

# HMI and SCADA

## Features of HMI and SCADA Systems

# HMI System



## History of Machine Control:

- Pushbuttons, switches and lights mounted in a panel
- EOI – Electronic Operator Interface, or
- MMI – Man Machine Interface
- HMI – Human Machine Interface

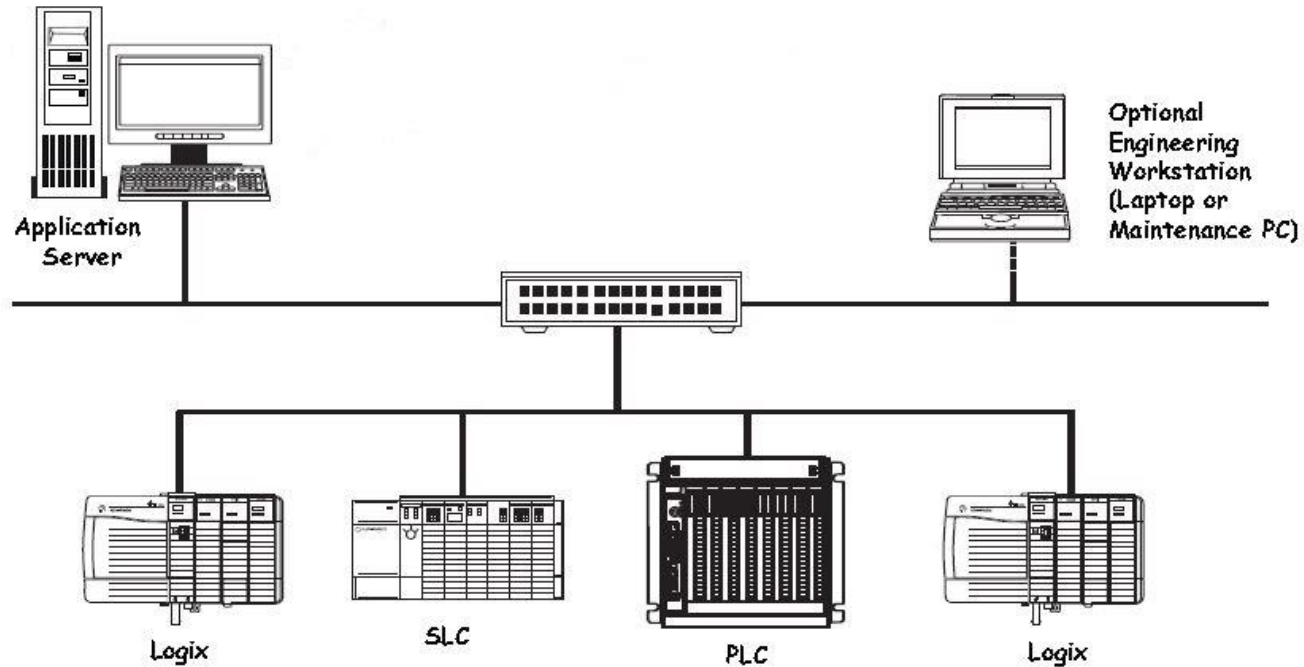


### Several manufacturers including:

- Allen-Bradley
- Seimens
- G.E.
- Omron

# SCADA System

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# HMI System

Purpose:

- A user interface typically connected to a specific piece of machinery or process which allows a person to \_\_\_\_\_ with that machine or process.
- Allows \_\_\_\_\_ of the machine or process ie. see what state it is in, how many parts produced, diagnostic information.
- Allows input into the machine or process to adjust \_\_\_\_\_ such as set points or to manually operate or manipulate a part.



# HMI System

FAB – Feature, Advantage, Benefit

Feature	Advantage	Benefit
Screen Display		
Scalable		
Networked		
Smart Objects <ul data-bbox="54 946 305 1253" style="list-style-type: none"><li>• User accounts</li><li>• Passwords</li><li>• Alarms</li><li>• Trends</li><li>• Data logging</li><li>• Recipe management</li><li>• Language switching</li></ul>		



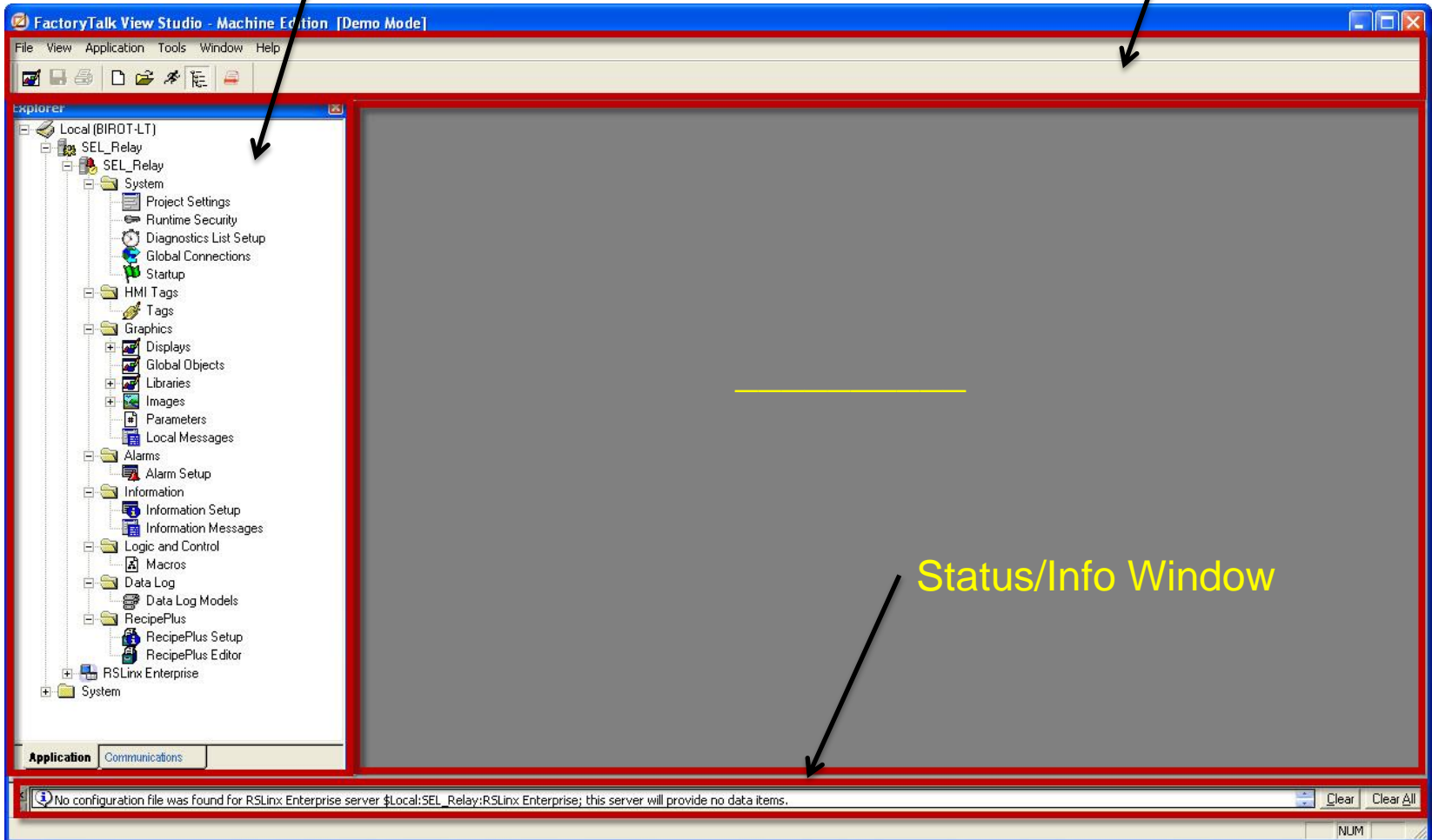
# HMI System

## Components

<u>Hardware</u>	<u>Development</u>	<u>Runtime</u>
<ul style="list-style-type: none"><li>➤ 4" to 15"</li><li>➤ All-in-one or Component</li><li>➤ Door Mount</li><li>➤ IP65</li><li>➤ Touch, Keypad or Both</li></ul>	<ul style="list-style-type: none"><li>➤ _____</li><li>➤ Define screens, tags, alarms, trends, etc.</li></ul>	<ul style="list-style-type: none"><li>➤ _____</li><li>➤ Transfer runtime to hardware or PC with R/T license</li></ul>

# Development Screen

Toolbar



# HMI System

## Features

### Common Features

- Communication Configuration
- Project Settings
- \_\_\_\_\_
- Alarms

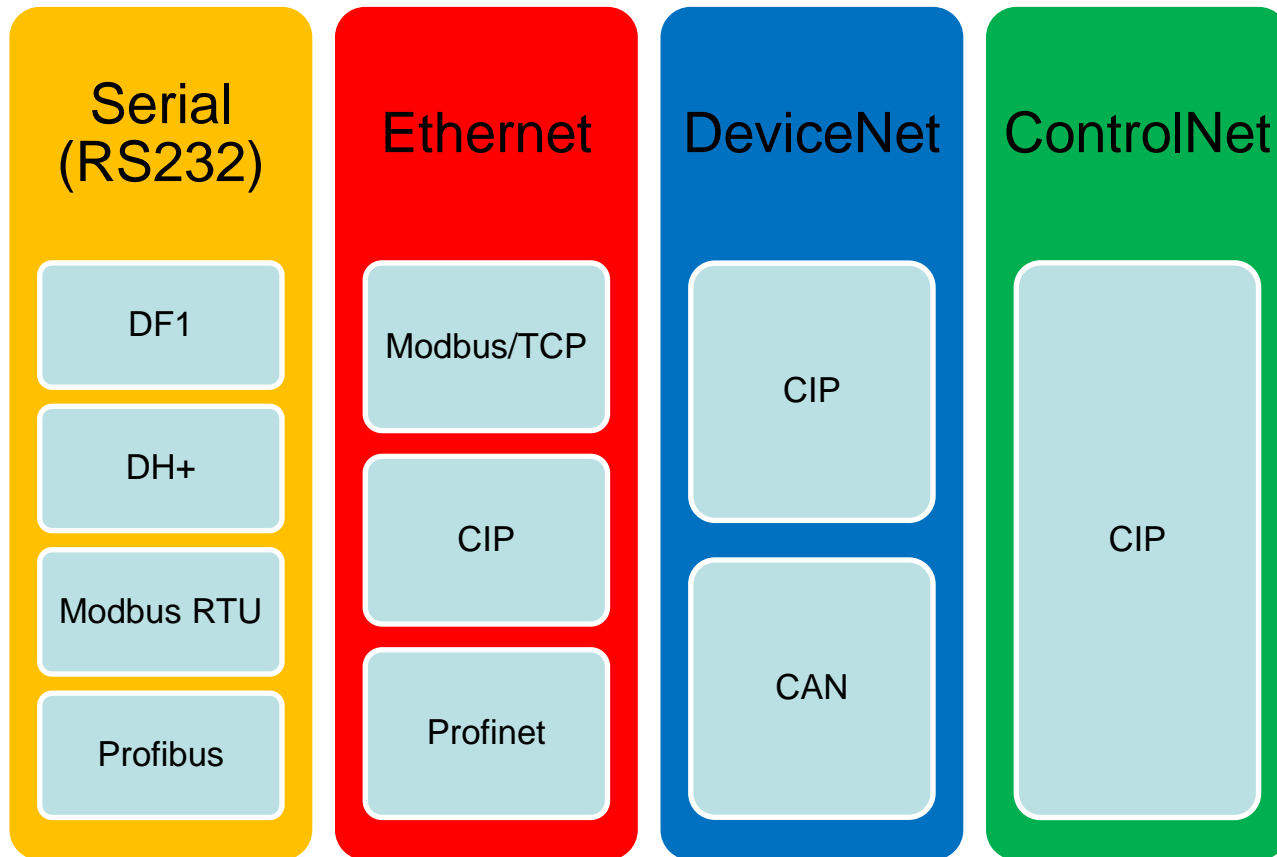
### Optional Features

- \_\_\_\_\_
- Data Logging
- Macros
- Recipes
- \_\_\_\_\_

FTView ME has all these features.

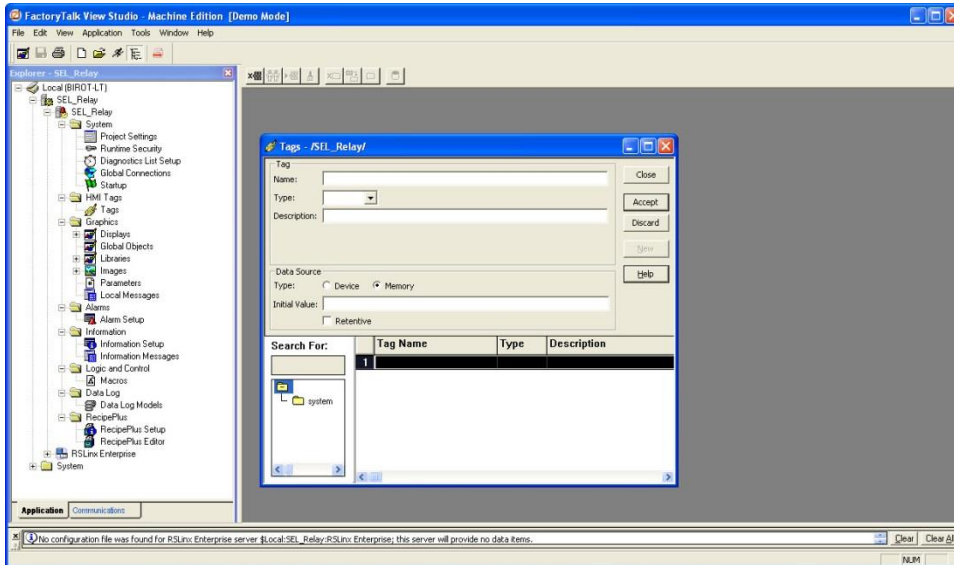
# HMI System

## Communications



# HMI System

## Tags



### Tag Editor

- Name
- Type
  - Analog
  - Digital
  - String
- Description
- Data Source
  - Device
  - Memory

# HMI System

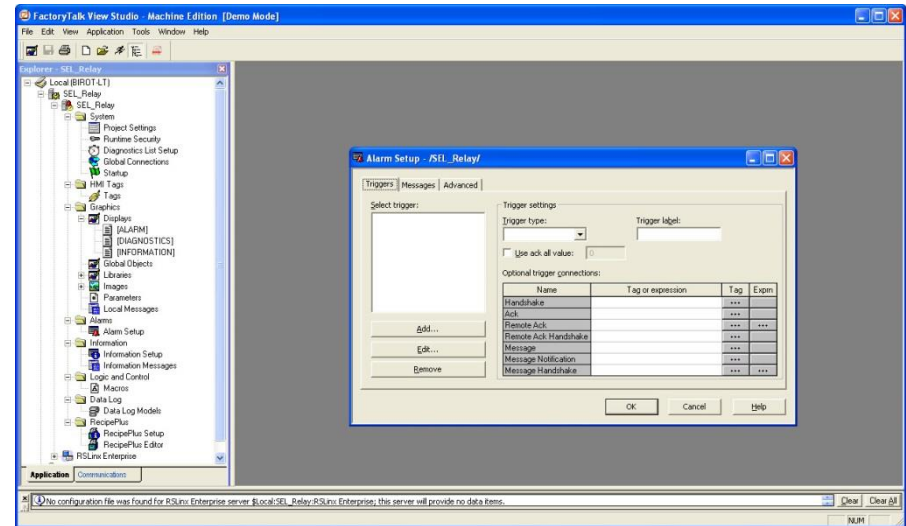
## Screen Configuration

- The screen is where objects are drawn onto.
- Multiple screens can be made.
- Full size or 'pop-up'.
- # screens limited by memory.

# HMI System

## Alarms

- Created in the Alarm editor.
- Alarm on 'on/off' or 'value' expression.
- Displayed on an 'Alarm Display' or banner.



# HMI System

## Trends

- Display a value over time.
- Up to 8 pens.
- Can configure X, Y axis, pen colors, tag assignment, etc..

