Getting started with Cognex VisionPro

V1.1.0

Scope of this document

This application note provides a quick overview on how to get started with Allied Vision's Vimba Cognex Adapter. In-depth information is available in the listed documents.

Compatibility

The Vimba Cognex Adapter allows using Allied Vision GigE, USB, and 1394 cameras with Cognex VisionPro 6.0 or higher.

Allied Vision camera	VisionPro with Vimba Adapter	VisionPro without Vimba Adapter
GigE camera	Compatible	Compatible
USB camera	Compatible	Incompatible
1394 camera	Compatible with 32-bit and 64-bit OS	Compatible with 32-bit OS only

Table 1: Compatibility - Cognex VisionPro with and without Vimba Cognex Adapter

Recommendations for GigE camera users

Although Cognex VisionPro is compatible with Allied Vision GigE cameras, installing Vimba and using the Vimba Cognex Adapter offers advantages:

- The Vimba GigE Filter driver enables high camera performance with low CPU load.
- Vimba Viewer eases step-by-step configuration of the GigE settings as described in our camera technical manuals (IP address, bandwidth, packet size, and more).
  If you don't install Vimba Viewer, you can configure the GigE settings with the Cognex GigE Configuration Tool, which is included in the Cognex VisionPro installation.
- With Vimba Viewer, you can easily get a first image and try out camera settings.

Downloads

Download software:

- Vimba for Windows
  https://www.alliedvision.com/en/products/software.html
- Cognex VisionPro
  http://www.cognex.com/

Download camera documentation

Download camera documentation

https://www.alliedvision.com/en/support/technical-documentation.html

Installation

> **Installation order**
>
> You can install Cognex VisionPro either before or after installing the other components.

> **Cognex driver is** unnecessary
>
> Installing the Cognex driver additionally to the drivers provided with Vimba is possible, but unnecessary.

1. Select, install, and configure your adapter card as described in the corresponding manual for your camera (GigE: activate jumbo frames).
2. Install Vimba. As a minimum, select the option **3rd Party Applications**.

Figure 1: Vimba installation

3. If you want to install Vimba Viewer additionally, click Vimba Applications and select
    Camera Demonstration.

Figure 2: Install Vimba Viewer

4. Make sure that **Install Vimba Drivers** is checkmarked before clicking **Exit**.
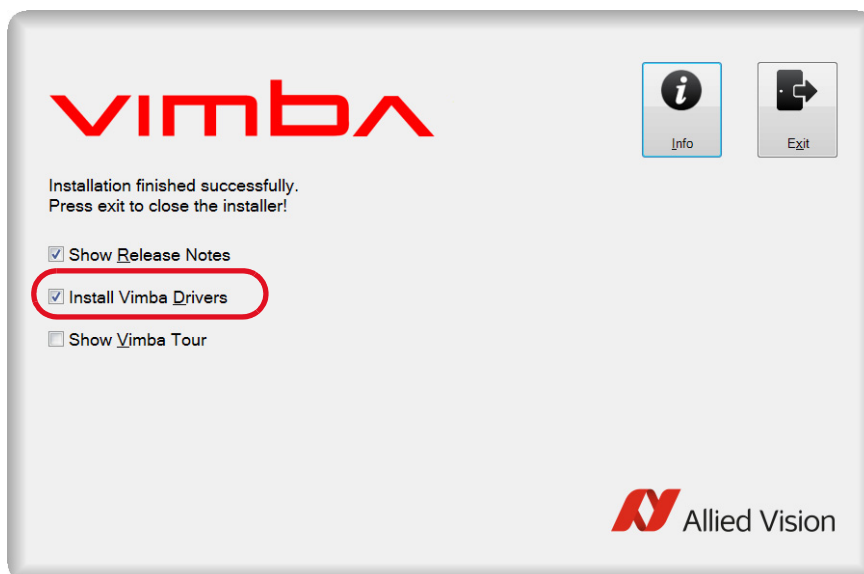

Figure 3: Install Vimba Drivers

5. Start the Vimba Driver Installer.

6. Install and activate the Vimba driver for your camera (find a detailed description in the Vimba Manual, Chapter *Vimba Driver Installer*).
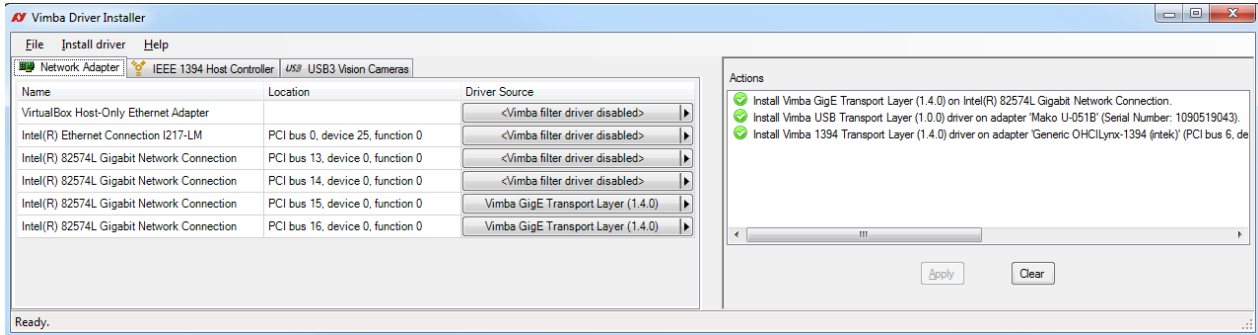

Figure 4: Vimba Driver Installer

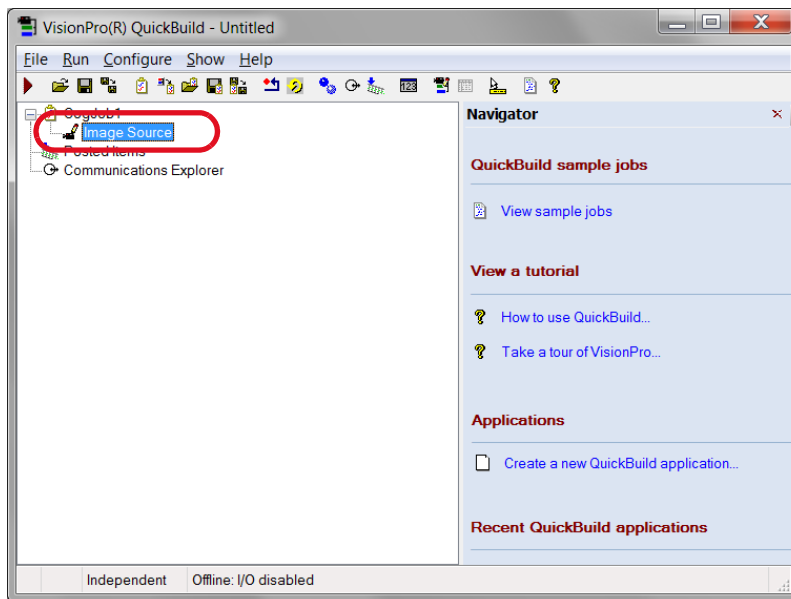7. Start the Cognex VisionPro QuickBuild application and double-click **Image Source**.

Figure 5: QuickBuild -> Image Source

8. Select **Camera -> Device** (camera recognition may take a while). This choice opens the camera via the Vimba driver, whereas the other option (here: GigE Vision) opens the camera with the Cognex driver (if installed).
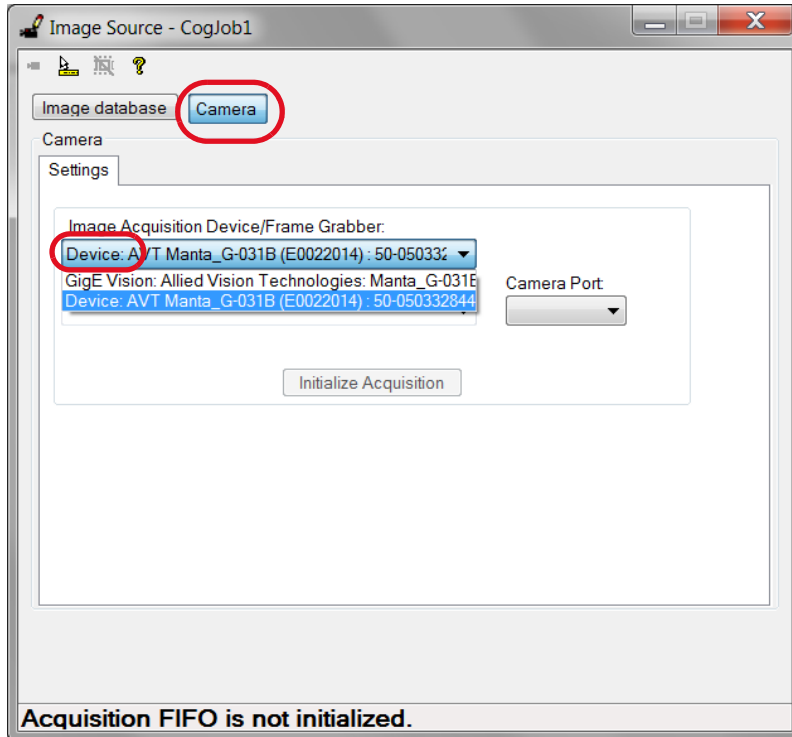

Figure 6: **Device** opens the camera with the Vimba driver
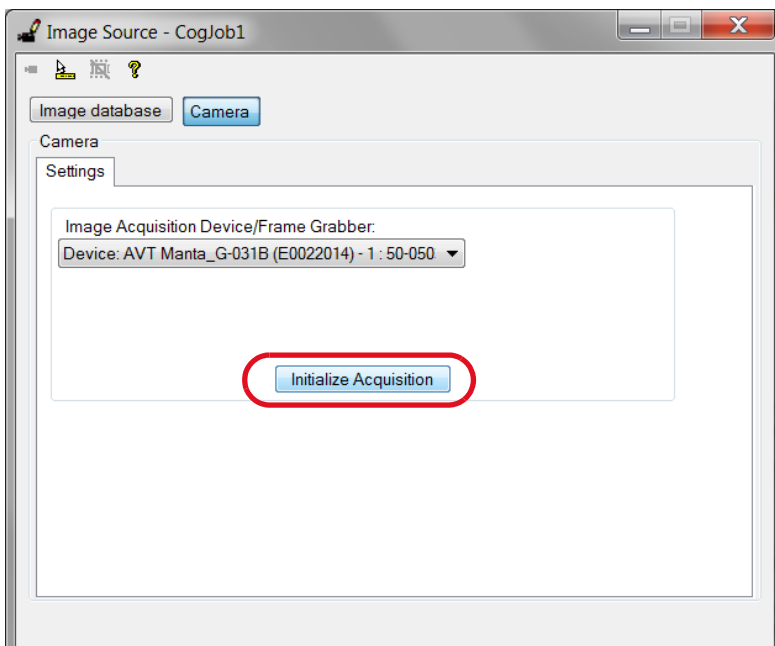
9. Click **Initialize Acquisition**.

Figure 7: Initialize Acquisition

10. Tabs for setting camera and image properties are accessible. Now you can adjust the settings:
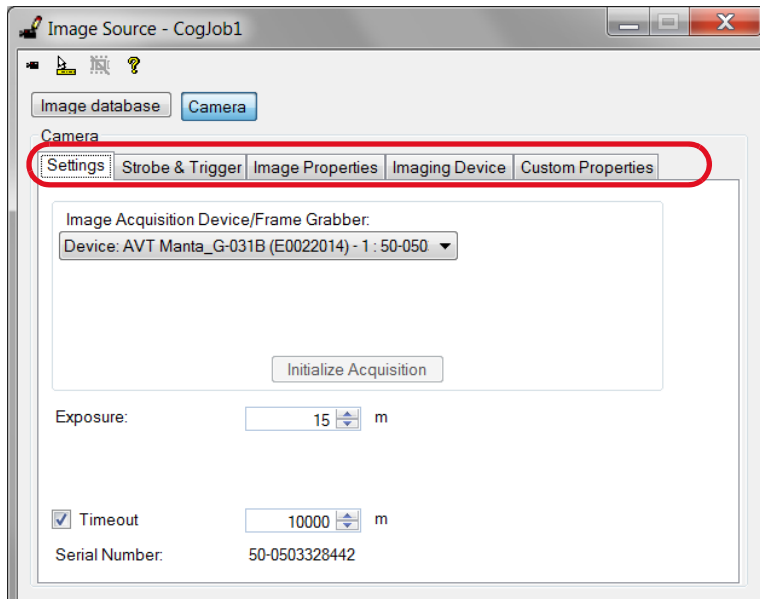

Figure 8: Tabs are accessible

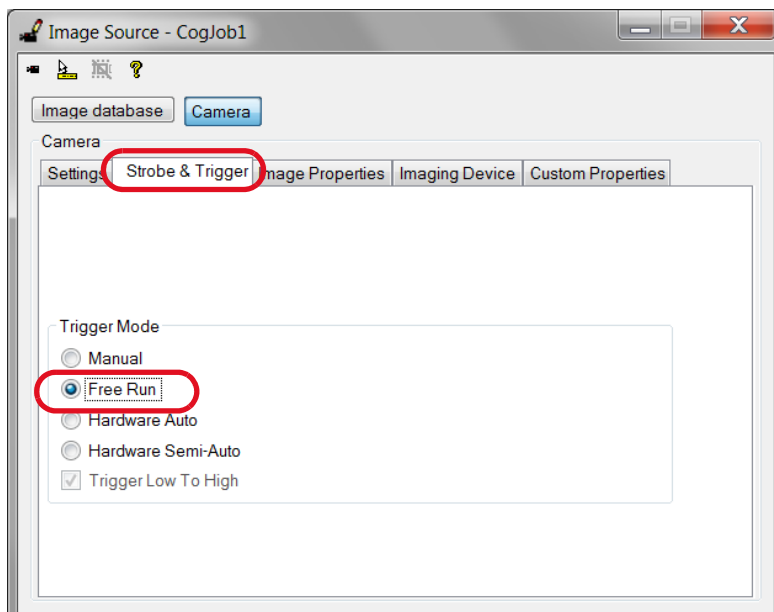11. To easily get a first image, go to the **Strobe & Trigger** tab and select Free Run.

Figure 9: *Select Free Run*

12. In the Job Editor Window, click **Run Job Continously**.
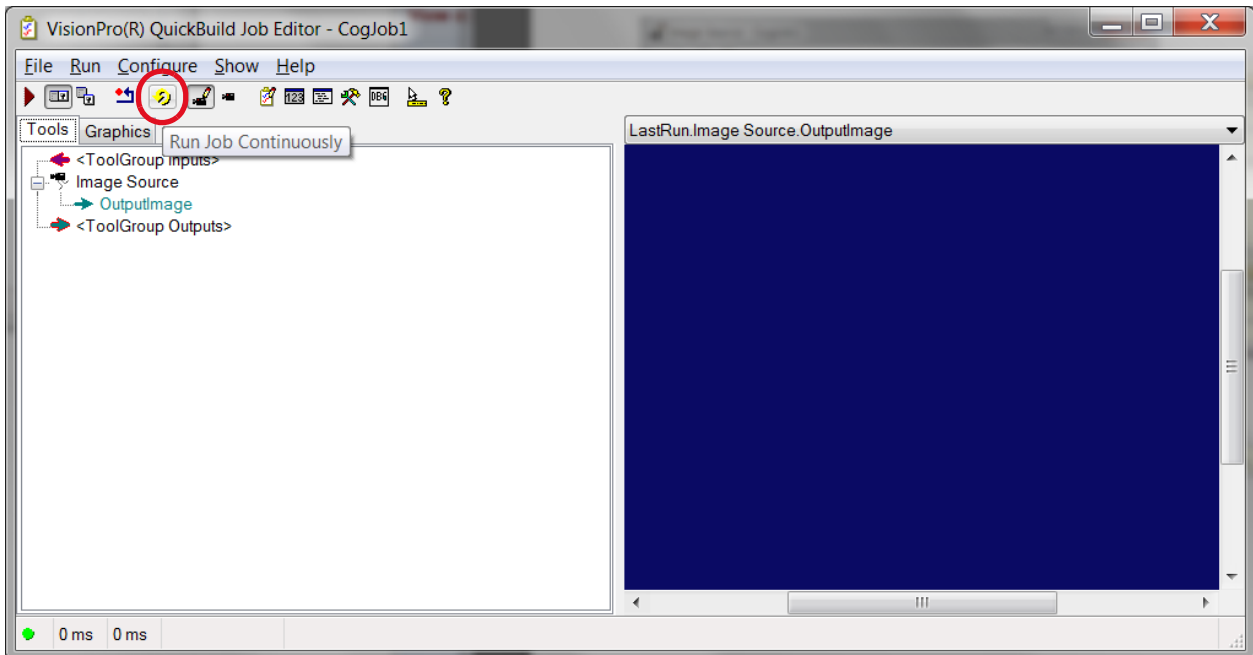

Figure 10: Run Job Continuously

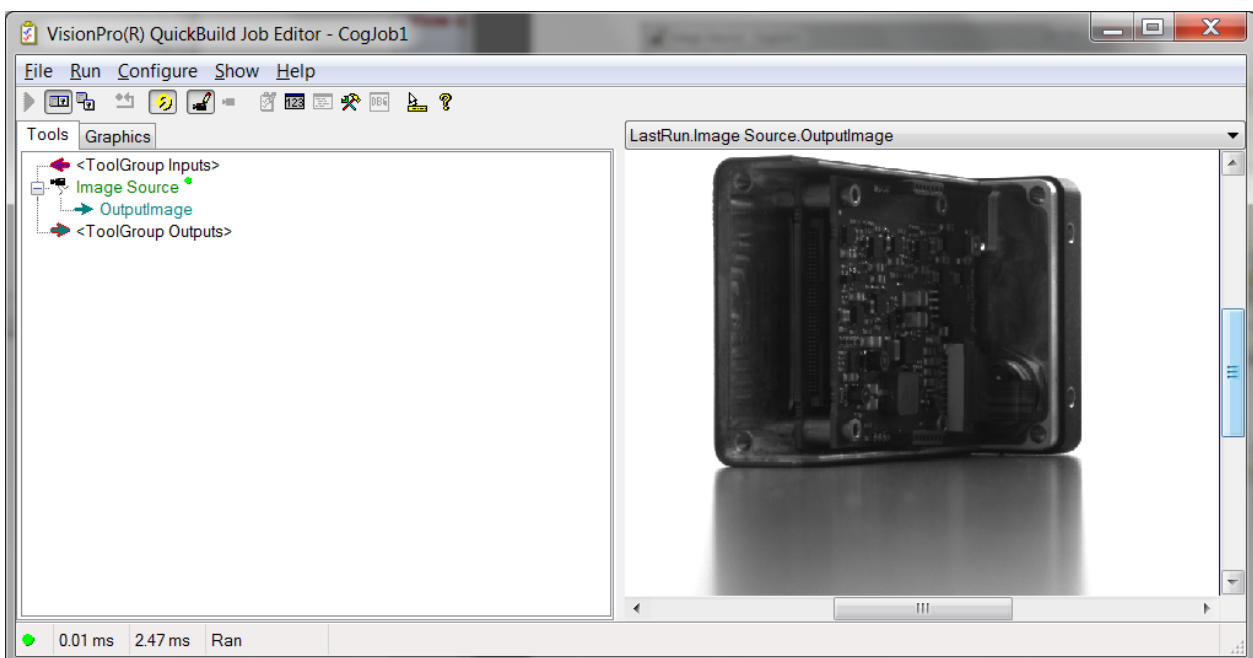You can now view live images from your Allied Vision camera.

Figure 11: Live camera images

Further readings

To learn more about using your camera with the Vimba Cognex Adapter, read the Vimba Cognex Adapter Manual, which is part of the Vimba installation.

To get to know Cognex VisionPro, read the documentation provided by Cognex, especially the Vision Pro Quick Reference, which is part of the Cognex VisionPro installation.

Troubleshooting

- Before starting Cognex VisionPro, make sure no other application uses the camera.
- Camera recognition may take a while, especially with GigE cameras.
- Make sure that QuickBuild and the aikserver run with administrator rights or adjust the memory settings (find details in the Vimba Cognex Adapter Manual).
- Test if your camera works with the Vimba Viewer. If not, check the settings of your GigE, 1394, or USB card.
- Open the Vimba Driver Installer and make sure the Vimba drivers are in use.
- If your camera doesn't reach the maximum frame rate, check if the exposure time is short enough. Example: If the exposure time is 100 ms, the camera cannot acquire more than approximately 10 fps.
- GigE cameras: Follow the installation instructions in the technical manual of your camera.
- Follow the instructions in the Vimba Cognex Adapter Manual.