

Using a Panel as Smart Device



Panels created with **HMI Control Panel Design** can be used as Smart Device in a cell by adding Internal Logic.

The result of this procedure is available in [SmartDevice_Panel.CATProduct](#) in the samples folder.

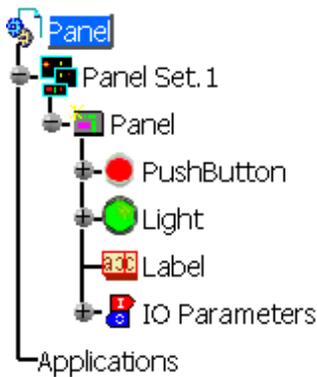


The panel used in the following scenario was created with **HMI Control Panel Design**.



Creating a Smart Panel

1. Open [Panel.CATProduct](#) in the **Logic Design > CLM Device Logic Design** workbench.



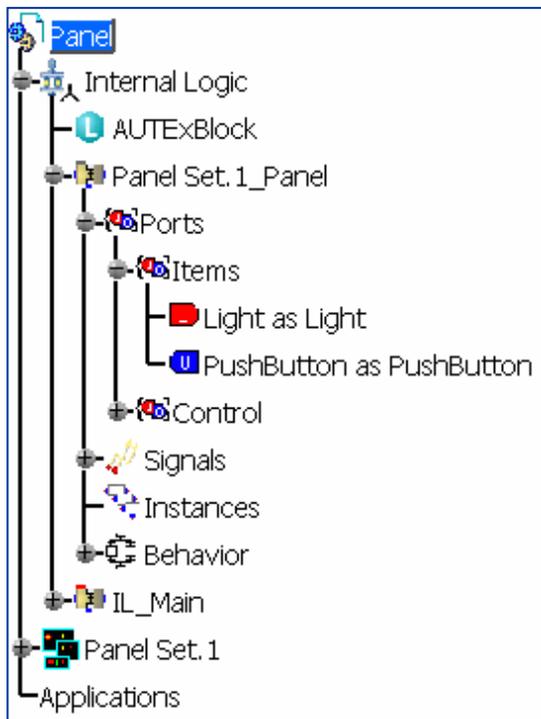
The panel has an output (PushButton) returning the status of the push button and an input (Light) to set the status of the Led.

2. Select **Add internal logic**  and select the root device **Panel**.

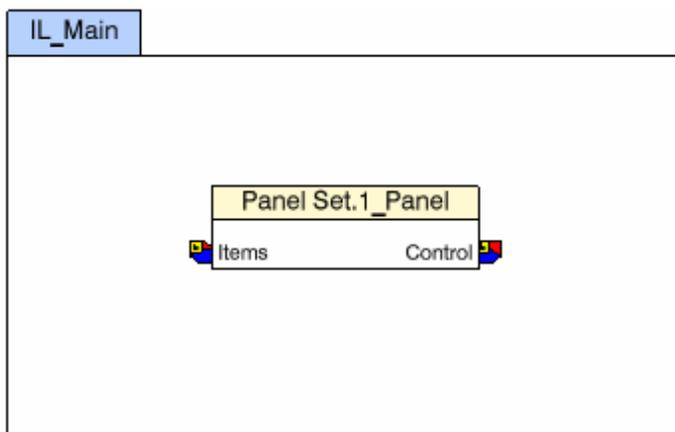
An Internal Logic workspace is added to the Product tree. It contains the PanelSet.1_Panel block that implements the communication between the panel and the internal logic. The interface of the blocks is structured by:

- Items: Children of the Item port are mapped to the IO parameters of the Panel.
- Control: This port is dedicated to the panel management during the simulation.
 - Close (pure): if Close is emitted, the panel is closed.
 - Title (string8): Name of the panel window.
 - PosX (int32): X position of the panel window.
 - PosY (int32): Y Position of the panel window.
 - Size (float32): Multiplier of panel size.

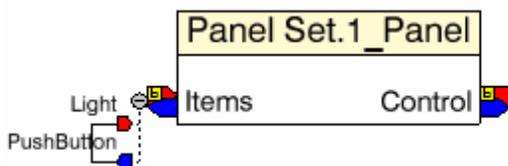
This block is instantiated in the IL_Main block.



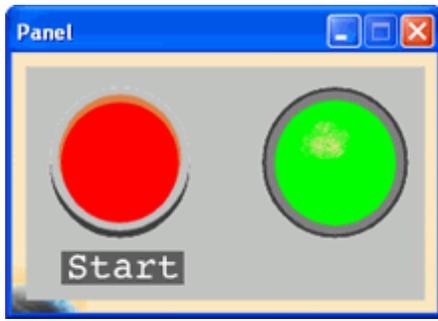
3. Select **Launch Block Editor**  in the **Logic Design** toolbar and select the **IL_Main** block in the Product tree.



4. Select **Expand Port**  in the contextual menu of the Items port. The I/Os of the widgets are displayed.
5. Select **Add Mapping**  to link the output of the Button to the input of the Led. Thanks to this connection, the Led is lit by clicking the button in the panel.



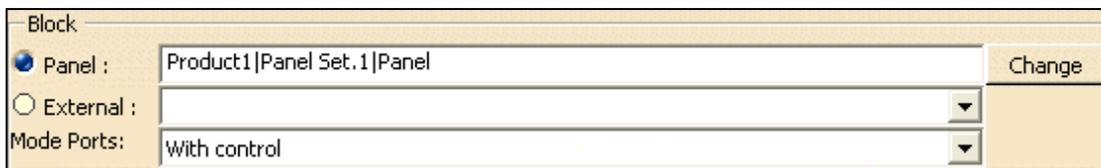
6. Click **Debug Light**  in the **Build** toolbar and select the **IL_Main** block.
7. Click **Run** in the **Controls** toolbar. The panel is displayed.
8. Click the red Button in the Panel: the Led is lit.



9. Click **Debug Light** to end the simulation.

Updating Panel Parameters

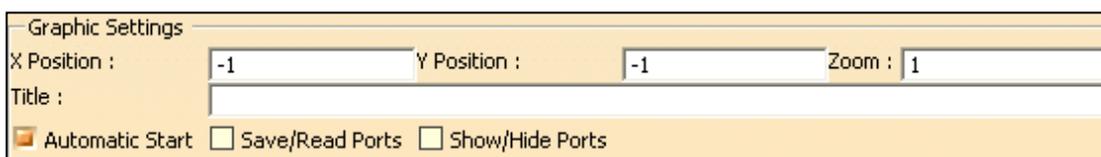
1. Select Panel Set.1_panel in the specification tree.
2. Select **Block... > Update External Block** in the contextual menu. The different parameters have been automatically set at the creation of the internal logic.



- **Change:** If you want to display another panel, click change and select another Panel available in the specification tree.
- **External:** You can choose a panel developed by an external CAA implementation.
- **Mode ports:** 3 settings are available:
 - **With Control:** The port Control is created to manage the display of the control panel during the simulation (see explanation in the section above).
 - **Without control:** Only the port Items is created. The user cannot change the display of the panel during the simulation.
 - **Separate Inputs and Outputs for control and gadget:** This option must be selected if the type of IL_Main type is FBD.



Settings: These parameters can only be changed if the panel is an external CAA implementation.



- **X Position** and **Y Position** define the position of the control panel.
- **Zoom** is the multiplier of the panel's size.
- **Title:** By default, the title of the panel window is the same as the panel name.

- **Automatic Start:** This means that the panel will be automatically launched as soon as the instance of the panel block is run. If you uncheck the option, the input *Askopen* is added to the Control port. If you emit this signal, the panel is opened.
- **Save/Read Ports:** If you check this option, the inputs *SaveValues* and *ReadValues* are added to the Control port. If you emit the port *SaveValues*, the current state of the panel is saved. If you emit the port *ReadValues*, the last saved state of the panel is restored.
- **Show/Hide Ports:** If you check this option, the input *HideShow* is added to the Control port. If the signal is false, the panel is hidden, if the signal is true, the panel is shown.

3. Check Save/Read Ports and Show/Hide Ports.

