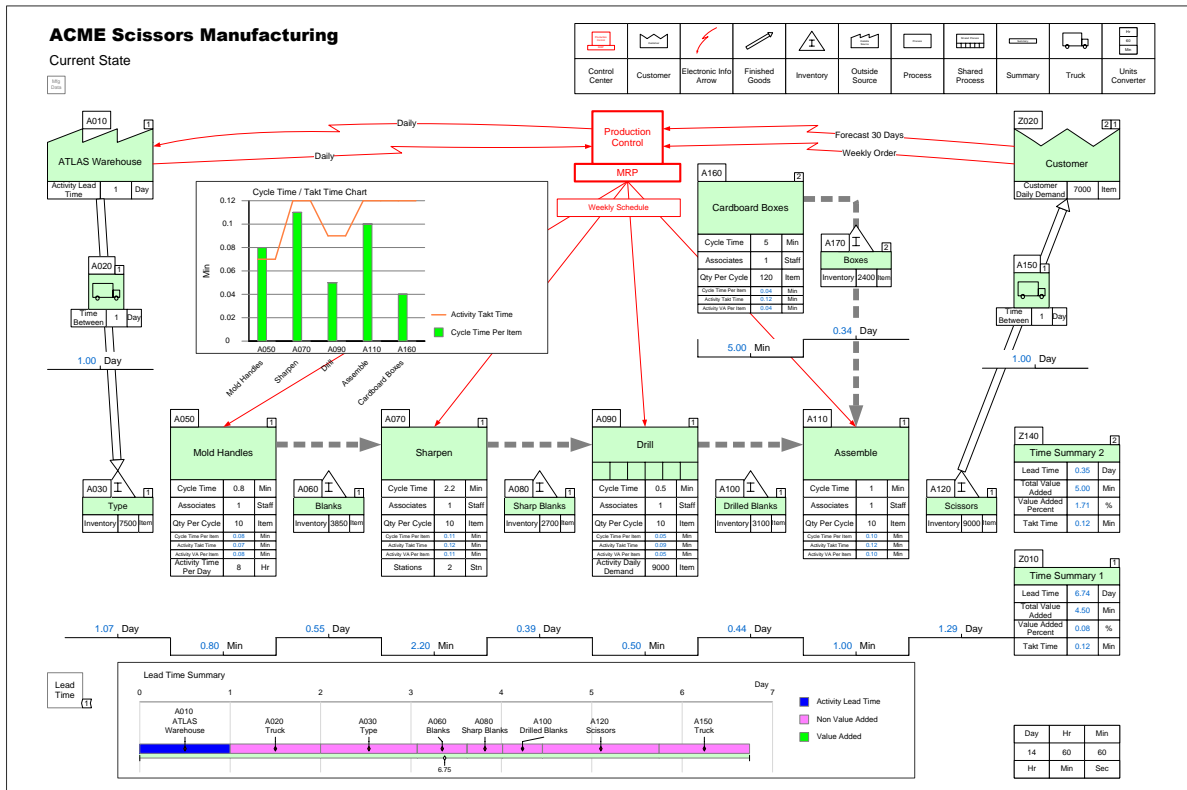


eVSM v11 Common Functions Reference Manual



This reference manual complements eLearner with functional descriptions of common functions which are not covered in the toolbar guide.

The manual is designed both for on-screen viewing and print. For on-screen usage, the manual is best viewed in Acrobat Reader. To search, use the Ctrl+F shortcut. Also, it is a good idea to set the Acrobat view to "Show two pages side-by-side".

For hardcopy, print the manual on double sided paper and use the table of contents to navigate..

Use CTRL + F to search within this document

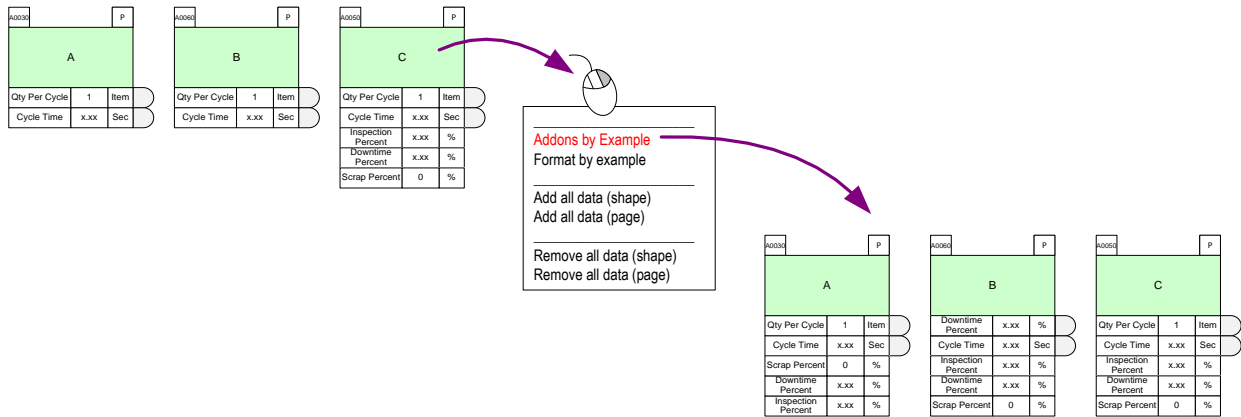
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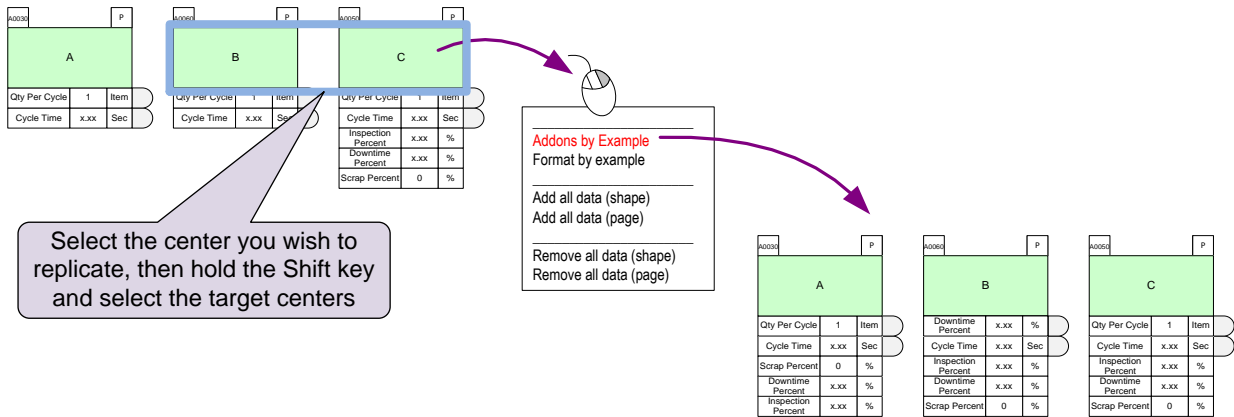
eVSM Productivity Tips

Add-ons by Example

When you need the same add-ons on multiple centers, just setup one center with the desired add-ons. Then use the “Addons by Example” command to replicate on all other similar center on the map.



You can restrict the target centers by selecting the ones you wish to replicate on.



Add-ons by Example only adds any missing add-ons. It does not delete them.

Inputting time values in any unit

Often the time data (cycle times, process time, lead time, etc.) need to be entered in different time units (secs, minutes, hours, days) in different parts of the map. You can of course, type in the value and then double-click on the units field to set the desired unit. For time units, there is a faster way. If you type in "30s" and then press the Enter key, the value will be set to 30 and units to Sec.

30s + Enter →

Cycle Time	30	Sec
------------	----	-----

Examples:

45m + Enter →

Cycle Time	45	Min
------------	----	-----

3h + Enter →

Cycle Time	3	Hr
------------	---	----

3m 20s + Enter →

Cycle Time	200	Sec
------------	-----	-----

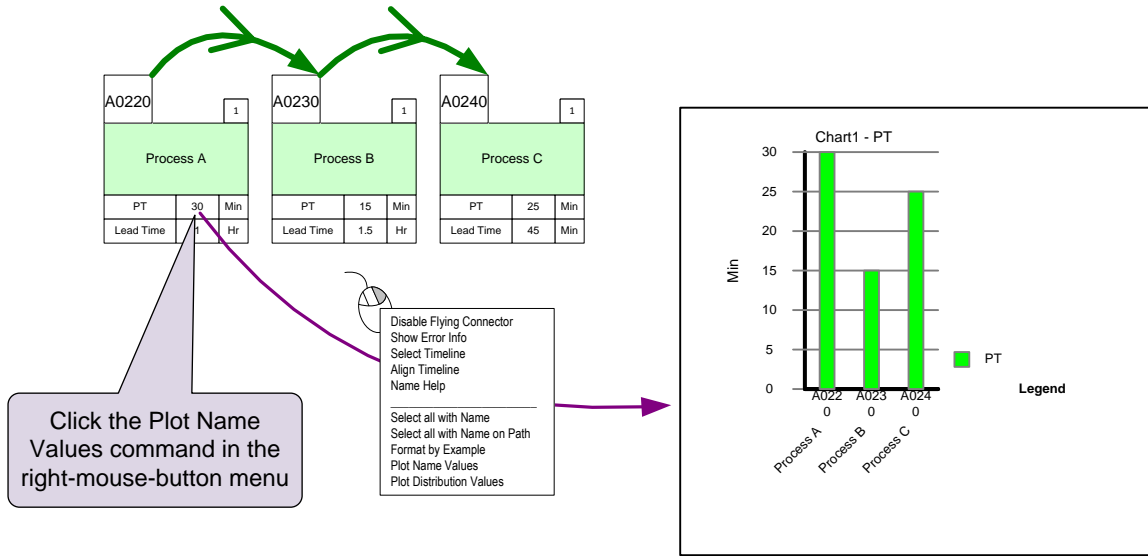
5h 40m + Enter →

Cycle Time	5.7	Hr
------------	-----	----

Charts

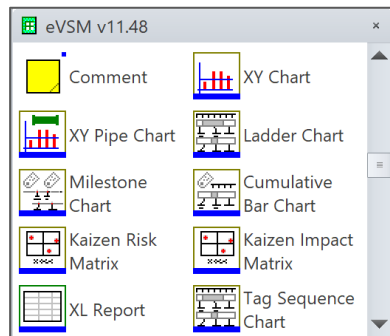
eVSM provides four ways to create charts:

1. Plot Name Values – this allows you to plot a simple bar chart for any variable.



Building Custom Charts

The Quick eVSM stencils include many standard charts to visualize capacity, utilization, lead-time, resources, etc. These charts are developed with the eVSM base chart shapes. The base chart shapes are available in the main eVSM stencil and can be used to create custom charts.

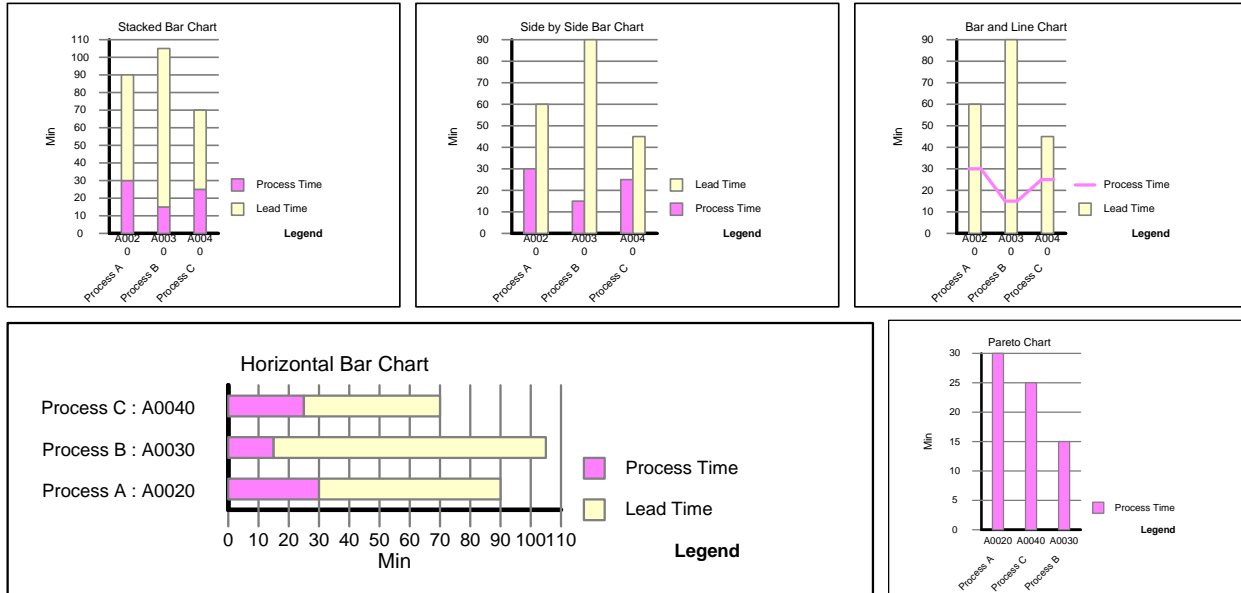


Base chart shapes in the eVSM Main stencil

The following shows how to create custom charts from the XY and Ladder chart shapes. Similar customization options are available for all other charts except the Kaizen Matrix charts.

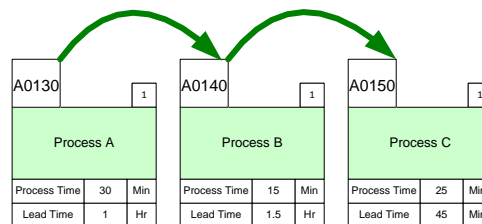
XY Charts

Here are some example custom charts you can create with the XY chart shape.



Steps to Create XY Charts

The data for the chart must exist in valid eVSM data shapes with valid variable names, and units. In this example, we will plot the Process Time and Lead Time data.



1. Drag out the XY Chart shape from the main eVSM stencil and open the chart control form.

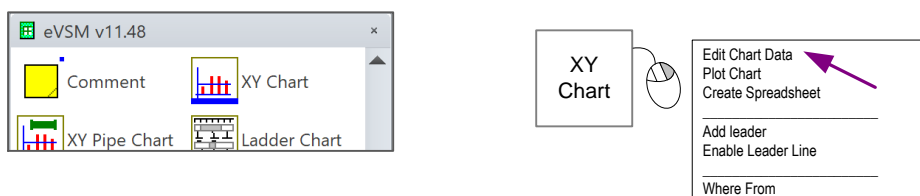


Chart Data

Chart Title: Stacked Bar Chart

Variables To Chart

Name	Display
Process Time	NBAR
Lead Time	SBAR
Value Added	NBAR

Y-Axis

Numerator Unit: Min
Denominator Unit: none

Set Min Y
 Set Max Y

Scale

Auto Manual
Inch/Unit

X-Axis

Sort by Tag
 Sort by Value

Ascending Sort
 Descending Sort

X Axis Labels

Process name

X Axis at pipe head
 By product

Horizontal Bar Chart

Tag Prefix

<input checked="" type="checkbox"/> A	<input checked="" type="checkbox"/> N
<input checked="" type="checkbox"/> B	<input checked="" type="checkbox"/> O
<input checked="" type="checkbox"/> C	<input checked="" type="checkbox"/> P
<input checked="" type="checkbox"/> D	<input checked="" type="checkbox"/> Q
<input checked="" type="checkbox"/> E	<input checked="" type="checkbox"/> R
<input checked="" type="checkbox"/> F	<input checked="" type="checkbox"/> S
<input checked="" type="checkbox"/> G	<input checked="" type="checkbox"/> T
<input checked="" type="checkbox"/> H	<input checked="" type="checkbox"/> U
<input checked="" type="checkbox"/> I	<input checked="" type="checkbox"/> V
<input checked="" type="checkbox"/> J	<input checked="" type="checkbox"/> W
<input checked="" type="checkbox"/> K	<input checked="" type="checkbox"/> X
<input checked="" type="checkbox"/> L	<input checked="" type="checkbox"/> Y
<input checked="" type="checkbox"/> M	<input type="checkbox"/> Z

Tag Type

Even No's
 Odd No's
 Color Tags
 White Tags
 Connected
 Not Connected

Callouts:

- Chart Title
- Specify variables to chart
- Select Units
- Ignore these filter switches
- Manual scaling option
- Sort by value to create a Pareto chart
- For mixed-model charts
- Chart orientation: Vertical or Horizontal bars
- Filter switches to control omission/inclusion of operation tag types
- The variables at each data point are sorted in the sequence shown here. Use the Move Up/Down buttons to change the position..

Add Chart Variable

Name

Name	Default
Lead Time	0
Name	
Non Value Added	
Process Time	
Value Added	

Display

New Bar Line
 Stacked On Prior Bar Text

Data Source

Multiple Tags
 Single Tag

Color

Pick Color.. Use process color

Text

Width: _____ inch

Pick Line Pattern. Pick Fill Pattern..

Visible
 Legend

Callouts:

- Ignore this
- Plot a Line chart graph
- New Bar means, the variable gets an independent bar in the chart
- Stacked Bar means the
- When checked, the activity fill color will be used
- Patterns instead of colors may be used for Fill/Line. Useful for monochrome printing.
- Used to show blank (white space) instead of a bar
- Omit variable from legend

2. Add data variables to chart

The 'Chart Data' dialog box is shown with the following components and callouts:

- 1 Enter chart title:** Points to the 'Chart Title' text field.
- 2 Select variables to plot:** Points to the 'Variables To Chart' list.
- 3 Select display options for selected variable:** Points to the 'Add Chart Variable' sub-dialog, which includes sections for Name, Display (New Bar, Stacked, Text), Data Source (Multiple Tags, Single Tag), Color, and Text.
- 4 Y-axis units, range, and scale:** Points to the 'Y-Axis' section, including 'Numerator Unit', 'Denominator Unit', 'Set Min Y', 'Set Max Y', and 'Scale' (Auto/Manual).
- 5 Set Operation Tag filters:** Points to the 'Tag Prefix' and 'Tag Type' sections on the left side of the dialog.

3. Plot the chart

The 'XY Chart' context menu is shown with the following options:

- Edit Chart Data
- Plot Chart (highlighted with a blue arrow)
- Create Spreadsheet
- Add leader
- Enable Leader Line
- Where From

4. Update. The chart will update automatically on Solve. The Settings dialog allows you to switch automatic update off. To manually update, click the “Plot Chart” command again. There is also an “Update Chart” command available in the chart right-mouse button menus.

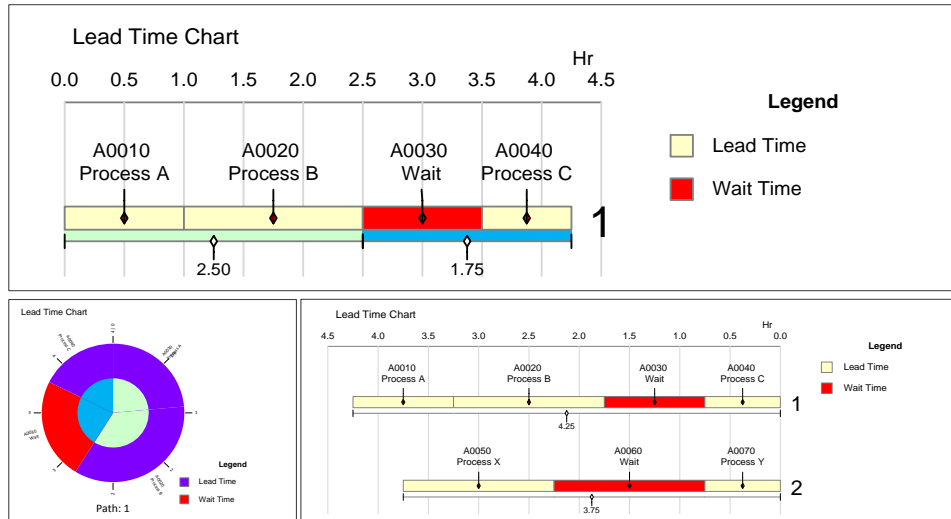
5. Where you have multiple paths, the Path Filter List shape can be used to specify which paths are represented on the chart.

The diagram illustrates the workflow for selecting a path filter:

- The 'eVSM Paths and Routes' window shows various shapes, including the 'Path Filter List' (PF).
- The 'Path Filter List' shape is placed on the 'XY Chart'.
- The 'Path Filter Manager' dialog box is shown with 'Path # 2' selected in the 'All Paths' list.
- A callout indicates: "Double-click to set path#" pointing to the 'Path Filter List' shape.

Ladder Charts

Example Ladder charts



Steps to Create Ladder Charts

The data for the chart must exist in valid eVSM data shapes with valid variable names, and units. In this example, we will plot the Process Time and Lead Time data.

1. Drag out the XY Chart shape from the main eVSM stencil and open the chart control form.

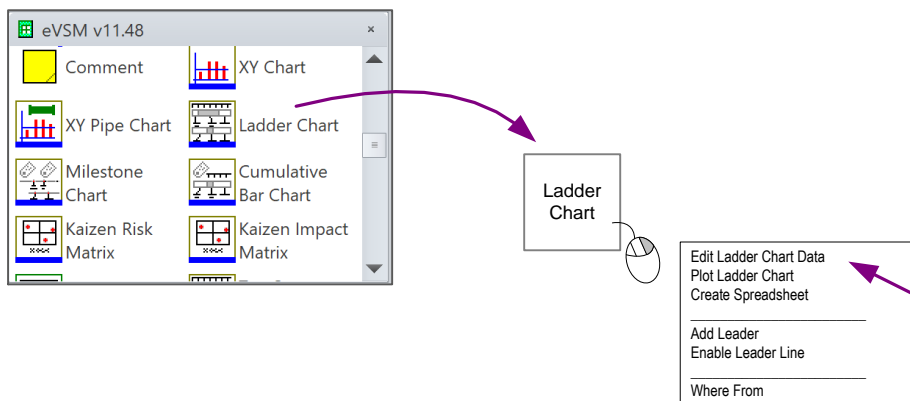


Chart Title: Points to the 'Chart Title' field.

Specify variables to chart: Points to the 'Variables To Chart' table.

Select Units: Points to the 'X-Axis' section, specifically the 'Num. Unit' and 'Denom. Unit' dropdowns.

Ignore these filter switches: Points to the 'Tag Prefix' section with checkboxes A-Z.

Manual scaling option: Points to the 'X-Axis Scale' section, specifically the 'Manual' radio button.

Reverse scale so multi-paths can synchronize at a single milestone: Points to the 'X-Axis Labels' section, specifically the 'Descending' radio button.

Filter switches to control omission/inclusion of operation tag types: Points to the 'Tag Type' section with checkboxes for Even/Odd No's, Color Tags, White Tags, Connected, and Not Connected.

Linear or Polar chart: Points to the 'Plot Type' section, specifically the 'Linear' radio button.

Display options: Points to the 'Display Options' section with checkboxes for Show Key, Show Activity Colors, Show Path Names, and By product.

Path Plotting Options: Points to the 'Path Plotting Options' section with radio buttons for Combine Path, Separate Path Filters, and Connect Paths.

Individual Bar Labels: Points to the 'Individual Bar Labels' section with radio buttons for Tags & Description, Tags Only, Description Only, and None.

Ignore this: Points to the 'Default' field containing the value '0'.

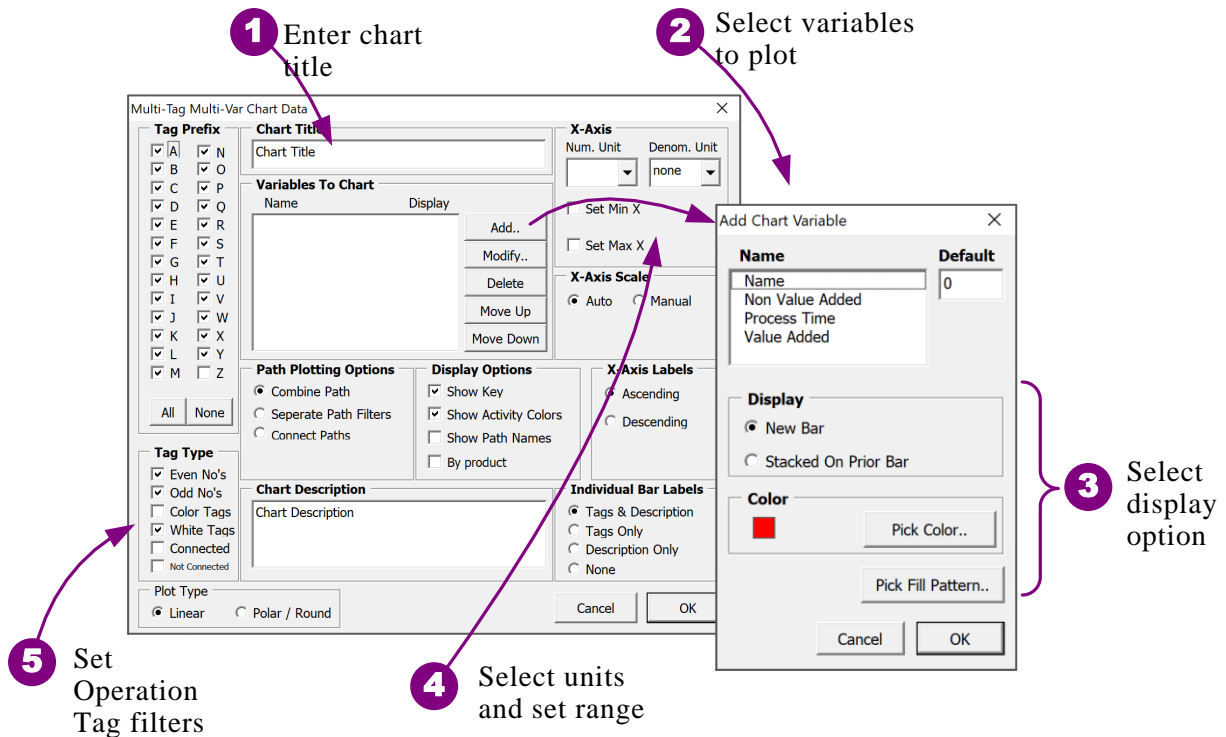
Align bar with segments of other variables, or create an independent bar: Points to the 'Display' section, specifically the 'New Bar' radio button.

Patterns instead of colors may be used for Fill/Line. Useful for monochrome printing.: Points to the 'Pick Fill Pattern..' button.

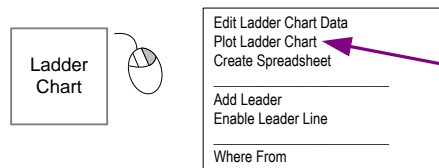
Name: Points to the variable selection list (Lead Time, Name, Non Value Added, Process Time, Value Added).

Color: Points to the color selection area (red square and 'Pick Color..' button).

2. Select variables and display options

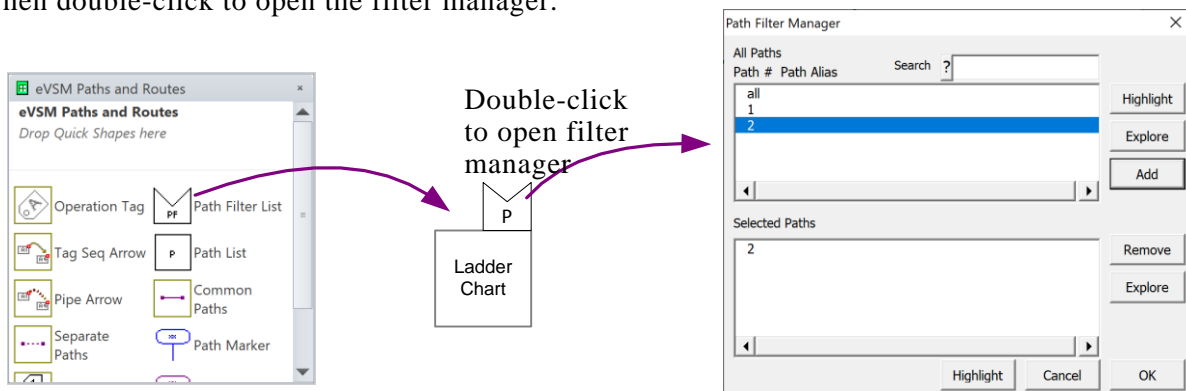


3. Plot the chart



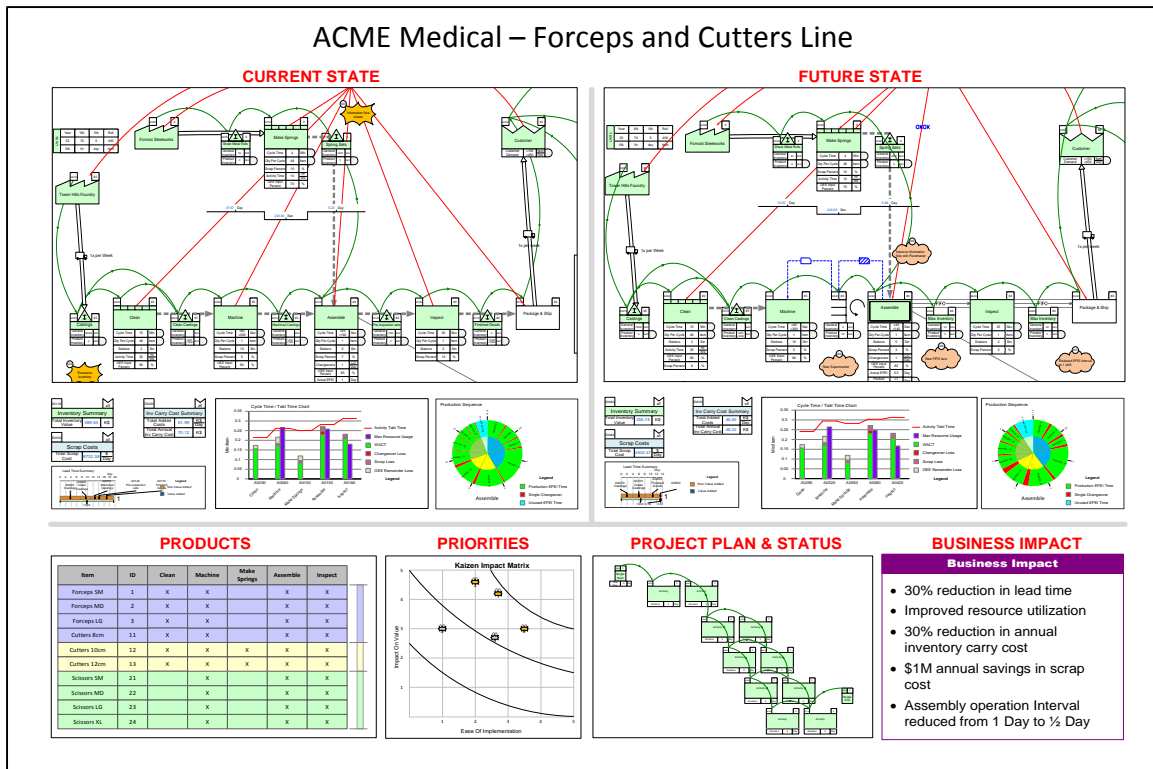
4. Update. The chart will update automatically on Solve. The Settings dialog allows you to switch automatic update off. To manually update, click the “Plot Chart” command again. There is also an “Update Chart” command available in the chart right-mouse button menus.

5. Where you have multiple paths, the Path Filter List can be glued to the ladder chart shape. Then double-click to open the filter manager.



Storyboards

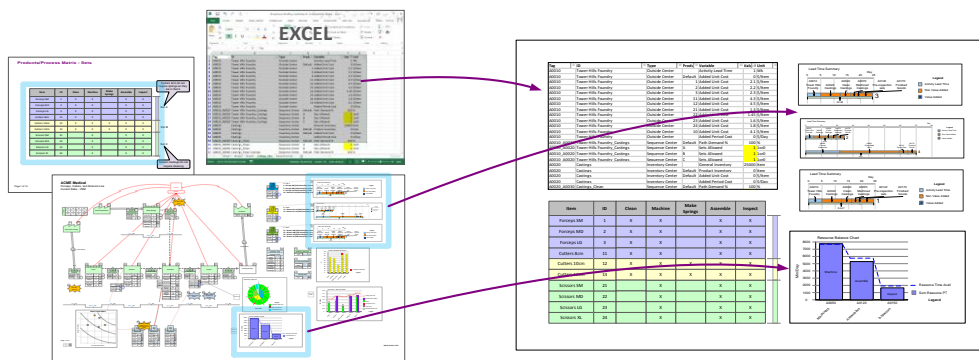
A storyboard (sometimes called value stream board or a summary board) is often used to visually summarize a value stream. This may include a view of the current state, future state, improvement plan, key metrics, cost/resource/time requirements, etc. Here is an example:



Such diagrams can be created in Visio by simply copying content from its source and pasting it as a picture. This however will not stay synchronized with the source and has to be maintained manually.

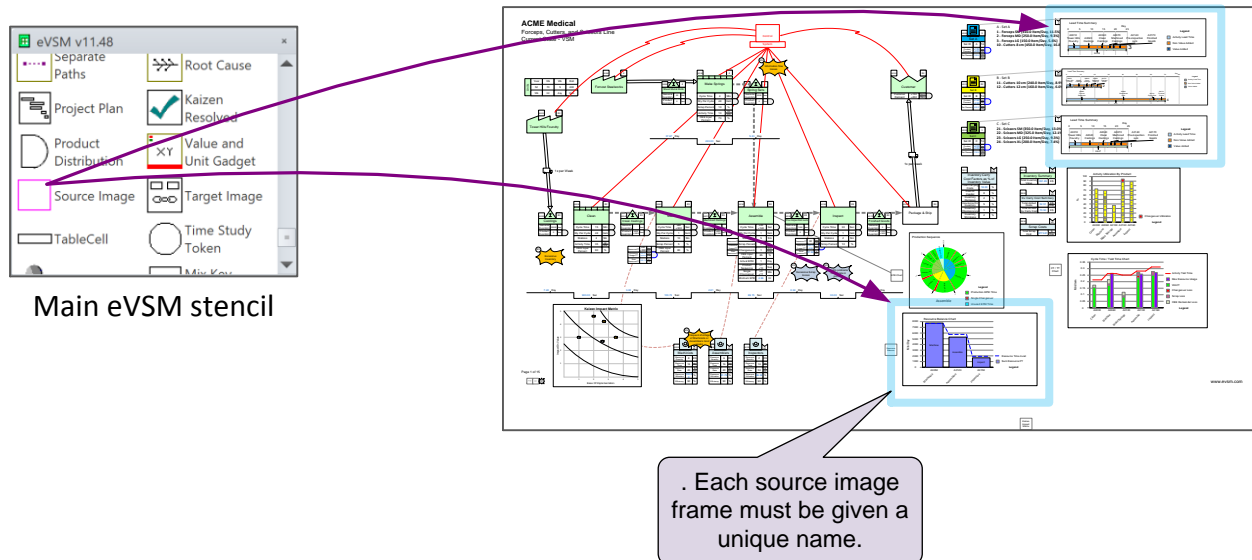
The eVSM Source/Target Image capability eliminates some of the maintenance grunt work. The function allows you to draw a window on any part of the source pages and show the content of the window as an image on the target page.

The source windows can exist on any page in your current Visio file or in an Excel file. The corresponding window on the target page can be refreshed any time with single command.

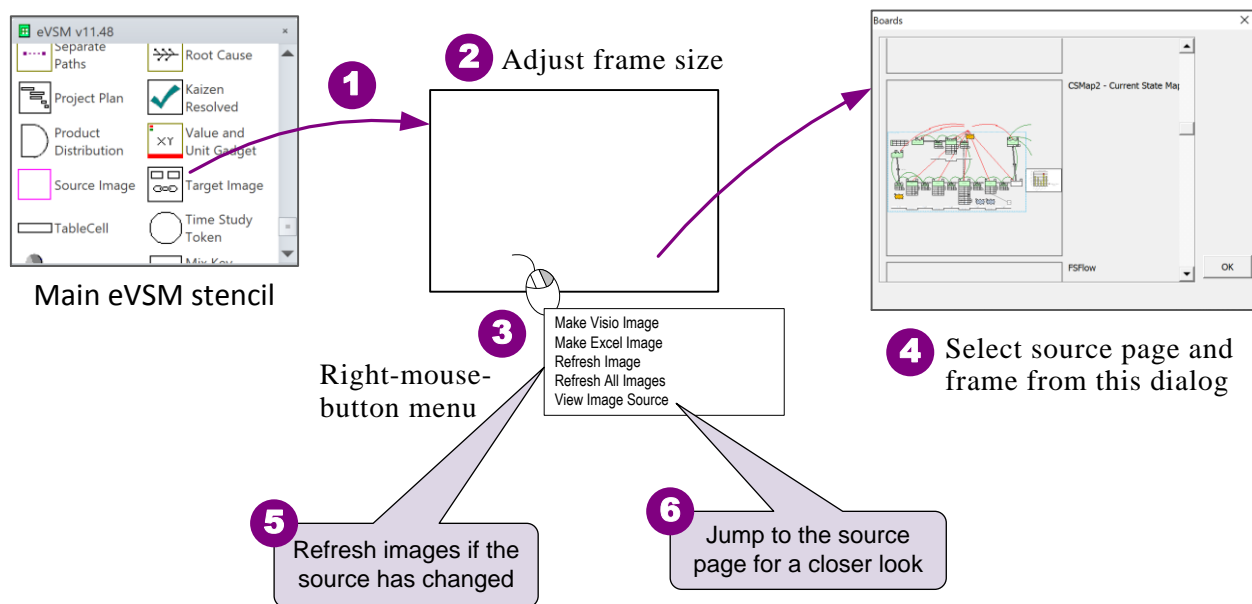


Steps to Create a Storyboard

1. Use one or more Source Image shape on each of the source pages. Note the Source Image and Target Image shapes are available only in the main eVSM stencil. The shape comes out as a rectangular frame which can be sized to fit the content you wish to capture



2. On the target page, drop a Target Image shape for each source and pair it with the source.

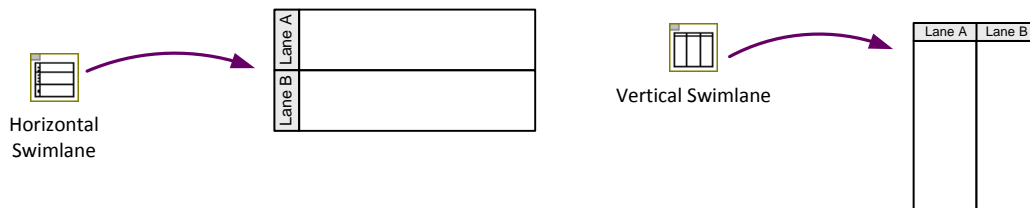


Swimlanes

The eVSM Swimlane function allows drawing of VSMs and flowcharts in swimlane layout, horizontally or vertically. The eVSM Swimlane shape is an implementation of the eVSM Table function.

To calculate totals or plot charts for each lane, see the Path List function.

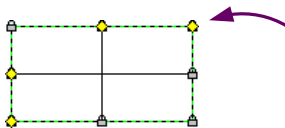
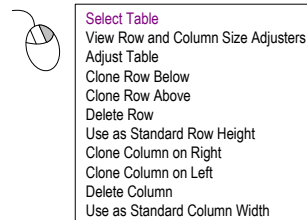
Note: The swim lane function in native Visio is NOT supported with eVSM. The eVSM Calculator will not work if the Visio swim lane shape is on your drawing page.



Try This:

1. Drag out the Horizontal Swimlane from the eVSM Information stencil.

2. Right mouse click on any of the lanes to bring up the modification menu allowing for row/column addition and modification.



3. Pick the “Select Table” command in the right mouse menu to highlight the yellow diamonds. Move these yellow diamonds to the required width and height positions. Then click the “Adjust Table” command in the right mouse menu.

4. Double-click the “Header” to edit the text.

5. To move the table to a new position on the map, click the “Select Table” command in the right mouse menu. Then drag the table to the desired location.

Custom Stencils

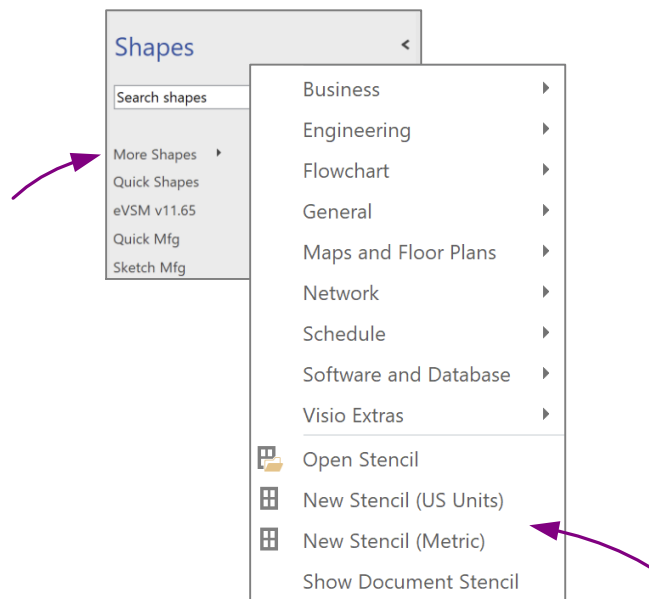
Visio allows you to create custom stencils. The stencils may contain any shapes used in Visio diagrams. A custom stencil can greatly enhance productivity since it would contain everything you need and only what you need in a single place.

We generally DO NOT recommend creating custom stencils with eVSM shapes because:

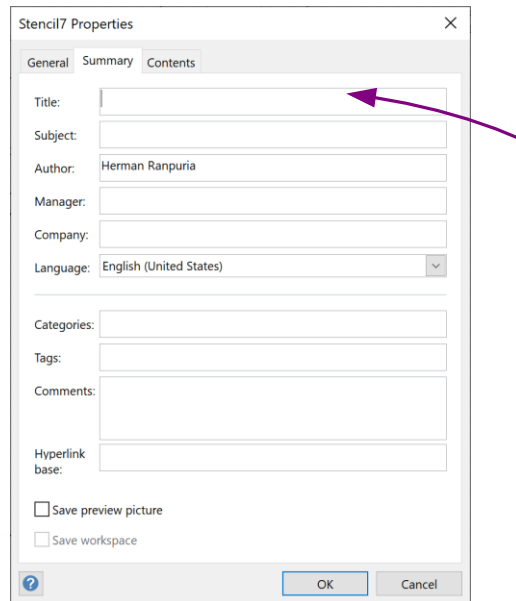
1. Custom stencils need constant manual maintenance to ensure the content stays in sync with eVSM updates.
2. The eVSM combo shapes, i.e.. All the shapes in the Quick XXX stencils are NOT supported in custom stencils.
3. Sharing of custom stencils with your team is not trivial. You will need to show them where to put the custom stencils on their PC, how to ensure they have the current version, and how to open them from their map files.

Steps to Create a Custom Stencil

1. In the left-hand side stencils, click More Shapes > New Stencil



2. A new blank stencil will open on the left side. Right-mouse click on the stencil name and select the Properties command. This will open the following dialog. Give the stencil a short Title. This will appear as the stencil name when you close the dialog. It is a good idea to include a version number in the title. E.g. “My Stencil v2.01”. The version number can be incremented with each update and will allow you to track updates.



3. Each stencil is saved as a separate file. Save your new stencil with a short name in a safe known location.

4. You can now start dropping shapes into the stencil pane from the drawing page and also directly from the right-side eVSM stencils. You can arrange these in any order and personalize the names. You can also change the icon bitmap if you wish.

5. This new stencil will be available on all the pages in your current file. To attach the stencil to another Visio file, click “More Shapes > Open Stencil” and select the saved stencil file. A Visio map file “remembers” which stencils were open when you last saved the map file. So, when you later re-open the map file, the custom stencil will open in the same place provided the stencil file has not been moved or renamed.

6. To share the stencil with your team, just send the file to them telling them to put it in an accessible location, and then open the stencil from within their map file as described in step 5.

Category Filter

Checking which resources contribute to which processes on large maps can get tedious. The eVSM Category Filter provides a simple way of highlighting processes of interest.

This function requires eVSM v11.36 or later and works with all eVSM stencils.

Below are the steps to setting up and running the Category filter, followed by an example.

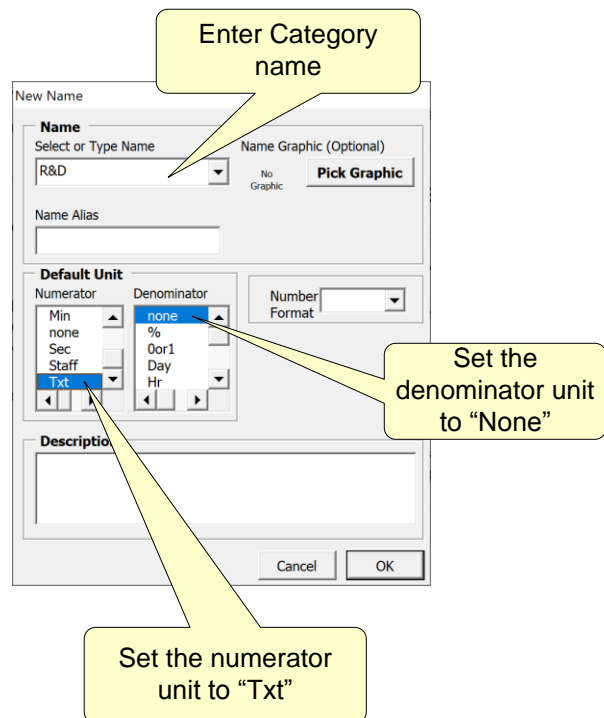
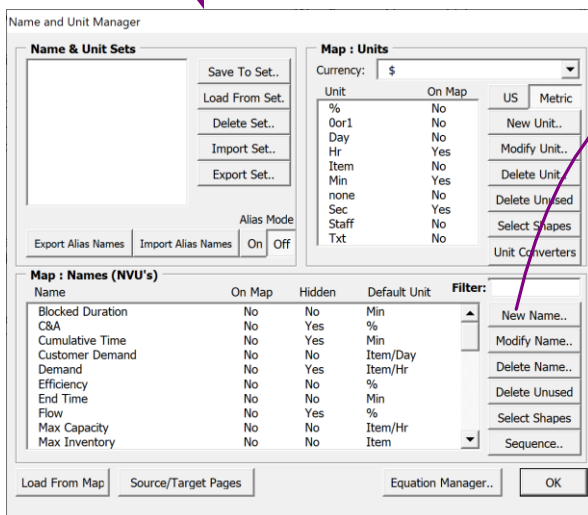
A. Compile a list of the Categories involved in your value stream.

Example:

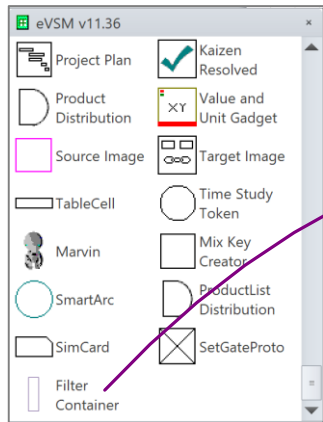
- Research & Development - R&D
- Engineering - ENGR
- Finance - FIN
- Procurement - PROC
- Planning & Scheduling - PLAN
- Laboratory - LAB
- Production - PROD
- Packaging - PACK
- Shipping - SHIP

Make up a short unique abbreviation or acronym for each Category

B. Declare each Category name as a variable name in the NUM



C. Drag out the Filter Container box from the eVSM main stencil



D. Create the Filter Key

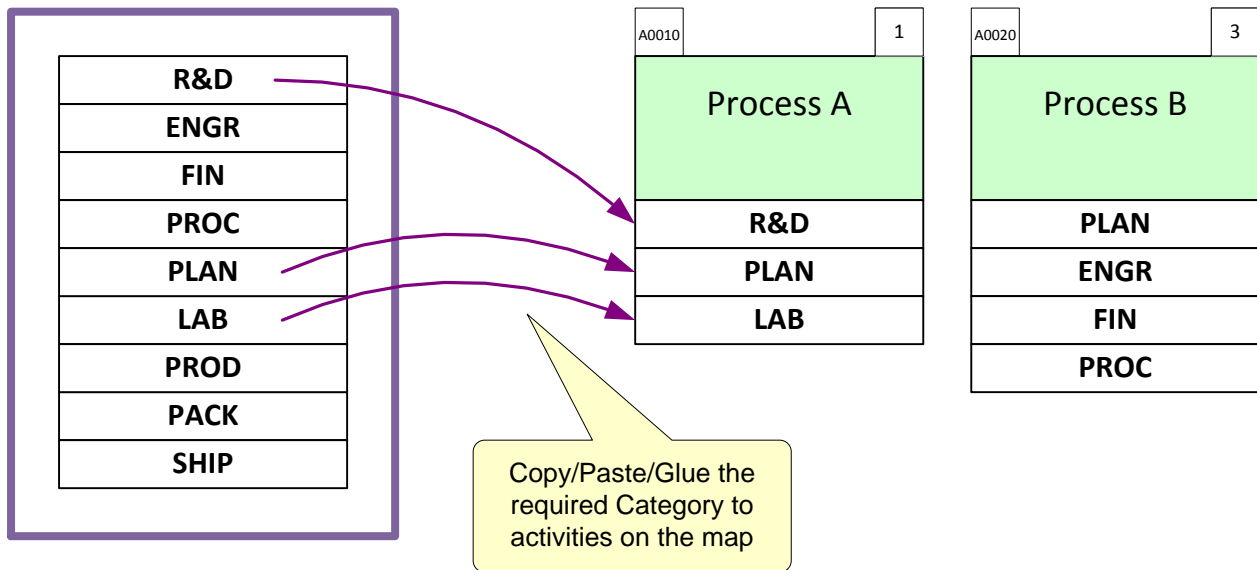
Drop one "Blank" shape for each Category from the eVSM Data Blocks stencil in the container

Enter the Category name

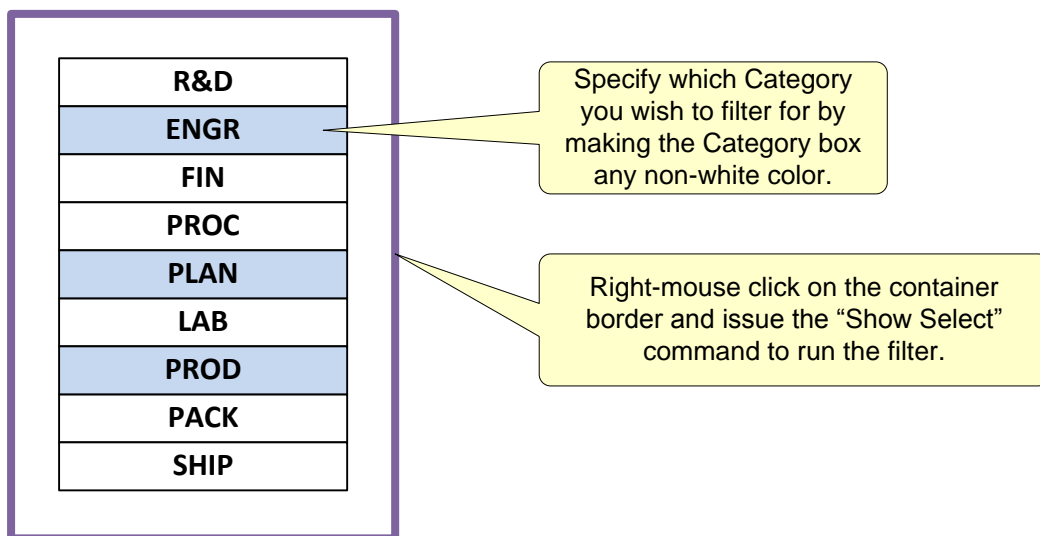
Right-mouse click on the "Blank" shape, click the "Change Name" command and set the Name of the block to match the Category name

Align and glue the "Blank" shapes in a vertical stack

E. Use copies of the Blank shapes from the key container where needed on the map

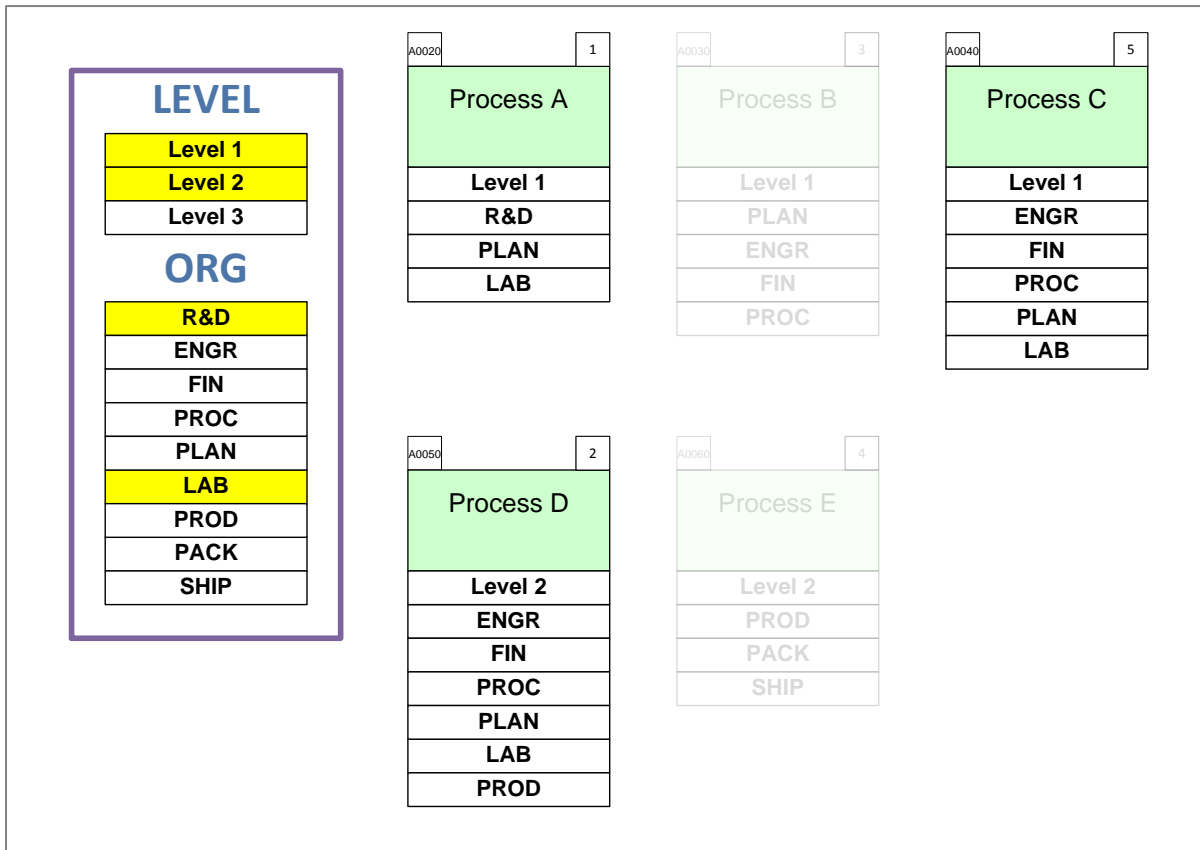


F. Run the Filter



F. Example

In this example you can see the processes associated with the yellow Categories, while the rest of the Categories are partly hidden from the view. The transparency level of the hidden shapes can be adjusted in the Settings dialog box.



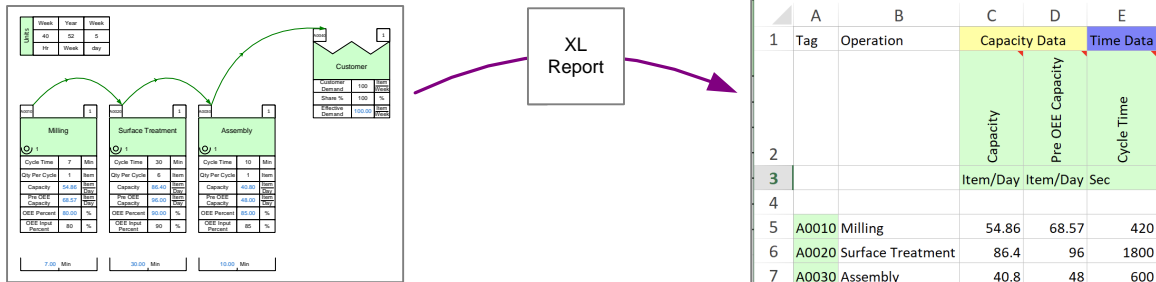
Note how there are two groups of data blocks in the container. Data blocks glued to each other follow the “OR” logic, while the groups follow the “AND” logic.

So, it is showing processes associated with:

Level 1 [OR] Level 2 [AND] R&D [OR] LAB

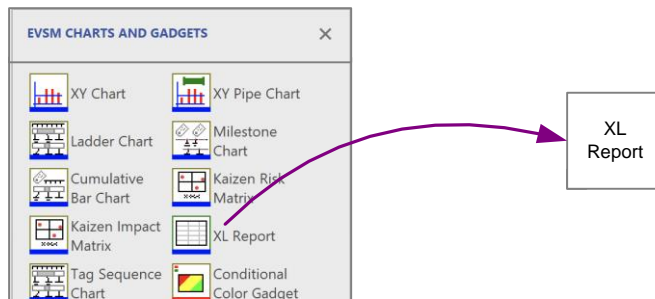
Export Data Report to Excel

The XL Report function provides a simple way to create Excel reports of map data. The data output may be filtered, grouped, and color-coded.

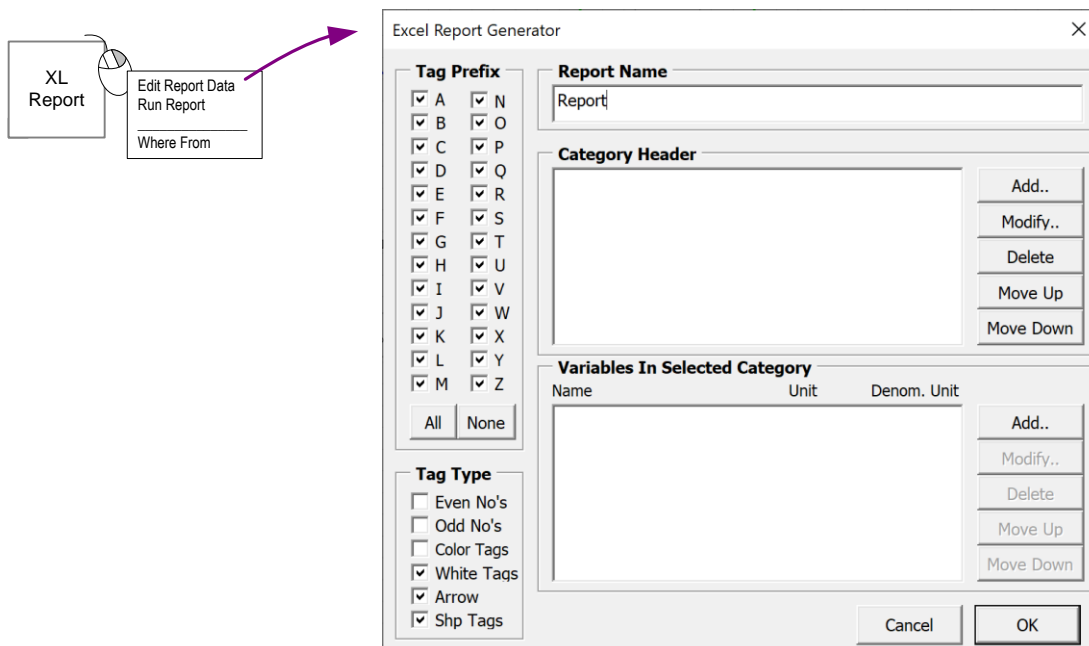


steps to create an Excel report:

1. Drop an XL Report icon on the map page from the eVSM Charts and Gadgets stencil.



2. Open the Edit Report Data dialog.



3. Create Sets and select Variables to report

Excel Report Generator

Tag Prefix

<input checked="" type="checkbox"/> A	<input checked="" type="checkbox"/> N
<input checked="" type="checkbox"/> B	<input checked="" type="checkbox"/> O
<input checked="" type="checkbox"/> C	<input checked="" type="checkbox"/> P
<input checked="" type="checkbox"/> D	<input checked="" type="checkbox"/> Q
<input checked="" type="checkbox"/> E	<input checked="" type="checkbox"/> R
<input checked="" type="checkbox"/> F	<input checked="" type="checkbox"/> S
<input checked="" type="checkbox"/> G	<input checked="" type="checkbox"/> T
<input checked="" type="checkbox"/> H	<input checked="" type="checkbox"/> U
<input checked="" type="checkbox"/> I	<input checked="" type="checkbox"/> V
<input checked="" type="checkbox"/> J	<input checked="" type="checkbox"/> W
<input checked="" type="checkbox"/> K	<input checked="" type="checkbox"/> X
<input checked="" type="checkbox"/> L	<input checked="" type="checkbox"/> Y
<input checked="" type="checkbox"/> M	<input checked="" type="checkbox"/> Z

All None

Tag Type

Even No's
 Odd No's
 Color Tags
 White Tags
 Arrow
 Shp Tags

Report Name
Excel Report

Category Header

Capacity Data
Time Data

Modify..
Delete
Move Up
Move Down

Variables In Selected Category

Name	Unit	Denom. Unit
Capacity	Item	Day
Pre OEE Capacity	Item	Day

Add..
Modify..
Delete
Move Up
Move Down

Cancel OK

Data categories are declared here

For each Category, the variables to output are declared here.

Additional filtering functions.

XL Report

Edit Report Data
Run Report
Where From

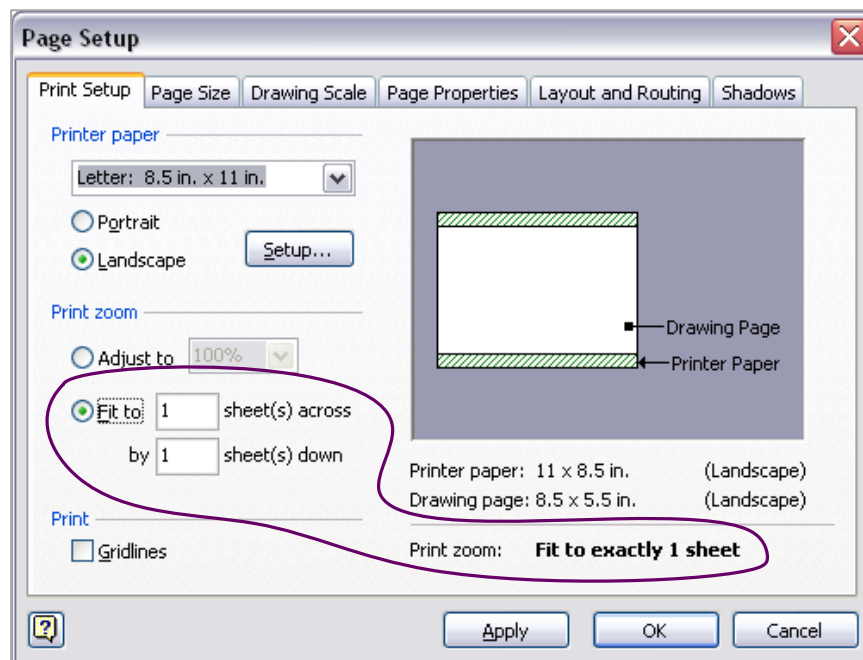
Data is organized into specified color-coded categories

	A	B	C	D	E
1	Tag	Operation	Capacity Data	Time Data	
2			Capacity	Pre OEE Capacity	Cycle Time
3			Item/Day	Item/Day	Sec
4					
5	A0010	Milling	54.86	68.57	420
6	A0020	Surface Treatment	86.4	96	1800
7	A0030	Assembly	40.8	48	600

Printing in Visio

Visio allows drawings of any size. The drawings can then be printed on any size paper supported and available on the printer.

When the drawing size does not match the paper size, you can either print across several sheets, or shrink (or expand) the drawing to fit the paper by clicking “File>Page Setup...” and then checking the “Fit to 1 sheet” radio button.



The “File>Print Preview” function can and should be used to assess the print output before committing the drawing to paper.

Printing Problems

The eVSM Software essentially generates a Visio file. The printing of the file is handled by standard Visio functionality. Problems printing from Visio could be due to Visio, the print driver, or the printer.

Here are some suggestions if you have problems printing from Visio:

- Make sure you have the latest Visio Service Patch installed
- Try copy/pasting your VSM to PowerPoint or Excel and then print from there
- Convert your VSM to Acrobat PDF and then print the PDF file

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