ensight
for enVision v3.2
enSight 3.2

enSight is a simple to use web base application that displays a graphical representation of fault. enSight shows informational and diagnostic messages displayed in real time.

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Getting Started

- Opening enSight
- Navigating enSight
Opening enSight

To open the enSight browser, you need to have the Envision browser opened. In the upper right hand corner is the (purple highlighted) enSight tab. Selecting the ensight tab will open the new enSight browser. From there, a loading icon will appear. This may take a few moments to load the browser. Once the enSight browser is loaded, a Object Tree window will appear on the left hand side of the screen. From there, you may navigate down to the object you wish to view. You can also open the Object Tree by selecting the (Blue) Object Tree icon in the upper left-hand corner of the browser window. Navigate to your selection. This Object Tree works the same as the Object Tree in the ENVISION browser.
Navigating enSight

In the enSight browser, the Main menu is on the left-hand side. Click on the top icon in the black side bar and it will open the menu. Within the enSight browser is the Dashboard, Realtime (Current Shift), and History tabs. Each of these have a sub menu below each tab except for the Dashboard tab.
enSight Side Main Menu

Main Menu

In the enSight browser, the Main menu expands to reveal the choices of Dashboard, Realtime (Current Shift) and History. The Realtime (Current Shift) and History Tabs contain sub tabs with more detailed choices to choose from.

Dashboard
Dashboard is the opening window for the Insight browser and the Main Home page for the enSight browser.

Realtime (Current Shift)
Below the dashboard is the real time for current shift it contains the Layout, Timeline, Messages, and Cycle length.

History
In the history tab, therein lies the Message History and the Production History.
enSight Top Menu

Top Menu

The Top Menu is located along top of the Insight browser, there are several icons. They consist of the Object Tree, Expand window, and a side menu toggle that reveals the Live Feed, Preferences, and Admin Menus.

Object Tree Icon

The Object Tree Icon is used to open and close the Object Tree containing the Factory window. In this window you can navigate up and down the Object Tree to the object you desire.
Expand

The Expand Window Icon is used to render the browser in Full Screen mode, similar to the F11 button with viewing a window. This action will display only the window, leaving the Browsers address and status bars hidden.
Side Menu Icon

The Side Menu Icon is used to reveal the side menu that contains the **Information**, **Preferences**, and the **Admin Menus**. Simply click on the icon on the top of the side menu to reveal each menu.

- **Information**
- **Preferences**
- **Admin (Right Sidebar Menu)**
Right Sidebar Menu

- Information
- Preferences
- Admin (Right Sidebar Menu)
Information

The Information Section contains the pertinent information of the current page you are viewing. In the Realtime Layout and Timeline screen, it will display the State buttons which can be selected to toggle on and off.
Preferences

The preference menu will allow you to configure how you would like to view the data by preference and layout of the current selected views (Dashboard, Layout, Timeline, Messages, CycleLength, Message History, and Production History).

Dashboard Preferences

Choose whether you would like to view Live data updates.

Layout Preferences

In the Layout section, you choose to display the Assets in the layout screen. For example when selecting the Layout View, it displays the Stations in boxes. Toggling the "Display Assets in Layout" will display the Assets label directly under the Station label. If there is two or more Assets, then it will create a several boxes with the same stations but different Assets.

Messages can be displayed in the layout section by turning on the "Display Messages in Layout" Toggle.

The Display Offloads Toggle will turn On or Off a smaller black box next to the outgoing arrow of the Station box on the Layout screen.

Fit to Screen will auto scale the data to fit in the display area.
The Enable editing, turns the layout into editing mode by adding an editing box where you can, resize and position the Station display boxes on the Layout screen.

The Configure Indicator button will open a new window that will allow you to configure how and what data will appear in the Station display boxes in the Layout screen.
Timeline and Messages Preferences

The Timeline Preferences option will allow you to choose the Display levels you want to appear in the Layout screen. Simply check or uncheck the levels you want to view.

Message History

In the Message History display, it offers the options to Include Child Messages, Timeline by Group (Message or Object), Chart on Pivot Table, and Message Color.

Cyclelength Preferences

This option will toggle whether to display group level objects in the Cyclelength table.

Production History
Admin (Right Sidebar Menu)

The Admin Tab contains the Manage Types and Manage Message Maps.

- Manage Types
- Manage Message Maps
- Import PLC Files
Manage Types

In the **Manage Types** module, you can setup and configure the messages that will be displayed in the *enSight* browser. The user can configure the **Priority, Code, Description, Definition, Background, Font Colors**, and whether it will appear in **Live-View**.

Simply click on a cell and a **editing highlight window** will open for you to edit the contents.

**Background and Font Color**

The **Background and Font Color** controls are similar when you want to add or change a color. Simply select the color sample on the Message Type table.

A **Color Config. window** will reveal. Click on the **Background** or **Foreground** pull down box and a color pallet will open above it.

Use the **reticle** to choose the color you would desire. Use the slider or **RGB edit boxes** to change the coloring. Click **OK** to set the color. Any changes made require you to save.
After the changes are made, select the **Save** icon to save your changes.

**Live-View**

*Check off* the **selection box** if you want these parameters to appear in the **Live-View Module**.
Manage Message Maps

The Manage Message Maps module allows you to control and configure the messages in the PLC for the Object using the IO Expression. The Table consist of multiple columns including Message, Code, IO Expression, PLC, Object and Active (Status).
Import PLC Files 3.2

The user can upload PLC files by selecting the "Select File to Upload" button in the upper left-hand corner of the enSight window.

Selecting this will reveal a window to navigate and upload a specific file desired.
enSight Dashboard

Dashboard

- Filter Date/Shift Range Tool
- Dashboard Waterfall Tab
- Dashboard OEE Tab
- Dashboard Summary Tab

The enSight Browser will open with the Dashboard module.

The Dashboard has three display tabs, Waterfall, OEE, and Summary. It will open to the default Waterfall display window.

Waterfall
OEE

OEE Summary

- Parts: 113
- JPH: 45
- Availability: 35.45%
- Performance: 96.08%
- Quality: 100.00%
- OEE: 34.15%

MTBF: 15 minutes
MTTR: 0 minutes
Summary (State)
Filter Date/Shift Range Tool

You can view a single shift or add more by utilizing the Filter Date/Shift Range tool at the top of the window (above the graphical data).

The range tool consists of a span of dates. Within the span is a Start Tab and an End Tab with a highlighted area between them. Each can be moved left or right to increase the amount of time selected between the Start and End label.

Simply click and hold one of the dark grey sliders (1st Shift 10/25/16), then slide it to the range you would like to view.
By dragging one of the sliders over, you will be selecting the shifts for the days between your sliders.

You can also take a selected range and slide it forward or behind along the range of the range selection tool. This action allows the user to maintain the same amount of a selected range, but also allowing the user to move it forward or backwards through the time graph.
Dashboard Waterfall Tab

Waterfall displays the time usage from the shift or selected shifts from the Filter Date/Shift Range Tool, above the graphical data.

When the Dashboard is first opened, it is opened at the current Time and Date at the End Tab, with the Start time ~ 3 days before. In this case, there may no data to display.

Use the Filter Date/Shift Range Tool to move the Start and or End time to encompass a range of area or to a specific period where there is data.
Dashboard OEE Tab

- **OEE Tab**
- **OEE graph**
- **OEE Summary**
- **JPH graph**

### OEE Tab

The OEE tab, displays the **Overall Equipment Effectiveness** of a selected shift or shifts, as well as the JPH or **Jobs Per Hour**, number of parts made, and the average jobs per hour. Above this graphical data is a Filter Date/Shift Range sorting tool.

### OEE graph

The OEE graph in the upper left side of the lower graphs, displays the OEE, Performance, Availability, and Quality.
OEE Summary

The OEE Summary in the upper right side of the lower graphs, displays Parts, JPH, Availability, Performance, Quality, and the OEE in percentage, all in numeral form.

JPH graph

The JPH graph is in the lower left side under the OEE graph. It shows the Jobs per hour in a graphical form.

After sliding the Filter Date/Shift Range tool to the left the OEE, OEE Summary, and the JPH graphs will expand and update to show the multiple shifts and totals.
Dashboard Summary Tab

The State Summary tab consists of a summation of time spent in a state, as well as how it compares to the preceding shift or shifts selection.
To compare with the other shifts, simply use the Filter Date/Shift Range slider to adjust range and slide the range from certain points on the range tool. Click and hold one of the sliders, and increase the range by moving it away from the other. Release and the graphical data below will update and show the results of your range selected.

You can also take a preset range and move the whole selection by clicking and holding the highlighted area of your selection as shown. The graphical date will update when you release the cursor.
Realtime (Current Shift)*

Below the dashboard is the real time for current shift it contains, time line, and cycle length. The Realtime section consist of several subsections:

- **Layout**
- **Realtime Timeline Tab**
- **Realtime Messages**
- **Realtime Cyclelength Tab**

**Layout**

The layout view displays the current state and messages in real-time.
Timeline Tab

The Timeline section contains an active Real time scrolling table to represent the Timeline. The Timeline displays a Real time timeline that scrolls from right to left. In the scrolling time graph, it displays the real-time messages for each station. The time graph is setup with the stations in the column and the time across the top row.

Messages

Cyclelength

Cyclelength tab shows an updating table with the last 5 cycles down to the group level.
Realtime Layout

The layout view displays the current state and messages in real-time. The color and code is based on the legend at the top of the page and is completely configurable. The objects displayed are the selected Assets that were selected on the object tree. The layout view is completely configurable, including layout, size, shape and content.

Open the Factory Tree and navigate down to the level you wish to see the layout of. When it opens, it will show the Stations within the Line you selected (Test Line 2 Copy).

The user can now utilize the Layout toggles to add or remove more information about the Objects displayed.
Layout Information 3.2

In the Layout, when Information tab is selected, it will display a legend of all the configured states on the right hand side of the browser. While in this mode, any change of state will be represented by a change of color to the actual object of concern and a message will appear below the Layout Area.
Layout Preferences 3.2

The Preference tab when selected offers the options to Display Assets in Layout, Display Messages in Layout, and the option to Enable Editing.

Display Asset in Layout

Select the Display Assets in Layout to add the Asset labels to their corresponding Stations.

Display Messages in Layout

The Display Messages in Layout button will control the display of the Offload boxes. Turning off this feature will remove the Offload box and the ability to monitor the total cycles by hour.
Enable Editing

The Enable Editing option will reopen the browser with an editing tool in the upper right hand corner. Use the tool to change the size, and/or position, via use of the mouse or inputting coordinates. Once it is to you liking, click the Save button to save your work and toggle the Enable Editing button to the off position to exit the editing mode.
Resizing an Object

Resizing an object can be done in two ways. The first way is to do it manually, by selecting the Resize option. After selecting an object, clicking on this will allow the user to grab a corner of the object and drag it to make it larger or smaller. Make it the size you desire and that's it.

The second way it to utilize the edit box. Simply fill in the edit box, then check off the check box to the right, then click Save. The object will update.

Repositioning an Object

To move an object manually, select the Position option. This will allow you to use the cursor to make the changes. Simply click and hold, then move the object to the position you desire on the layout screen.

You can also utilize the edit boxes for X and Y Positions. Simply input the X and Y coordinates, then select Save to complete.
Layout Admin 3.2

The Admin Tab contains the Manage Types and Manage Message Maps.

- Manage Types (Layout)
- Manage Message Maps (Layout)
- Import PLC Files (Layout)
Import PLC Files (Layout)

The user can upload PLC files by selecting the "Select File to Upload" button in the upper left-hand corner of the enSight window. Selecting this will reveal a window to navigate and upload a specific file desired.
Manage Message Maps (Layout)

The Manage Message Maps module allows you to control and configure the messages in the PLC for the Object using the IO Expression.

The Table consist of multiple columns including Message, Code, IO Expression, PLC, Object and Active (Status).
Manage Types (Layout)

In the Manage Types module, you can setup and configure the messages that will be displayed in the enSight browser. The user can configure the Priority, Code, Description, Definition, Background, Font Colors, and whether it will appear in Live-View.

Simply click on a cell and an editing highlight window will open for you to edit the contents.

Background and Font Color

The Background and Font Color control are similar when you want to add or change a color. Simply select the color sample on the Message Type.

A Color Config. window will reveal. Click on the Background or Foreground pull down box and a color pallet will open above it.
Use the **reticle** to choose the color you would desire. Use the slider or **RGB** edit boxes to change the coloring. Click **OK** to set the color. Any changes made require you to save.

After the changes are made, select the **Save** Icon to save your changes.

**Live-View**

**Check off** the **selection box** if you want these parameters to appear in the **Live-View Module**.
Realtime Timeline Tab

The Timeline section contains an active Real time scrolling table to represent the Timeline.

The Timeline displays scrolls from right to left. Within the scrolling time graph, it displays the real-time messages for each station. The time graph is setup with the stations in the column and the time across the top row. The User can filter what objects to display by opening the Right Side Menu and selecting the Preference Tab, then the user can select and unselect the Display levels.
In the information tab lies the color coded States Legend. This can be used to identify the state messages that are appearing in real-time.
Realtime Messages

Messages in Realtime can be viewed in Realtime in the browser. The Messages in the Realtime tab, displays all the messages as they occur in a color coded list by state. Each message displays the Date, Time, Code (State), Message, Object, and the Duration of the event.

Adding Messages to PLC

Messages for the PLC’s are in the LSX files which can be loaded into a PLC. Go to the upper right-hand side menu by clicking on the arrows. This action will open the Right-Side Menu and offer you three options to proceed. Select the Manage Message Map button located under the Admin tab of the Right-Side menu.
The enSight window will reload to the Message Map window. From here, click on the Select File to Upload button to open the File selection window.

Select the file (LSX) you want to Upload to your source file.
Once the file is selected, the window will show a message “Please wait. Uploading file...”.

It will load all the tags from the PLC and send to the user, so that the user may select the messages that are desired to be downloaded to the PLC.
Select the messages to bind to the PLC. Once all the selected messages are completed. Review your selection before proceeding on to the PLC selection.

Once all the messages are selected, you can now select the PLC that you may bind them to. Go to the Select PLC selection box and click on the drop-down menu.

This will reveal a list of existing PLCs. Make a selection of one of the PLC’s from the list. After your selection, click on the Accept button to bind the selected messages to the selected PLC. This may take a few moments depending on the amount of messages to bind to the PLC.
When it is finished, it will display a small black box with a message reading “Notice. enSight messages successfully created!”
Realtime Cyclelength Tab

- History
- Message History Tab
- Table View
- Timeline
- Pivot

Cyclelength tab shows an updating table with the last 5 cycles down to the group level. Along with the last 5 cycles, it displays the cycles statistics shown including the number of Last Cycle Date, good count, over cycles count, average cycle length, minimum, and maximum cycle length.

You can Collapse all the selected objects down to the station by using the collapse button or you can expand all the stations out to the group level, along with filtering of the station and asset level.

You can also close the side menus and click the full screen button to fully open the display window.
History

- Message History Tab
- Production History
Message History Tab

In the history tab, therein lies the message history and the production history. The Message History tab has two tabs available, the Table tab and the Timeline tab. You can use the Range filter (Date/Shift) to specify the time range desired.

Table View

Displays all messages for the shifts selected in the Range filter.

The message information includes the Date, Day of Week, Hour, Shift, Object, Code, Timestamp, and Duration in seconds. The data on the table can be filtered and sorted by using the filters at the top of each column or you can drag and drop the column header to the sorting line to sort the data by the selections made. This example shows the table is sorted by the code column.
Pivot

The Pivot dashboard item displays a cross-tabular report that presents multi-dimensional data in an easy-to-read format. It also incorporates a configurable graph above the Pivot table.

To add, edit, or delete parameters to change your pivot table, select the Field Chooser icon in the middle right-hand side of the browser window, between the pivot table and the graphing areas. Selecting this icon will open the Field Chooser window.

From this window, you can change the content of the Pivot table and graphing area. Simply check the parameters you will include in the pivot table. Then click and hold on the name, then drag it to the Row, Column, Filter, or Data Fields.

After every change, a loading... icon will appear and changes will take place.

To remove a field, simply click and hold, then drag the parameter out of the field box. It will then show the loading icon, then the screen will update.

To close the Field Chooser window, click the x (close) button in the upper right-hand corner.
Production History

## Production History

<table>
<thead>
<tr>
<th>Date</th>
<th>Start Time</th>
<th>End Time</th>
<th>Shift</th>
<th>Shift Type</th>
<th>Cols 1</th>
<th>Cols 2</th>
<th>Cols 3</th>
<th>Cols 4</th>
<th>Cols 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/24/17</td>
<td>7:05 am</td>
<td>2:00 pm</td>
<td>Day</td>
<td></td>
<td>45</td>
<td>53</td>
<td>61</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>5/25/17</td>
<td>7:05 am</td>
<td>2:00 pm</td>
<td>Day</td>
<td></td>
<td>46</td>
<td>52</td>
<td>53</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>5/26/17</td>
<td>7:05 am</td>
<td>2:00 pm</td>
<td>Day</td>
<td></td>
<td>45</td>
<td>53</td>
<td>52</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>5/27/17</td>
<td>7:05 am</td>
<td>2:00 pm</td>
<td>Day</td>
<td></td>
<td>46</td>
<td>52</td>
<td>53</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>5/28/17</td>
<td>7:05 am</td>
<td>2:00 pm</td>
<td>Day</td>
<td></td>
<td>45</td>
<td>53</td>
<td>52</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>5/29/17</td>
<td>7:05 am</td>
<td>2:00 pm</td>
<td>Day</td>
<td></td>
<td>46</td>
<td>52</td>
<td>53</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>5/30/17</td>
<td>7:05 am</td>
<td>2:00 pm</td>
<td>Day</td>
<td></td>
<td>45</td>
<td>53</td>
<td>52</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>5/31/17</td>
<td>7:05 am</td>
<td>2:00 pm</td>
<td>Day</td>
<td></td>
<td>46</td>
<td>52</td>
<td>53</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>6/01/17</td>
<td>7:05 am</td>
<td>2:00 pm</td>
<td>Day</td>
<td></td>
<td>45</td>
<td>53</td>
<td>52</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>6/02/17</td>
<td>7:05 am</td>
<td>2:00 pm</td>
<td>Day</td>
<td></td>
<td>46</td>
<td>52</td>
<td>53</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>6/03/17</td>
<td>7:05 am</td>
<td>2:00 pm</td>
<td>Day</td>
<td></td>
<td>45</td>
<td>53</td>
<td>52</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>6/04/17</td>
<td>7:05 am</td>
<td>2:00 pm</td>
<td>Day</td>
<td></td>
<td>46</td>
<td>52</td>
<td>53</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>6/05/17</td>
<td>7:05 am</td>
<td>2:00 pm</td>
<td>Day</td>
<td></td>
<td>45</td>
<td>53</td>
<td>52</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>6/06/17</td>
<td>7:05 am</td>
<td>2:00 pm</td>
<td>Day</td>
<td></td>
<td>46</td>
<td>52</td>
<td>53</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>6/07/17</td>
<td>7:05 am</td>
<td>2:00 pm</td>
<td>Day</td>
<td></td>
<td>45</td>
<td>53</td>
<td>52</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>6/08/17</td>
<td>7:05 am</td>
<td>2:00 pm</td>
<td>Day</td>
<td></td>
<td>46</td>
<td>52</td>
<td>53</td>
<td>151</td>
<td></td>
</tr>
</tbody>
</table>
Production History in Full Screen mode.
The address and bookmark bars are removed similar to using the F11 Full Screen Mode.

<table>
<thead>
<tr>
<th>Start Time</th>
<th>End Time</th>
<th>Shift</th>
<th>Day</th>
<th>Hours</th>
<th>Hours</th>
<th>Hours</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/6/17 7:05 am</td>
<td>10:00 am</td>
<td>Day</td>
<td>Friday</td>
<td>45</td>
<td>53</td>
<td>52</td>
<td>150</td>
</tr>
<tr>
<td>6/6/17 7:05 am</td>
<td>10:00 am</td>
<td>Day</td>
<td>Thursday</td>
<td>46</td>
<td>52</td>
<td>53</td>
<td>151</td>
</tr>
<tr>
<td>6/6/17 7:05 am</td>
<td>10:00 am</td>
<td>Day</td>
<td>Wednesday</td>
<td>45</td>
<td>53</td>
<td>52</td>
<td>150</td>
</tr>
<tr>
<td>6/6/17 7:05 am</td>
<td>10:00 am</td>
<td>Day</td>
<td>Sunday</td>
<td>46</td>
<td>52</td>
<td>53</td>
<td>151</td>
</tr>
<tr>
<td>6/6/17 7:05 am</td>
<td>10:00 am</td>
<td>Day</td>
<td>Monday</td>
<td>45</td>
<td>53</td>
<td>52</td>
<td>150</td>
</tr>
<tr>
<td>6/4/17 5:30 pm</td>
<td>9:30 am</td>
<td>Night</td>
<td>Weekend</td>
<td>40</td>
<td>46</td>
<td>52</td>
<td>311</td>
</tr>
<tr>
<td>6/2/17 2:00 am</td>
<td>2:00 am</td>
<td>Day</td>
<td>Weekend</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6/2/17 2:00 am</td>
<td>2:00 am</td>
<td>Day</td>
<td>Weekend</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Adding Messages

Messages for the PLC’s are in the L5X files which can be loaded into a PLC. Go to the upper right-hand side menu by clicking on the arrows. This action will open the Right-Side Menu and offer you three options to proceed.

Select the Manage Message Map button located under the Admin tab of the Right-Side menu.
The enSight window will reload to the Message Map window. From here, click on the **Select File to Upload** button to open the File selection window.

Select the file (L5X) you want to Upload to your source file.

Once the file is selected, the window will show a message “Please wait. Uploading file...”.
It will load all the tags from the PLC and send to the user, so that the user may select the messages that are desired to be downloaded to the PLC.

Select the messages to bind to the PLC. Once all the selected messages are completed. Review your selection before proceeding on to the PLC selection.

Once all the messages are selected, you can now select the PLC that you may bind them to. Go to the Select PLC selection box and click on the drop-down menu.
This will reveal a list of existing PLCs. Make a selection of one of the PLC’s from the list. After your selection, click on the Accept button to bind the selected messages to the selected PLC. This may take a few moments depending on the amount of messages to bind to the PLC.

When it is finished, it will display a small black box with a message reading “Notice. enSight messages successfully created!”. 

Notice. enSight messages successfully created!