



# PnID™-User Guide

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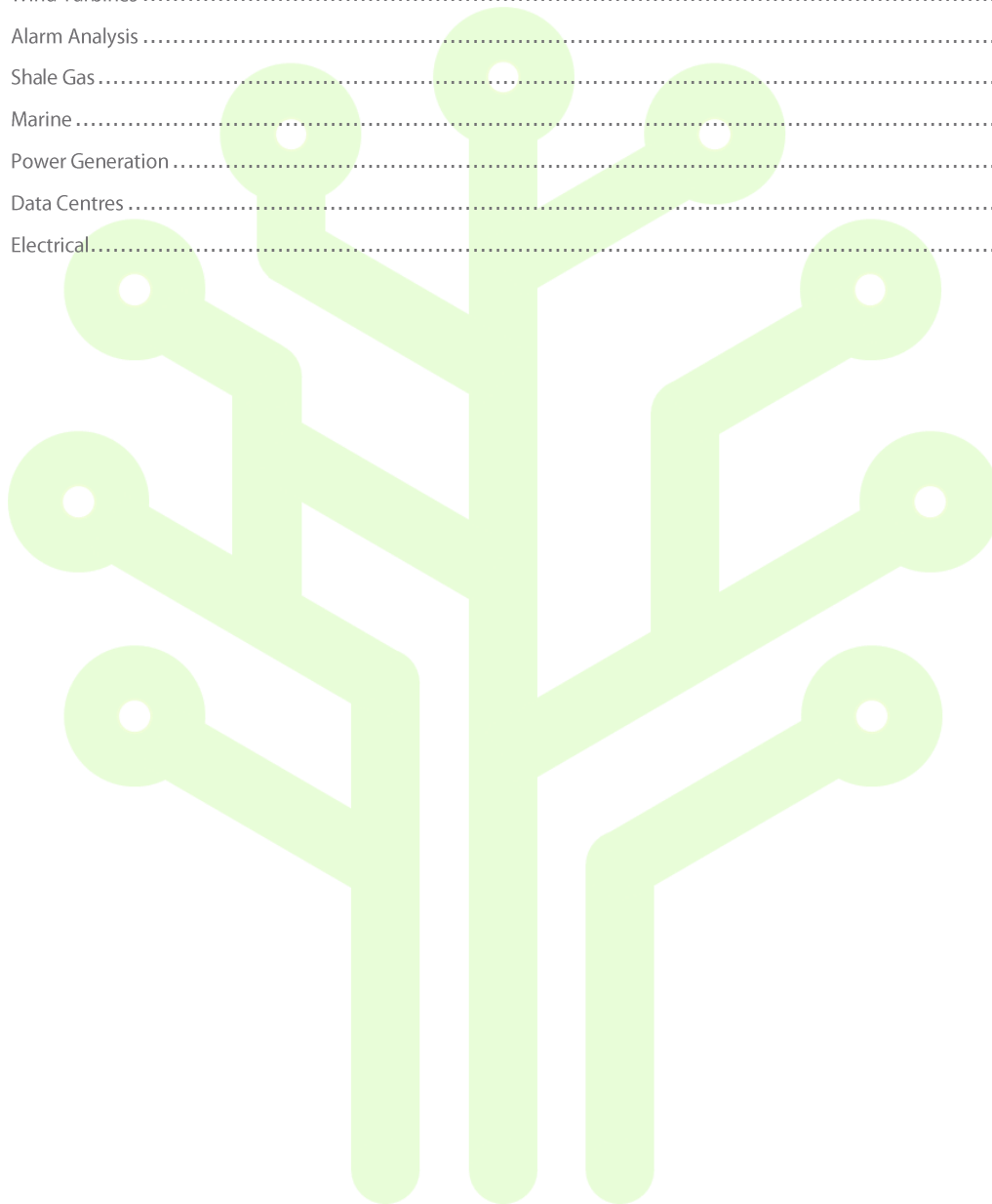
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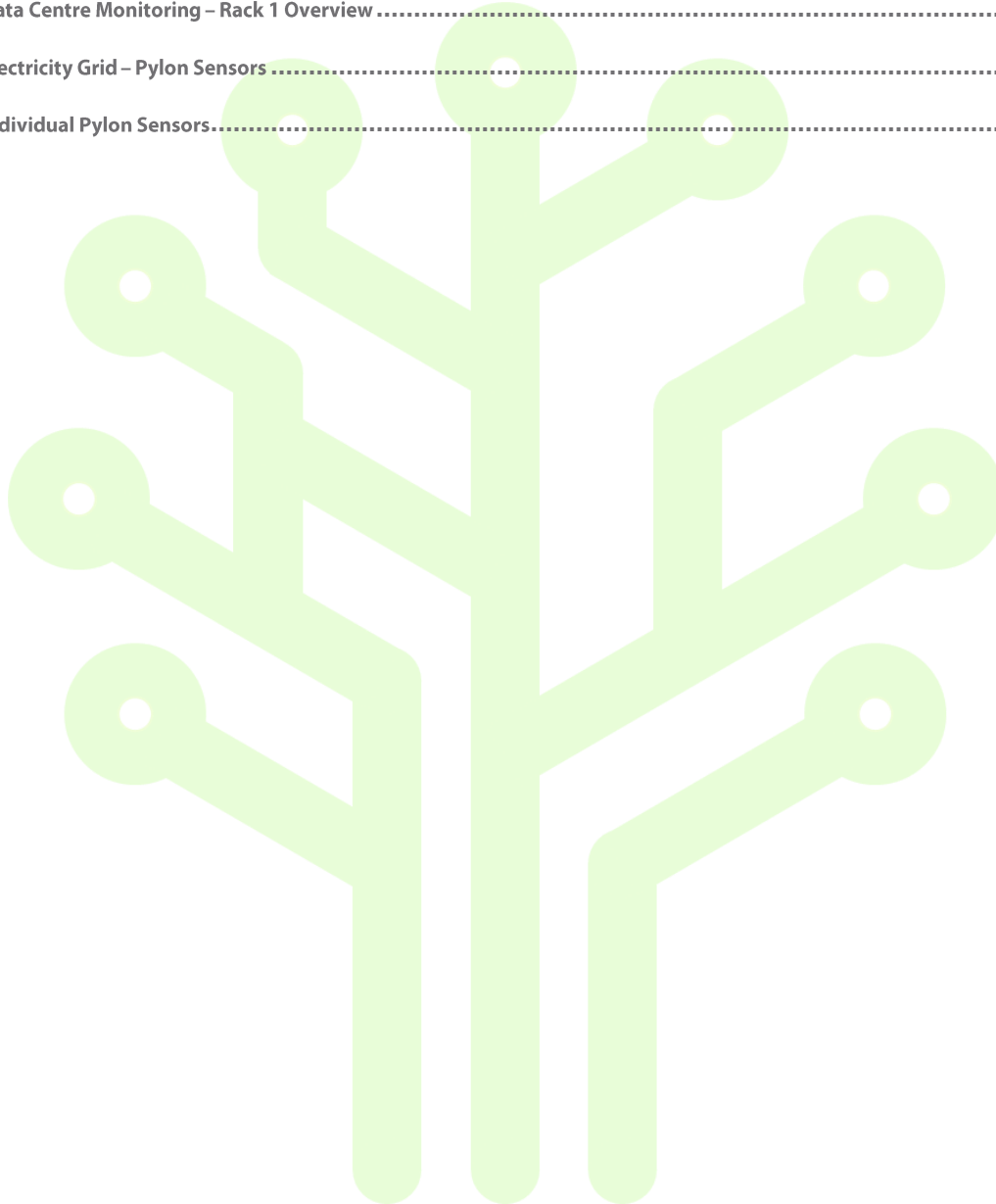


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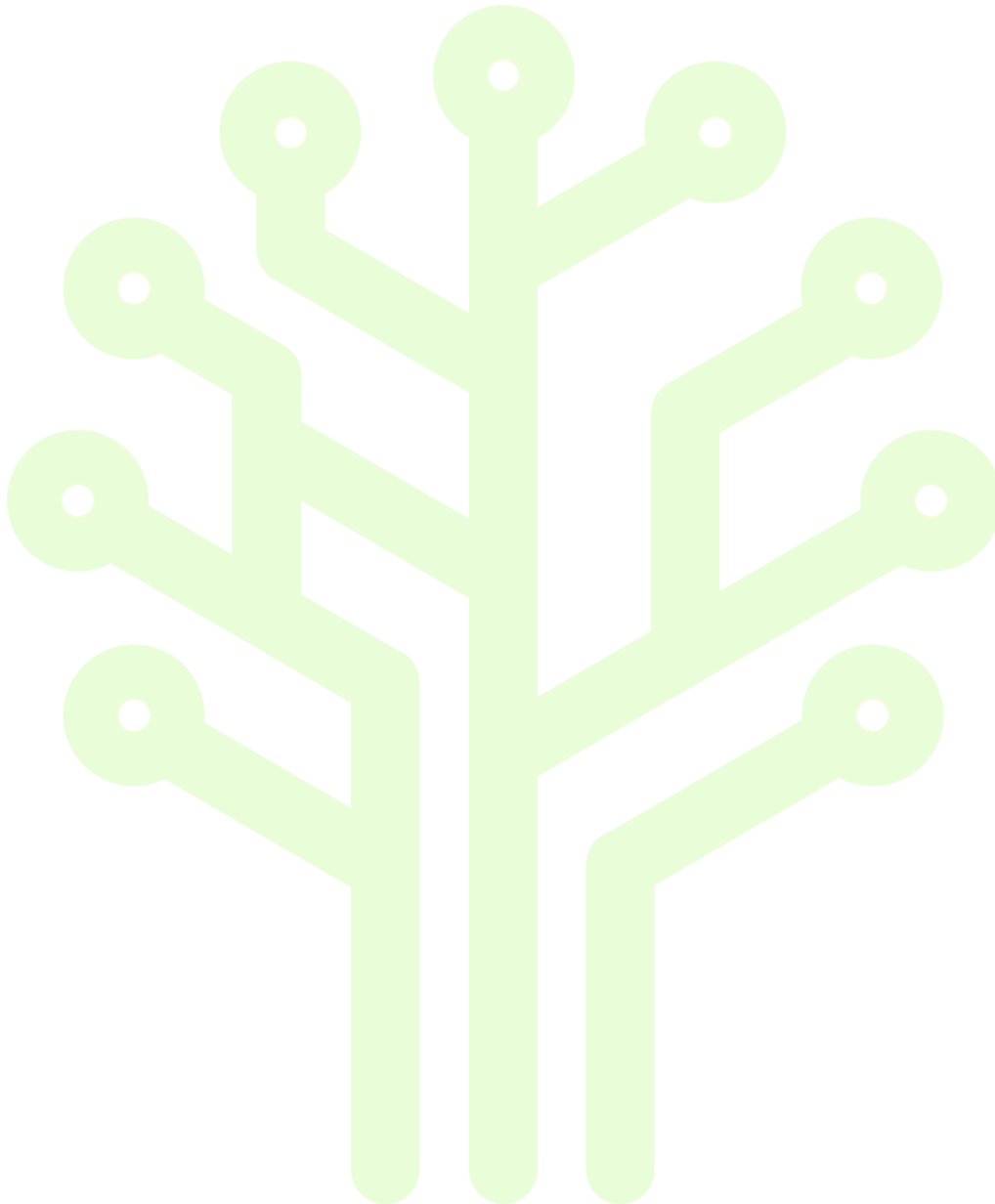
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## 1 Purpose of Document

This document gives instructions on how to use Gestalt PnID™. By following the detailed steps within this document this drawing tool allows the creation of simple graphics using lines, shapes, and text. Live data and events can be added to the graphics to show how equipment performs in real time.



## 2 What's New

This section allows users who may have already browsed this user guide a quick link option to look at the new features and enhancements.

### 2.1 February 2022

Images and some text updated to reflect new UI, updates within the Industrial App Store and new logo

### 2.2 November 2021

Updated images to reflect new layout of Left Side Panel.

Addition of Personal Dashboards and Group Dashboards (Sharing Permissions).

Go to Section 3.2.9 (Ctrl+Click)

### 2.3 September 2021

Images throughout the document have been updated in line with the new user interface.

Additions to the tool bar in the right-side panel and in Data & Events, these functional components are:

- Add Button
- Add Input Control
- Add Range Control

Go to Section 3.3.2 (Ctrl+Click)

Event Info in detail

Go to Section 3.3.5.2 (Ctrl+Click)

Additional Short-cut info updated to include:

- Canvas grid enable/disable option
- Copy and Paste Options

Go to Section 4 (Ctrl+Click)

### 2.4 December 2019

#### 2.4.1 Access to Gestalt PnID

Follow through the initial access instructions and see that Figure 3.3 is an additional step that the user takes from the Gestalt PnID postcard. Users can browse additional information or proceed straight to the Gestalt PnID tool by selecting the Start button.

Go to Section 3 (Ctrl+Click)

### 2.5 October 2019

#### 2.5.1 Creating Trends in Gestalt PnID

Updated info and rewording that shows the user how to create trends from a PnID.

Go to Section 5 (Ctrl+Click)

### 3 Access to Gestalt PnID™

Select this link [appstore.intelligentplant.com](https://appstore.intelligentplant.com) to log in to the Industrial App Store. Use either your Google, LinkedIn or Microsoft account or register your organisation with the Industrial App Store.

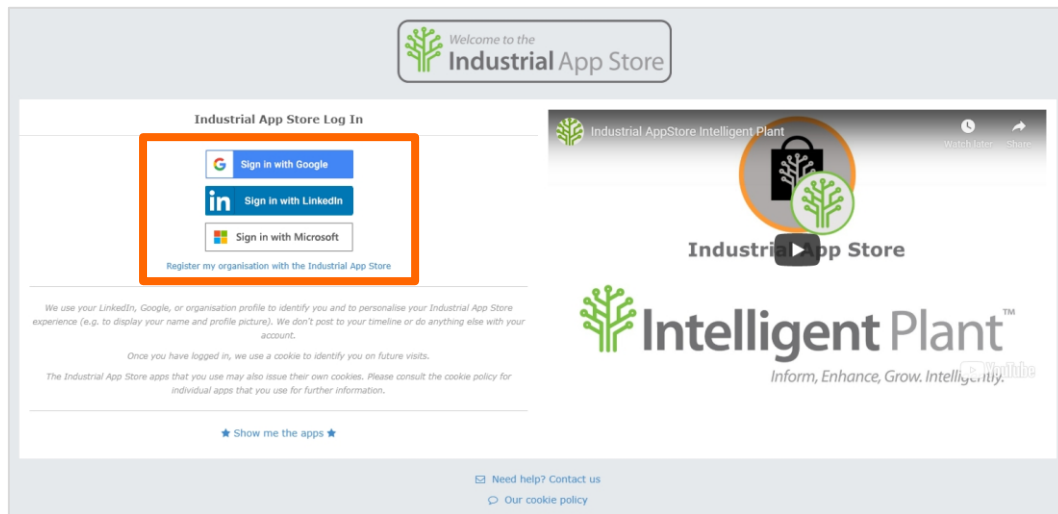


Figure 3-1 Access the Industrial App Store

On the Industrial App Store home page, mouseover the Gestalt PnID app card. You have the option to Start (where you will immediately be taken to the home page in PnID) or view More Info about this app.

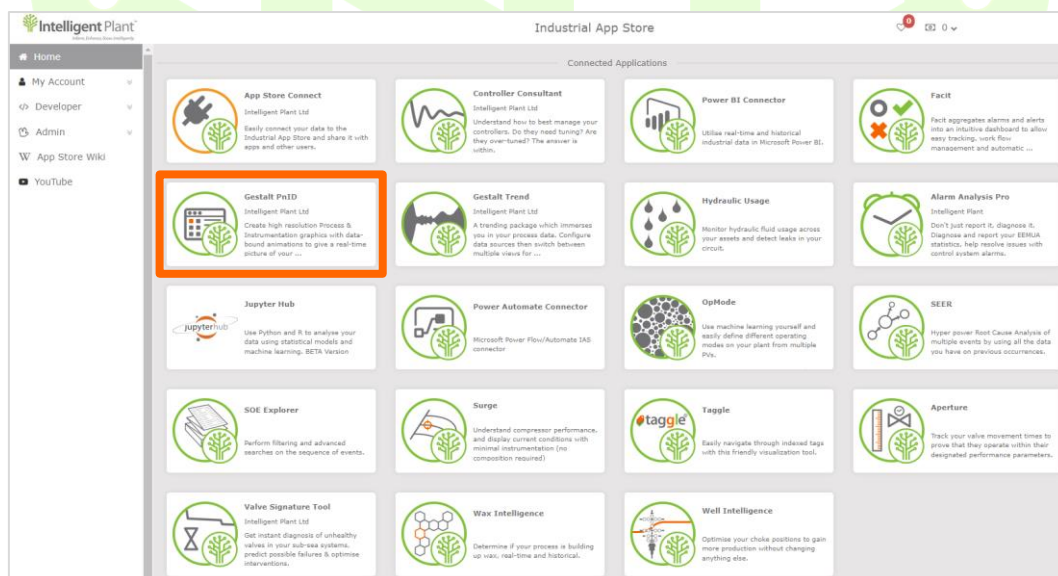
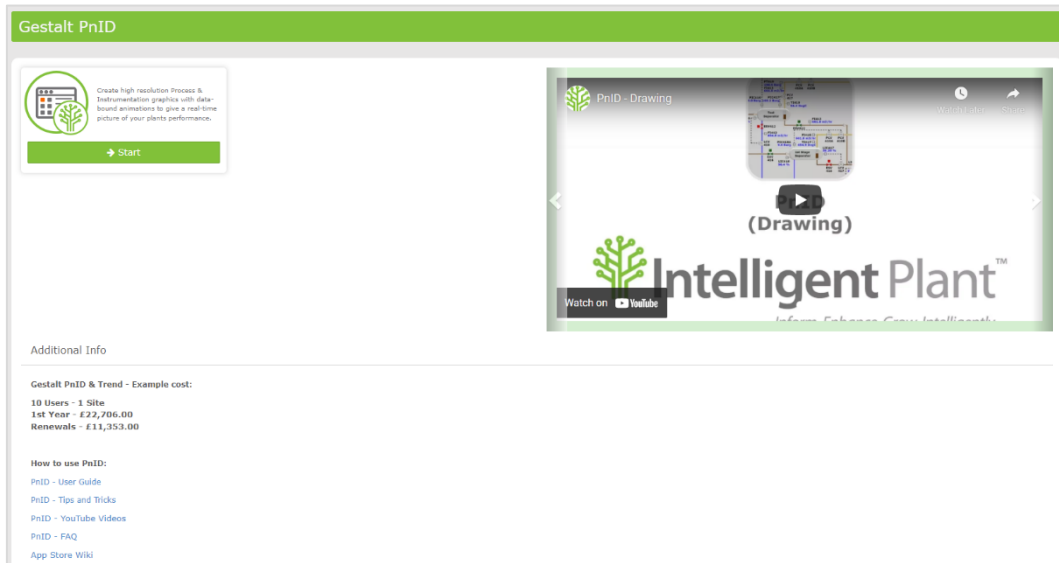


Figure 3-2 Industrial App Store Home Page

The more info link allows you to browse the profile page to find out a little more information regarding this tool.

You can also find links to the user guide, Tips and Tricks, YouTube Videos, FAQs, App Store Wiki and browse screenshots of dashboards that have been created in Gestalt PnID.



**Figure 3-3 Gestalt PnID Profile Area**

**Note:**

On selection of either of these links bookmark them for quick access next time.

On choosing Start you'll be taken to the home page. This page has links to demo pages, select any thumbnail to continue to that page.



**Figure 3-4 Gestalt PnID Home Page**

Each demo page has three arrows at the top right of each page. Select to go Back, Home or onto the Next page.



**Figure 3-5 Back, Home and Next Button Links - 1**

Any arrowhead shown as an outline indicates that there is no link present.





**Figure 3-6 Back, Home and Next Button Links – 2**

Once you have chosen a demo page to view you can browse through the rest of the demo pages by selecting the right arrow.



**Figure 3-7 Right Side – Link to Next Page button**

If you want to return to the demo home page, select the middle arrow.



**Figure 3-8 Home button – Return to all Demo Page Options**

If you want to go back one page, select the left arrow.



**Figure 3-9 Left Side – Return to Last Page button**

To access the Left-Side Panel select the icon at the top left of your screen.



**Figure 3-10 Select Icon to Access Left-Side Panel**

With the Left-Side Panel now in view you can select any option to continue.



Figure 3-11 Left-Side Panel

To start drawing, select Dashboards.

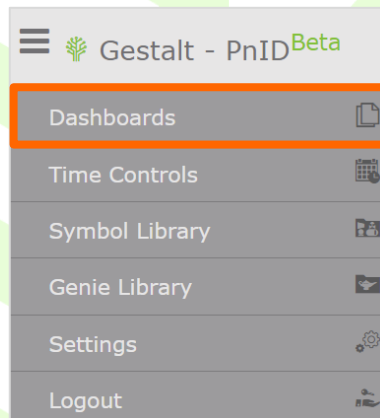


Figure 3-12 Access Dashboards Area

Select New.



Figure 3-13 Start a New Page

To start drawing you need to be in edit mode. Select Settings from the Left-Side Panel.



Figure 3-14 Settings

Run mode is set as the default option. To change to edit mode move the toggle option to the right.

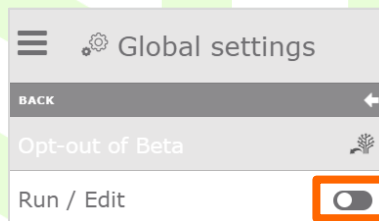


Figure 3-15 Run Mode

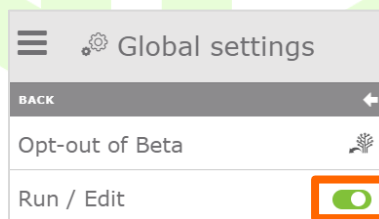


Figure 3-16 Edit Mode

As soon as you are in edit mode the Right-Side Panel will appear. You can hide or show the Right-Side Panel by selecting the tab indicator in the middle of this panel.



Figure 3-17 Right-Side Panel

You are now able to start drawing on the canvas.

**Note:**

A short cut to Edit Mode is to select Ctrl-E on your keyboard. Once in Edit Mode the short cut back to Run Mode is to select Ctrl-R on your keyboard.

(Ctrl+Click for all shortcut information)

### 3.1 Canvas Area

In the drawing canvas area, you can zoom in or out to your desired size. Precision can be controlled by using the snap to pixels feature in the Right-Side Panel. The snap ranges from 1 to 24, with 12 being the default snap (Ctrl+Click for more information).

Your drawing will fit any screen in run mode as the Zoomtofit feature in the Properties area within the Right-Side Panel is by default set at true.



Figure 3-18 Zoomtofit – true

### 3.2 Left-Side Panel

The Left-Side Panel has six options – Dashboards, Time Controls, Symbol Library, Genies Library, Settings and Logout.

#### 3.2.1 Dashboards

Select Dashboards to access an existing drawing or start a new drawing.

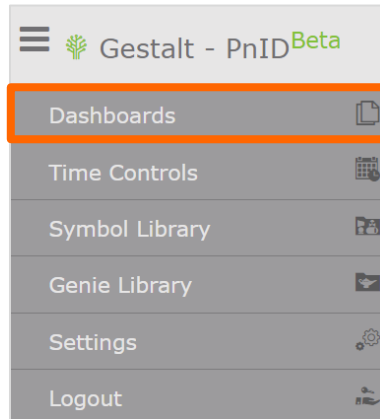


Figure 3-19 Left-Side Panel Options

To start a new drawing choose New.

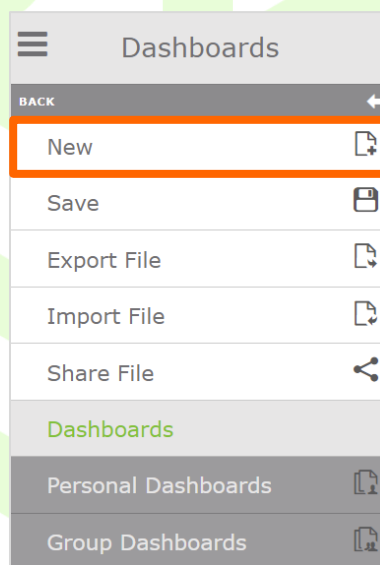


Figure 3-20 New Dashboard

A pop-up warning will appear saying you may lose work that has not been saved. Either save any work you have been doing or select OK.

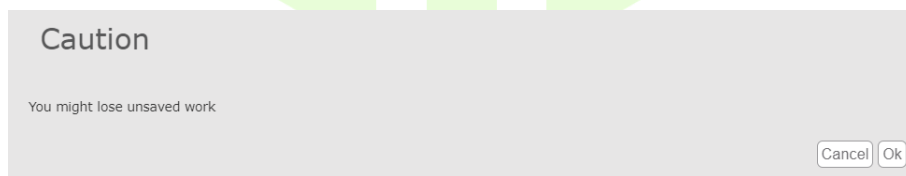


Figure 3-21 New Dashboard – Pop-Up Warning

For the new page you have created select Save As from the Personal Dashboards area and rename the page. Select OK.

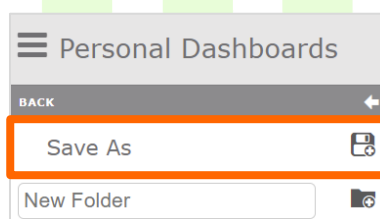


Figure 3-22 Saving a Dashboard

The canvas will now be set to your new page and you should see the new drawing name in the url.

### 3.2.2 Time Controls

Whilst in run mode, from the Left-Side panel select Time Controls.

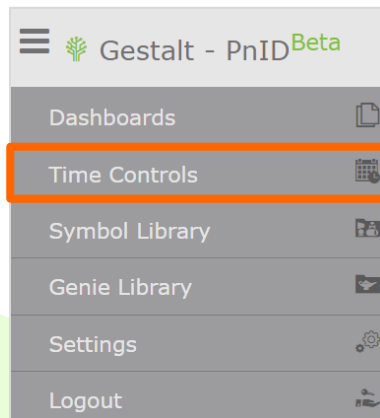


Figure 3-23 Left-Side Panel – Time Controls

By default, the Time Controls are set at real-time (Historical toggle button is set to off).

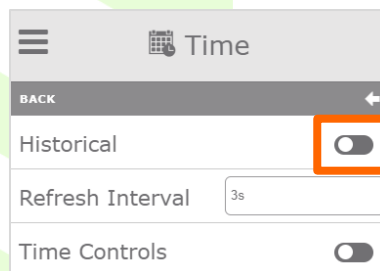


Figure 3-24 Time Controls – Real Time

To set the time to Historical move the toggle option to the right.

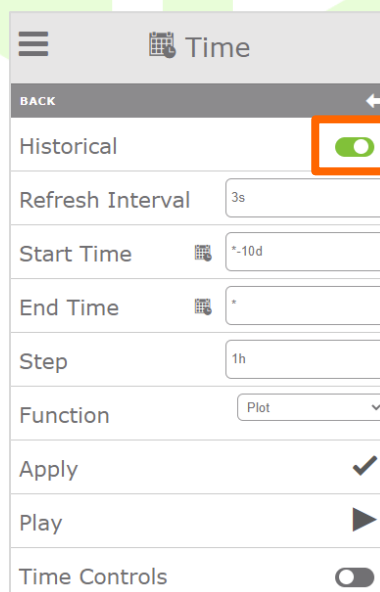


Figure 3-25 Time Controls - Historical

You can change the historical values by typing in your preferred range into the Interval, Start Time, End Time and Step.

Select Apply and press Play. If needed, change the Function to your preferred option from the dropdown menu, these are Plot, Interp, Max, Min, Avg, Raw.

To view the Data Controller, move the Time Controls toggle option to the right and see the Data Controller panel appear on the canvas.

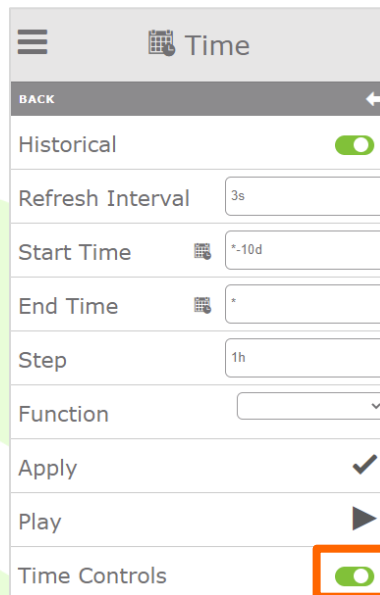


Figure 3-26 Time Controls – Toggle Option

**Note:**

In order for historical time to work you must link to your data (add tags). If you have not done this, a pop-up error will appear on the canvas. Select Ok to discard this pop-up.



Figure 3-27 Time Controls – Historical – No Data Added

You will see the Data Controller panel appear at the top of your screen. Select the Play icon. This will automatically step through the available data and loop back round when it gets to the end.

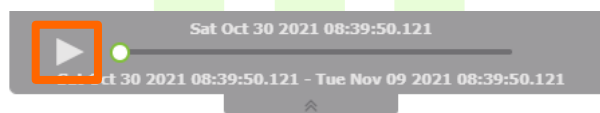


Figure 3-28 Toggle Time Controls Panel – Play

Select the stop icon to get playback to stop.

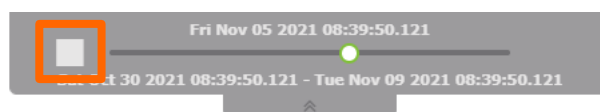


Figure 3-29 Toggle Time Controls Panel – Stop

While the time setting is at stop, you can mouse click on the slider (green/white circle) and step through time by using your keyboard arrows.



### 3.2.3 Symbol Library

A standard symbol library is included in PnID and contains basic symbols. Adding your own symbols to this library prevents having to draw repetitive objects. Just draw something once, then add it to the symbol library.

Open any folder in the symbol library. Select the symbol you wish to use and drag it onto the canvas.

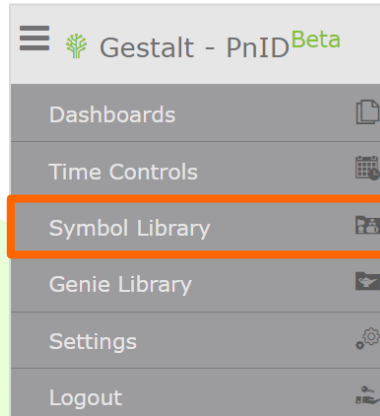


Figure 3-30 Symbol Library

To create your own symbol, draw your object then select the whole thing and group it. In the Properties area within the Right-Side Panel, update the group name in the Properties area from 'Group 0' (see image below) with your new symbol name. Select the Add symbol to Library option.

**Note:**

If you want your symbol to be placed in an existing folder in the symbols library, when you rename 'Group 0' you should add the folder name before the renamed symbol, for example:

**Shapes/SQUARE** would be placed in the Shapes folder in the symbol library. If no folder name is added before the symbol name, then your new symbol will appear in the main area of the symbol library.

SQUARE

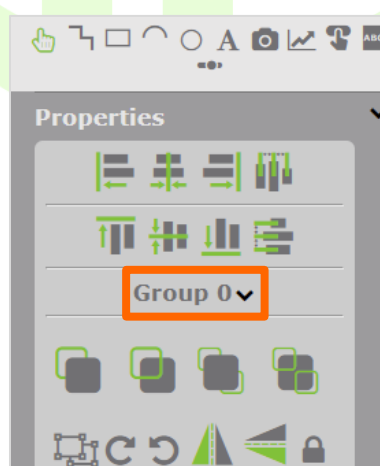


Figure 3-31 Rename the Symbol

Rename the symbol to a meaningful name. Select Add symbol to library.



Figure 3-32 Add Symbol to Library

You will be prompted with a pop-up asking if you want to retain the new symbol name. Select OK.

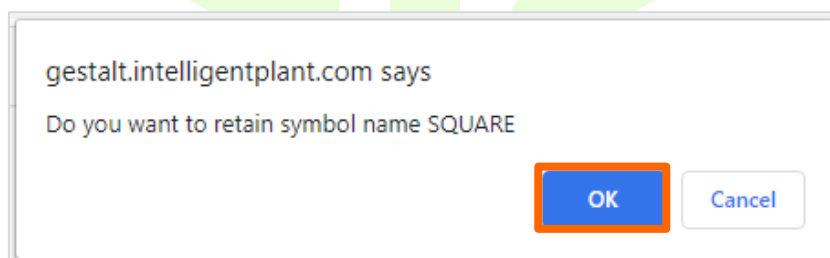


Figure 3-33 Retain Symbol Name

Another pop-up will appear confirming that the symbol has been successfully added to the symbol library. Select Ok to continue.



Figure 3-34 Symbol added to Library

**Note:**

The example 'SQUARE' symbol just created will appear in the main area of the symbol library and not in a specific folder, as no folder was included in the renaming of your symbol.

You can adapt symbols that are already in the symbol library or create your own.

Select the symbol from the library and drag it onto the canvas. Using the select icon select the whole symbol and choose the ungroup icon from the Right-Side Panel. You are now able to adapt the symbol to your own preferences. Once finished you can group your new symbol and add it to the symbol library. Go to the Properties area and rename your grouped symbol with a relevant description then select Add symbol to Library. Check the symbol library to see your newly created symbol.

### 3.2.4 Genie Library

A genie is a symbol that includes data. A standard genie library is included in PnID, this contains basic genies. Adding your own genies to this library will stop having to draw repetitive objects. Just draw something once, link to your data, then add it to the genie library.

Open the genie library. Select the genie you wish to use and drag it onto the canvas.

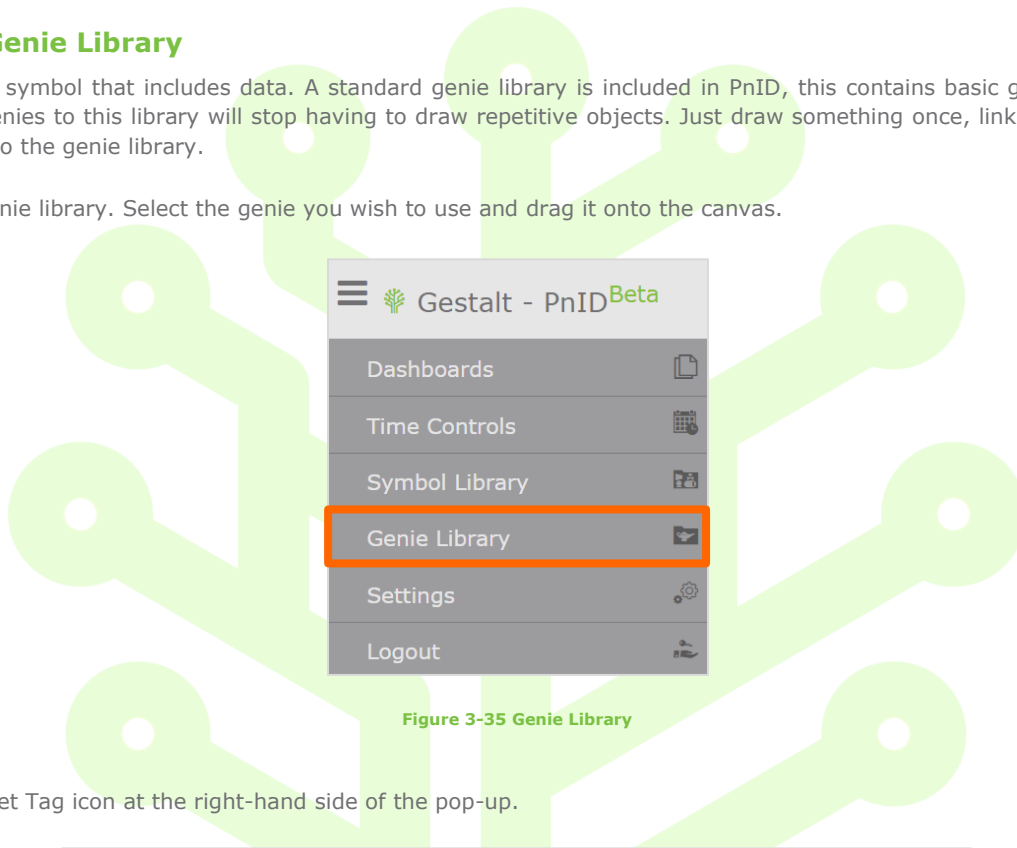


Figure 3-35 Genie Library

Select the Set Tag icon at the right-hand side of the pop-up.

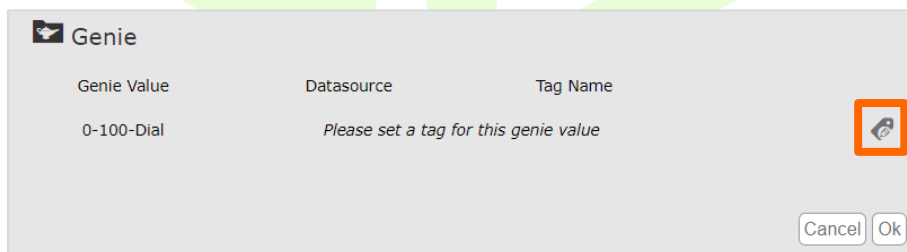


Figure 3-36 Genie Set-Up – Step 1

From the next pop-up choose the datasource and select the search button mid-way down on the right side of the pop-up. Select the Available Tags drop-down option and select the tag you wish to use. Select Ok.

Figure 3-37 Genie Set-Up – Step 2

**Note:**

In the Search area wildcards can be used. Like any other type of search feature, just type in part of a tag name after the asterix(\*) then select the Search button. Select the Available Tags drop-down option and select the tag you wish to use. Select Ok.

Figure 3-38 Genie Set-Up – Step 3

The last pop-up shows you the Genie Value, Datasource and Tag names. Select Ok.

Genie Value	Datasource	Tag Name
0-100-Dial	Vibration	Vib01.PV

Figure 3-39 Genie Set-Up – Step 4

The data you added into the genie is now within the genie that is on the canvas.

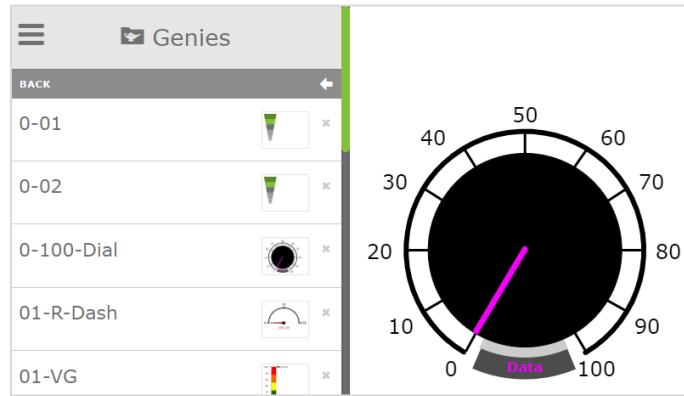


Figure 3-40 Genie Set-Up – Step 5

Adding a new genie to the genie library follows a similar pattern as adding a symbol to the symbol library. The difference being that with a genie you will be linking to data.

Draw your object, link to data, then select the whole thing and group it. Update the group name in the Properties area. Select the Add genie to Library option.



Figure 3-41 Add Genie to Library

Once you have added your genie to the library you will be prompted with a pop-up saying Genie has been successfully added to the genie library. Select Ok to continue. Check the genie library to see your newly created genie.

### 3.2.5 Settings

You can set your page to be in run or edit mode by either accessing the settings within the Left-Side Panel OR select Ctrl-E for edit mode or Ctrl-R for run mode (Ctrl+Click for all shortcut information).

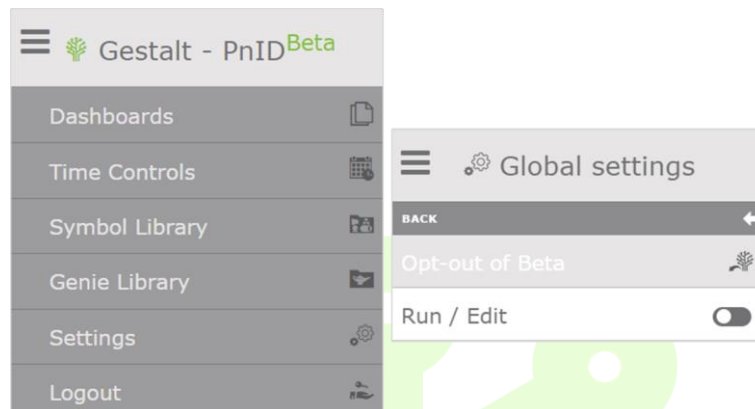


Figure 3-42 Run Mode

Move the Run/Edit toggle to the right to access edit mode.

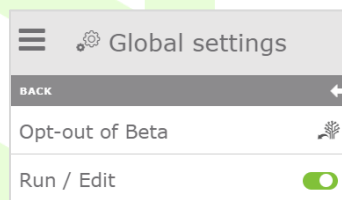


Figure 3-43 Edit Mode

To edit a page, make sure your settings are set to edit mode.

### 3.2.6 Licensing

If you have a stand-alone version of Gestalt PnID you can check your licence status in the Left-Side Panel. Users that don't have a stand-alone version will not see the License option.

### 3.2.7 Export

Copy a version of your drawing to your desktop or a folder. Select the drawing from the Dashboards area in the Left-Side Panel. Select Export and see the page being downloaded at the bottom left of your screen. Once the download is complete you can open or view it in the area it was exported to.

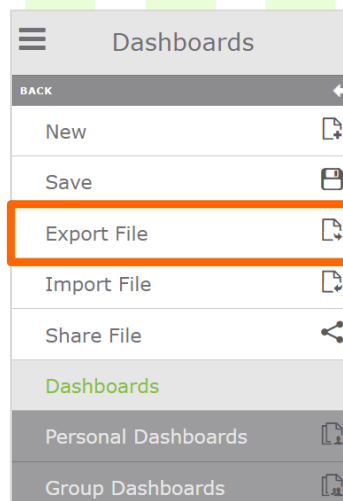


Figure 3-44 Export File from PnID

### 3.2.8 Import

To import a file into PnID select Import from the Dashboards area in PnID.

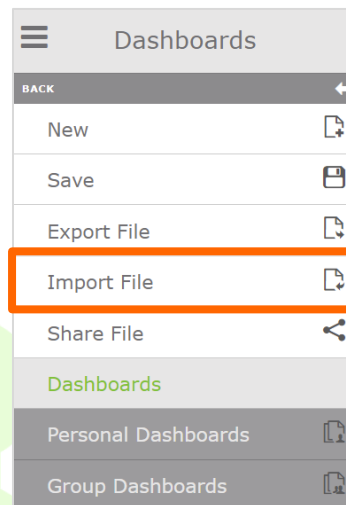


Figure 3-45 Import File into PnID

Browse for the file you wish to upload. Select the file, select Open.

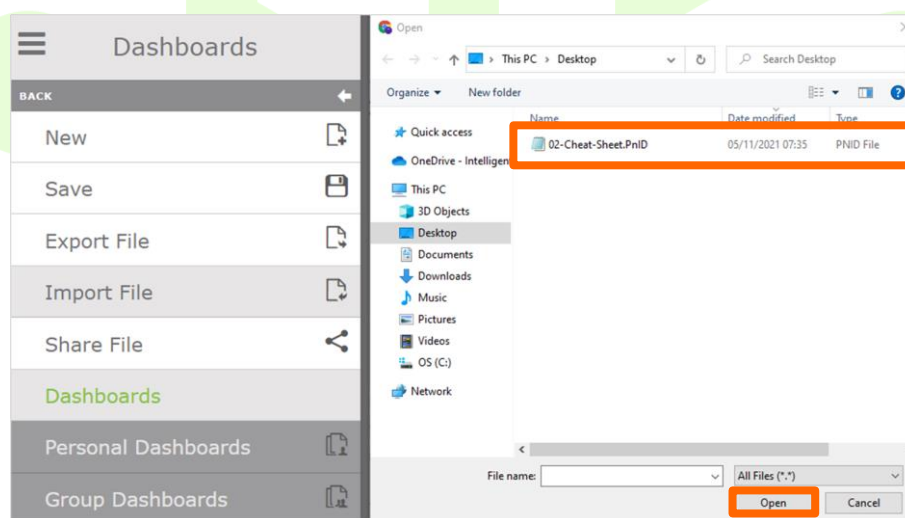


Figure 3-46 Browse File to Import

Save the file in the Dashboards area by selecting Save As and leave the file name as is or rename as required.

### 3.2.9 Share File

Allow other users to view your work. Open the file you want to share and select Share File from within the Dashboards area in the Left-Side Panel. When the share pop-up opens you will see two tabs - Share and Permissions.

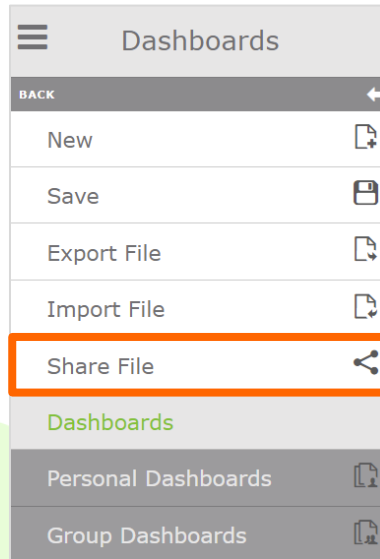


Figure 3-47 Share a File

Share Options Pop-Up shows:

- Name of the page you are sharing
- Drop-down menu - Users or Groups
- Search option to look for a user
- List of users who you can share with
- Previous and Next pages to look through the list of users
- Drop-down menu that gives the options to give Read, Write or Admin permission

From the Share tab, choose Users, then the name of that user. Select Read, Write or Admin option from the drop-down list. Select OK.

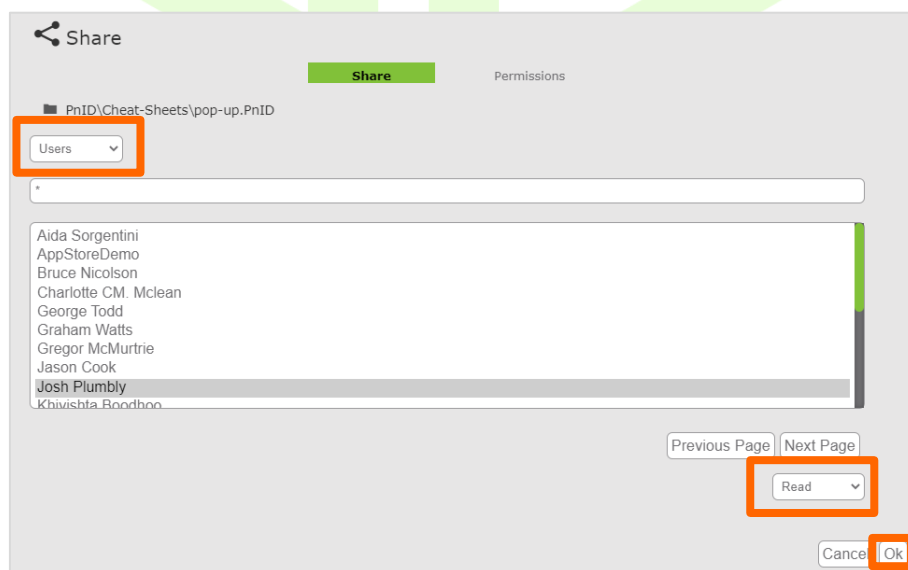


Figure 3-48 Share a File

A pop-up will appear saying that the share was successful.



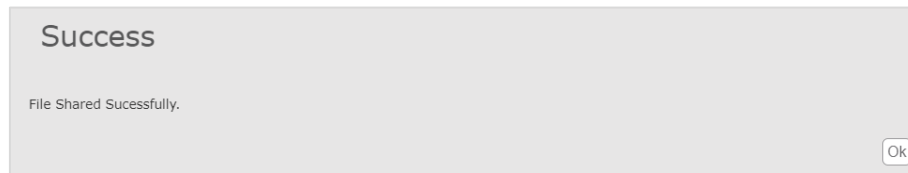


Figure 3-49 File Shared Successfully

Permissions Options Pop-Up shows:

- Users – Lists the page users and permissions they have
- Groups – Lists the groups and permissions they have

Select the Permissions tab to see the Users list for that page.

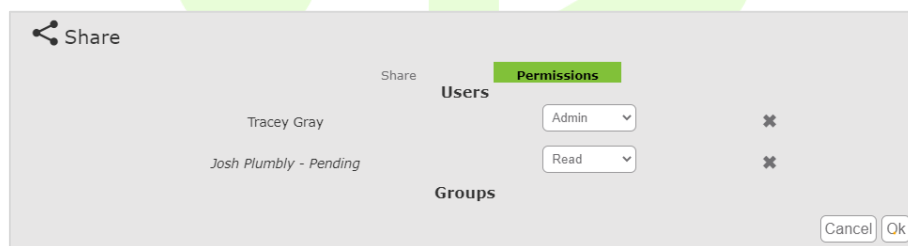


Figure 3-50 Permissions

The owner has Admin permission and the user you shared with has Read access only to that page. No permission has been granted to Groups. At this point the 'Pending' is set against the username you have shared with. This is because the user hasn't accepted the share yet. You can at this point change a user's permission from Read to Write or Admin, allowing them permission to update the page.

**Note:**

There must be at least one administrator.

When the user you've shared with opens the Personal Dashboards area in their Left-Side Panel they will be prompted that a new share is available to them.

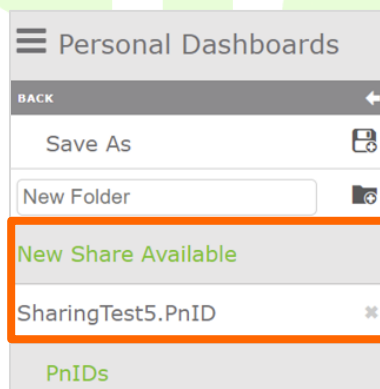
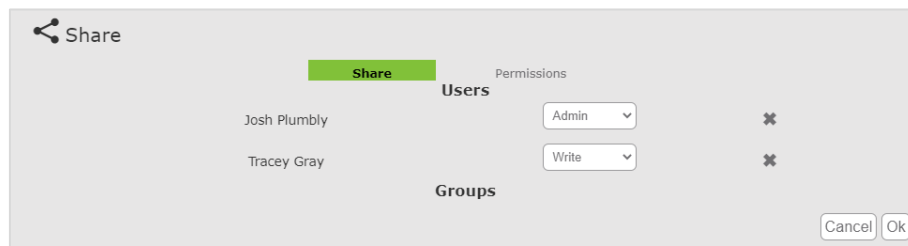


Figure 3-51 New Share Available

Select the shared file and it is immediately placed in the user's folder.

To check the shared file permission you have been given, open the file and choose Share File from the Left Side Panel. The pop-up will show the person that shared the file with you and your name and permission status. Choosing the Permissions tab will show you the same information.

As you were only checking your permissions status Select Cancel to close the pop-up.



**Figure 3-52 Shared File Status**

**Note:**

- You can only share a file or folder with users within your organisation
- If you move a file or folder that you've previously shared the shared users will still have access

Group sharing follows the same procedures as user sharing.

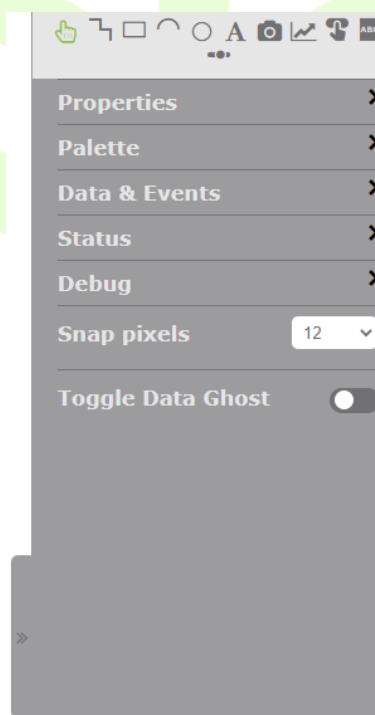
Groups that appear in the Group Dashboards area are part of the Industrial App Store Organisation Groups. Any share with a group will extend the privilege level to everyone in that group.

Go Back to Section 2 (Ctrl+Click)

### 3.3 Right-Side Panel

The Right-Side Panel is immediately visible when you choose edit mode. It can be closed by selecting the tab in the middle of the panel.

There are eight areas in this panel – Tool Bar, Properties, Palette, Link to Data, Status, Debug, Snap Pixels and Toggle Data Ghost.



**Figure 3-53 Right-Side Panel**

### 3.3.1 Drawing Toolbar

The Drawing Toolbar consists of eleven icons these are Select, Polyline, Rectangle, Arc, Circle, Add Text, Add Image, Add Chart, Add Button, Add Input Control, Add Range Control.

Select is the default icon.



Figure 3-54 Drawing Tool Bar

#### 3.3.1.1 Select

When you want to group, move or copy items choose the Select icon.



Figure 3-55 Select Icon

#### 3.3.1.2 Polyline

Select the Polyline icon.



Figure 3-56 Polyline Icon

Pick a start point on the drawing canvas grid and draw a line. Every time you click the mouse you set a point on the drawing canvas grid. Double Click to finish.

To make any shape with a Polyline pick a start point then pick different points on the drawing canvas. At the last point Double Click to finish.

Alternatively, you can draw your shape up to its second last point, double click, select the shape and choose the Closed Path option in the Properties area.

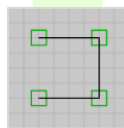


Figure 3-57 Select Shape

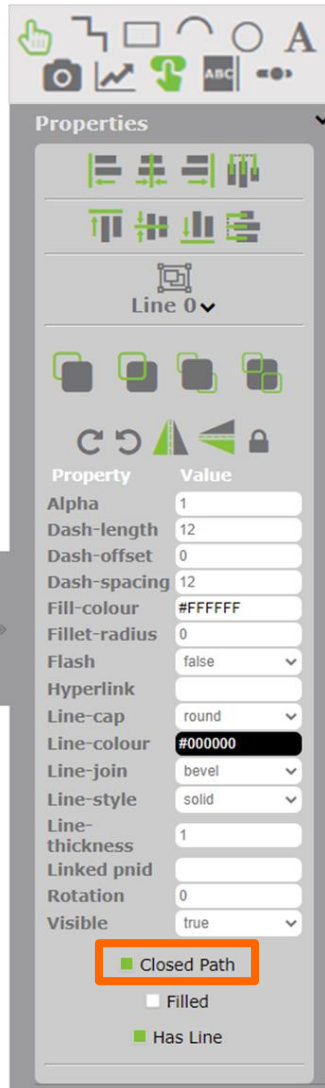


Figure 3-58 Select Closed Path

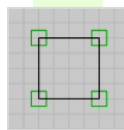


Figure 3-59 Shape Completed

### 3.3.1.3 Rectangle

Select the Rectangle icon.



Figure 3-60 Rectangle Icon

Pick a point on the canvas to create your rectangle or square. Stretch to your desired shape. Double click to finish.

### 3.3.1.4 Arc

Select the Arc icon.

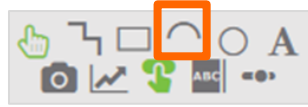


Figure 3-61 Arc Icon

There are several arc types to choose from.

#### Arc Type - Draw to Radius

Pick a start point on the drawing canvas and extend the line to the desired radius length. Click for end of radius and move the cursor round to see the Arc take shape. Select the Arc you have created then choose the Select icon above the Properties area. Go to the Arc properties in the Properties area and see that this arc is of type Draw to Radius.

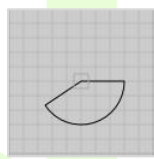


Figure 3-62 Arc Type – Draw to Radius

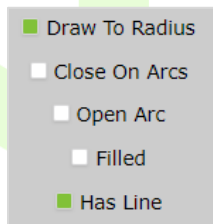


Figure 3-63 Draw to Radius with Line

#### Arc Type - Close on Arcs

Pick a start point on the drawing canvas and extend the line to the desired radius length. Click for end of radius and move the cursor round to see the Arc take shape. Select the Arc you have created then choose the Select icon above the Properties area. Go to the Arc properties in the Properties area and choose the Close on Arcs option.

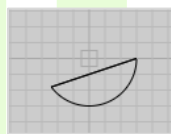


Figure 3-64 Arc Type – Close on Arcs

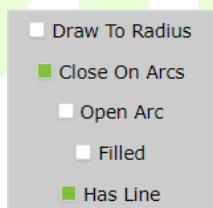


Figure 3-65 Close on Arcs with Line

### Arc Type - Open Arc

Pick a start point on the drawing canvas and extend the line to the desired radius length. Click for end of radius and move the cursor round to see the Arc take shape. Double Click to finish the Arc. Select the Arc you have created then choose the Select icon above the Properties area. Go to the Arc properties in the Properties area and choose the Open Arc option.

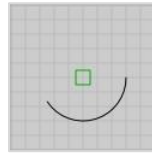


Figure 3-66 Open Arc

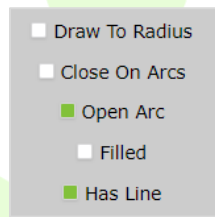


Figure 3-67 Open Arc Info with Line

### Arc Type – Filled

Pick a start point on the drawing canvas and extend the line to the desired radius length. Click for end of radius and move the cursor round to see the Arc take shape. Double Click to finish the Arc. Select the Arc you have created then choose the Select icon above the Properties area. Go to the Arc properties in the Properties area and choose the Filled Arc option. You can select or deselect any option to show that this shape is filled/unfilled with a colour and a line can be shown/hidden.

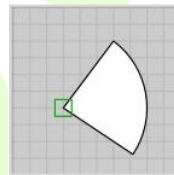


Figure 3-68 Arc Filled Info with Colour & Line

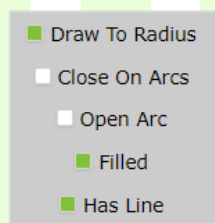


Figure 3-69 Arc Filled with Colour & Line

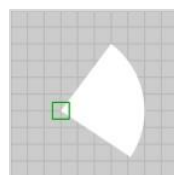


Figure 3-70 Arc Filled Info with Colour & No Line

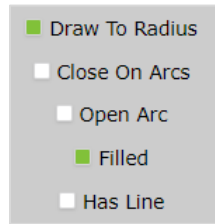


Figure 3-71 Arc Filled with Colour & No Line

### 3.3.1.5 Circle

Select the Circle icon.



Figure 3-72 Circle Icon

Pick a start point on the drawing canvas and extend the line to the desired radius length, click once on the canvas to see the circle at different sizes.

If the circle is too small, then click anywhere outside of the circle to see your new larger circle size. Alternatively, if the circle is too big select anywhere within the circle to reduce in size. Double Click to finish the Circle.

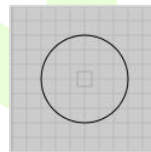


Figure 3-73 Draw Circle

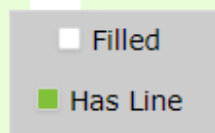


Figure 3-74 Circle with Line

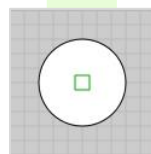


Figure 3-75 Circle Filled with Colour

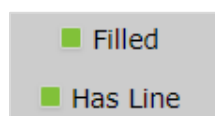


Figure 3-76 Circle Filled with Colour & Line

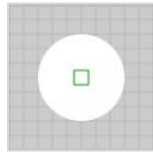


Figure 3-77 Circle Filled with No Line

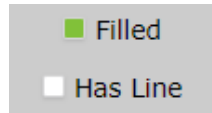


Figure 3-78 Circle Filled with Colour & No Line

### 3.3.1.6 Text

Select the Text icon.

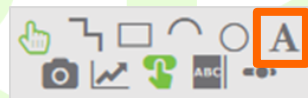


Figure 3-79 Text Icon

Place the cursor on the drawing canvas to see a sample of text appear on the screen. Select that piece of text and go to the Properties area. You can change any property value for the selected piece of text.

Properties that you can change in relation to your text are: Bold (True or False), Font Type (Choose from the drop-down menu), Font-Colour (Type in new hexadecimal value or mouse-click once for colour palette range and choose colour), Font-Size (Insert size) is recognised as pixel size, Italic (True or False), Text (Type in your new text).

Property	Value
Actual-height	21
Actual-width	103.974609375
Align	center
Alpha	1
<b>Bold</b>	false
Decimal places	1
Fill-colour	#FFFFFF
Flash	false
<b>Font</b>	Verdana, sans
<b>Font-colour</b>	#000000
<b>Font-size</b>	28
Hyperlink	
Italic	false
Line-colour	#000000
Line-height	28
Line-widths	
Linked pnid	
Maximum-width	0
Rotation	
<b>Text</b>	Text 13
Visible	true
X-scale	1
Y-scale	1

Figure 3-80 Text Attributes



Font-Colour can also be changed using the Palette option. Select all the text in your dashboard. Open the Palette option in the Right-Side Panel. If known, type in the hexadecimal value. Alternatively place your cursor in the hexadecimal value area and mouse-click once to view the colour palette range and choose colour. Once you have chosen your colour select Close.



Figure 3-81 Change Text Colour

### 3.3.1.7 Add Image

There are two ways to add images to your page:

- Copy files into the images folder on a web server if you are a standalone user
- Drag an image from your desktop directly onto the canvas

All images are encoded in Base64 and stored within your page.

Standalone users can select the Add Image icon.



Figure 3-82 Add Image Icon

Place the cursor on the drawing canvas and mouse-click once to see a sample image appear on the screen. Select that sample image and go to the Properties area. At the Property Src, type in the name and file type of your image. Your image should appear on the canvas.

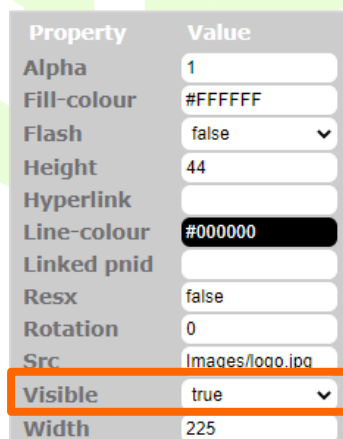


Figure 3-83 Image Properties - SRC

To add an image from your desktop. Select the image and drag it onto the canvas. Make sure you are in edit mode and that the Left-Side Panel is closed.

To change the image dimensions, select the image. Go to the Properties area and set the dimensions of your image in the height and width spaces. To keep the images aspect ratio, select the image, hold down the shift key and increase or decrease the image size holding down the left button on your mouse.

Property	Value
Alpha	1
Fill-colour	#FFFFFF
Flash	false
Height	44
Hyperlink	
Line-colour	#000000
Linked pnid	
Resx	false
Rotation	0
Src	Images/logo.jpg
Visible	true
Width	225

Figure 3-84 Image Properties – Height & Width

### 3.3.1.8 Add Chart

Select the Add Chart icon.



Figure 3-85 Add Chart Icon

Pick a point on the canvas and draw your chart area (This is similar to the Rectangle, where you pick a point on the screen and make the shape of a rectangle or square). Double click to finish.

Select your datasource, search and add your tag. Select Ok.

**Note:**

In the Search area wildcards can be used.

**Please select a tag**

To add a tag to this binding, simply query for it using the tools below, select it, and press OK.

**Datasource:**  
Please select a Datasource

**Search Method:**  
Search Query

**Search:**  
\* Search

**Available Tags:**  
Tags Returned: 0

Cancel Ok

Figure 3-86 Select a Datasource, Search and Add your Tag

Add your Data Range or select the Auto Scale check-box. Add the Number of Data Points. Select Ok.

**Note:**

The Auto Scale option will automatically use the range of current data as the limits for the sparkline.

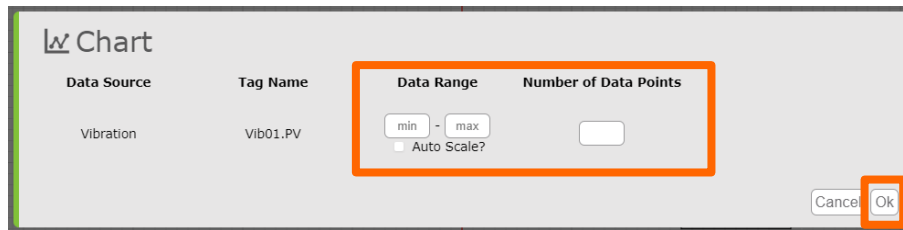


Figure 3-87 Add Data Range, Auto Scale and Number of Data Points

You will now see a spark line on your canvas that shows seven points (Number of Data Points). Set your time settings to historical in Time Controls in the Left-Side Panel.



Figure 3-88 Chart – Sparkline in Edit Mode

If you are still in edit mode, go to the Right-Side Panel and move the Toggle Data Ghost option to the right. You will see your spark line status move through the historical time that has been set.

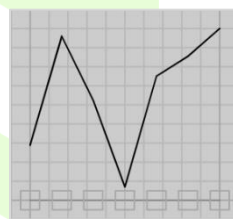


Figure 3-89 Chart – Sparkline in Edit Mode using Toggle Data Ghost

### 3.3.2 Functional Components

The functional components are - Add Button, Add Input Control and Add Range Control. They allow user interaction to be added to your page and allow custom events to be assigned to them. Choosing one of these options allows you to enable different events.



Figure 3-90 Adding Events

#### 3.3.2.1 Add Button

Select the Add Button icon.



Figure 3-91 Add Button Icon

Click once on the canvas to see your button appear.

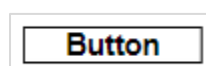


Figure 3-92 Button

In the right-side panel choose the select icon and select the button that was just placed on the canvas.

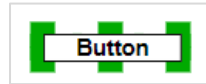


Figure 3-93 Button Selected

Go to the Data & Events option in the right-side panel and choose the manage events icon.

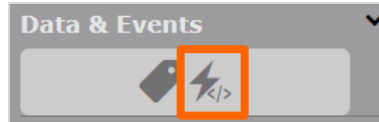


Figure 3-94 Events Option

The Event Manager pop-up will appear allowing you to select your event type and add the relevant code.

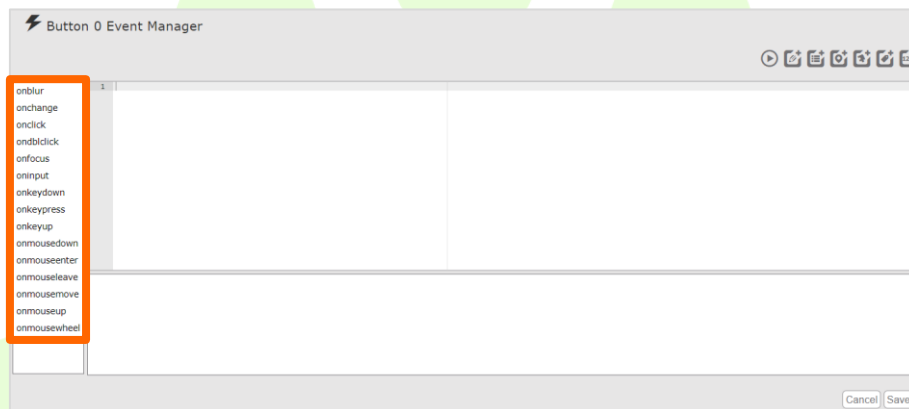


Figure 3-95 Event Manager – Event Types

Follow the above steps for all functional components (Add Button, Add Input Control, Add Range Control).

For more information on Events:

Go to Section 3.3.5.2 (Ctrl+Click)

or

Go Back to Section 2 (Ctrl+Click)

### 3.3.2.2 Add Input Control

Select the Add Input Control icon.



Figure 3-96 Add Input Control Icon

Click once on the canvas to see the input control box appear.

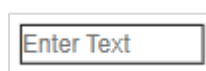


Figure 3-97 Input Control Box

Follow the steps as indicated previously for all functional components – Choose the manage events icon. When the pop-up appears choose the event type and add the relevant code.

For more information on Events:

Go to Section 3.3.5.2 (Ctrl+Click)

or

Go Back to Section 2 (Ctrl+Click)

### 3.3.2.3 Add Range Control

Select the Add Range Control icon.



Figure 3-98 Add Range Control Icon

Click once on the canvas to see the range control slider appear.



Figure 3-99 Add Range Control Slider

Follow the steps as indicated previously for all functional components – Choose the manage events icon. When the pop-up appears choose the event type and add the relevant code.

For more information on Events:

Go to Section 3.3.5.2 (Ctrl+Click)

or

Go Back to Section 2 (Ctrl+Click)

### 3.3.3 Properties

In the Properties area you can align shapes and text, change text properties, change the background colour (fill colour), change the height and width of your page or images and change line properties.

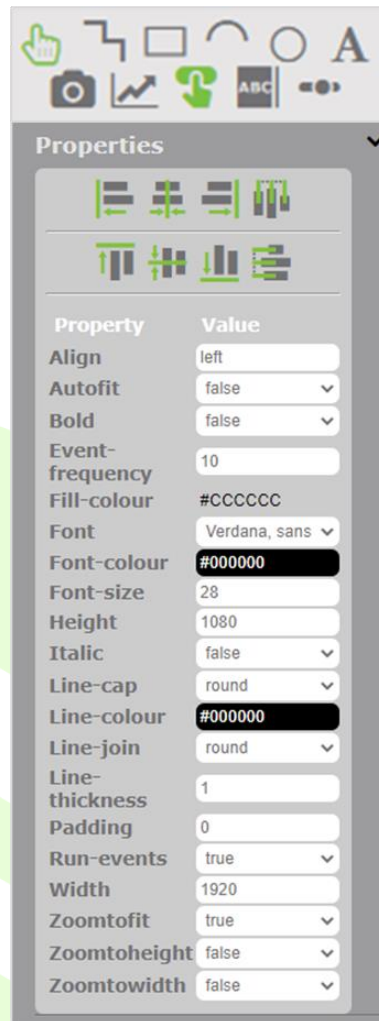


Figure 3-100 Properties

### 3.3.3.1 Grouping

To group lines or shapes choose the Select icon from the tool bar. Select the items to group then select the Group icon from the Properties area.

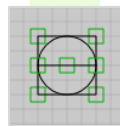


Figure 3-101 Select Items to group



Figure 3-102 Group Icon

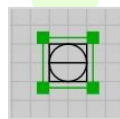


Figure 3-103 Grouped Icon

### 3.3.3.2 Copying

Select your object to copy and right click on your mouse and a pop-up will appear. Select copy then right click again and select paste. Alternatively, you can copy using the keyboard. Select the object to copy and select Ctrl-C to copy, then select Ctrl-V to paste.

If you have an item in the Symbol Library, drag the item from there onto the drawing canvas and copy as many times as you require. Alternatively, just keep dragging the same symbol from the library onto the canvas as required.

### 3.3.3.3 Bring to Front/Send to Back

Select the shape or line you want to 'Bring to Front' or 'Send to Back'. Select the icon from the Properties area.

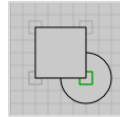


Figure 3-104 Circle Behind



Figure 3-105 Select Bring to Front Icon

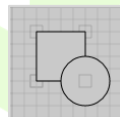


Figure 3-106 Circle in Front



Figure 3-107 Select Send to Back Icon

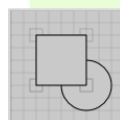


Figure 3-108 Circle Behind

### 3.3.3.4 Rotation

Using the Rotation icons in the Properties area you can rotate a grouped object by 90-degree increments. To rotate clockwise or anti-clockwise, Select the object to rotate and choose either of the rotate icons.

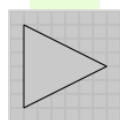


Figure 3-109 Original Position



Figure 3-110 Rotate Clockwise Icon

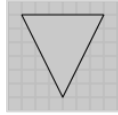


Figure 3-111 New Position



Figure 3-112 Rotate Anti-Clockwise Icon

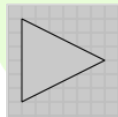


Figure 3-113 New Position

**Note:**

To rotate text or an object you can also use the rotate feature in the Properties area. Select your text or grouped object. In the Properties area scroll down to Rotation and add the new rotation angle.

Property	Value
Alpha	<input type="text" value="1"/>
Dash-length	<input type="text" value="12"/>
Dash-offset	<input type="text" value="0"/>
Dash-spacing	<input type="text" value="12"/>
Fill-colour	<input type="text" value="#FFFFFF"/>
Fillet-radius	<input type="text" value="0"/>
Flash	<input type="text" value="false"/>
Hyperlink	<input type="text" value=""/>
Line-cap	<input type="text" value="round"/>
Line-colour	<input type="text" value="#000000"/>
Line-join	<input type="text" value="bevel"/>
Line-style	<input type="text" value="solid"/>
Line-thickness	<input type="text" value="1"/>
Linked pnid	<input type="text" value=""/>
Rotation	<input type="text" value="0"/>
Visible	<input type="text" value="true"/>

Figure 3-114 Text Rotation



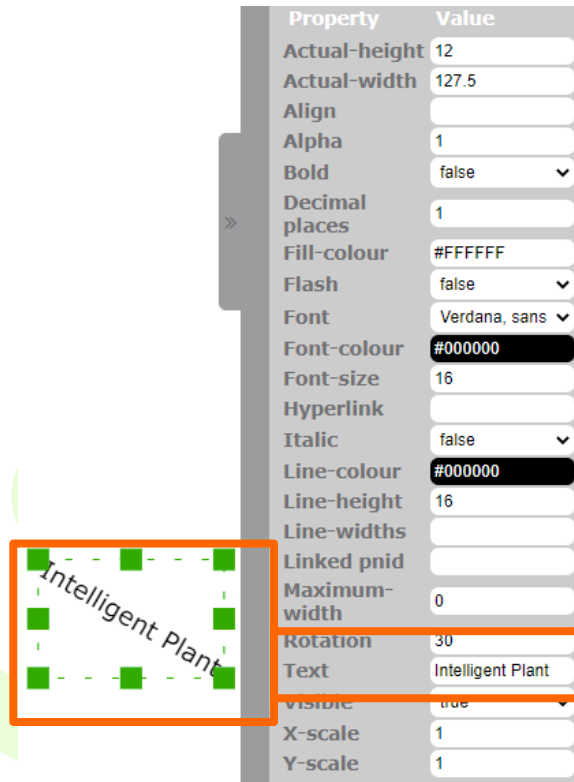


Figure 3-115 New Text Rotation

### 3.3.4 Palette

Select the Palette option from the Right-Side panel to open. You can choose colours for a Line or Fill from the Palette. If known, type in the hexadecimal value. Alternatively place your cursor in the hexadecimal value area and mouse-click once to view the whole colour range pop-up and select your colour. Once you have chosen your colour select Close.

You can set a Line or Fill to be shown or hidden by selecting the icons at the right side of the palette. The example shows that the line will be black, whilst the fill is hidden. If you select Fill icon at the right-hand side, the shape will have a black outline and a fill colour of white.

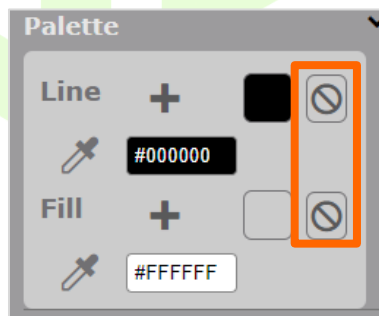


Figure 3-116 Palette

### 3.3.5 Data & Events

Selecting either the tag or event icon allows you to add data or an event to your page.

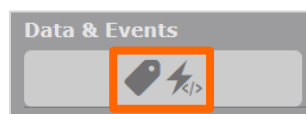


Figure 3-117 Data & Events

### 3.3.5.1 Data

From the canvas select the object you would like to add data bindings to. Select the Data & Events option from the Right-Side Panel to open.

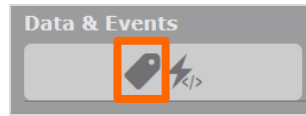


Figure 3-118 Tag Icon

Select the tag icon.

#### Text Bindings

When the pop-up appears select the icon at the right side of the pop-up.

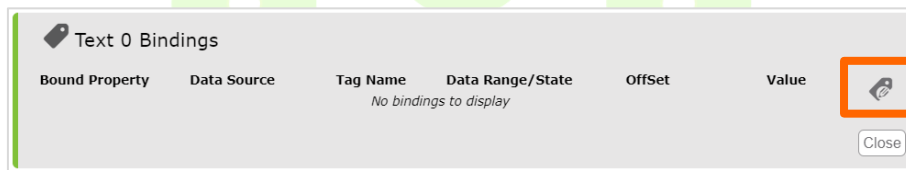


Figure 3-119 Text Bindings – Select Icon

Select the left icon at the right side of the pop-up.

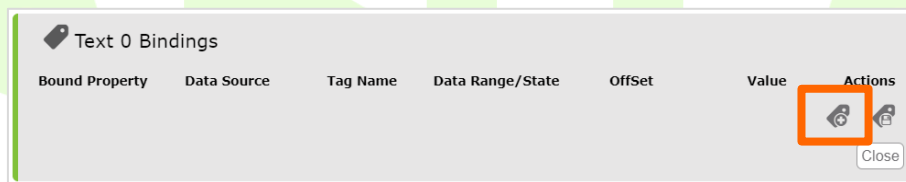


Figure 3-120 Text Bindings – Select Left Icon

Select the Datasource name from the drop-down menu. Select the Search button and select one of the tags from the available tag list. Select Ok.

#### Note:

In the Search area wildcards can be used.

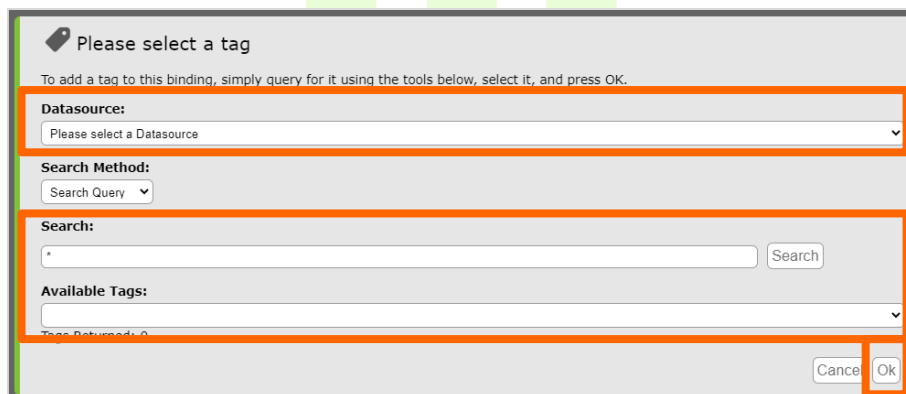


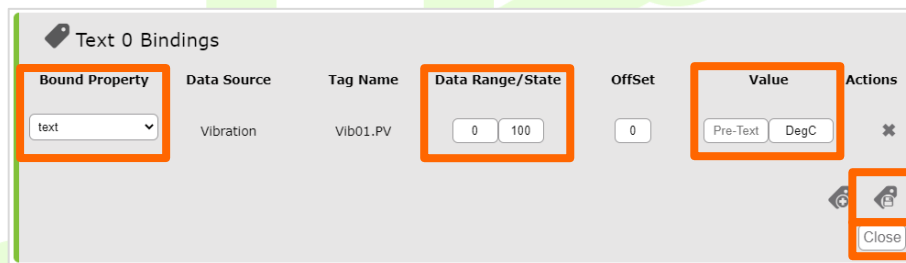
Figure 3-121 Datasource, Search and Available Tags

You will see that the selected Datasource and tag name appear in this pop-up.



**Figure 3-122 Set Tag Properties for Text**

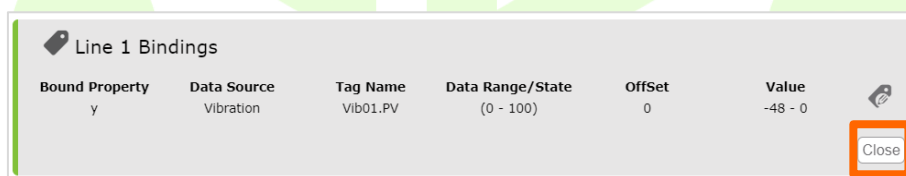
Go to the Bound Property drop down list and select Text. Set the Data Range for the text. Add a Pre-Text descriptor if you want any text to appear before the completed text binding. Add a Post-Text descriptor if you want any text to appear after the text binding.



**Figure 3-123 Tag Properties – Data Range/Set**

If no Value Pre-Text or Post-Text is needed select the Save icon on the right-hand side, then select Close.

The last pop-up shows all the binding properties for that piece of text. Select Close.

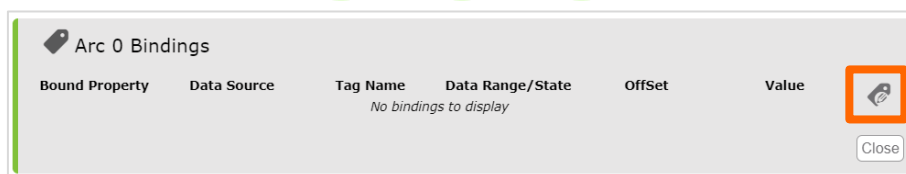


**Figure 3-124 Tag Properties Completed**

With your page in Run Mode, you can see how the tag is performing in real time by selecting the Play icon in the Time Controls area in the Left-Side Panel.

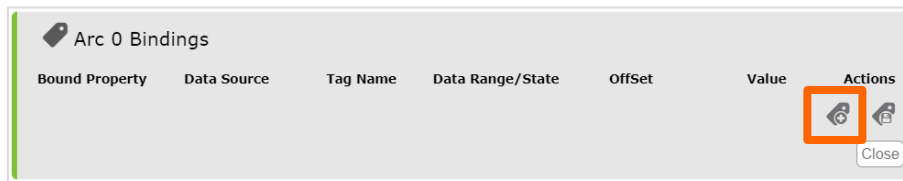
### Colour Bindings

Select the shape you want to add a colour binding to and choose Link to Data from the Right-Side Panel. When the pop-up appears select the icon at the right side of the pop-up.



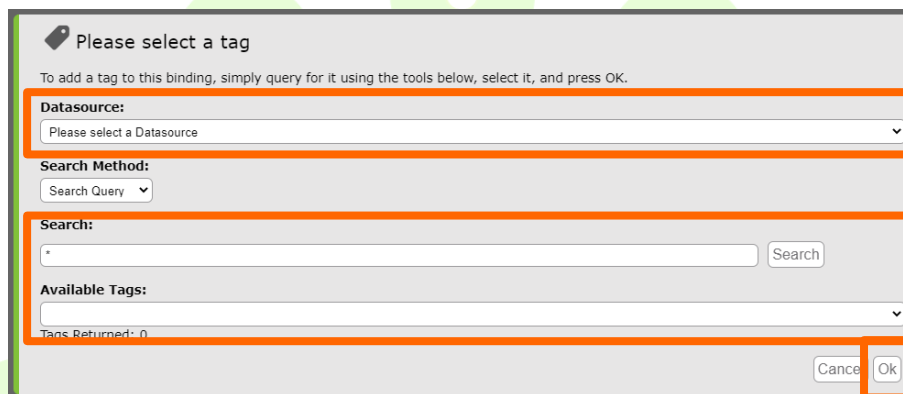
**Figure 3-125 Colour bindings – Select Icon**

Select the left icon at the right side of the pop-up.



**Figure 3-126 Colour Bindings - Bindings – Select Left Icon**

Select the Datasource name from the drop-down menu. Select the Search button and select one of the tags from the available tag list. Select Ok.



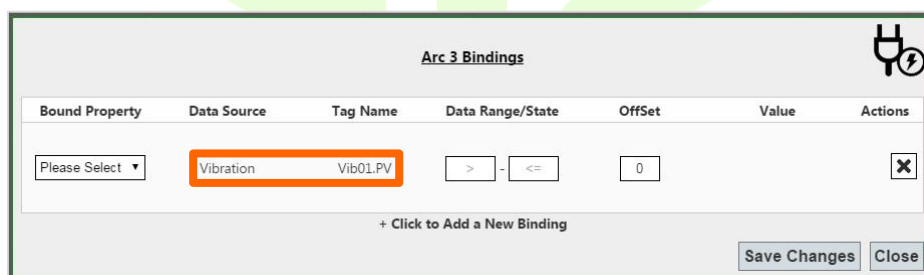
**Figure 3-127 Datasource, Search and Available Tags**

Select the Datasource name from the drop-down menu. Select the Search button and select one of the tags from the available tag list. Select OK.

**Note:**

In the Search area wildcards can be used.

You will see that the Datasource and tag names already chosen, appear in the pop-up.



**Figure 3-128 Set Tag Properties for Colours**

Go to the Bound Property drop down list and select fill-colour. Set the Data Range for the fill-colour. Change the Value default colour if needed by either typing in the hexadecimal value or click in the Value box for the colour palette. Once you have chosen the colour, select Close to close the palette. If you need to set another data range, select the left icon on the right side of the panel to add the new binding and follow the same process. Once all the ranges have been added select the Save icon on the right side, then select Close.

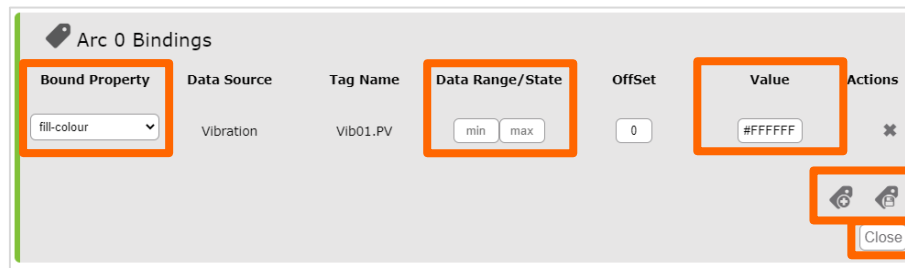


Figure 3-129 Tag Properties – Bound Property, Data Range/State and Colour

Once all the ranges have been added select the Save icon on the right side, then select Close.

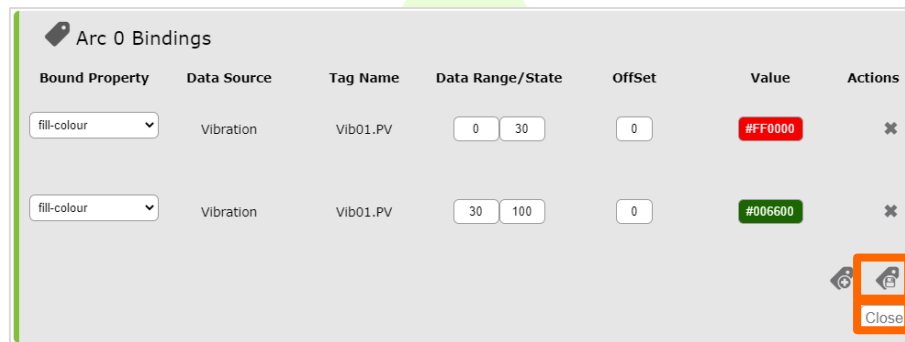


Figure 3-130 Tag Properties – Add another Bound Property, Data Range/State and Colour

The last pop-up shows all of the binding properties for that object. Select Close.

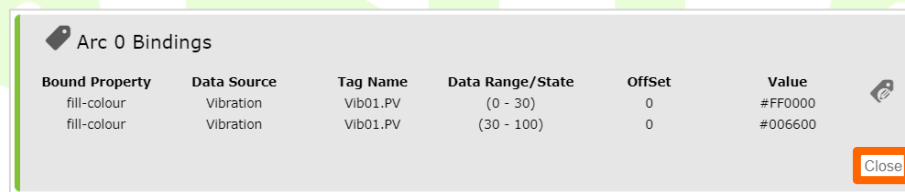


Figure 3-131 Tag Properties Completed for Colour Bindings

With your page in run mode, you can see how the tags perform in real time by selecting the Play icon in the Time Controls area in the Left-Side Panel (In run mode this shape will be red when the data falls between 0-30 and green when the data falls between 30-100).

You can also set colour bindings to line-colour and font-colour. These options can be found in the Bound Property drop down menu.

### Fill Animation

If you have a shape where the fill animation will go in an upward/downward direction (Y-axis) choose the top two nodes of that shape. If you have a shape where the direction will go to the right/left (X-axis) choose the nodes that are at the right side of your shape.

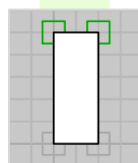


Figure 3-132 X-Y Fill Animation

Select the Link to Data icon from the Right-Side Panel. When the pop-up appears select the icon at the right side of the pop-up.

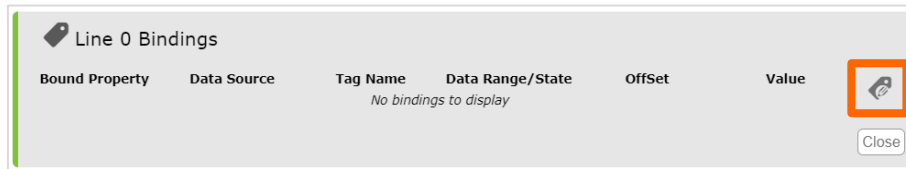


Figure 3-133 X-Y Fill Animation – Select Icon

Select the left icon at the right side of the pop-up.

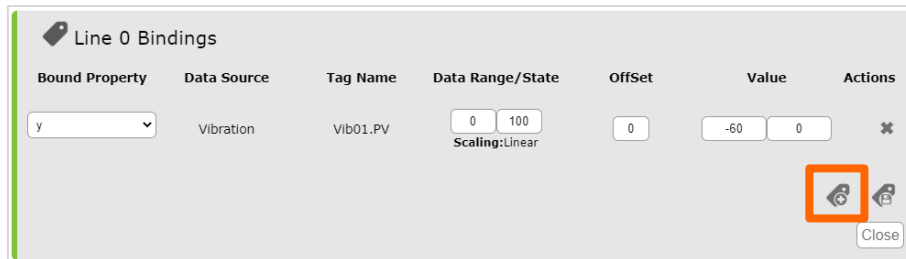


Figure 3-134 X-Y Fill Animation – Select Left Icon

Select the Datasource name from the drop-down menu. Select the Search button and select one of the tags from the available tag list. Select Ok.

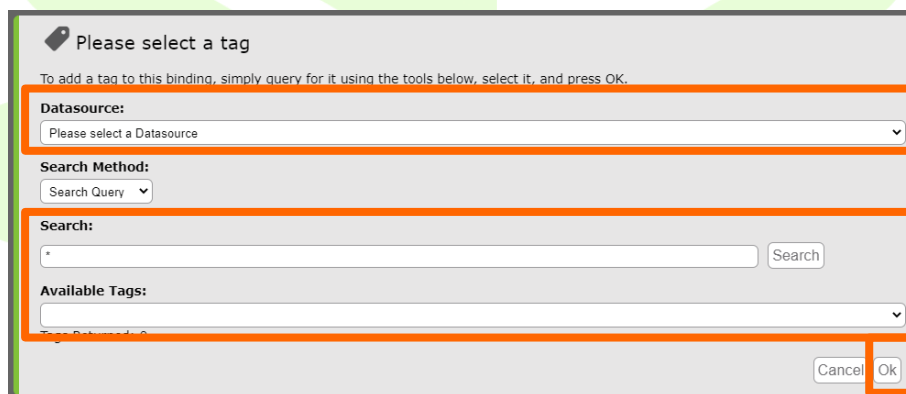


Figure 3-135 Datasource, Search and Available Tags

Select the Datasource name from the drop-down menu. Select the Search button and select one of the tags from the available tag list. Select OK.

**Note:**

In the Search area wildcards can be used.

You will see that the Datasource and tag names already chosen, appear in the pop-up.

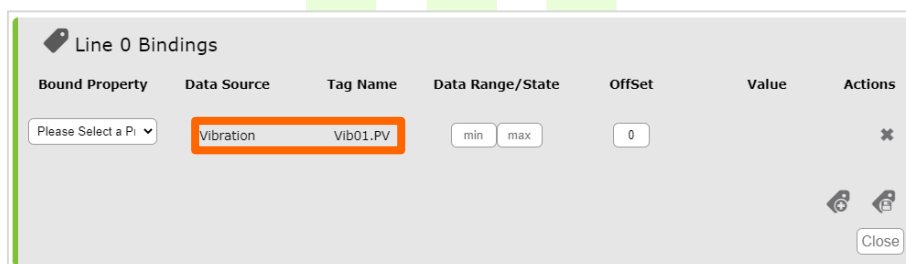
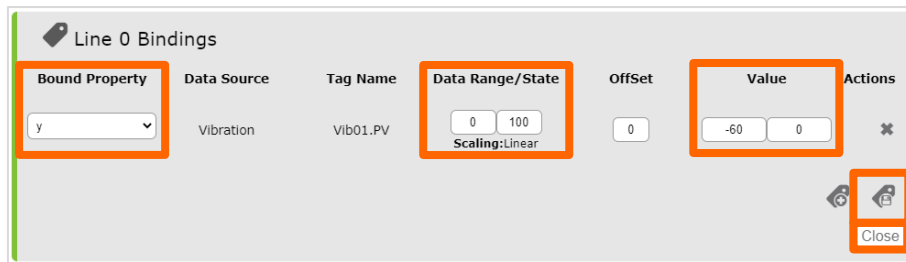


Figure 3-136 Set Tag Properties for X-Y Fill Animation

Go to the Bound Property drop down list and choose y. Set the Data Range for the y Bound Property. Set the Value – Scale Minimum and Scale Maximum. Save Changes, then Close.

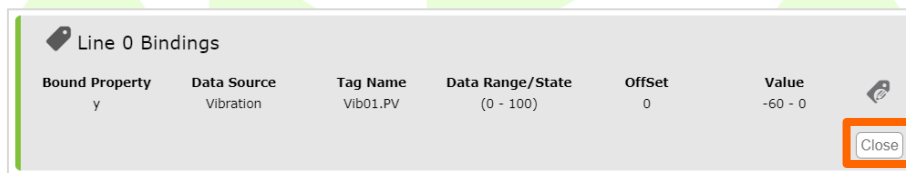
**Note:**

The Scale Minimum and Scale Maximum settings are the amount you want the element to be displaced in pixels based on the data value.



**Figure 3-137 Tag Properties – Data Range/Scale Minimum/Maximum**

The last pop-up shows all the binding properties for y. Select Close.



**Figure 3-138 Tag Properties Completed for X-Y Fill Animation**

With your page in run mode, you can see how the tag is performing in real time by selecting Time Controls in the Left-Side Panel.

If you have set the fill animation on the Y axis you should see the animation fill move upward and downward in size depending on the real time data that is coming through. If you have set the fill animation to the X axis you should see the animation fill extend to the right side and reduce to the left side.

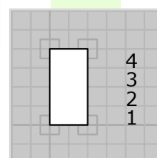
**Note:**

You can change both the Data Minimum/Data Maximum and the Scale Minimum and Scale Maximum in the property bindings. The Scale Maximum amount is derived from the total size of your fill animation.

**For example:**

The screenshot below shows that the fill shape is 4 grid squares high so the Scale Maximum in the Data Binding will be -48 (4 x 12) and Scale Minimum will be 0.

Whatever the size of the fill shape, it should be multiplied by 12 to get its Scale Maximum. Remember to set the scale maximum number as (-) minus because the top two handles of this object that were chosen to bind this object are classed as being at zero. Therefore, anything below that would be a minus number.



**Figure 3-139 X-Y Fill Animation - Scale Maximum/Minimum Settings**

A Fill Animation that measures 6 grid boxes high would mean the Scale Maximum would be -72 (6 x 12) and Scale Minimum 0.

There are many Bound Property options to choose from, the examples shown above are the most often used.

### 3.3.5.2 Event Manager

The event manager allows you to implement customised logic into your dashboard via a JavaScript scripting engine.

You can write JavaScript to access the properties of components that exist within the dashboard and generate the following set of restricted actions:

- Writing a value to a datasource
- Change a component property
- Set position of a component

This script can then be assigned to an event, which will run when that event occurs.

### 3.3.5.3 Event Types

Select the manage events icon from the Right-Side Panel.

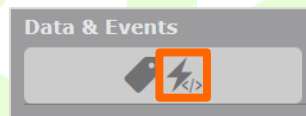


Figure 3-140 Data & Events

The event manager pop-up will appear. The initial event options are on the left-hand side, these are global events and are not specifically tied to components.

Global Events	
Event Type	Trigger
onValueUpdate	When new value is pushed to the dashboard
OnTimer	On a set interval which can be configured by the PnID property event frequency

Figure 3-141 Global Events Table

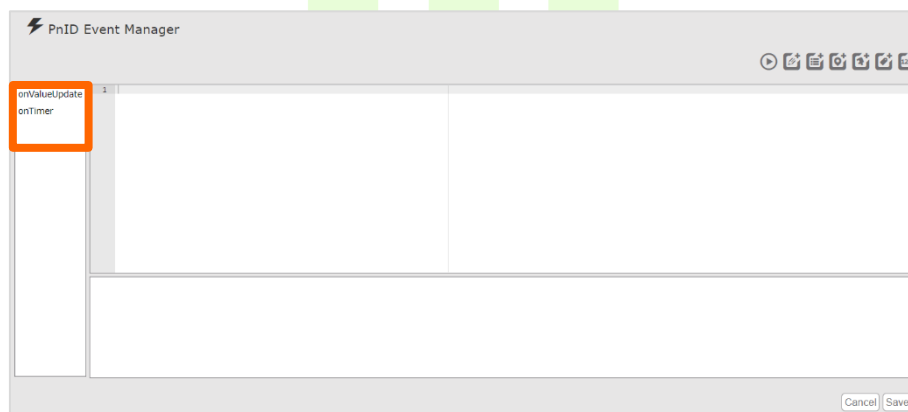


Figure 3-142 Event Manager – Global Events Pop-Up



The top right-hand side shows components, from left to right they are, play button (test script), add new write value action, add a new property change action, add new set position action, add a new component reference, add a new tag reference, add a new get tag value reference.



Figure 3-143 Event Manager – Components

To enable the event type onValueUpdate add a text object to your canvas, to be able to identify this text in the upcoming steps rename it in the properties area.



Figure 3-144 onValueUpdate – Text

You can check your new reference to this piece of text by selecting the 'Add a New Component Reference' icon.

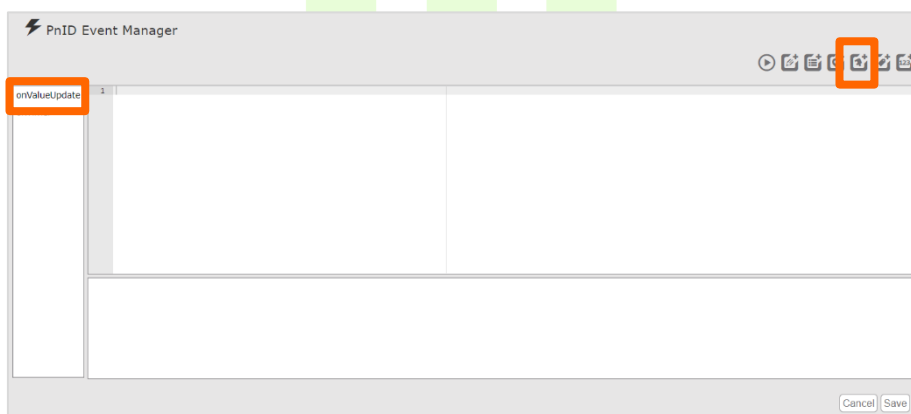


Figure 3-145 onValueUpdate – Add New Component Reference

A pop-up will appear, and the name of your component can be seen. If there are many components in the pop-up select the actual name reference (will turn grey) then choose the Select button.

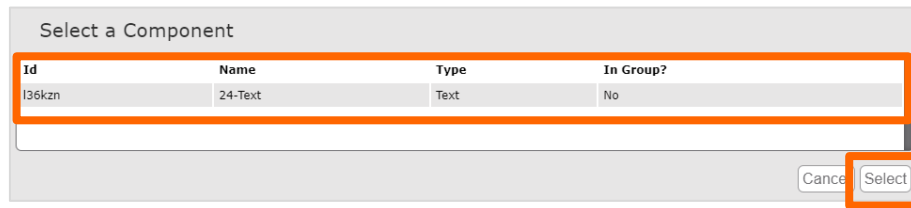


Figure 3-146 onValueUpdate – Highlight Name & Select

On choosing the Select button the pop-up will close, and you will see that the text reference now appears in the event manager. Type in the relevant code.

### 3.3.5.4 Add Button

Select the Add Button icon.



Figure 3-147 Add Button Icon

Click once on the canvas to see your button appear.

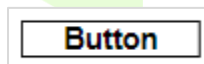


Figure 3-148 Button

In the right-side panel choose the select icon and select the button that was just placed on the canvas.

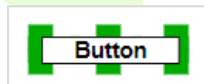


Figure 3-149 Button Selected

Go to the right-side panel and open Data & Events. Select the Events icon.

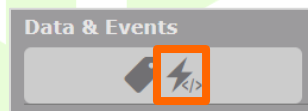


Figure 3-150 Data & Events Option

The options to choose from in the Event Manager are:

Component Events	
Event Type	Trigger
onblur	When component loses focus
onchange	When component value changes
onclick	When component is clicked
ondblclick	When component is double clicked
onfocus	When component gains focus

oninput	When component receives input
onkeydown	When key is pressed down whilst component has focus
onkeypress	When key is initially pressed whilst component has focus
onkeyup	When key is released whilst component has focus
onmousedown	When a mouse button is pressed down whilst a component has focus
onmouseenter	When mouse cursor initially hovers over component
onmouseleave	When mouse cursor leaves hovered component
onmousemove	When mouse is moved over a component
onmouseup	When a mouse button is released whilst a component has focus
onmousewheel	When scroll wheel is used whilst a component has focus

Figure 3-151 Component Events Table

Select onclick from the left side options, then select the Add a New Write Value Action from the right-side options. There are place holders that show what should be typed in the write value area.

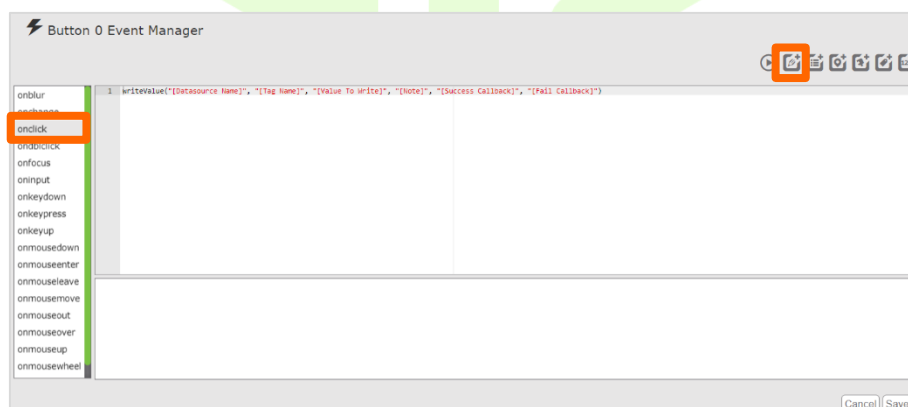


Figure 3-152 Event Manager – onclick-Add a New Write Value Action

Select onclick from the left side options, then select the Add a New Property Change Action from the right-side options. There are place holders that show what should be typed in the change property area.

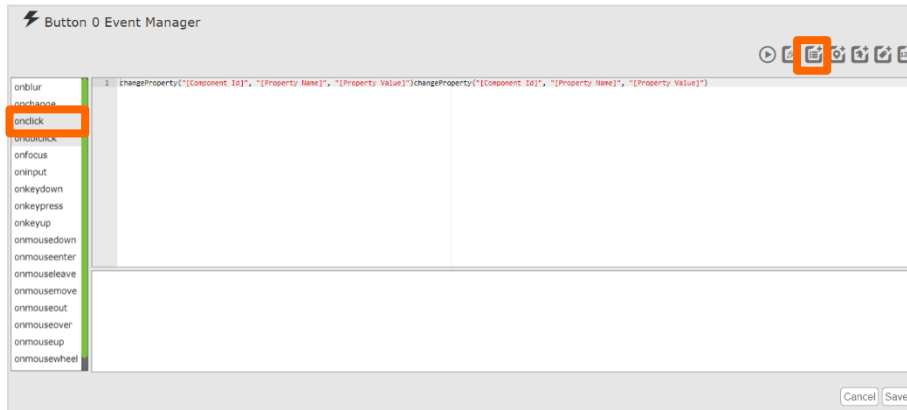


Figure 3-153 Event Manager – onclick-Add a New Property Change Action

Select the Add a New Set Position Action from the right-side options. There are place holders that show what should be typed in the set position area.

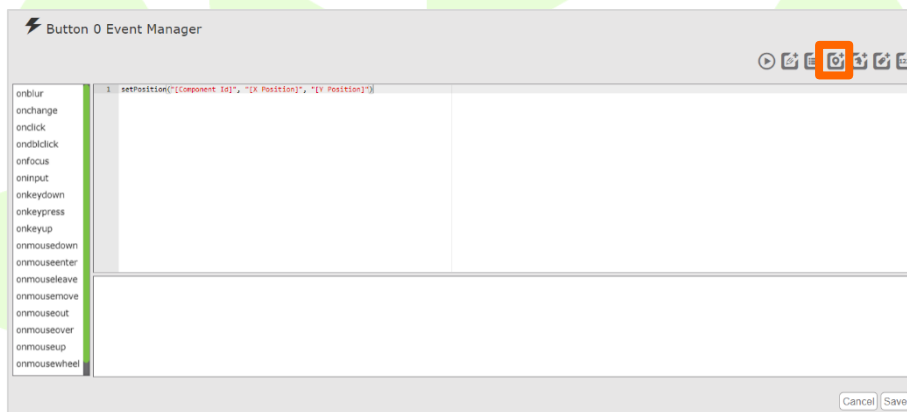


Figure 3-154 Button Event Manager – Add a New Set Position Action

To use the button event with Add a New Component Reference, it is good practise to rename 'Button' in the properties area.

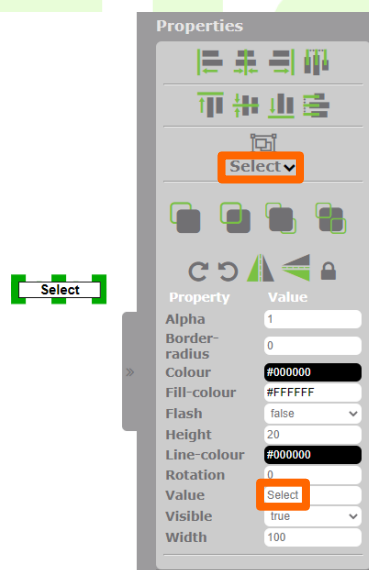


Figure 3-155 Button Event – Rename Button

Select the Add a New Component Reference from the right-side options.



Figure 3-156 Event Manager – Add a New Component Reference

A pop-up will appear – you will see the name of your component 'Select'.

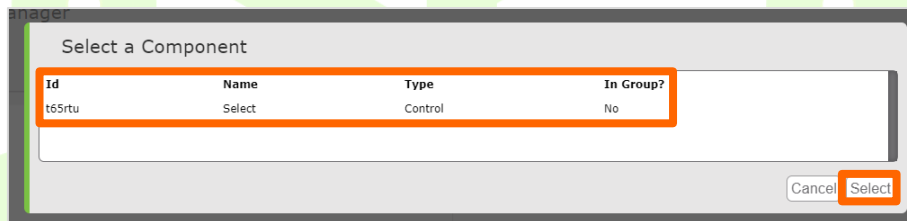


Figure 3-157 Event Manager – Add a New Component Reference – Pop-Up

Select that line reference and then choose the Select button from the bottom right-hand side of the pop-up.

The event manager pop-up 'Id t65rtu' in the pop-up is the identifier that you will see in the event manager. Type in the relevant code.

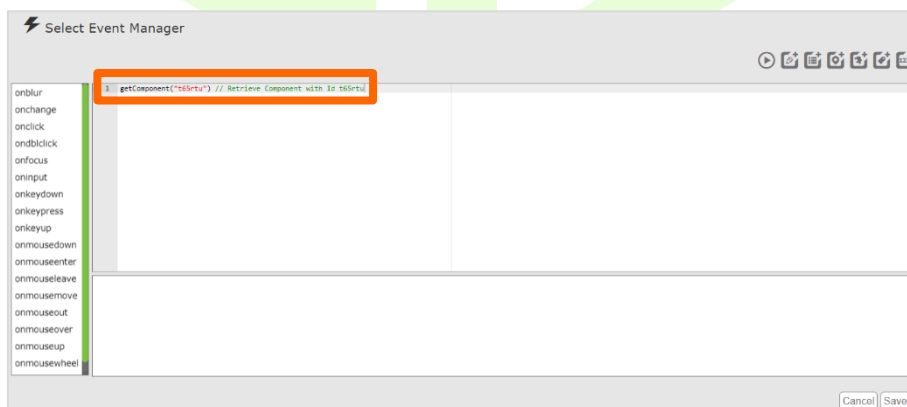


Figure 3-158 Event Manager – Get Component Reference

Select the Add a New Tag Reference from the right-side options.



Figure 3-159 Event Manager – Add a New Tag Reference

A pop-up will appear where you can select your datasource name, search for your tag, then choose that tag from the drop-down list, then select Ok.

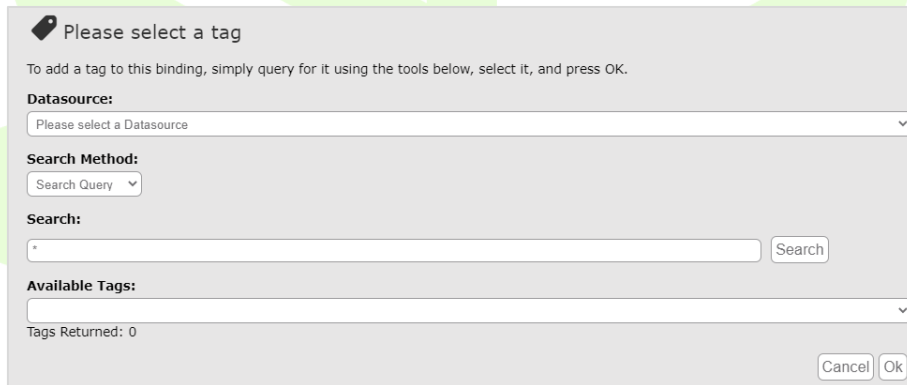


Figure 3-160 Event Manager – Select Datasource, Search and Add Tag

The event manager will show the datasource name and tag name that you have chosen. Type in your code.

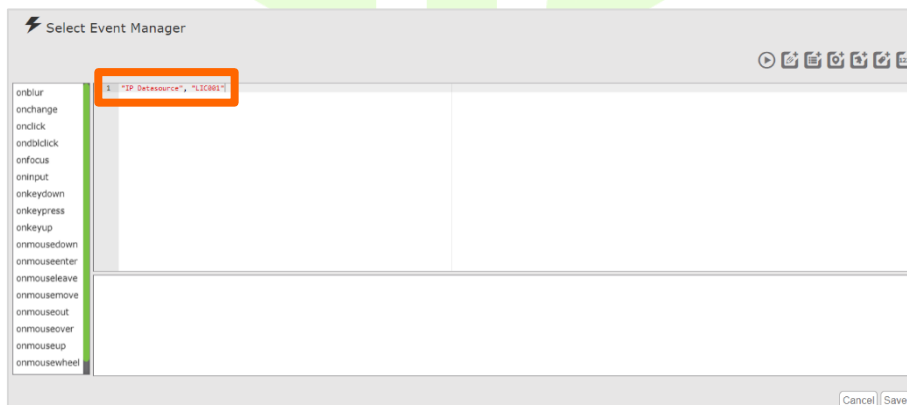


Figure 3-161 Event Manager – Add a New Tag Reference-Datasource & Tag Name

If you select the Add a New Get Tag Value Reference, it follows the same steps as the Add a New Tag Reference. You can select the datasource name, search for your tag, choose that tag from the drop-down list, then select ok.

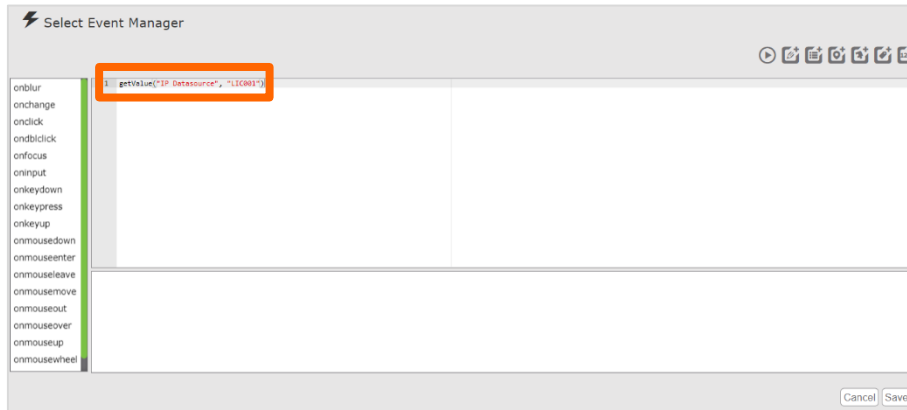


Figure 3-162 Event Manager – Add a New Tag Value Reference-Datasource & Tag Name

### 3.3.5.5 Add Input Control

Select the Add Input Control icon.



Figure 3-163 Add Input Control Icon

Click once on the canvas to see the input control box appear.

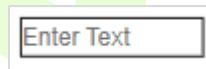


Figure 3-164 Input Control Box

To add any event, follow same steps as stated previously.

### 3.3.5.6 Add Range Control

Select the Add Range Control icon.

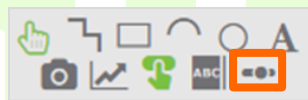


Figure 3-165 Add Range Control Icon

Click once on the canvas to see the range control slider appear.



Figure 3-166 Add Range Control Slider

To add any event, follow same steps as stated previously.

Go Back to Section 2 (Ctrl+Click)

### 3.3.5.7 Status

The Status area shows render speed, FPS and Current/Maximum users.

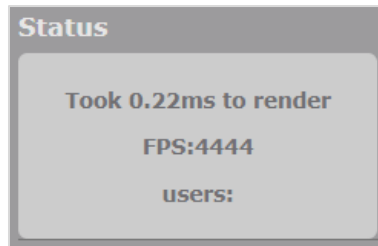


Figure 3-167 Status Info

### 3.3.6 Debug

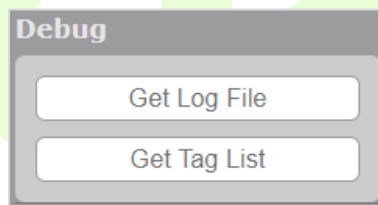


Figure 3-168 Debug Options

#### Get Log File

Select this option to view any errors that the program may have encountered.

#### Get Tag List

Select this option to view the tags that are currently in your page.

### 3.3.7 Snap Pixels

The snap pixels option ranges from 1 through to 24 pixels. The default setting is set at 12. For more intricate work you can change the snap size to a smaller range but remember to change it back to the default setting once you have drawn that particular item (Suggested pixel settings for precise drawings are 1, 3, or 6).

Select the drop-down menu to see the snap pixel options.

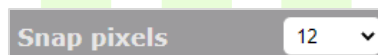


Figure 3-169 Snap Pixels - Options

(Ctrl+Click – Back to Canvas Area)

### 3.3.8 Toggle Data Ghost

Move the toggle option to the right while in edit mode. This option allows the user a quick view of the current state of bindings (apart from visible and flash bound properties) and ensures bindings are working correctly without having to change to run mode.

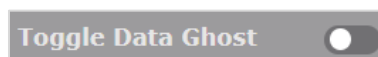


Figure 3-170 Toggle Data Ghost



## 4 Shortcut References

There are various shortcuts in use within PnID.

### 4.1 Edit Mode

To get from Run Mode to Edit Mode select Ctrl+E.



Figure 4-1 Edit Mode – Ctrl+E

### 4.2 Canvas Grid-Enable/Disable

Once in Edit Mode a grid will appear immediately on the canvas. To disable or enable the canvas grid select G on your keyboard.



Figure 4-2 Edit Mode – Disable or Enable Canvas grid - G

### 4.3 Run Mode

In Edit Mode select Ctrl+R.



Figure 4-3 Run Mode – Ctrl+R

### 4.4 Undo

In Edit Mode select Ctrl+Z. You can undo multiple times.



Figure 4-4 Undo – Ctrl+Z

### 4.5 Redo

In Edit Mode select Ctrl+Y. You can redo multiple times.



Figure 4-5 Redo – Ctrl+Y

### 4.6 Save

In Edit Mode select Ctrl+S.



Figure 4-6 Save – Ctrl+S

## 4.7 Copy

In Edit Mode select Ctrl+C.



Figure 4-7 Save – Ctrl+C

## 4.8 Paste

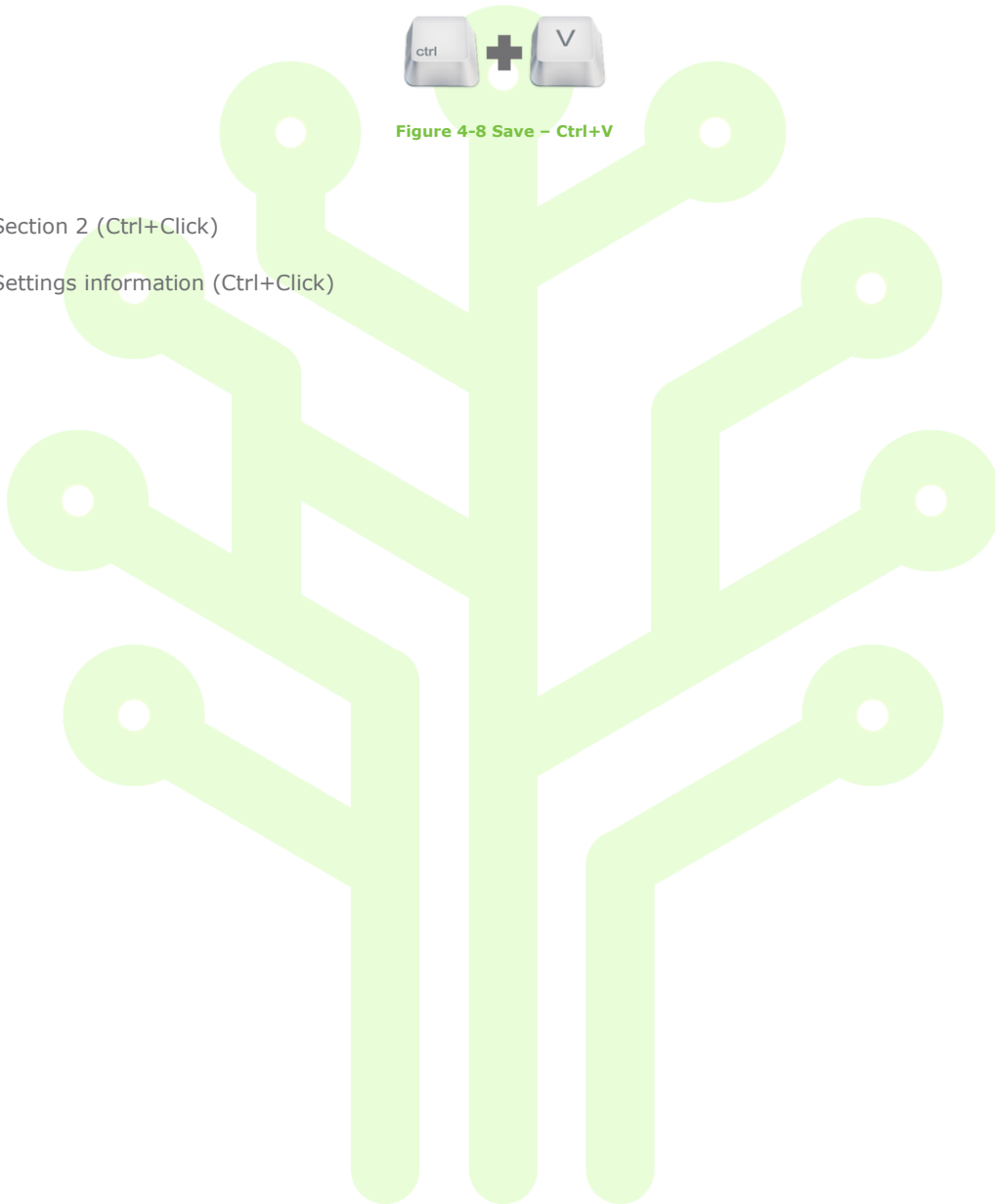
In Edit Mode select Ctrl+V.



Figure 4-8 Save – Ctrl+V

Go Back to Section 2 (Ctrl+Click)

Go Back to Settings information (Ctrl+Click)



## 5 Creating Trends in Gestalt PnID

You can create trends from any animation in your drawing.

### 5.1 Selecting Data

Right-click an animation to view the pop-up options. Select one of the time settings. Select In New Window. The trend tool opens in a new tab next to the PnID tab.

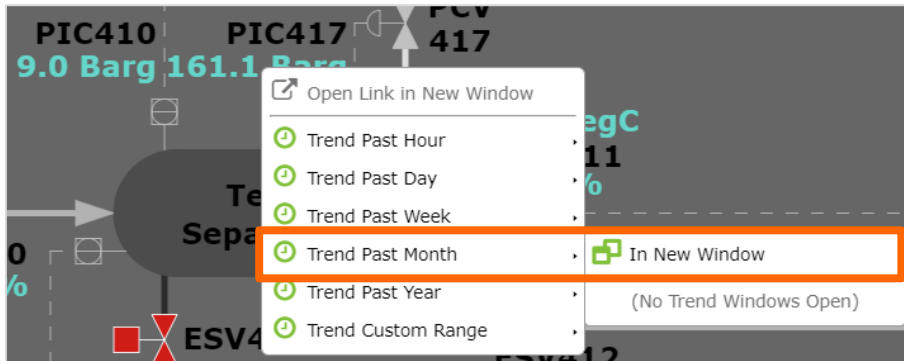


Figure 5-1 Creating a Trend – In New Window

You can now view the trend of the animation you have just selected.

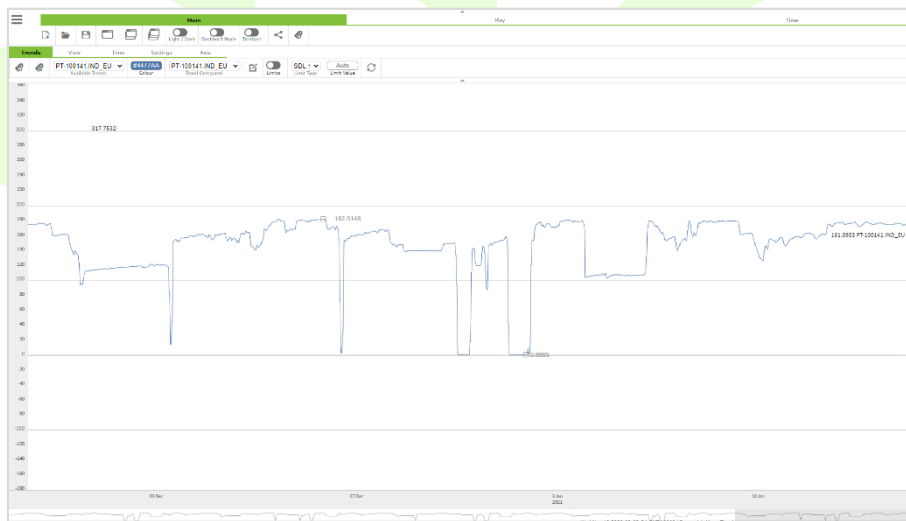


Figure 5-2 Viewing Your Trend

To include more tags from the drawing in the same trend right click on another animation. Select the same time period and choose In Window 1 option. This option will add the new tag to the same trend.

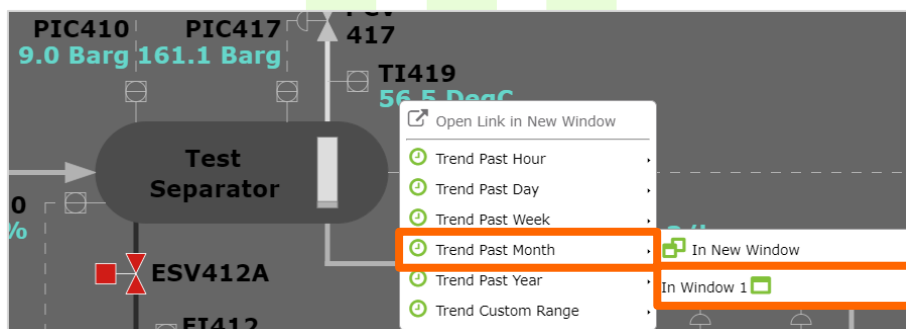


Figure 5-3 Creating a New Trend - In Window 1

The new tag has been included in your trend.

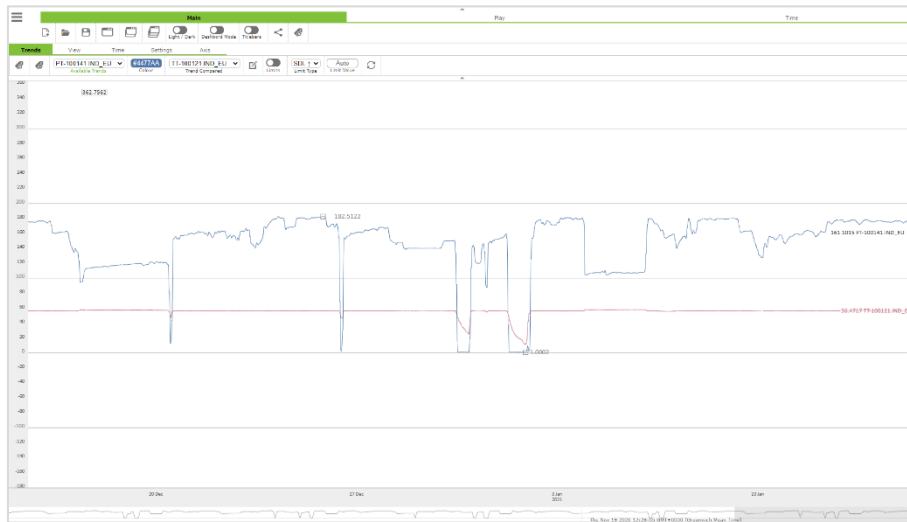


Figure 5-4 Viewing Completed Trend

To save the trend go to the Left-Side Panel and choose Save As. Rename the Trend with an appropriate name then select Ok.

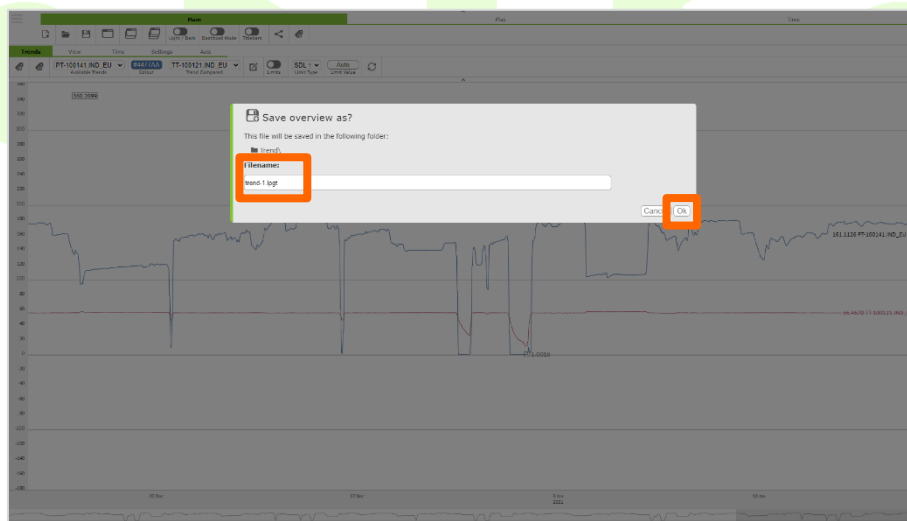


Figure 5-5 Save Trend

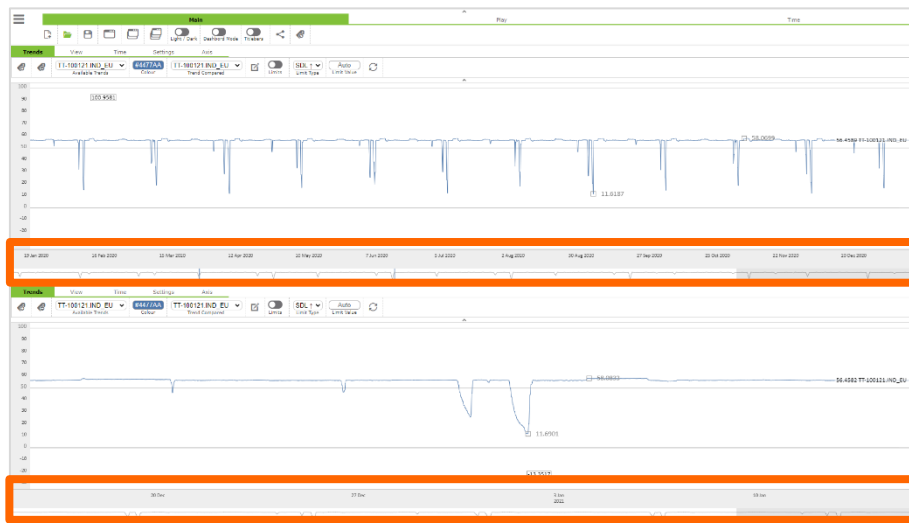
A pop-up will appear to confirm the trend has been saved successfully. Select Ok.



Figure 5-6 Trend Saved Successfully

**Note:**

You can create a trend that shows more than one time setting for a specific animation, but they would be shown in different windows in the trend, even though you selected In Window 1 for the second instance and time setting.



**Figure 5-7 Trend Showing Two Time Periods**

For further information on how to use trend see the Gestalt Trend User Guide.

Go Back to Section 2 (Ctrl+Click)

## 6 Gestalt PnID - Examples

For additional info link to PnID™ – Tips and Tricks (Ctrl+Click).

### 6.1 Oil and Gas



Figure 6-1 Home Page

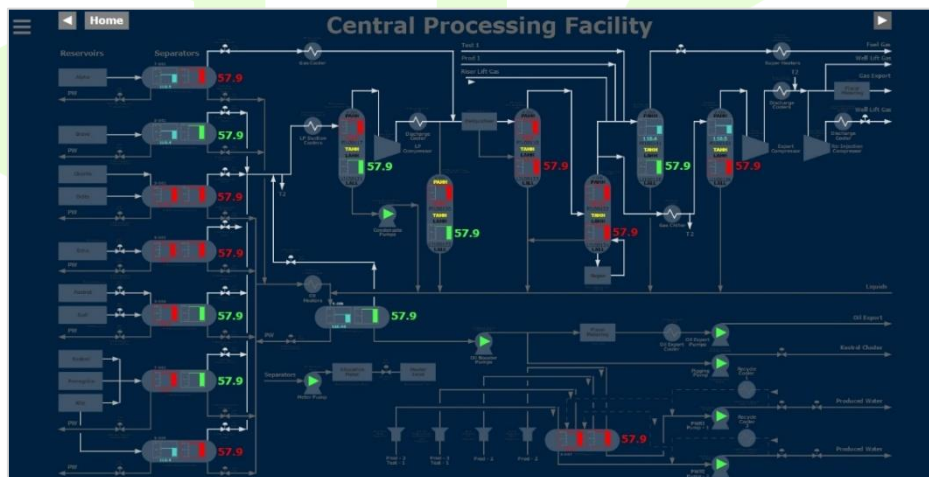


Figure 6-2 Central Processing Facility

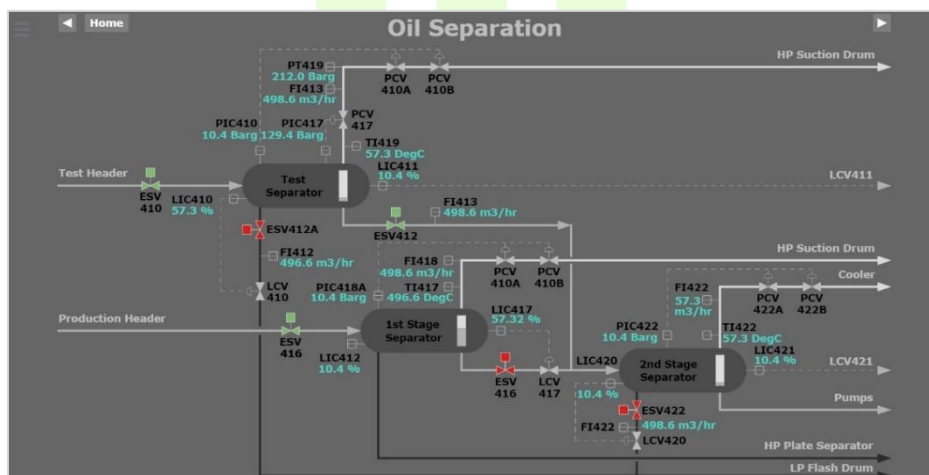


Figure 6-3 Oil Separation-1

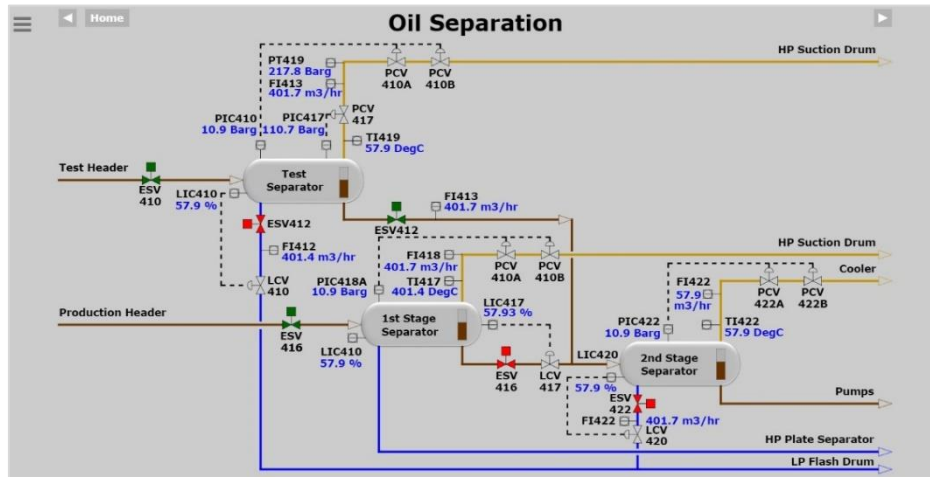


Figure 6-4 Oil Separation-2

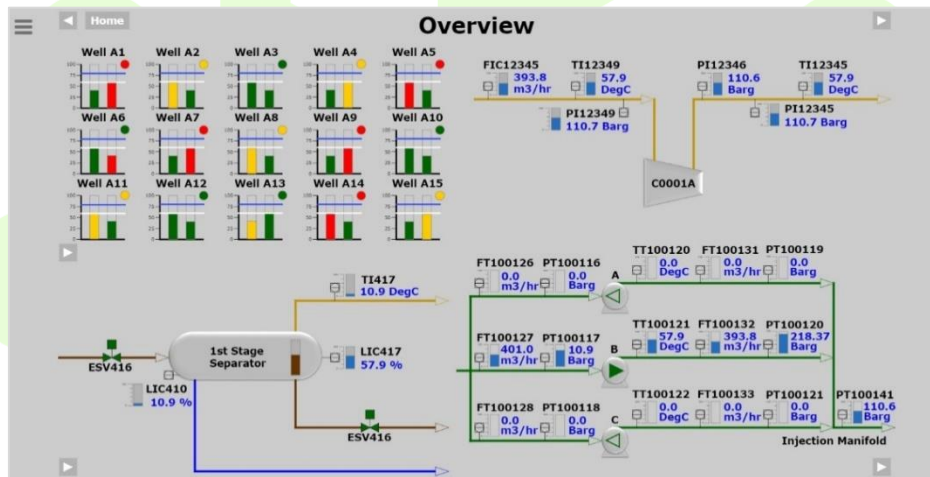


Figure 6-5 Oil & Gas Overview

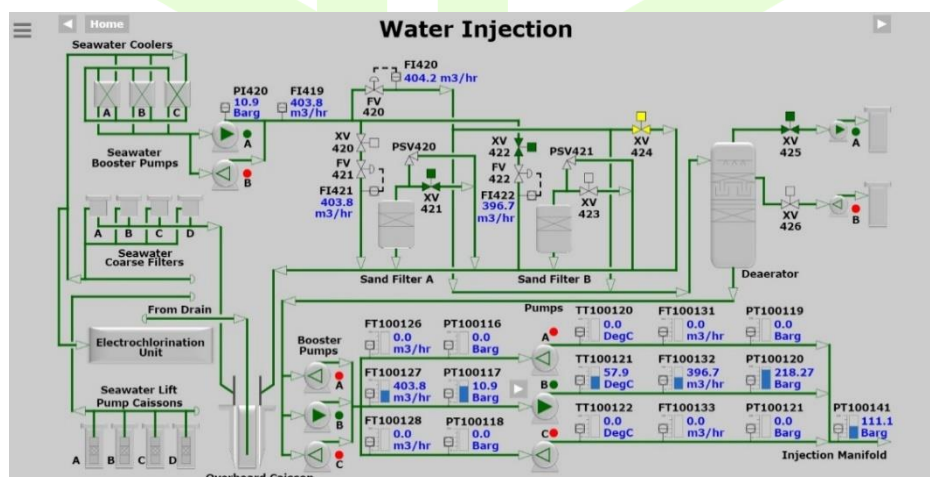


Figure 6-6 Water Injection Overview

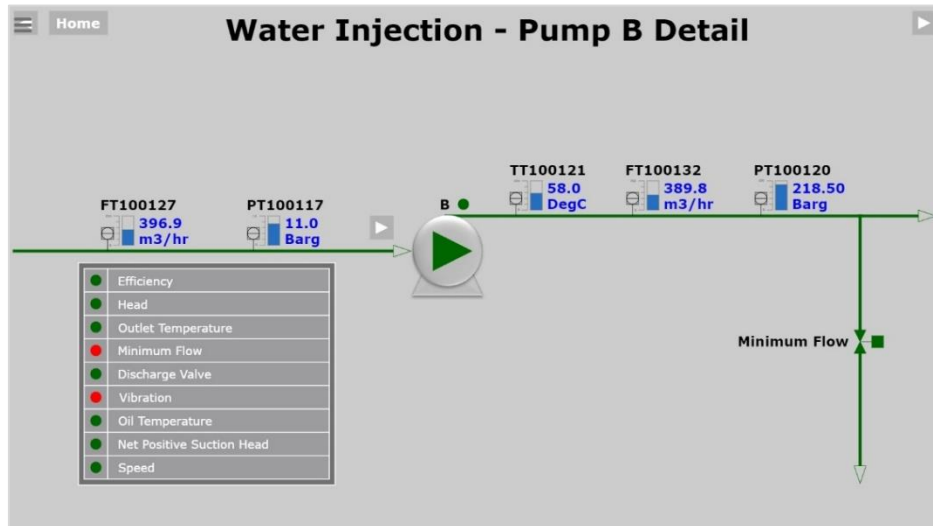


Figure 6-7 Water Injection Pump Detail

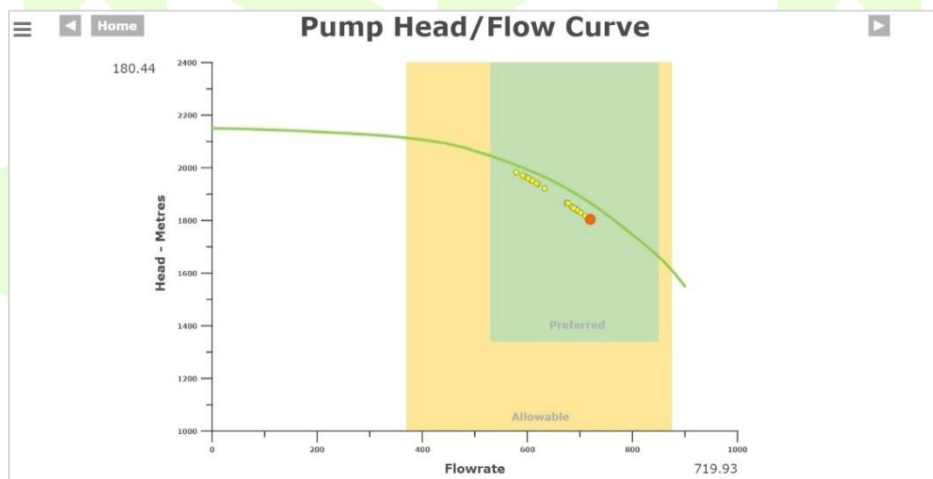


Figure 6-8 Pump Head Flow Curve

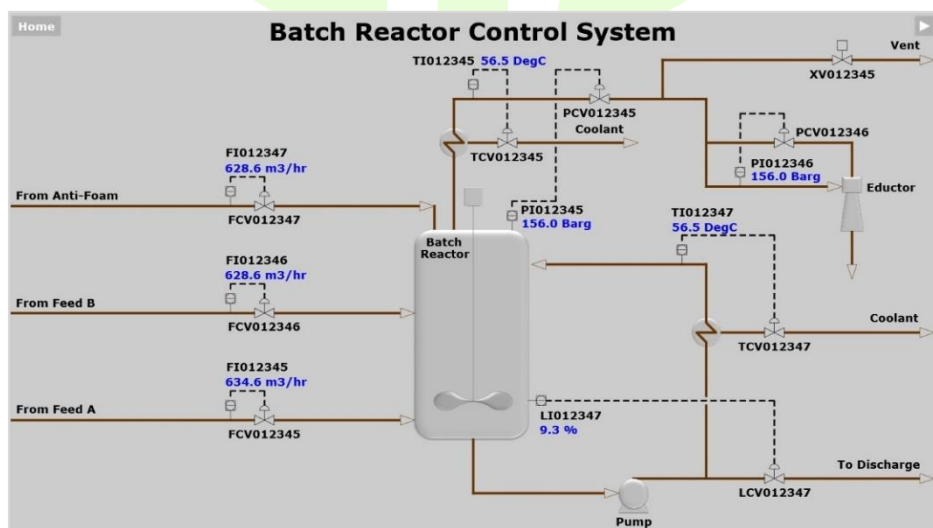


Figure 6-9 Batch Reactor Control System



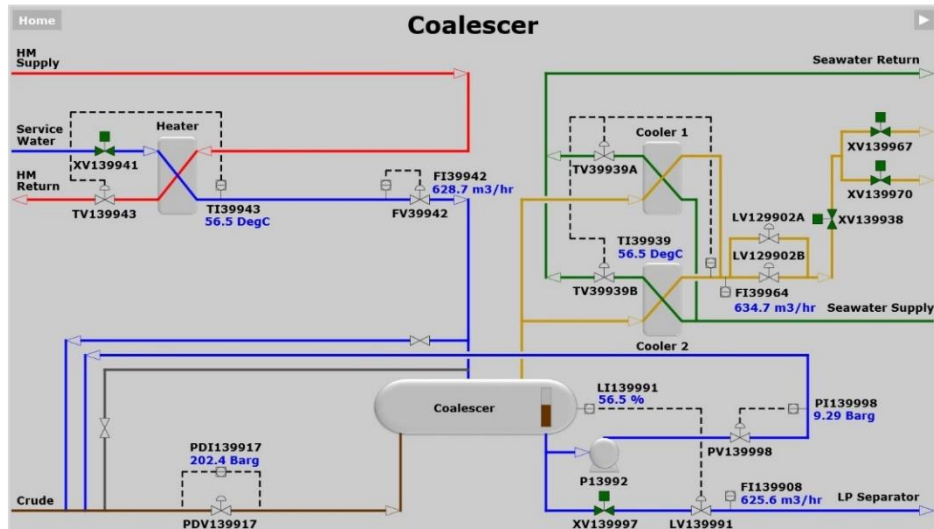


Figure 6-10 Coalescer

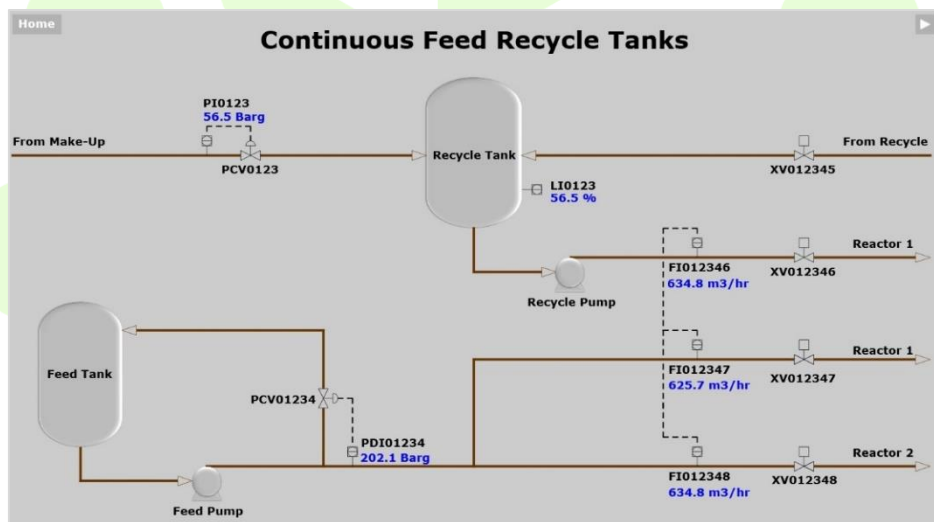


Figure 6-11 Continuous Feed Recycle Tanks

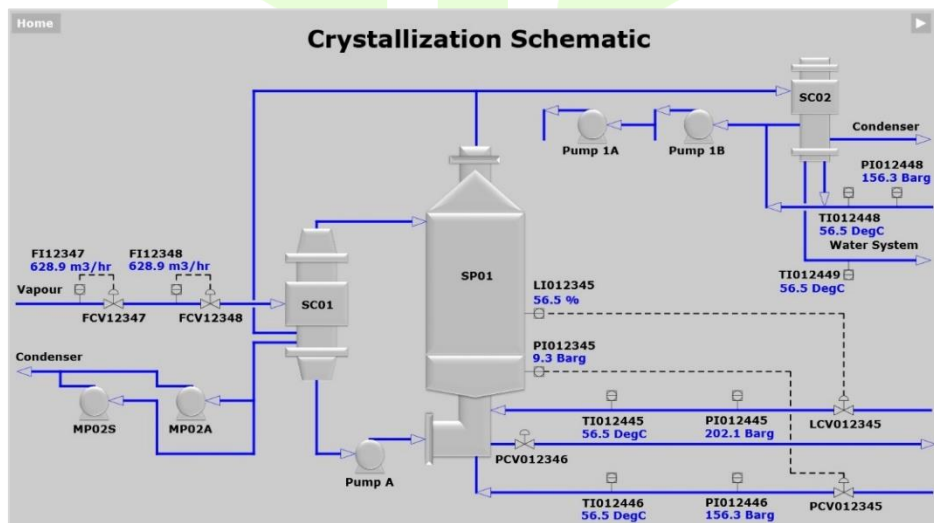


Figure 6-12 Crystallization Schematic

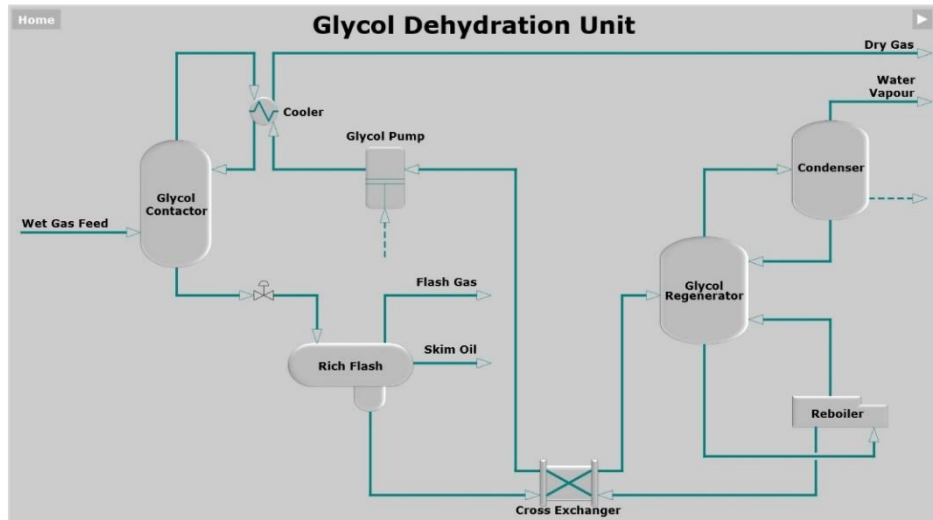


Figure 6-13 Glycol Dehydration Unit

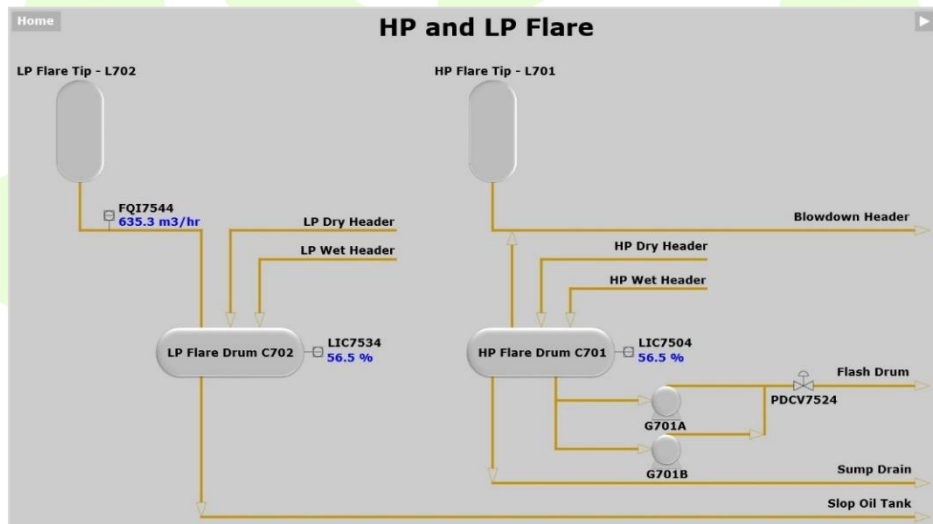


Figure 6-14 HP and LP Flare

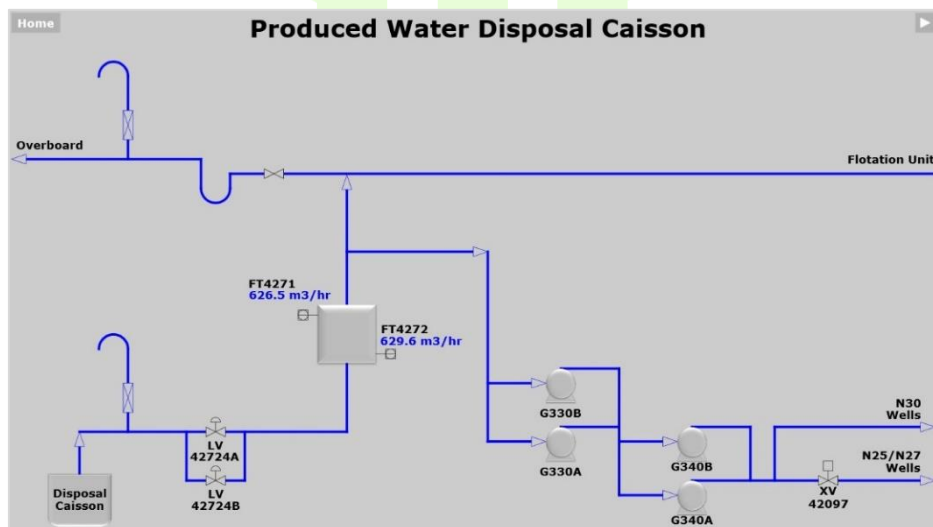


Figure 6-15 Produced Water Disposal Caisson

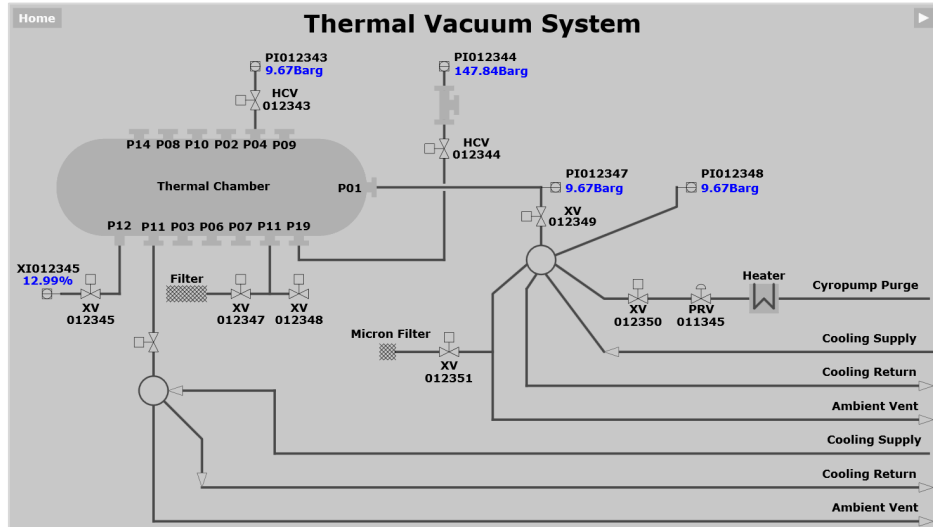


Figure 6-16 Thermal Vacuum System

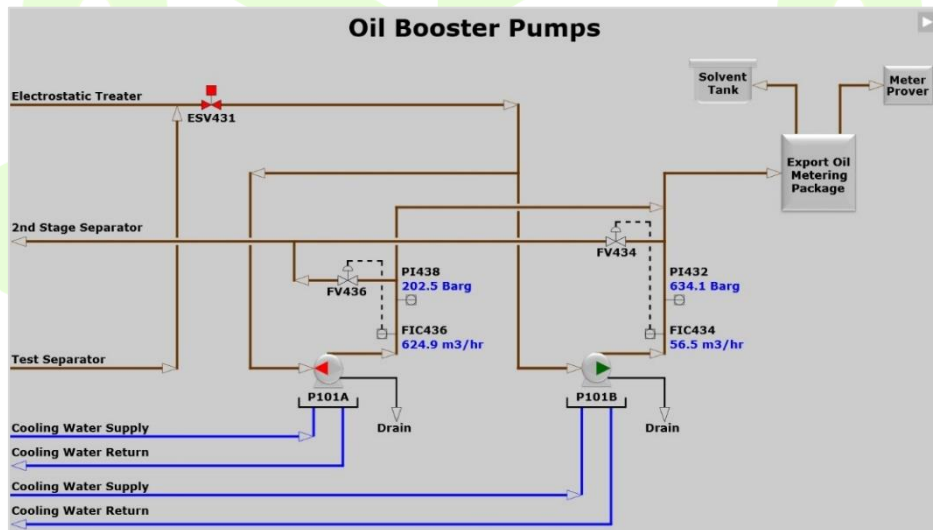


Figure 6-17 Oil Booster Pumps

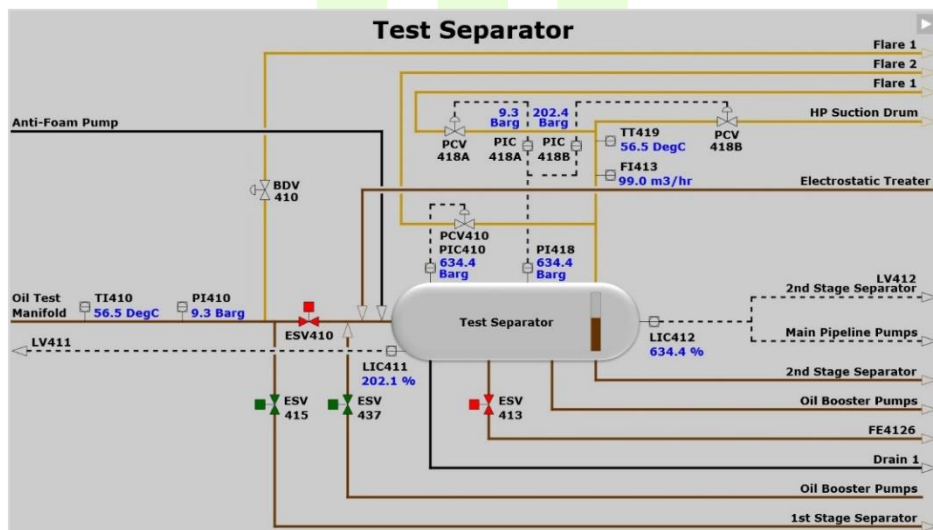


Figure 6-18 Test Separator

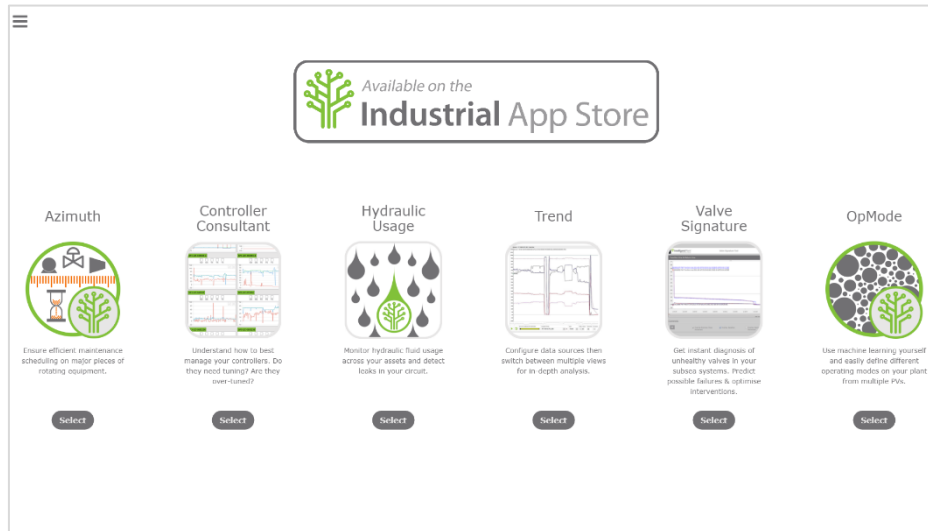


Figure 6-19 Industrial App Store

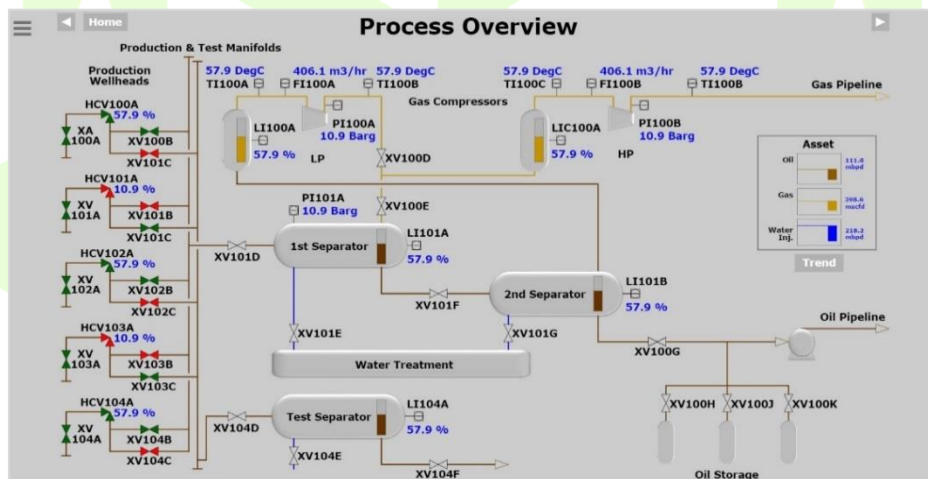


Figure 6-20 Process Overview

## 6.2 Space Industry



Figure 6-21 NASA Dashboard

### 6.3 Food and Beverage Industry

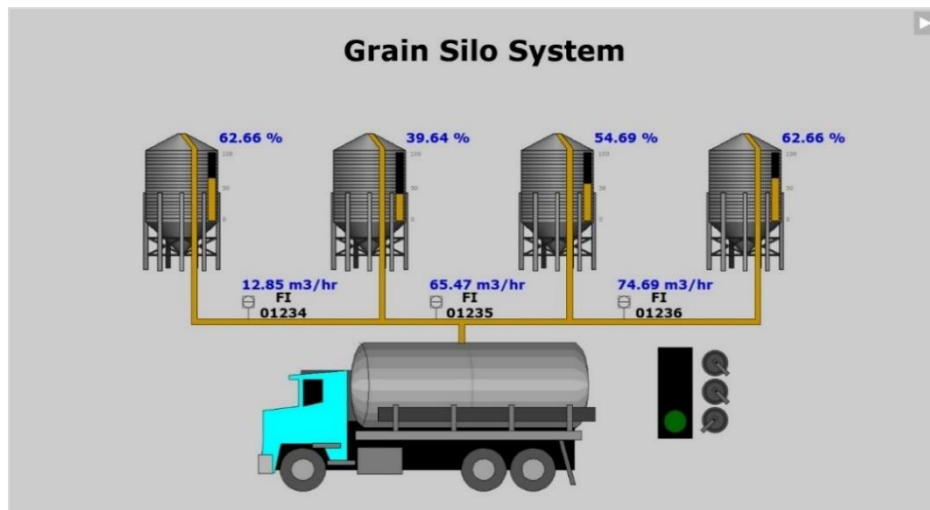


Figure 6-22 Grain Silo System

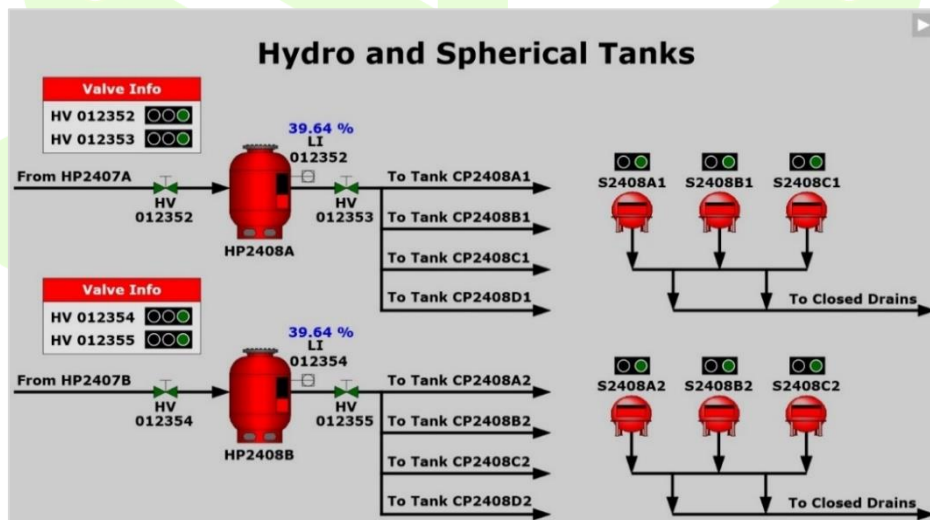


Figure 6-23 Hydro and Spherical Tanks

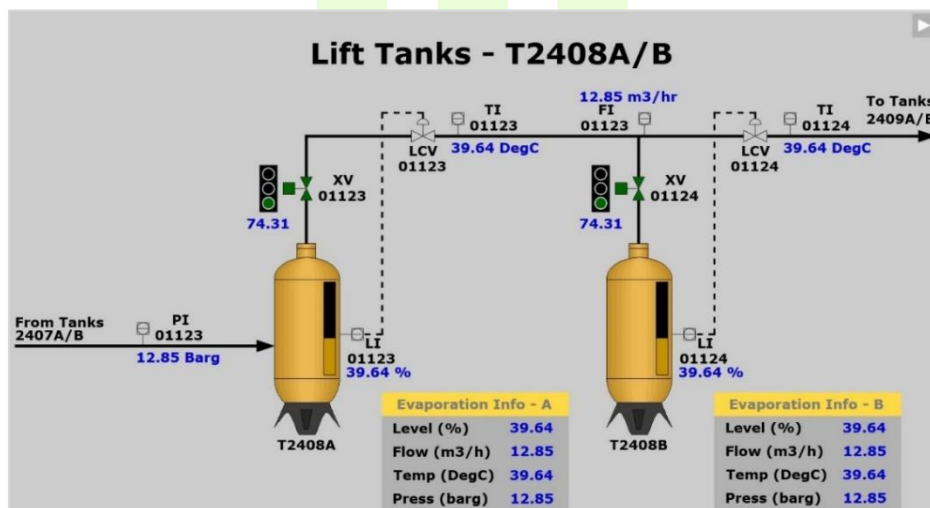


Figure 6-24 Lift Tanks

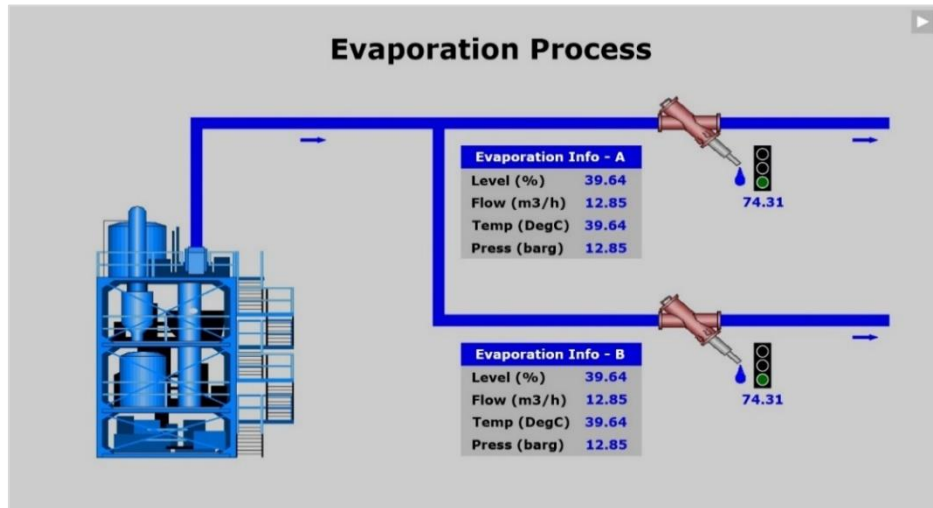


Figure 6-25 Evaporation Process

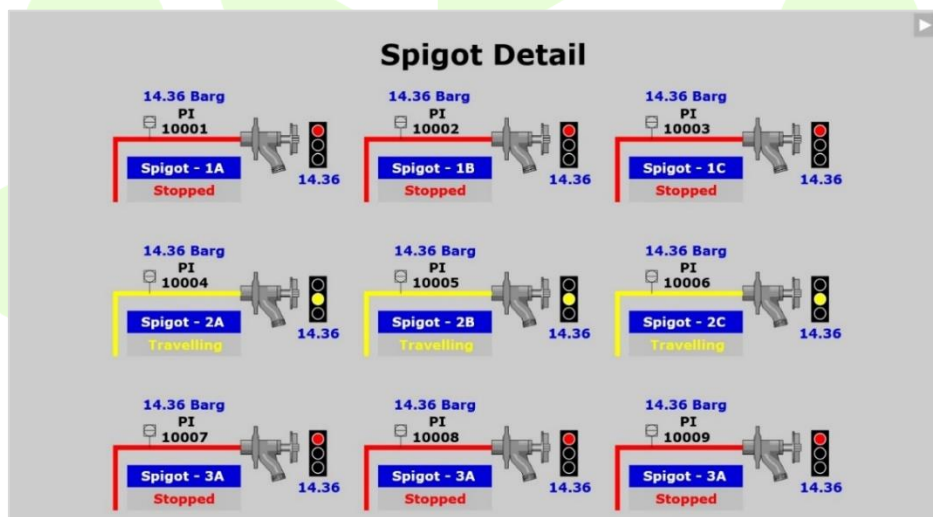


Figure 6-26 Spigot Detail

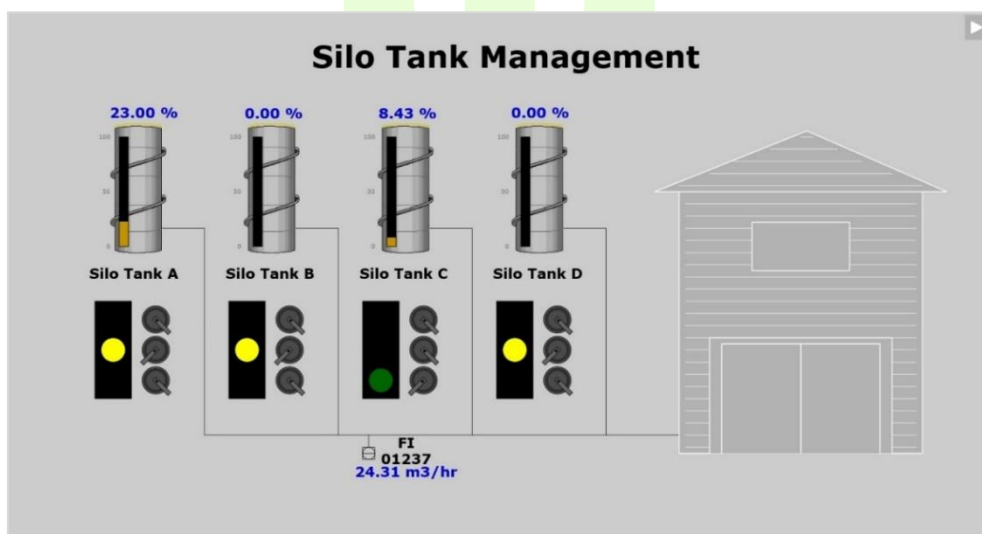


Figure 6-27 Silo Tank Management



## 6.4 Building Management

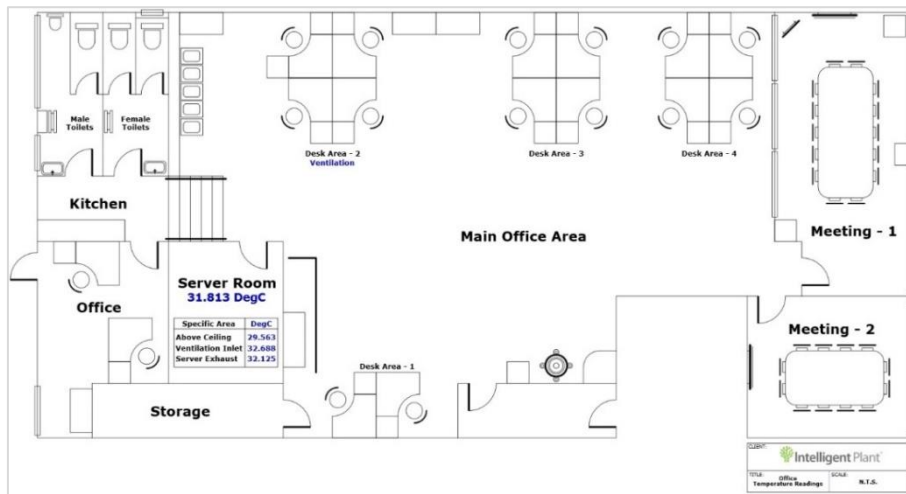


Figure 6-28 Office Temperature Management

## 6.5 Operating Envelope

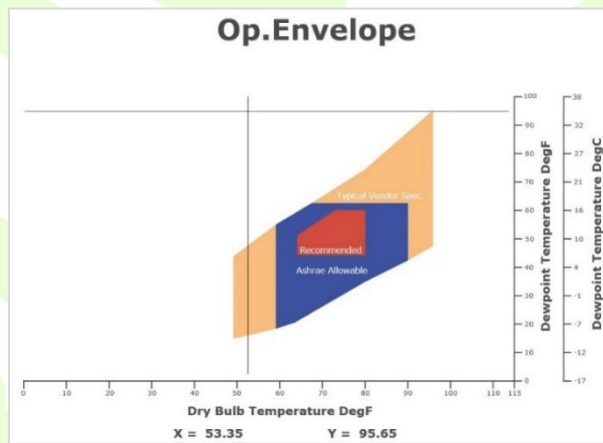


Figure 6-29 Operating Envelope

## 6.6 Wind Turbines

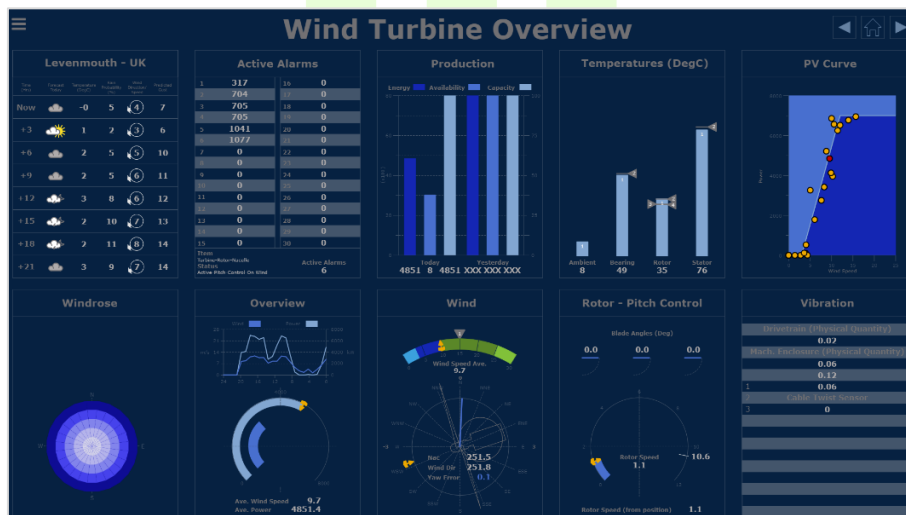


Figure 6-30 Wind Turbine Overview



Figure 6-31 Wind Farm

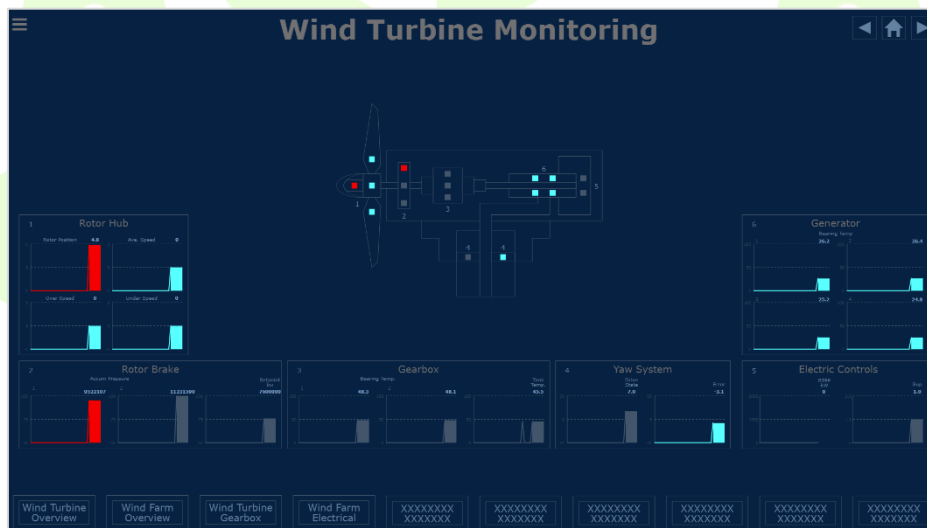


Figure 6-32 Wind Turbine Monitoring

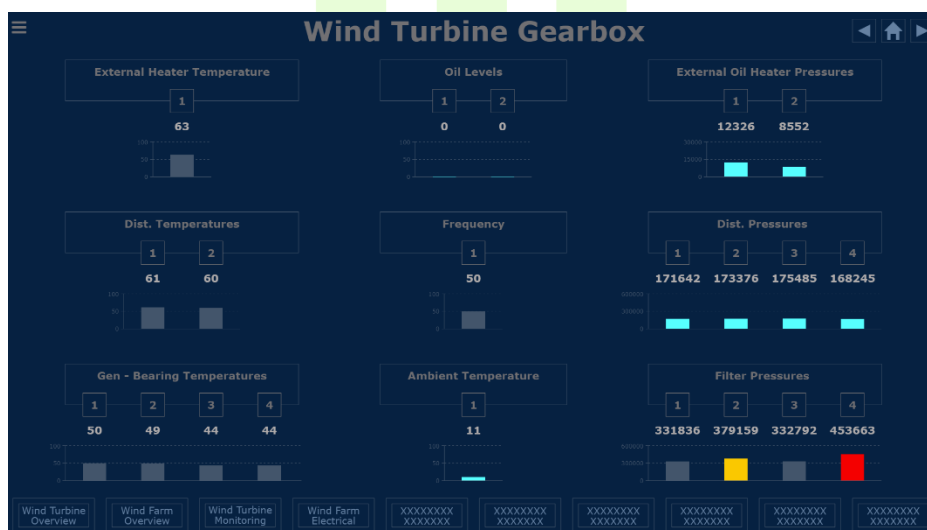


Figure 6-33 Wind Turbine Gearbox





Home				Technical Specifications - Turbines		
	<b>V52-850kW</b>	<b>V80-2.0MW</b>	<b>V90-3.0MW</b>			
<b>Rotor</b>						
Diameter:	52m	80m	90m			
Area Swept:	2124m <sup>2</sup>	5027m <sup>2</sup>	6362m <sup>2</sup>			
Nominal Revolutions:	26rpm	16.7rpm	16.1rpm			
Operational Interval:	14.0-31.4rpm	9-19rpm	8.6-18.4rpm			
Number of Blades:	3	3	3			
Power Regulation:	Pitch/OptiSpeed	Pitch/OptiSpeed	Pitch/OptiSpeed			
Air Brake:	Full Blade Pitch	Full Blade Pitch by 3 separate hydraulic pitch cylinders	Full Blade Pitch by 3 separate hydraulic pitch cylinders			
<b>Tower</b>						
Hub Height:	44m, 49m, 55m, 65m, 74m	60m, 67m, 78m, 100m	80m, 105m			
<b>Operational Data</b>						
Cut-In Wind Speed:	4m/s	4m/s	4m/s			
Nominal Wind Speed:	16m/s	15m/s	15m/s			
Cut-Out wind Speed:	25m/s	25m/s	25m/s			
<b>Generator</b>						
Type:	Asynchronous with OptiSpeed	Asynchronous with OptiSpeed	Asynchronous with OptiSpeed			
Nominal Output:	850KW	2000KW	3000KW			
Operational Data:	50Hz/60Hz 690V	50Hz/60Hz 690V	50Hz 1000V			
<b>Gearbox</b>						
Type:	1 Planet Step 2-Step, parallel axle gears	Planet/parallel axes	2 Planetary and 1 Helical Stage			
<b>Control</b>						
Type:	Microprocessor based monitoring of all turbine functions as well as OptiSpeed output regulation and OptiTip pitch regulation of the blades	Microprocessor based monitoring of all turbine functions with the option of remote monitoring. Output regulation and optimisation via OptiSpeed and OptiTip pitch regulation	Microprocessor based monitoring of all turbine functions with the option of remote monitoring. Output regulation and optimisation via OptiSpeed and OptiTip pitch regulation			

Figure 6-37 Technical Specifications

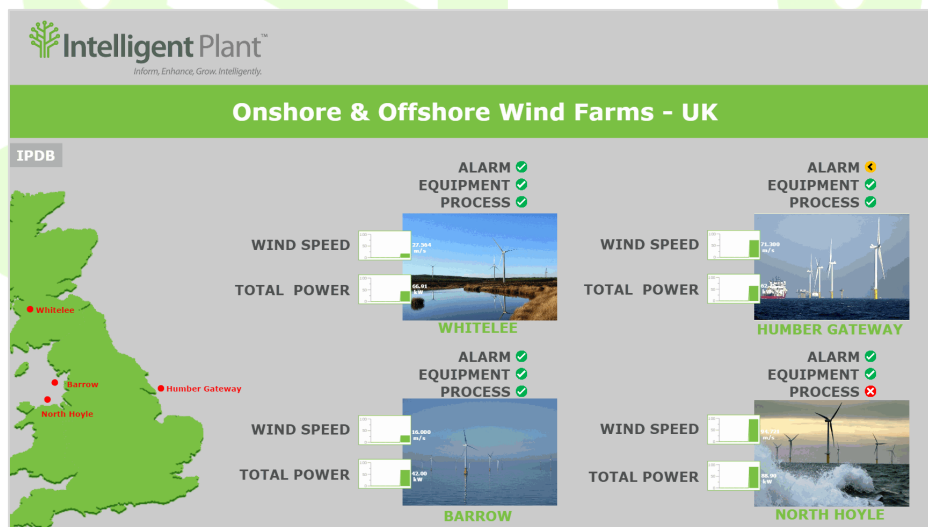


Figure 6-38 Onshore & Offshore Overview

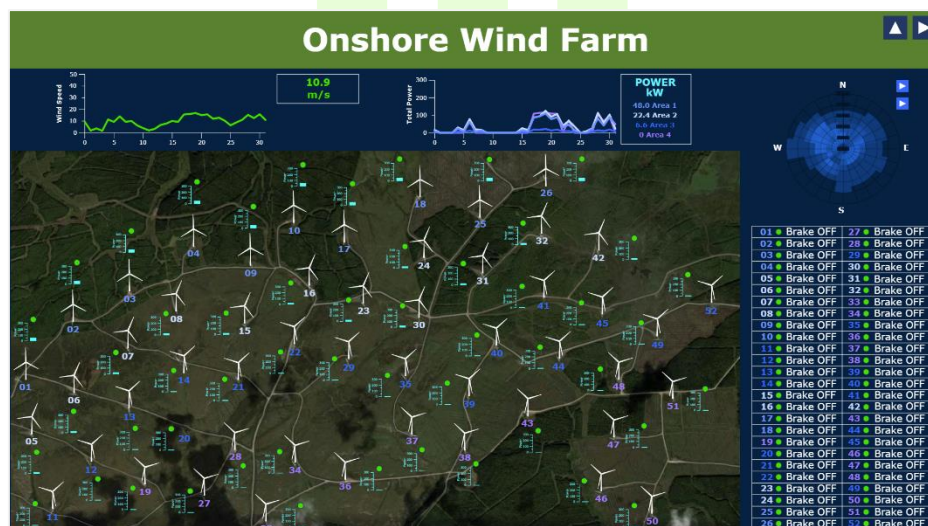


Figure 6-39 Onshore Wind Farm

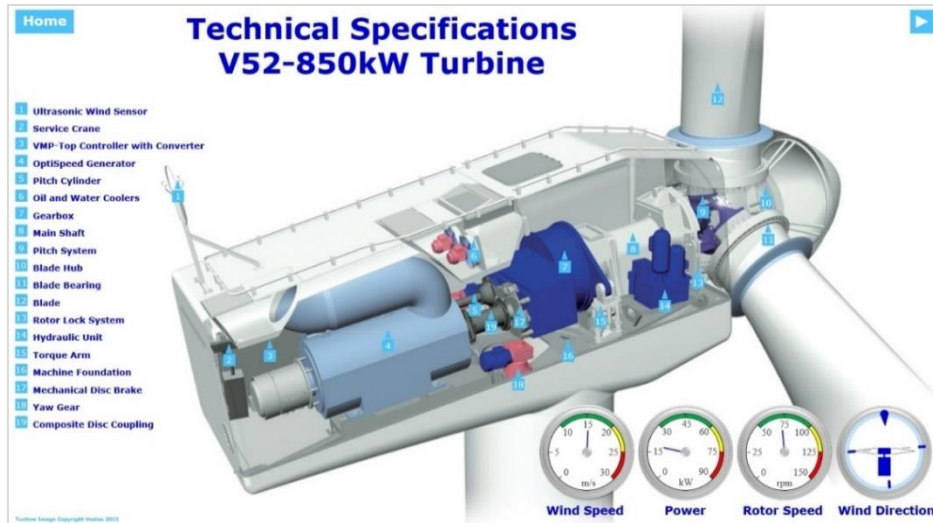


Figure 6-40 V52-850kW Turbine

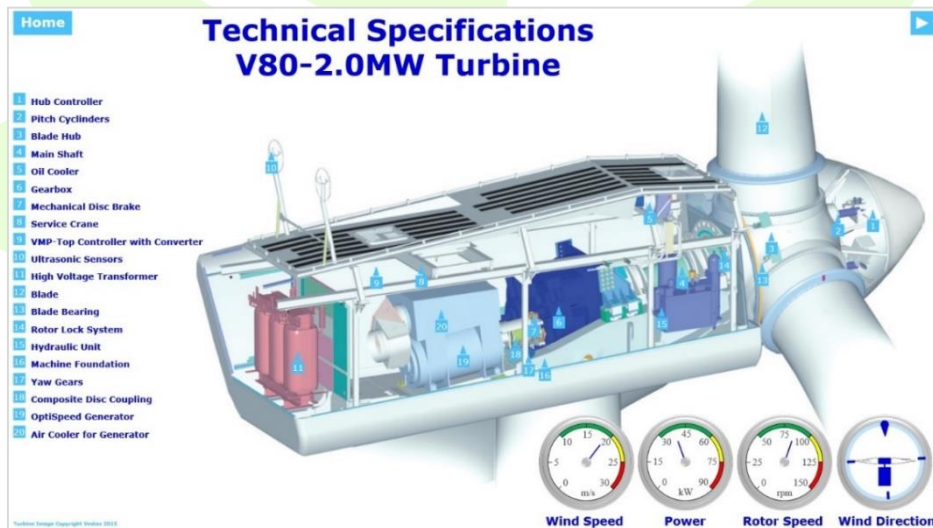


Figure 6-41 V80-2.0MW Turbine

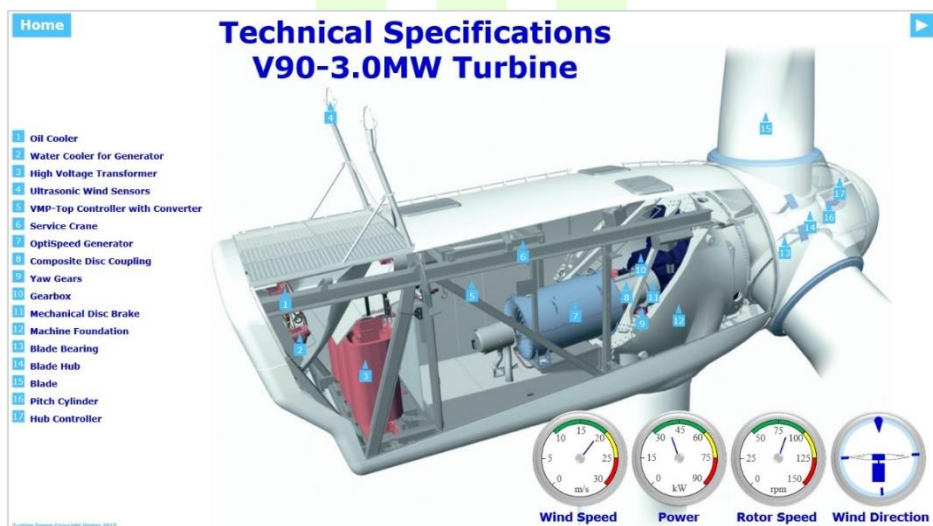


Figure 6-42 V90-3.0MW Turbine



## 6.7 Alarm Analysis

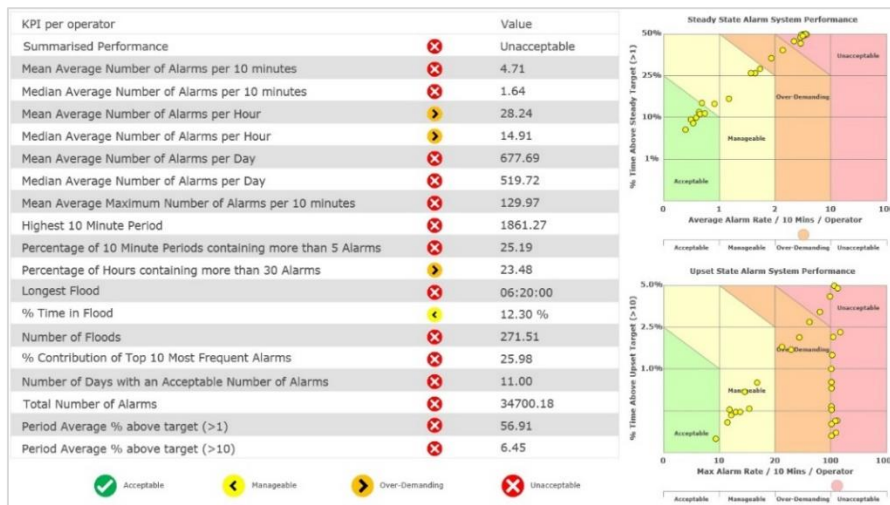


Figure 6-43 Alarm Analysis KPIs

## 6.8 Shale Gas

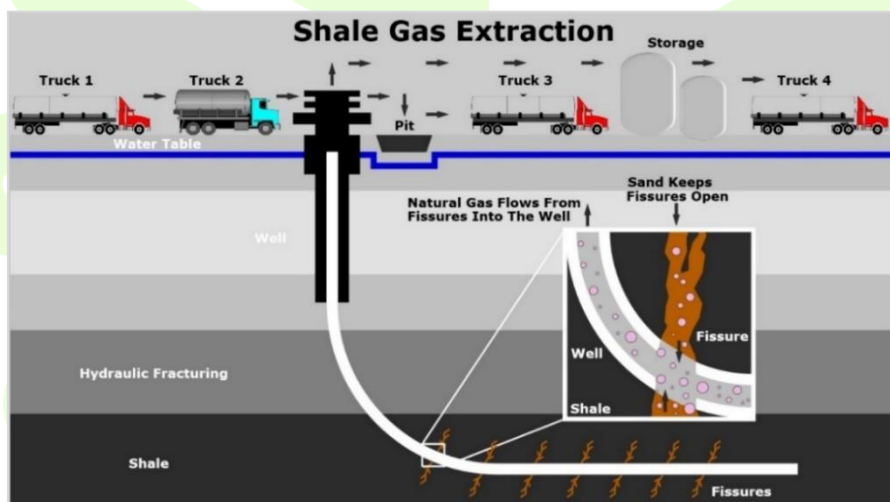


Figure 6-44 Shale Gas Extraction

## 6.9 Marine

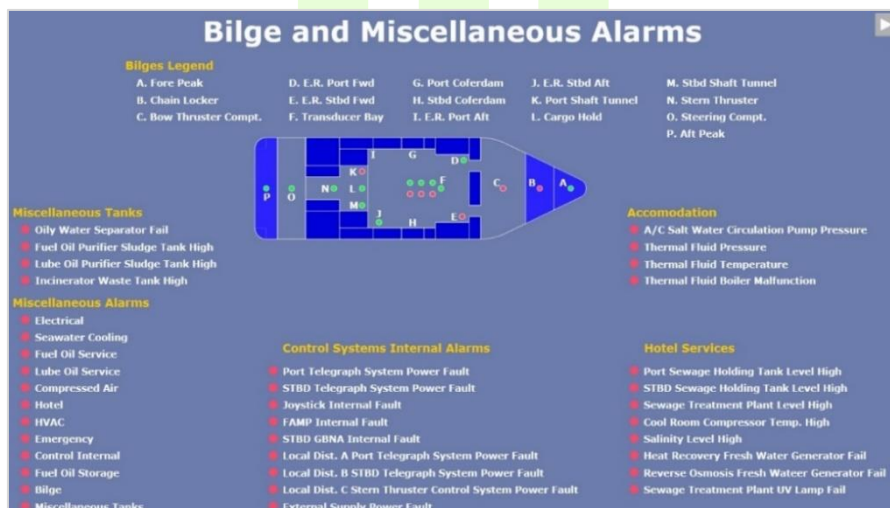


Figure 6-45 Bilge and Miscellaneous Alarms

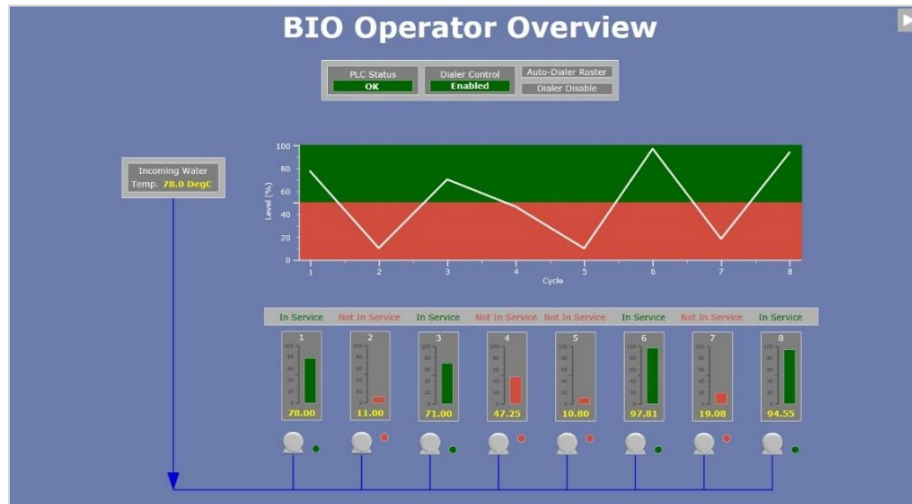


Figure 6-46 BIO Operator Overview

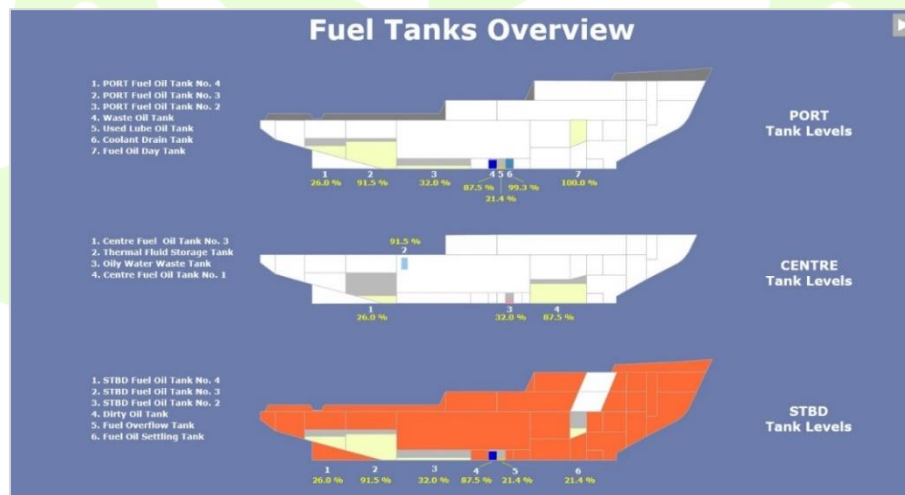


Figure 6-47 Fuel Tanks Overview

## 6.10 Power Generation

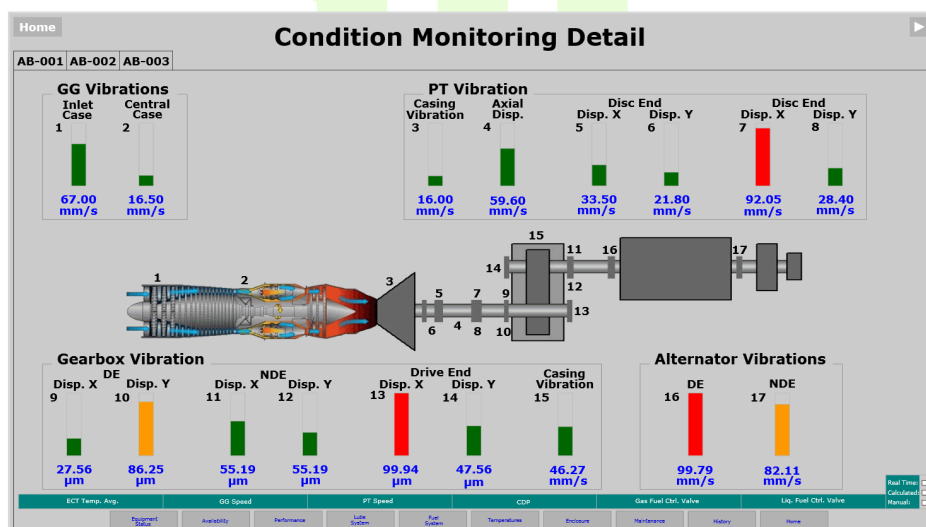


Figure 6-48 Condition Monitoring



Figure 6-49 Power Plant

## 6.11 Data Centres

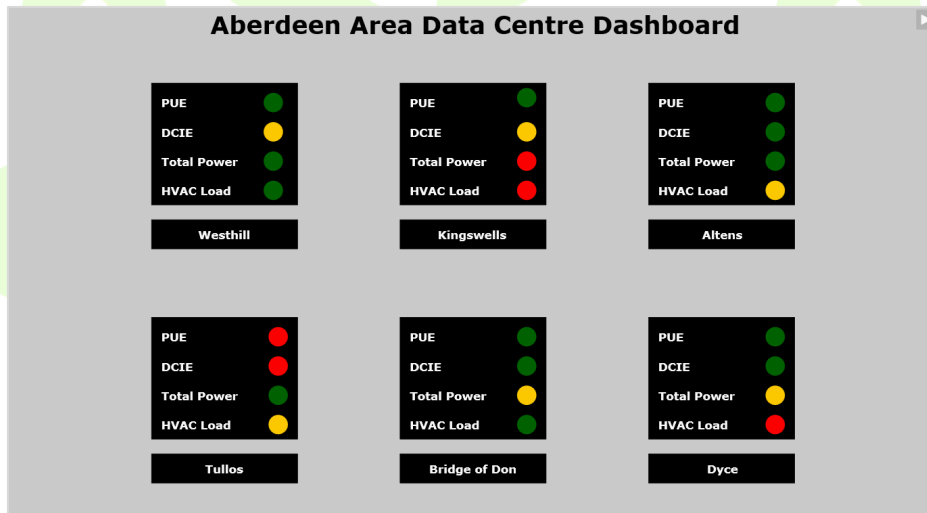


Figure 6-50 Aberdeen Area Data Centre

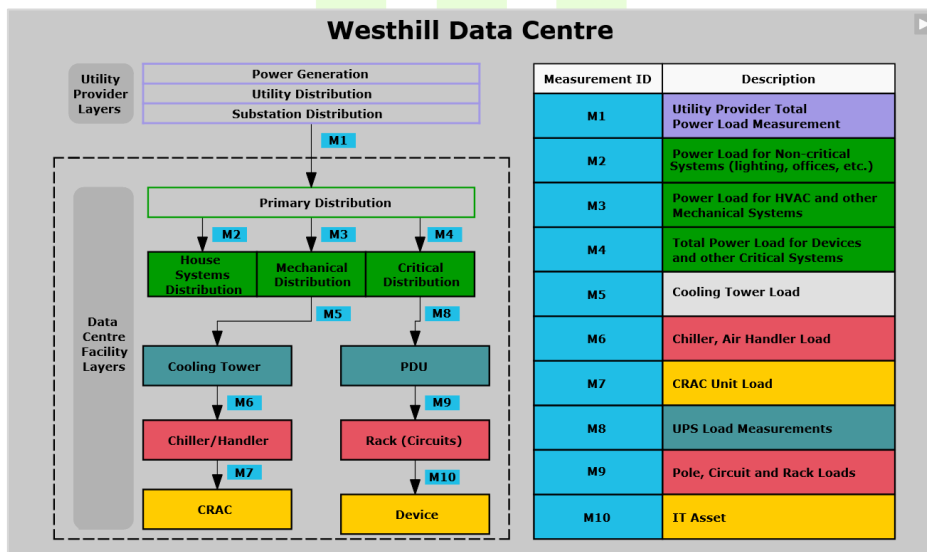


Figure 6-51 Westhill Data Centre

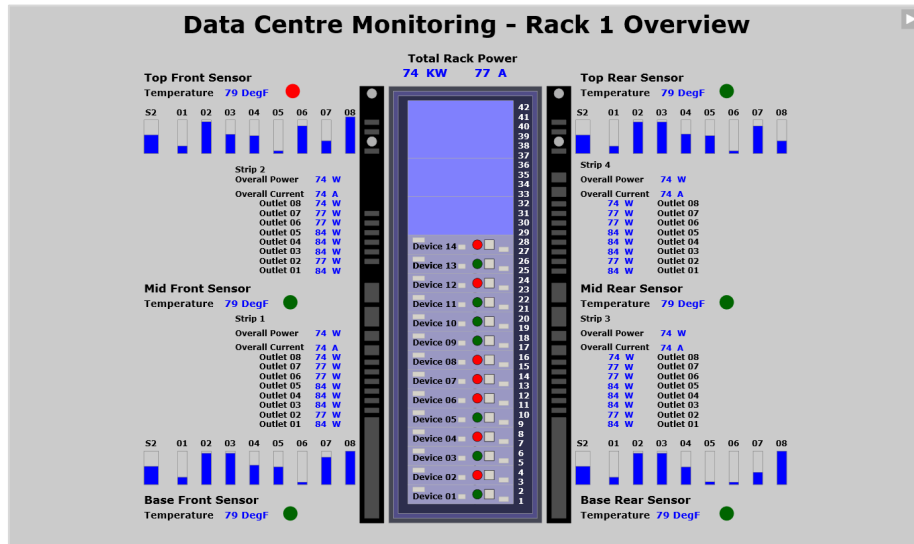


Figure 6-52 Data Centre Monitoring – Rack 1 Overview

## 6.12 Electrical

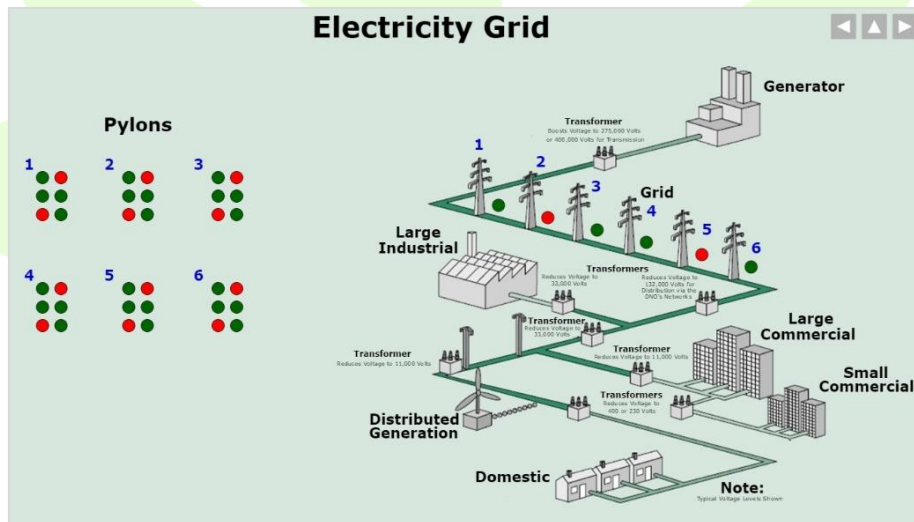


Figure 6-53 Electricity Grid – Pylon Sensors

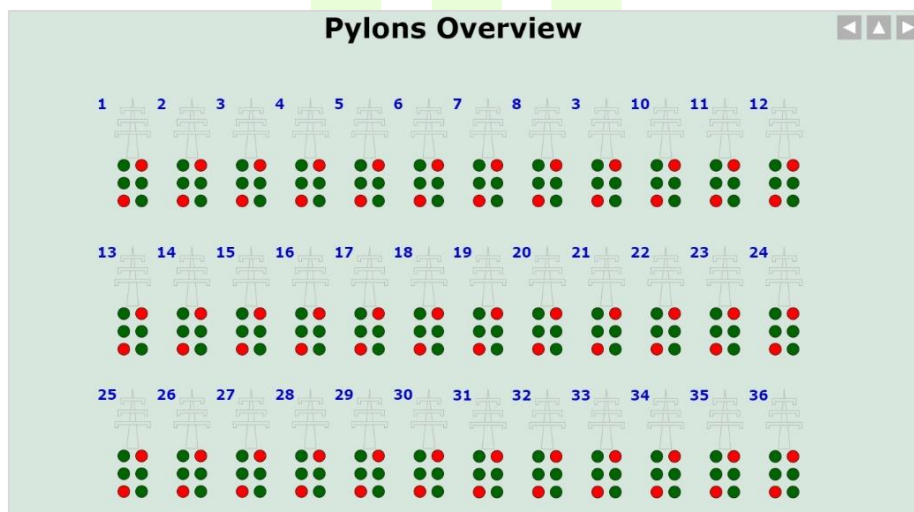
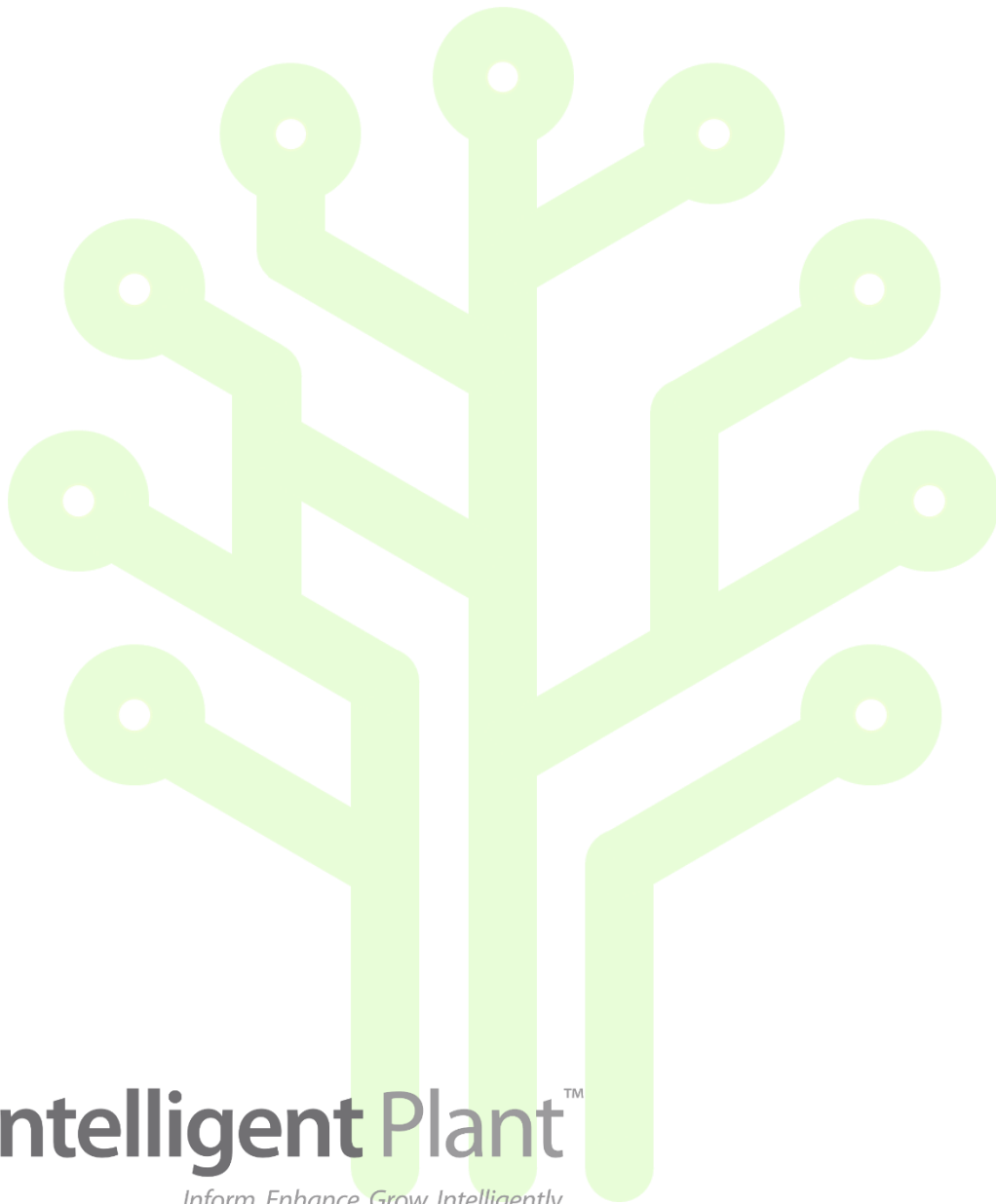


Figure 6-54 Individual Pylon Sensors



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