

# MVG-ADPST

AnDetPilot Software tool

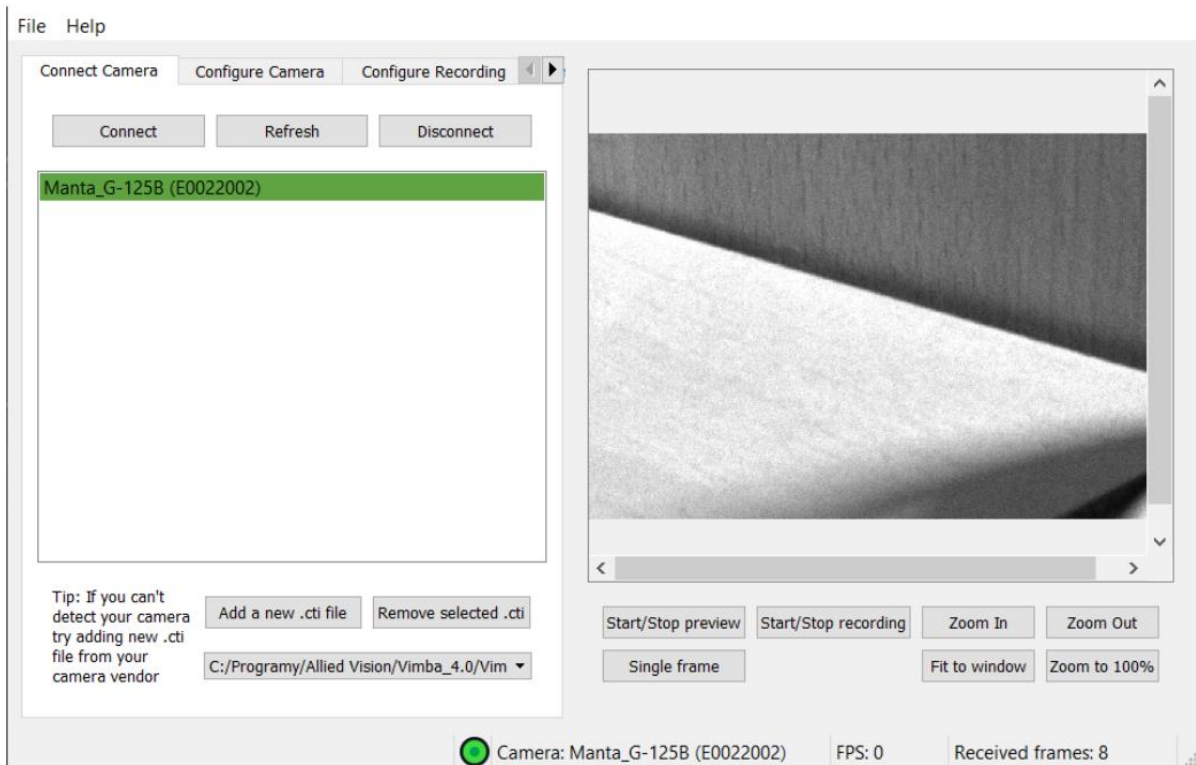
The ADPST (AnDetPilot Software tool) is an opened platform for the camera control and capture. Unlike the commercial software tools, as Pylon Viewer, IC Capture, or other similar ones, it allows the users to easily connect cameras from the other manufactures with the GenICAM standard.

**MVG-MTDL**

<b>PROGRAMING LANGUAGE</b>	Python 3.6
<b>SUPPORTED CAMERA STANDARDS</b>	GenICAM
<b>OPERATING SYSTEM</b>	Windows
<b>MAXIMAL TESTED FPS</b>	60
<b>COMMUNICATION INTERFACE</b>	USB3, GigE

*Table 1 MVG-ADPST specifications*

The application is written in the Python language with the use of the PyQt library for the GUI, Harvesters library for the camera connection and control, OpenCV for the image processing and TensorFlow for loading the basic models of neural networks together with the live classification of the captured image. Whole application's design is modular and allows to perform future modifications easily. If the camera manufacturer is not yet supported by Harvesters, the application structure allows to add a custom camera driver.



*Figure 1 Detail of the sensing window*

User is allowed to change all adjustable parameters of the connected camera, configure recording, run preview window, or to capture single frames. Those parameters are read from the camera automatically after its connection. The maximal tested FPS (60) was achieved with the Manta G-125B camera on half-resolution. Selected adjustable features are shown at Table 2.

**LIST OF SELECTED ADJUSTABLE FEATURES**

<b>TRIGGERING POSIBILITIES</b>	Free run HW (opto-isolated input) SW
<b>CAMERA OUTPUT</b>	Off Captured frame
<b>RESOLUTION SETTINGS</b>	Automatic Fixed, from the selection
<b>EXPOSURE TIME</b>	Automatic from the FPS Fixed
<b>FPS SETTINGS</b>	Automatic from the exposure time Fixed

*Table 2 Selected features of the ADPST*

## Tested cameras

In the current form the MVG-ADPST was tested with the Allied Vision Manta G-125B and with the Imaging Source DFK 33UP5000 cameras with further specifications:

**ALLIED VISION MANTA G-125B**

<b>SENSOR</b>	Sony ICX445
<b>SENSOR TYPE</b>	CCD Progressive
<b>SENSOR FORMAT</b>	1/3"
<b>RESOLUTION</b>	12.3MPx
<b>LENS MOUNT</b>	C/CS mount
<b>FILTER</b>	IR cutoff
<b>COMMUNICATION INTERFACE</b>	GigE

*Table 3 Allied Vision Manta G-125B*

**IMAGING SOURCE DFK 33UP5000**

<b>SENSOR</b>	On Semiconductor PYTHON 5000
<b>SENSOR TYPE</b>	RGB
<b>SENSOR FORMAT</b>	1/3"
<b>RESOLUTION</b>	5.3MPx
<b>LENS MOUNT</b>	C/CS mount
<b>FILTER</b>	IR cutoff
<b>COMMUNICATION INTERFACE</b>	USB3

*Table 4 Imaging Source DFK 33UP5000*