Txt” and then click OK.



5. Click the “New Name” button.

New Name

**Name**

Select or Type Name: ID

Name Graphic (Optional): No Graphic

Name Alias:

**Default Unit**

Numerator: Txt

Denominator: none

Number Format:

**Description**

Cancel OK

6. Enter the Name "ID".

7. Select the new unit "Txt" that was created. Then click OK.

8. Double-click on the Name field, and select the newly created "ID" NVU. Then click OK.

A0010 #0

Process

Activity Lead Time	0	Day
Name	x.xx	Unit

Select Name

Double-Click To Select Name

- Cycle Time Per Item
- Daily Associate Defect Time
- Daily Associate Time
- Daily Available Time Per Assc
- Daily Time Per Associate
- Defects Loss Per Item
- Defects Percent
- Demand Percent
- DownStr Loss Per Item
- Downtime Loss Per Item
- Downtime Percent
- ID**
- Inventory
- Inventory Daily Demand
- Inventory Value
- Lead Time
- Name
- Non Value Added
- OEE Loss per Item
- OEE Percent
- Queue
- Rolling Defect Percent
- Shortage Loss Per Item
- Shortage Percent
- Single Item Value

Manage Names and Units..

Cancel OK


9. In the x.xx field, type the unique ID for that center.

A0020 #0

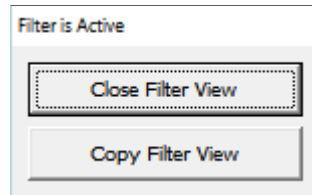
Process

Activity Lead Time	0	Day
ID	A	Txt



10. Once you have attached IDs to the desired Quick Centers, and hidden the rows in Excel for the view you want, then go back to the Visio file and click the “Filter” button.  Filter






11. Once that view of the centers is configured on the page, a message will appear asking to close the filter view, or make a copy of that filter view to another page so you can make calculations on your map using that view.



## 7. Improve

### Overview

Allows the addition of improvement ideas on the map supported by the Impact matrix, Risk matrix, and Kaizen Report.

	Kaizen Properties	Select the kaizen/project property set for the map.
	Renumber Kaizens	Renumber the Kaizen shapes in the order they are selected. Numbering starts at 001, and any un-selected Kaizen shapes get numbered after the selected Kaizen shapes.
		
	Kaizen Export	Creates an Excel spreadsheet of Kaizens with their property data.
	Kaizen Import	Reads an Excel spreadsheet of Kaizens with property data back to eVSM.

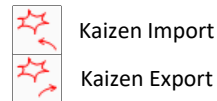
### Kaizen Standardization

You can now standardize your kaizen custom properties by selecting the set of data for the Kaizens on the map. The Kaizen Properties button in the toolbar will bring up a form allowing you to select which properties to standardize on for the map.

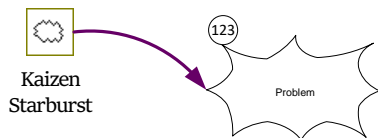


Kaizen Properties

## Generating Kaizen Report



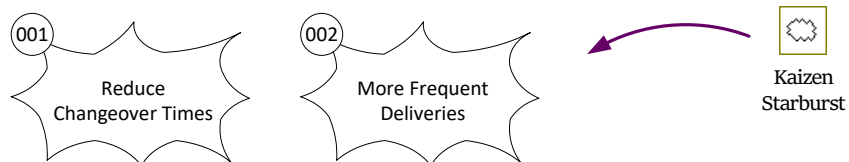
The Kaizen Export toolbar button scans the map for all Kaizen shapes (Starbursts), and exports custom properties associated with the shapes to Excel spreadsheets (Pagename\_Kaizen). This Excel spreadsheet will show the connectivity of Kaizen starbursts with activities and other Kaizen starbursts. If you want to edit the custom properties data via Excel, you may do so, and import the data back into eVSM using the Kaizen Import button.




Problems can be documented using Kaizen starbursts, which can now be connected to activities as well as to other Kaizens.

### Try this:

1. Open a blank Visio drawing page with the Quick Manufacturing stencil.
2. Drag out an Activity Center.
3. Drag out two Kaizen Starbursts from the eVSM Kaizen stencil. Edit the descriptions to “Reduce Changeover Times” and “More Frequent Deliveries”.



4. Click the Kaizen Properties button in the toolbar to bring up the form to see which properties are available as well as a description of each.  Kaizen Properties

Double-click the word “Visible” to toggle all of the properties on or off.

Check or uncheck the boxes to add/remove properties to the standard custom properties list when editing each kaizen on the map.

The 'Kaizen Properties' dialog box is shown. It has a table with columns for 'Visible', 'Name', and 'Description'. The 'Visible' column has a sub-column for 'Burst Cloud'. A purple arrow points to the word 'Visible' in the top left of the table. Another purple arrow points to the 'Comments' row.

Visible	Name	Description
<b>Burst Cloud</b>		
<b>Description</b>		
<input checked="" type="checkbox"/>	Problem Description	Description of the problem being addressed
<input type="checkbox"/>	Deliverable	What is the deliverable result of the project
<input type="checkbox"/>	Resources	What resources are required to complete the project?
<input type="checkbox"/>	Sustainment Plan	How will the project changes be sustained long-term?
<input checked="" type="checkbox"/>	Comments	Misc comments about issues, etc...
<b>Finances</b>		
<input type="checkbox"/>	Estimated Cost	How much will the project cost?
<input type="checkbox"/>	Cost Incurred	Cost incurred up to this point in project execution
<input checked="" type="checkbox"/>	Estimated One Time Savings	One-time savings resulting from the project

Buttons for 'Cancel' and 'OK' are at the bottom right.

5. Click the Kaizen Export button in the toolbar to create a Kaizen Report in Excel.



Kaizen Export

The Excel file looks like this

Values can be edited here and then imported into the map with the Kaizen Import button

1	B	C	D	E	F	G	H	I	J	K	L
	ID	Center Type	Kaizen	Data	Comments	Data	Data	Data	Data	Data	Data
2	Kaizen No.	Kaizen Type	Kaizen	Problem Description	Comments	Estimated One Time Savings	Estimated Annual Savings	Impact	Ease of Implementation	Priority	Unit
3	Kaizen Type			Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit
4											
5	1	Starburst	Excess inventory					1	1	1	1
6	2	Starburst	Defects caught too late					1	1	1	1
7	3	Cloud	Add a new Milling station					1	1	1	1
8											
9		Add Center..									
10		Add Center..									
11		Add Center..									

Additional kaizen starbursts and clouds can be added here. These will be drawn at the bottom of the page on Import

Facilitates some formatting control of the Kaizen report such as hide columns, text orientation, fill color.

The \*\_bk worksheet maintains the last copy of Excel report. This can be useful if you have made some changes in Excel and then run another Kaizen Export before importing the Excel changes

# Kaizen Impact Matrix

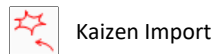
The Kaizen impact matrix was introduced in a late version of v5 and uses the “Impact” and “Ease of Implementation” custom properties of kaizen starbursts to plot an impact matrix. The goal of the matrix is to help select projects for implementation to improve the value stream.

The mini-Kaizens in the matrix copy the custom properties of the originals (map Kaizens). They are numbered based on the ID’s of the Kaizens on the map (ID’s are circles glued to the top left of the kaizen shapes). A right-mouse click on any of the mini-Kaizens allows for selection and highlighting of the parent map kaizen.



## Try this:

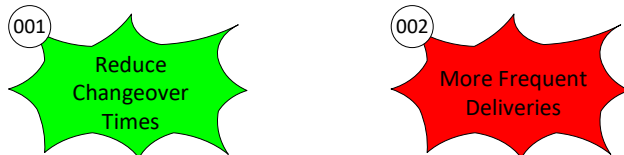
1. Change the Impact and Ease of Implementation properties of each starburst by right-clicking the starburst and selecting “Edit Kaizen”. A form will appear allowing you to edit the various properties. Similarly, you could also edit the values via Excel spreadsheet and use the Kaizen Import button to bring the values back into eVSM.



Impact (1-5): What impact this project will have on the value stream.  
1 = Low, 5 = High

Ease of Implementation (1-5): How easy/difficult will it be to implement this measurable improvement to the Value Stream?  
1 = Difficult, 5 = Easy

2. Change the fill color of each starburst if you wish.

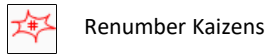


3. Drag out the Kaizen Impact Matrix icon from the eVSM Kaizen stencil and right-click to plot the matrix, which is shown on the next page.



4. If map Kaizens are modified, then the Impact matrix can be updated by selecting it with a right mouse click and the command “Update Chart”.

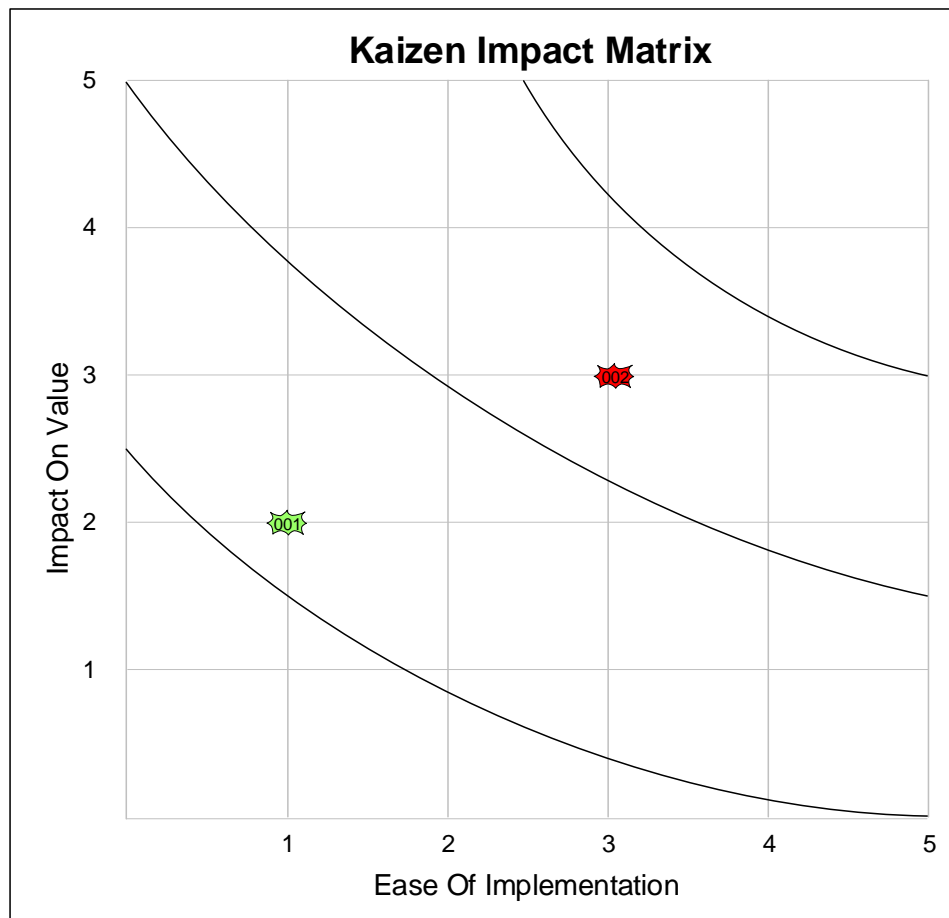
5. Using the Renumber Kaizen button in the toolbar, Kaizens can be renumbered in order starting at 001. Select the starbursts in the sequence you want using the Shift key, and then click the Renumber Kaizens button. Any un-selected kaizen shapes will get numbered after the selected kaizen shapes.



6. Drag out the Kaizen Key Creator from the eVSM Kaizen stencil to differentiate each starburst by description, which is shown under the matrix.



Kaizen Key Creator



**Kaizen Bursts**

(001) Reduce Cycle Time

(002) Incorrect Assembly

## Kaizen Risk Matrix

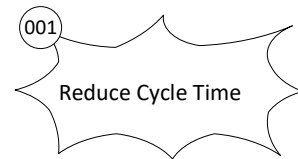
The Kaizen Risk Matrix plots the kaizen starbursts based on the risk likelihood and risk severity values set up in the “Kaizen Properties” form brought up from the right-mouse menu. It also multiplies the values together to create an RPN number between 1 to 25.

Risk Likelihood (1-5): What is the likelihood of risk to the Value Stream if this project is not done/issue is not addressed?  
1 = Low, 5 = High

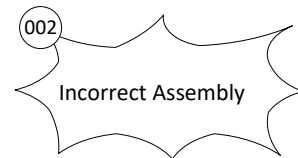
Risk Severity (1-5): What is the likelihood/impact in the Value Stream if this identified risk did actually occur?  
1 = Low, 5 = High

### Try This:

1. Drag out a Kaizen starburst shape from the eVSM Kaizen stencil. Type “Reduce Cycle Time” into the starburst. Enter the values for the likelihood and severity by clicking “Edit Kaizen” via right-mouse menu.



2. Drag out another Kaizen Starburst. Type “Incorrect Assembly” into the starburst. Enter the likelihood and severity values via the Edit Kaizen form.

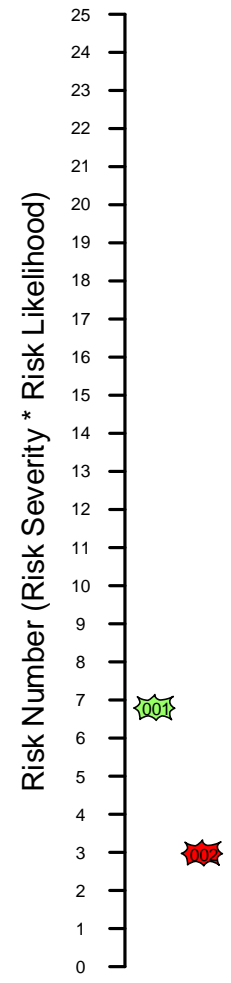


3. Drag out the Kaizen Risk Matrix from the eVSM Kaizen stencil.



4. Right-click the chart shape to plot.

Kaizen  
Risk  
Matrix





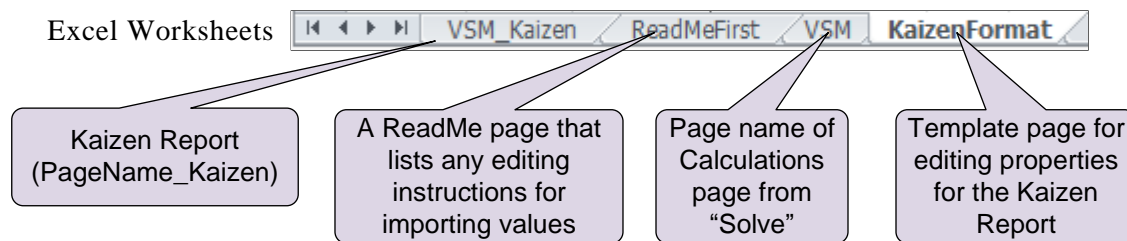
## Formatting the Kaizen Report in Excel

The Kaizen Report in Excel can be formatted with custom properties of color, font, visibility, and row height. In order to be able to edit this formats, you need a specific Excel file. To get this file in the correct location for usage:

### Try This:

1. Create a new folder called "eVSM Standards" at the same level as the "eVSM" folder on the C: drive>Program Files (x86)
2. Copy the templates file called "eVSMExcelTemplate.xlt" from the C:Drive>Programs Files (x86)>eVSM>Setup>Resources folder to the newly created "eVSM Standards" folder
3. Customize the templates file as needed by following the instructions below

Once you have clicked the Kaizen Export button in the toolbar and your Excel spreadsheet appears, there should be a page named "KaizenFormat". The changes made on this page will effect the actual report which is page named "PageName\_Kaizen".



In the "KaizenFormat" page in the spreadsheet:

- D1: Change the font color of this cell to set these properties for all Data headers
- D2: Change the font color, boldness, or italics of this cell to set the default for the Property names
- D3: Change for the fill color or row height of this cell to set these properties for all units
- B5: Change the fill color of this cell to set this color for all kaizen numbers
- Each Property header can have a unique fill color, set by this page
- To hide an entire row or column, right-click the row number or column letter and choose "Hide". To unhide that row or column, select the row before and after the hidden one by holding down the SHIFT key, or the column before and after the hidden one, and then right-click and select "Unhide".

## 8. Extras

### Overview



Settings

Change settings for this document that affect some features and performance of eVSM.



Migrate

Provide utilities for upgrading older eVSM maps to v12.



Move Data

Allows you to move your map data to a new page using a new stencil.



Map Copy

Create a duplicate of all or a part of the current page to another page or another file.



Map Extract

Extract the selected page to a new file.

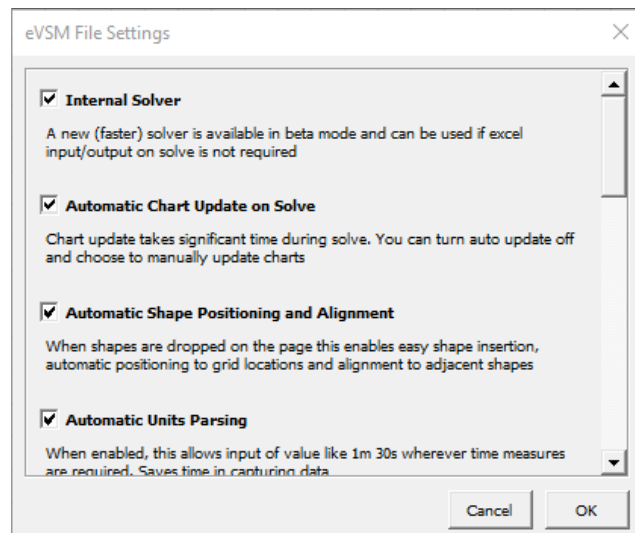
### Settings-



Settings

Change settings for this document that affect some features and performance of eVSM.

Click the 'Settings' button to access the File Settings dialog box with the following options:



**Internal Solver:** A new (faster) solver is available in beta mode and can be used if excel input/output on solve is not required.

**Automatic Chart Update on Solve:** Chart update takes significant time during solve. You can turn auto update off and choose to manually update charts.

**Automatic Shape Positioning and Alignment:** When shapes are dropped on the page, this enables easy insertion, automatic positioning to grid locations, and alignment to adjacent shapes.

**Automatic Units Parsing:** When enabled, this allows input of values, like 1m 30s, wherever time measures are required. This saves time in capturing data.

**Excel Color Synch:** When enabled, this synchronizes Excel cells and Visio shape colors on solve. This makes solve take longer.

**On Drop Variables:** When enabled, data shapes (NVUs) dropped on the page are connected to the nearest center.

**Pre Solve Data Source Pages:** When enabled, data sources on other pages than the main solve map will be solved also. This ensures the data sources on calculated values are always up to date.

**Delete Assist:** When enabled, eVSM will prevent you from accidentally deleting shapes, and will also delete an entire center when you delete the center parent shape.

**Trace Over Mode:** When enabled, dropping centers from the stencil over shapes on a background page will make the dropped center 'inherit' the text and fill color of the shape behind.

**Separate Starbursts and Clouds:** When enabled, eVSM will output Kaizen Starbursts and Clouds to separate Excel worksheets when you use the Kaizen Export.

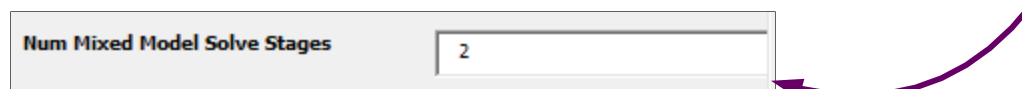
**Hide Transparency Level:** Impacts the brightness of shapes that are hidden by 'fading' them in the Layout, Customer Journey, and other eVSM applications.



Hide Transparency Level

**Cache Mixed Model Data:** Faster editing of Mixed Model input data; requires you to run Auto Path after modifying arrows and/or centers on the page.

**NUM Mixed Model Solve Stages:** Set number of Solve stages needed for Mixed Model solve.



Num Mixed Model Solve Stages

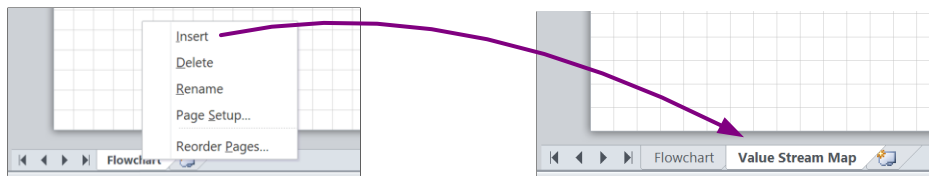
## Trace Over Mode

This function allows a partial conversion of an existing map or flowchart into a map in the current version of eVSM and for a stencil of your choice. This function is useful for converting non-eVSM Visio diagrams into eVSM maps, as well as for converting maps from one application (e.g. Transactional, Manufacturing, etc.) to another. The only requirements are that it must be editable in Visio (cannot be a bitmap) and in your current eVSM file.

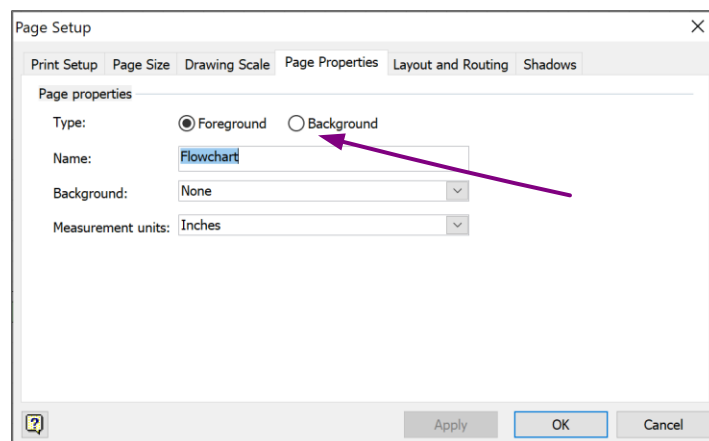
Note: this is not intended to be a complete map conversion solution. It simply helps reduce typing and formatting. Also, helps ensure you don't miss anything critical.

Here are the steps:

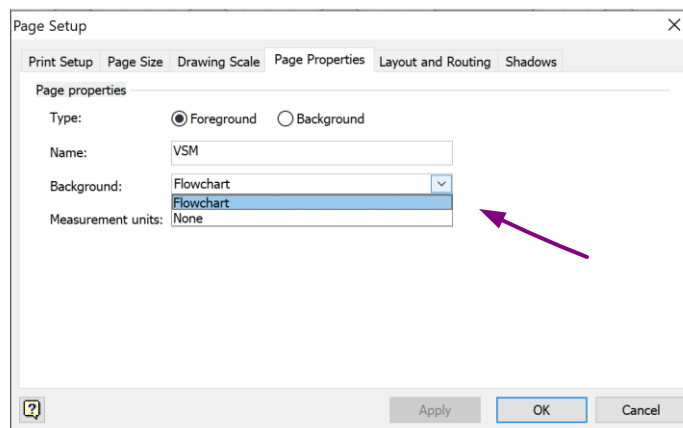
1. If the original source map exists in a non-eVSM Visio file, then copy it to your current Visio file.
2. While source map page is active, add a new blank page to the file and make the source page its background page. This will ensure that the new page is exactly the same size as your source map page. Now you should see the source map on your new page.



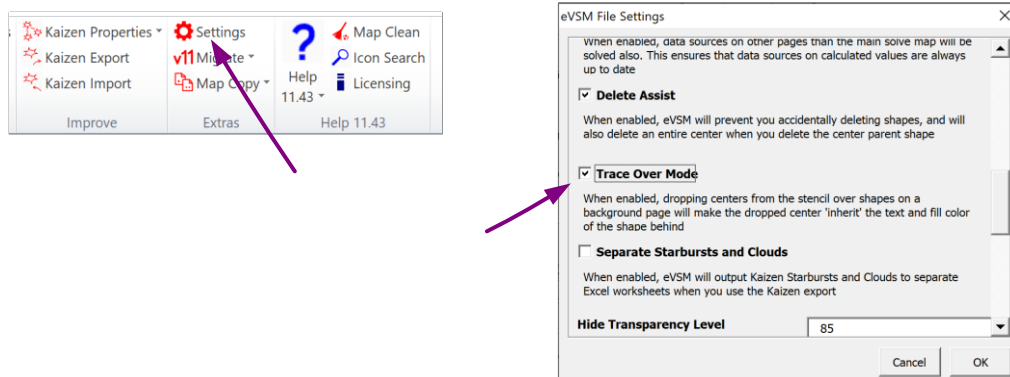
3. Convert the source map page into a Visio background page. Go to the flowchart page and click the “Page Setup..” command in the page tab menu.



4. Setup the Flowchart page as the background page for your new page.



5. Switch the Trace over mode ON in the settings dialog box.



6. While on the foreground page, select the application for the map through the Open button in the toolbar and initialize the new page by dropping any red icon from the application stencil.

7. Now as you drop a center on each process step, the newly dropped shape will automatically pick up the text and fill properties of the underlying shape in the background page.

**Tip:** You can put a white semi-transparent box over the whole of the back-ground page. This will make all the background page objects faded out and make it easier to see what you are doing on your new drawing page.

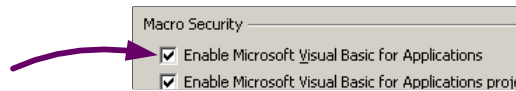
## Migrate Maps to eVSM v12

The migrate button will initiate migration of eVSM v9, v10 and v11 maps to eVSM v12 format. The conversion is not 100% so some manual work will be required after migration. For example, charts are not migrated, so they need to be re-plotted in the new file. The Views settings may also not be exactly the same.

Migration attempts to migrate all pages in the file and will create a new file for the current version. It will also add some markup in the old file to highlight items which have not been converted.

Recommended steps to migrate a file:

1. Backup the old file.



2. Open the old file to migrate making sure there are no other Visio files already open.

3. Hit the Migrate button. Migration will take some time for large files.

4. On completion, save both the old and the new files.

5. Scan through the old file to find items that are highlighted. These items have to be re-created manually in the new file.

6. Once you have completed any manual work in the new file, run the Check function on each page and fix any problems reported.

7. Run Solve and resolve any differences you see in calculation results.

Once a map is migrated to the current version, it cannot be opened in older releases of eVSM.

If you need to open a new version map in an old version of eVSM for viewing/printing purposes, here is a workaround:

1. In Visio, click "File > Options > Trust Center > Macro Settings > Disable all macros without notification". This will stop VBA from running the next time you start Visio.
2. Exit Visio.
3. Make a copy of the new version eVSM file, and open.

**Note:** Remember to reverse Step 1 when you wish to re-activate VBA.

## Move Data Move Data

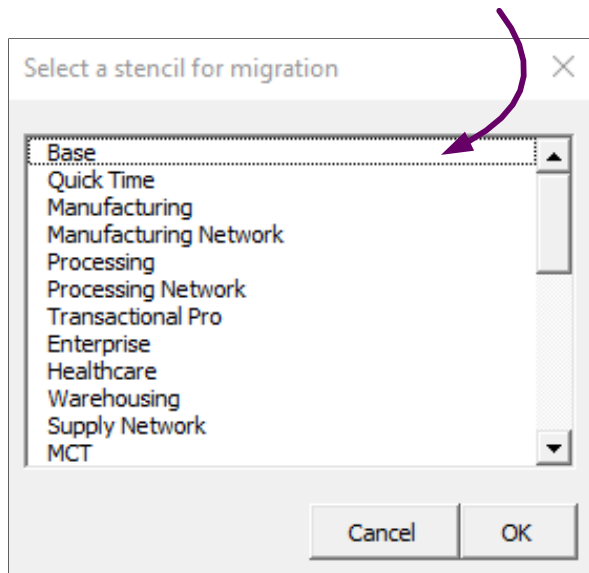
Move Data allows you to convert a map from one application type to another. E.g. Convert a Quick Mfg map to Quick Processing.

The conversion can not be 100%, but it will generally capture the flow and some of the data.

The function allows you to select the target stencil and will create a new page where it will draw the flow with shapes from the target stencil, and then copy some of the data it considers equivalent.

Steps:

1. Navigate to the original map page
2. Click 'Move Data' (located in Migrate drop down box)
3. Select the target stencil and click OK



4. The function will create a new page with the original page name, plus \_ target stencil name.
5. Check and manually complete the new page.

## Map Copy

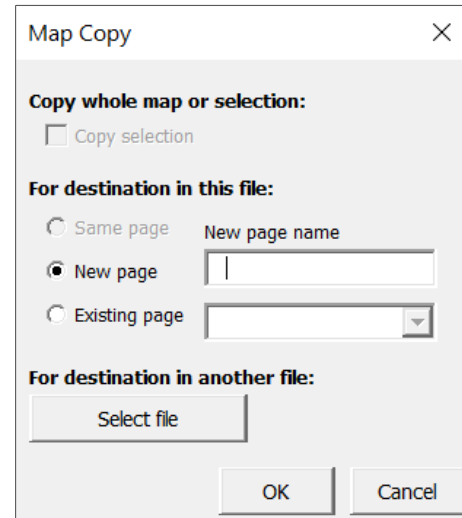


Map Copy

To copy your whole map or a part of the map to another page, do not use the normal Visio Copy/Paste commands as this will miss some or the hidden data and will disrupt gluing between shapes in some places. Instead, use the Map Copy button.

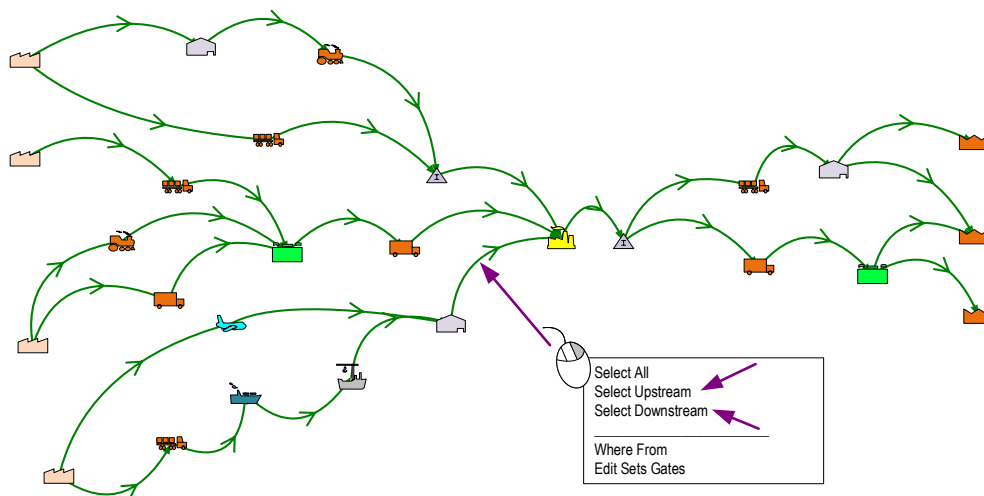
Simply select the part of the map you wish to duplicate, or select nothing to duplicate the whole map, and click the Map Copy button.

The dialog that pops up allows you to specify the destination which can be the current page, another existing page in the current file, a new page in the current file, or another file.



## Partial Map Selection

Sometimes, selecting a part of the map is not trivial or tedious. In such cases, use the "Select Upstream" or "Select Downstream" commands in the right-mouse-button menus of the sequence arrows.



Once the selection has the items you want, use the Map Copy button to duplicate.

This selection function is also useful if you have duplicated the whole map and then need to eliminate some segments.



## Map Extract



Map Extract




eVSM Visio files can have multiple pages, each with a different map or other diagrams. Sometimes such files can get too big to Email or do general work with. The Map Extract function allows you to extract a page or a part of a page into a new file. To only extract a part of a map simply select the shapes you want to copy and running map extract.


The page or the selected shapes in the old file is what gets extracted. The result will be a new one-page file which will be saved in the same folder as the original with the same name plus the page name.


# 9. Help


## Overview

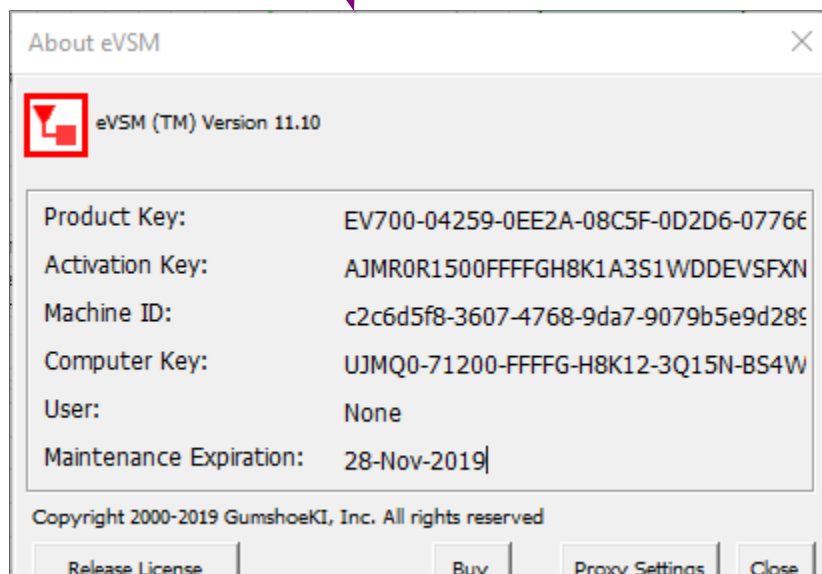
Provides an on-line access to help resources and training options.

-  **Help**  
Accesses the eVSM on-line help site.
-  **eLearning**  
Opens the “My Gradebook” page on the eVSM website to check course status of eLearning material.
-  **Stack Help**  
Builds a page full of all the choices available in an eVSM Stack shape master. Select a blue icon (from any of the eVSM stencils on the right) or green icon (from any Quick stencil) before running this tool.

 **Map Clean**  
Cleans your data by moving to a new Visio file.

 **Icon Search**  
Search for shapes in eVSM stencils.

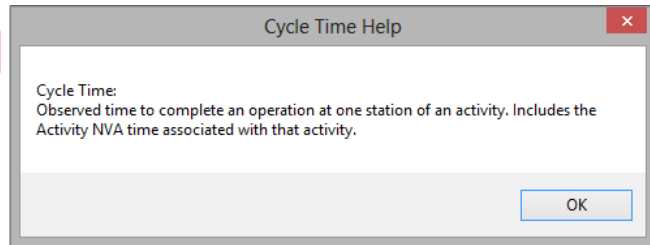
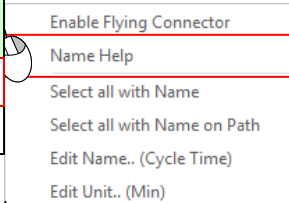
 **Licensing**  
Gives you information about your eVSM license and installation status.



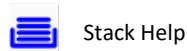
## Name Help

A0020		1
Process		
Cycle Time	x.xx	Min
Qty Per Cycle	1	Item
Auto Min		

For variable name help, right-click any variable and select “Name Help” in the menu for a description of the variable.



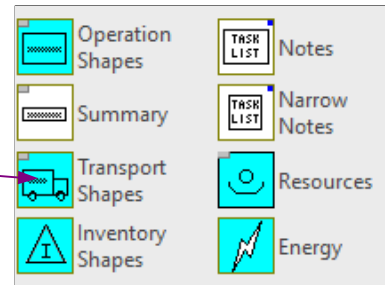
## Stack Help



The Stack Help button creates a new page in the file with all of the available shapes for a selected stack. An icon can be identified as a stack shape if it is blue or green in an eVSM stencil.

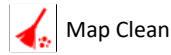
### Try This:

1. Select the blue stack Transport Shape from the eVSM Material stencil.
2. Click the Stack Help button in the eVSM toolbar.
3. A new page will be created with the page name “Transport Shapes Stacks” in the file with all of the shapes in the Transport stack.



Conveyor	Hook	Shipping Port	Wheelchair
Container Yard	Helicopter	Ship	Walk Patient
Container Truck	Hand Cart	Pump	Tugger
Car	Hand Carrier	Plane	Tube Transport
Blood Transport System	Full Truck Load	Parcel	Truck Crane
Bike	Forklift	Multistop Truck	Truck

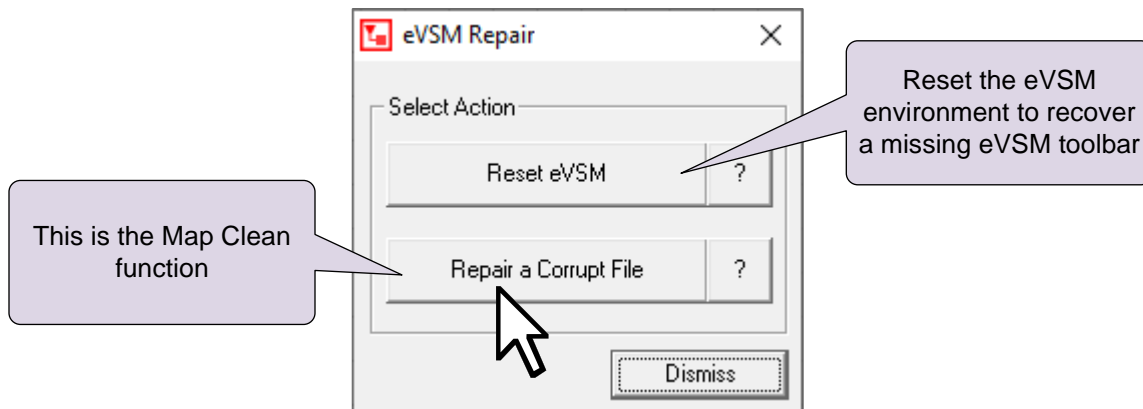
## Map Clean



As you work in a Visio file, over time, you may see some performance degradation as the Visio cache grows. The Map Clean function allows you to clean this up. It essentially creates a new empty file, and copies all your maps to it.

We recommend you run this if you suspect any corruption in the file, or, if you see performance degradation. It is a good idea to run the Map Clean function every couple of hours when working with large files.

This function is also available through the Windows Start menu (useful if your eVSM toolbar is missing) at “Start > Programs > eVSM Software > eVSM Repair”. This will open the dialog box shown below.




Just click the “Repair a Corrupt File” button and follow the prompts.

## Icon Search Icon Search

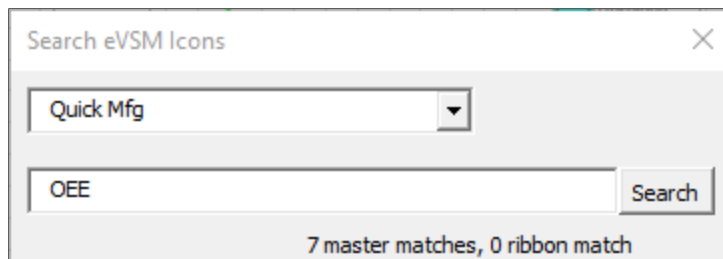
The Icon Search button in the eVSM toolbar allows you to search for icons in any of the eVSM stencils. The search looks at the name and the brief help behind each icon and presents results in a separate search stencil.

### Try This:

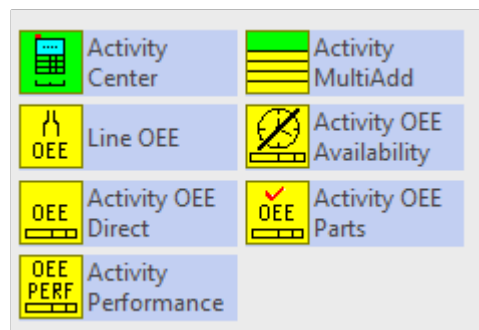
1. Click the Icon Search button in the Learn module of the eVSM toolbar.  Icon Search



2. Look for “OEE” in the Quick Mfg stencil.



3. The resulting shapes associated with OEE will be brought up in a new search stencil.



# Index

## A

auto path 27  
auto pipe 26  
auto tag 28

## B

browse data 14

## C

calculate 34  
check 31  
clear 31  
conditional color gadget 46  
create xl 17  
current set 12

## D

draw sets 22

## E

equation manager 12  
extras 60

## F

filter 48  
fractional units 13

## G

gadget color-coding 42  
gadget hide/show 42  
gadget key points 43  
gadget scale factor 42  
gadgets 40

## H

help 68  
hide/show 38

## I

icon search 71  
import xl 17,18  
improve 52  
isolate sets 23

## K

kaizen export 53  
kaizen impact matrix 54  
kaizen import 53  
kaizen properties 52  
kaizen risk matrix 57  
kaizens 53

## L

learn 68  
list variables 14,15

## M

managed equations 12  
map clean 70  
map copy 66  
map extract 67  
migrate maps 64  
mix manager 20  
move data 65

## N

name and unit manager 12

## P

path list 28  
product matrix 21

## R

renumber kaizens 55  
reverse scale 19

## S

same paths 32  
scale locs 19  
sequence 24  
sequence arrow 25  
show pipes 31  
show seq 31  
show sets 22  
sketch 2,7

solve	34
stack help	69
<b>T</b>	
tag seq arrow	25
tags	28
text value gadget	44
trace over	62
<b>V</b>	
v11 migration	61
validate	30
var solve	35
variation percentile	36
variational data	35
view paths	33
views	38
visualize	38
<b>W</b>	
wall map	3









