



## ViSi-Genie Show Image

DOCUMENT DATE: **25<sup>th</sup> APRIL 2020**  
DOCUMENT REVISION: **1.2**



## Description

This Application Note explores the possibilities provided by ViSi-Genie for the **Image** object.

This application note requires:

- Workshop4 has been installed according to the document Workshop4 Installation;
- The user is familiar with the Workshop4 environment and with the fundamentals of ViSi-Genie, as described in Workshop4 User Guide and ViSi-Genie User Guide;
- When downloading an application note, a list of recommended application notes is shown. It is assumed that the user has read or has a working knowledge of the topics discussed in these recommended application notes.

***Two examples of ViSi-Genie projects are provided to help you along this application note.***

## Content

<b>Description</b> .....	<b>2</b>
<b>Content</b> .....	<b>2</b>
<b>Application Overview</b> .....	<b>3</b>
<b>Setup Procedure</b> .....	<b>3</b>
<b>Create a New Project</b> .....	<b>3</b>
<b>Create a New Project</b> .....	<b>3</b>
<b>The Image Object</b> .....	<b>3</b>
<b>Add an Image Object</b> .....	<b>4</b>
<b>Move the Image</b> .....	<b>6</b>
<b>Resize the Image</b> .....	<b>7</b>
<b>Edit the Image</b> .....	<b>8</b>
<b>Crop the Input Image</b> .....	<b>9</b>
<b>Resize the Output Image</b> .....	<b>10</b>
<b>Change the Image</b> .....	<b>12</b>
<b>Confirm or Discard the Changes</b> .....	<b>13</b>
<b>Build and Upload the Project</b> .....	<b>14</b>
<b>Proprietary Information</b> .....	<b>15</b>
<b>Disclaimer of Warranties &amp; Limitation of Liability</b> .....	<b>15</b>

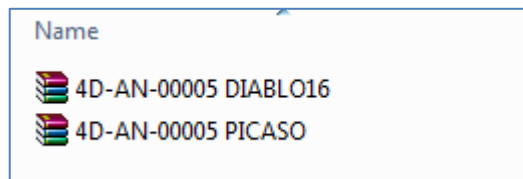
## Application Overview

A graphical user interface is based on images and 4D Systems screens display them beautifully.

This application note describes how to add an **Image** object and how to customise it.

## Setup Procedure

This application note comes with a zip file which contains two ViSi-Genie projects.



For instructions on how to launch Workshop4, how to open a ViSi-Genie project, and how to change the target display, kindly refer to the section “**Setup Procedure**” of the application note:

**ViSi Genie Getting Started – First Project for Picaso Displays**

**ViSi Genie Getting Started – First Project for Diablo16 Displays**

## Create a New Project

### Create a New Project

For instructions on how to create a new ViSi-Genie project, please refer to the section “**Create a New Project**” of the application note

**ViSi Genie Getting Started – First Project for Picaso Displays**

**ViSi Genie Getting Started – First Project for Diablo16 Displays**

## The Image Object

You can load the ViSi-Genie project example...

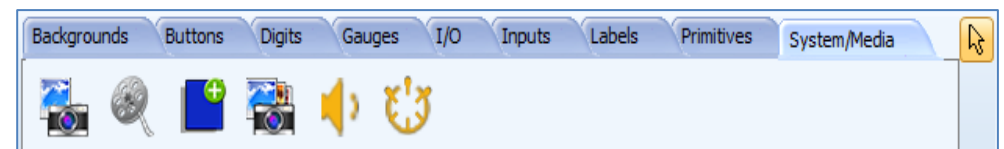
**Example: 4D-AN-00005 PICASO – Show Image1 or 4D-AN-00005 DIABLO16– Show Image1**

...or follow the procedures described hereafter.

Select the **Home** menu to display the objects:



The **Image** object is located on the System/Media pane:



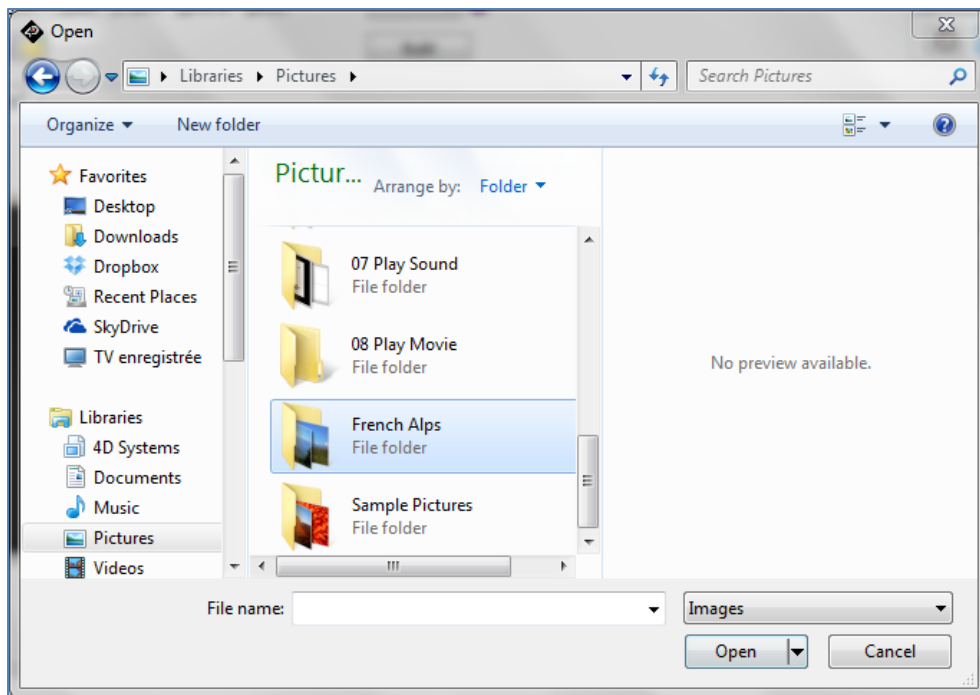
## Add an Image Object

Click first on the Image icon...

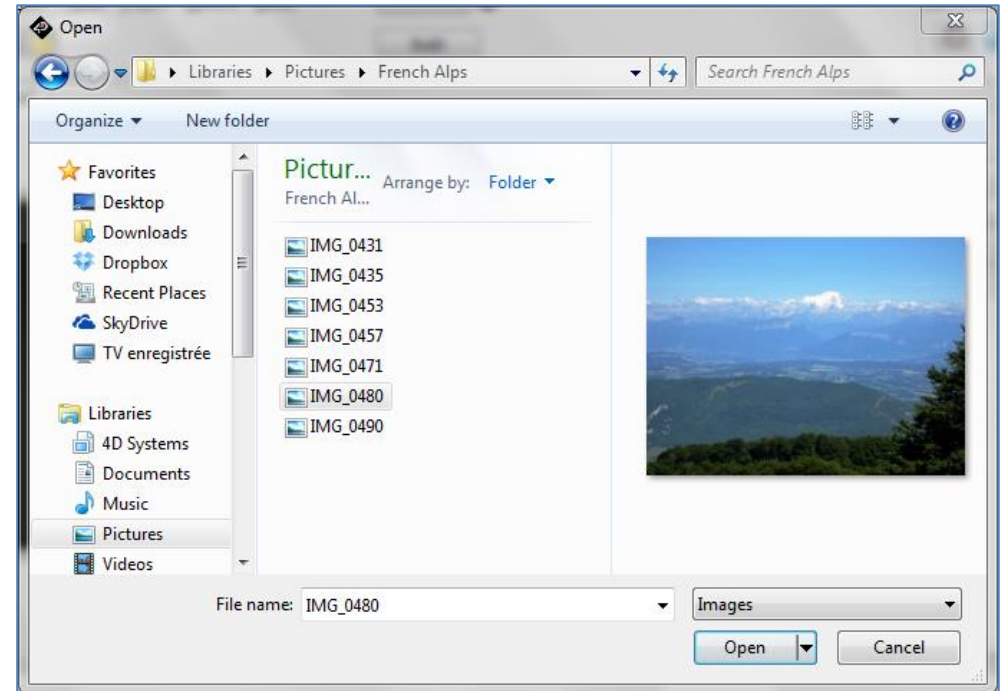


...and click on the WYSIWYG screen to place it.

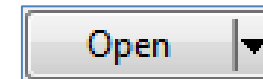
The standard Windows **Open** file appears and asks for an image:



Select the folder, here *French Alps*, and the picture, here *IMG\_0480* with a lovely view of the Mont Blanc...



...and press **Open** to load the image:

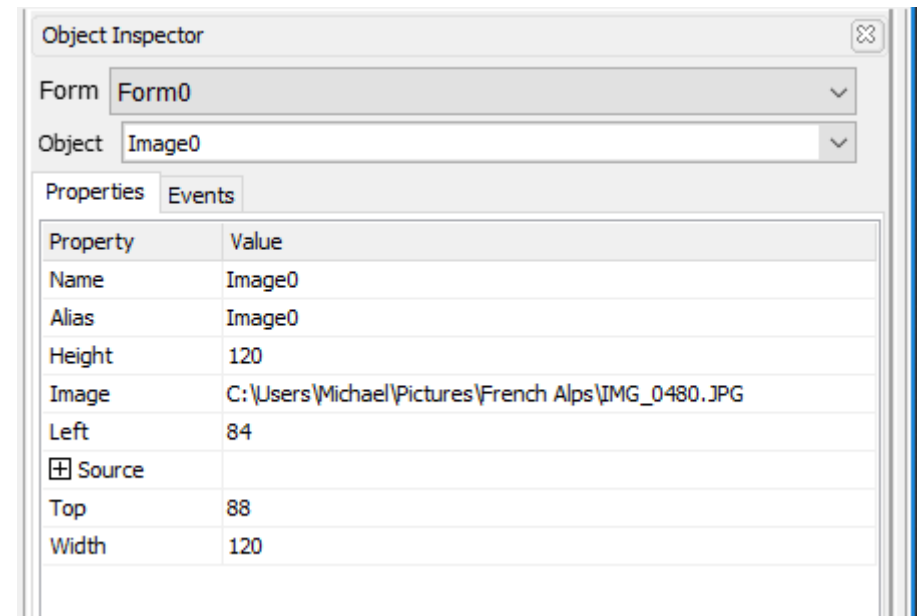


The WYSIWYG screen now displays the image:



Note that the image is in a square in the middle of the screen and that the proportions are not consistent with the original ones.

The Object Inspector displays the properties of the Image object:



The **Image** object contains one single image.

## Move the Image

To place the image on the top-left corner of the screen, first select the **Image** object by clicking on it; red dots appear around the image:



Then, two options:

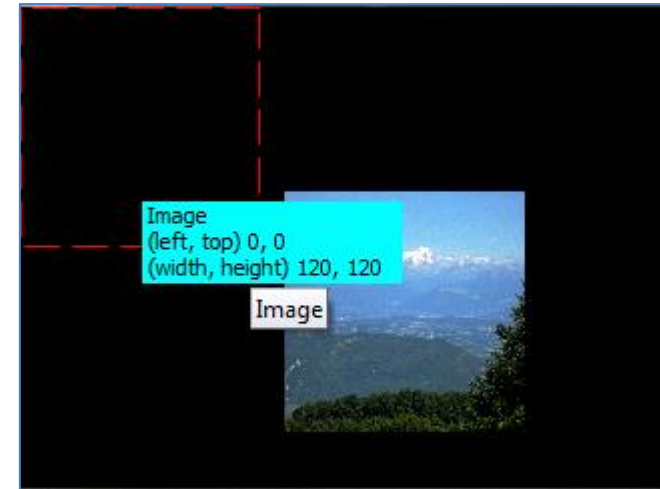
- Either use the keyboard and edit two properties on the Object Inspector, **Left** and **Top** :
  - Select the **Left** line, enter *0* and press **Enter**

Left	0
------	---

- Select the **Top** line, enter *0* and press **Enter**

Top	0
-----	---

- Or use the mouse, click-and-drag the image on the top-left corner of the screen:



The WYSIWYG screen shows the new location of the image:



## Resize the Image

To resize the image, first select the **Image** object by clicking on it; red dots appear around the image:



Because the screen used for this application note is 320 x 240, maximal height is 240 pixels and maximal width is 320 pixels. Those values may change depending on your specific screen. Please refer to the specification sheet of your screen.

Then, two options:

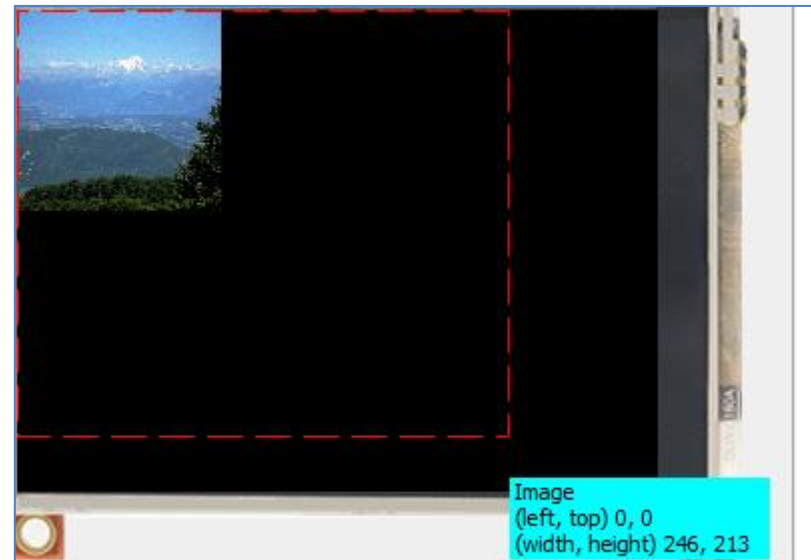
- use the keyboard and edit two properties on the Object Inspector, **Height** and **Width** :
  - Select the **Height** line, enter *0* and press **Enter**

Height	240
--------	-----

- Select the **Width** line, enter *0* and press **Enter**

Width	320
-------	-----

- Or use the mouse, click on the bottom-left red dots and resize the image to fill all the screen:

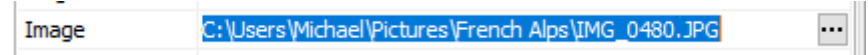


The WYSIWYG screen shows the new size of the image:



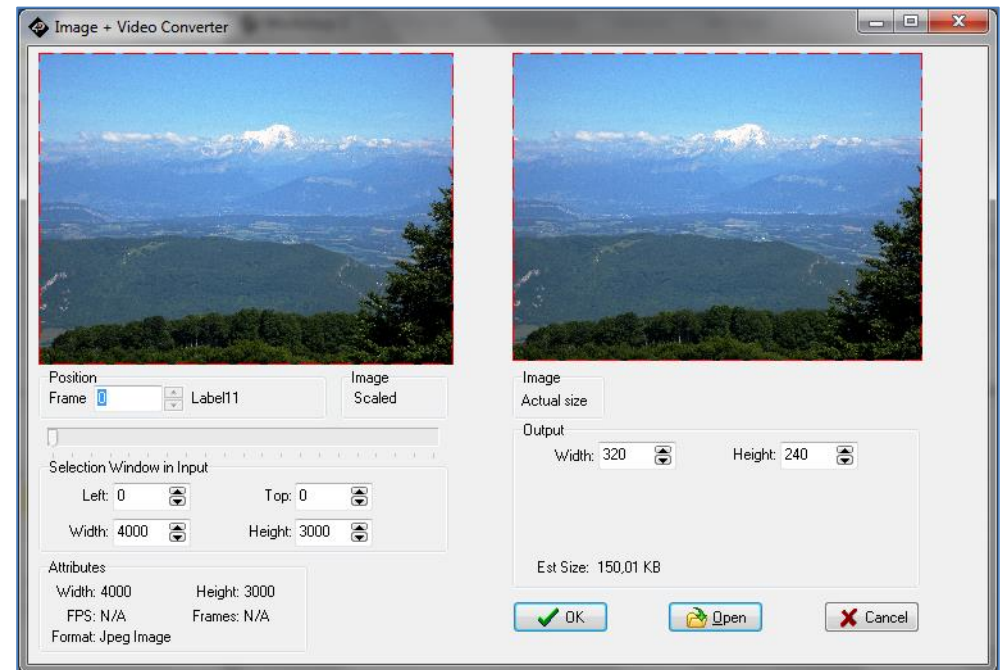
## Edit the Image

To edit the image, click on the **Image** line in the **Object Inspector**:



A  symbol appears. Click on it.

A new window **Image – Video Converter** appears and provides all the parameters for the image:



On the left side, the input image; on the right, the output image.



## Crop the Input Image

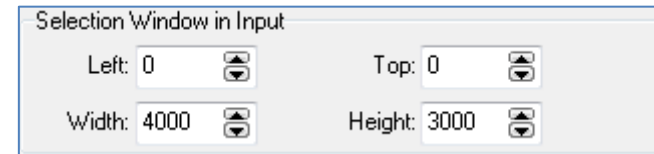
The left side provides all the information about the input image:



Note the red dots around the loaded image.

Cropping part the input image is possible by

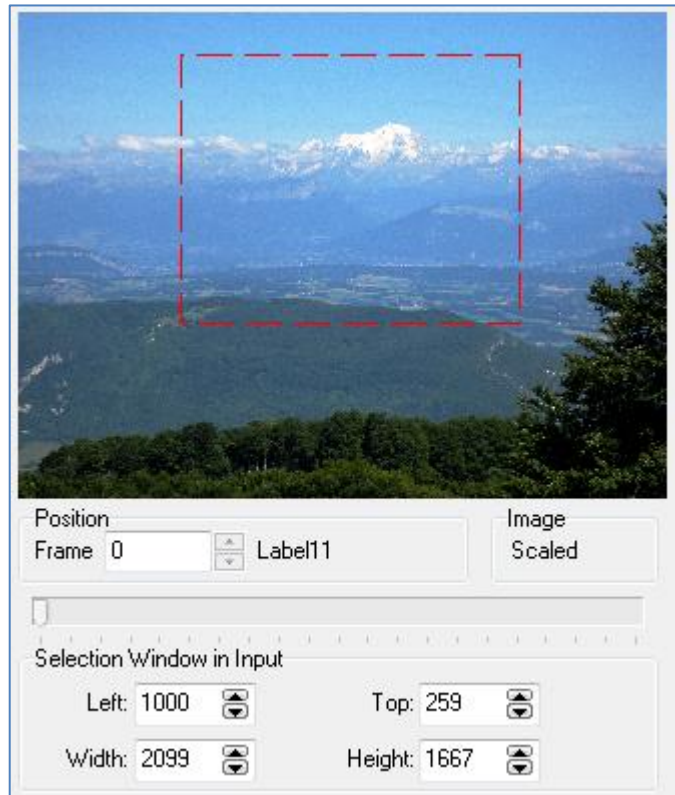
- Resizing the image moving the red dotted rectangle,
- Entering new values for **Left**, **Top**, **Width** and **Height** under **Selection Window in Input**:



- Clicking on the up or down arrows for the concerned value:



Focusing on the Mont Blanc gives the following result:

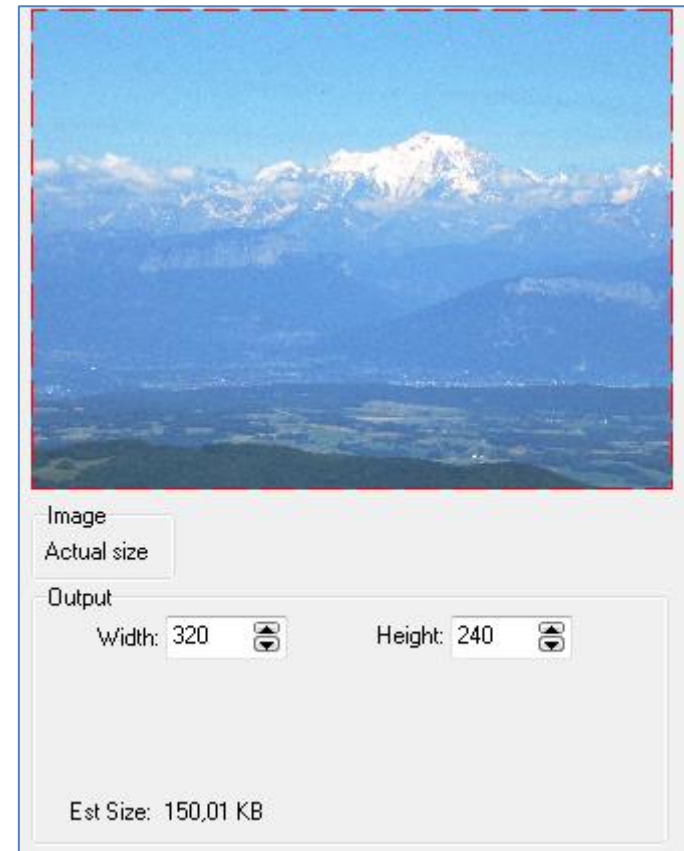


Cropping the input image can also be done by changing the **Height**, **Left**, **Top** and **Width** properties under Source on the **Object Inspector**:

Source	
Height	3000
Left	0
Top	0
Width	4000

### Resize the Output Image

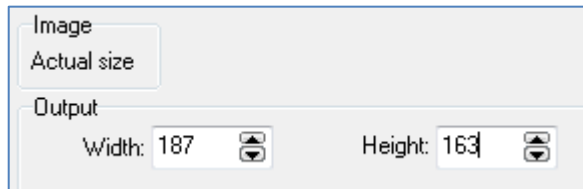
Similarly, the right side displays the output image:



Because the screen used for this application note is 320 x 240, maximal height is 240 pixels and maximal width is 320 pixels. Those values may change depending on your specific screen. Please refer to the specification sheet of your screen.

Changing the size of the output image is possible by:

- Resizing the image moving the red dotted rectangle,
- Entering new values for **Width** and **Height** under **Image | Actual Size | Output:**



- Clicking on the up or down arrows for the concerned value:

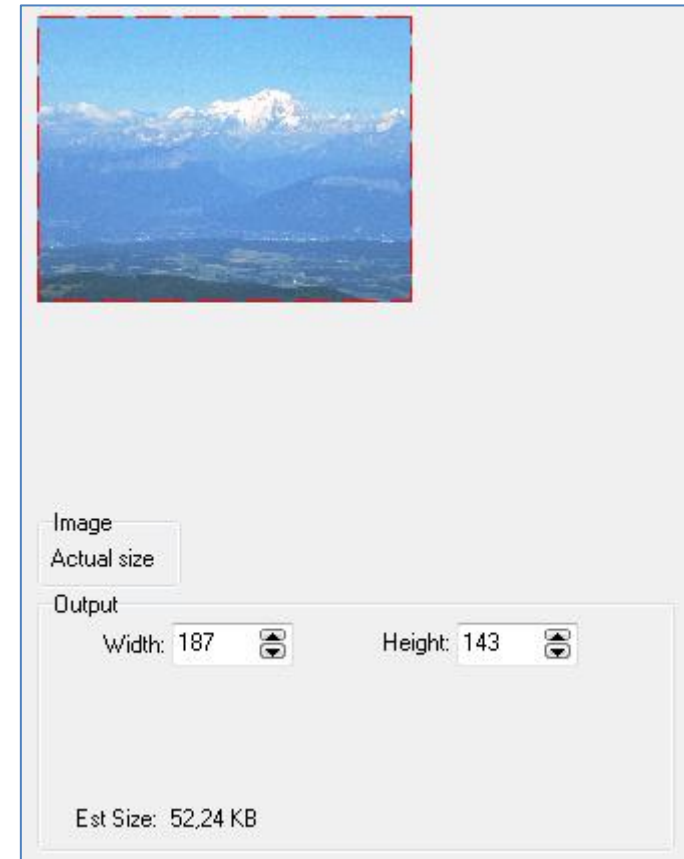


Note it is not possible to move the output image on the screen.

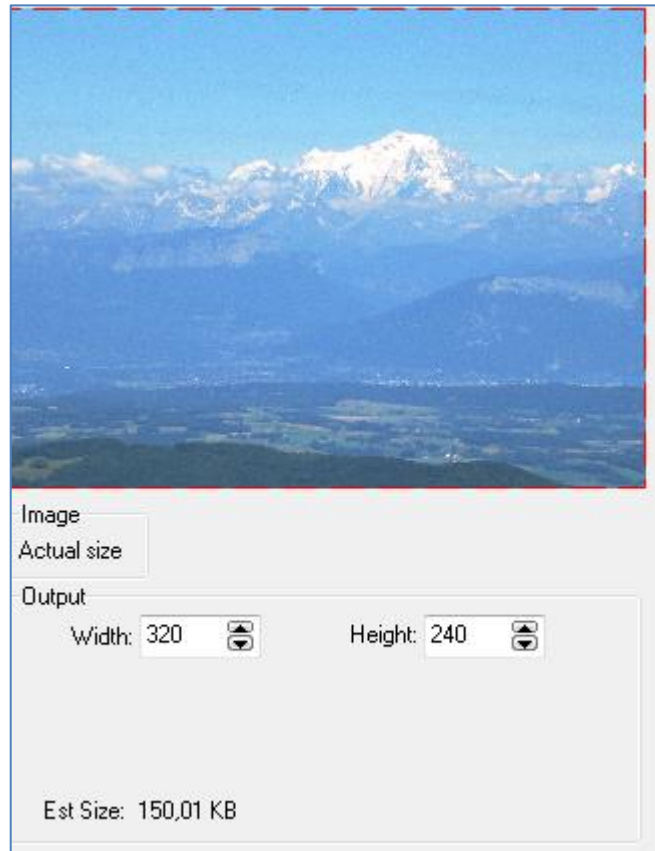
The top-left position of the image is defined by the **Top** and **Left** properties on the **Object Inspector**. Please refer to the Move the Image section.

It is important to keep the ratio of the output image consistent with the input. In this example, output is only a fraction of the input, but the ratio width / height should remain the same, at 1.3. So 163 is too high, a better value is 143.

The output image is resized with an estimated size:



Back to full screen for the output image increases the estimated size from 52 KB to 150 KB:



## Change the Image

You can load the ViSi-Genie project example...

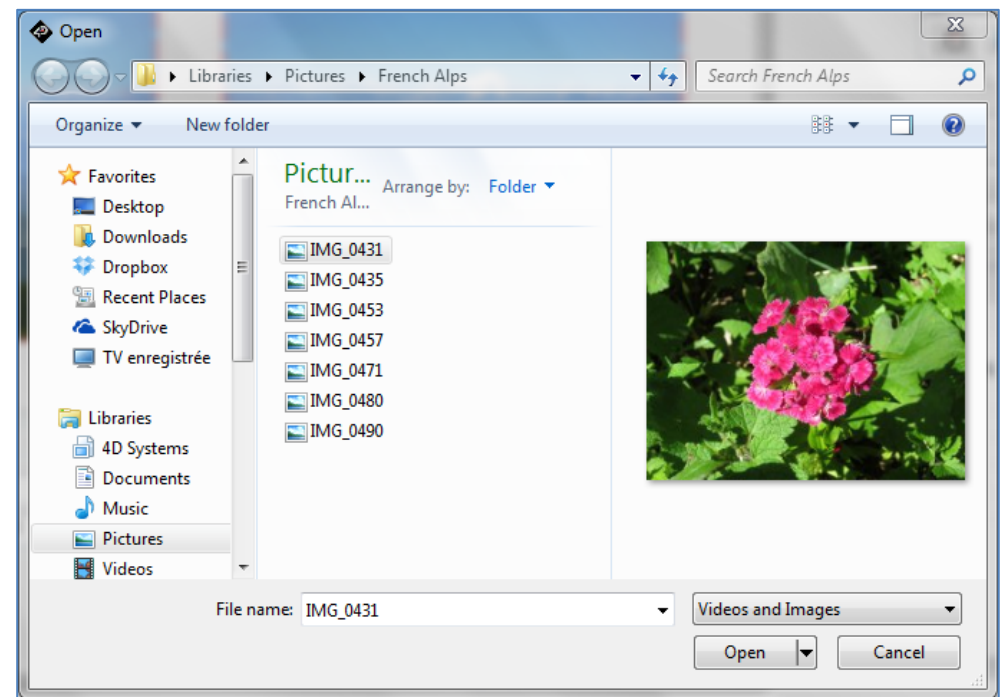
**Example: 4D-AN-00005 PICASO – Show Image2 or 4D-AN-00005 DIABLO16– Show Image2**

...or follow the procedures described hereafter.

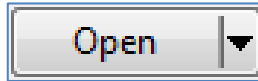
To load an image, click on



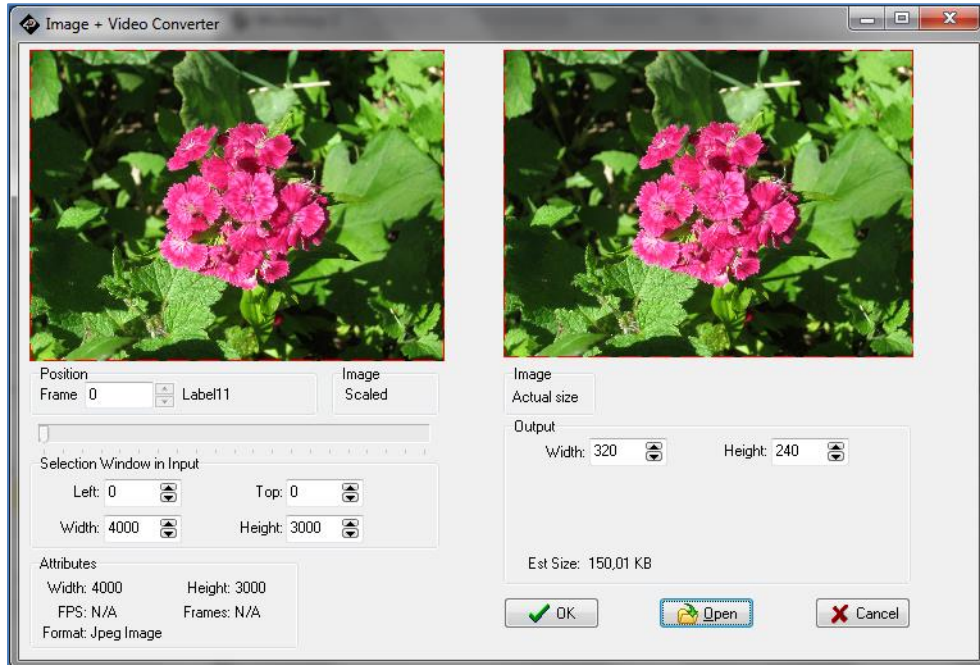
The standard Windows **Open** file appears and asks for an image:



Select the image, here *IMG\_0431* and click **Open**:



The **Image – Video Converter** shows the new image:



### Confirm or Discard the Changes

When cropping, resizing are finished, click...



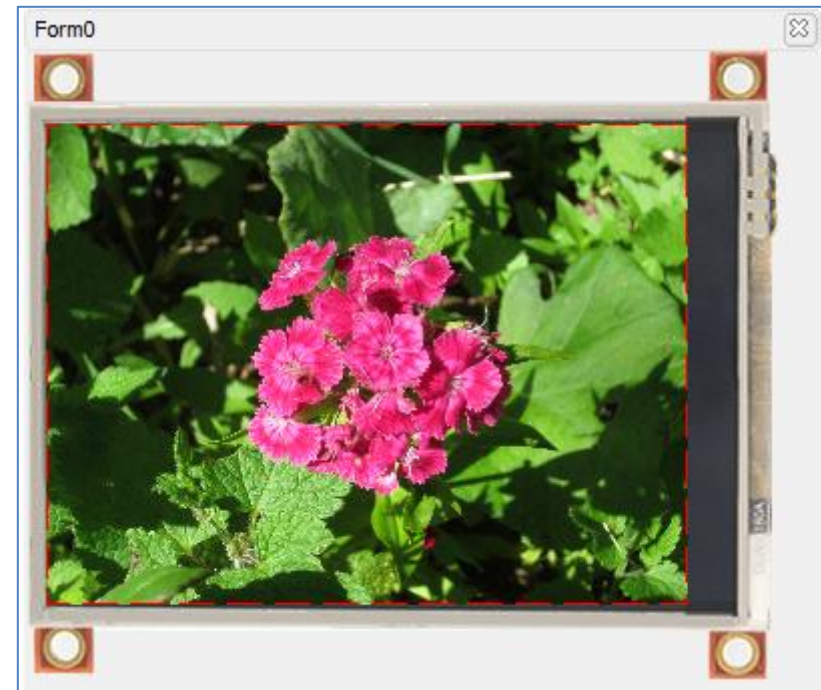
...to accept or...



...to discard the changes.

Click on **OK** to accept the new image.

The WYSIWYG screen now shows the flowers:



## Build and Upload the Project

For instructions on how to build and upload a ViSi-Genie project to the target display, please refer to the section “**Build and Upload the Project**” of the application note

**ViSi Genie Getting Started – First Project for Picaso Displays**

**ViSi Genie Getting Started – First Project for Diablo16 Displays**

The uLCD-32PTU and/or the uLCD-35DT display modules are commonly used as examples, but the procedure is the same for other displays.

## Proprietary Information

The information contained in this document is the property of 4D Systems Pty. Ltd. and may be the subject of patents pending or granted, and must not be copied or disclosed without prior written permission.

4D Systems endeavours to ensure that the information in this document is correct and fairly stated but does not accept liability for any error or omission. The development of 4D Systems products and services is continuous and published information may not be up to date. It is important to check the current position with 4D Systems.

All trademarks belong to their respective owners and are recognised and acknowledged.

## Disclaimer of Warranties & Limitation of Liability

4D Systems makes no warranty, either expresses or implied with respect to any product, and specifically disclaims all other warranties, including, without limitation, warranties for merchantability, non-infringement and fitness for any particular purpose.

Information contained in this publication regarding device applications and the like is provided only for your convenience and may be superseded by updates. It is your responsibility to ensure that your application meets with your specifications.

In no event shall 4D Systems be liable to the buyer or to any third party for any indirect, incidental, special, consequential, punitive or exemplary damages (including without limitation lost profits, lost savings, or loss of business opportunity) arising out of or relating to any product or service provided or to be provided by 4D Systems, or the use or inability to use the same, even if 4D Systems has been advised of the possibility of such damages.

4D Systems products are not fault tolerant nor designed, manufactured or intended for use or resale as on line control equipment in hazardous environments requiring fail – safe performance, such as in the operation of nuclear facilities, aircraft navigation or communication systems, air traffic control, direct life support machines or weapons systems in which the failure of the product could lead directly to death, personal injury or severe physical or environmental damage ('High Risk Activities'). 4D Systems and its suppliers specifically disclaim any expressed or implied warranty of fitness for High Risk Activities.

Use of 4D Systems' products and devices in 'High Risk Activities' and in any other application is entirely at the buyer's risk, and the buyer agrees to defend, indemnify and hold harmless 4D Systems from any and all damages, claims, suits, or expenses resulting from such use. No licenses are conveyed, implicitly or otherwise, under any 4D Systems intellectual property rights.