09.12.2025

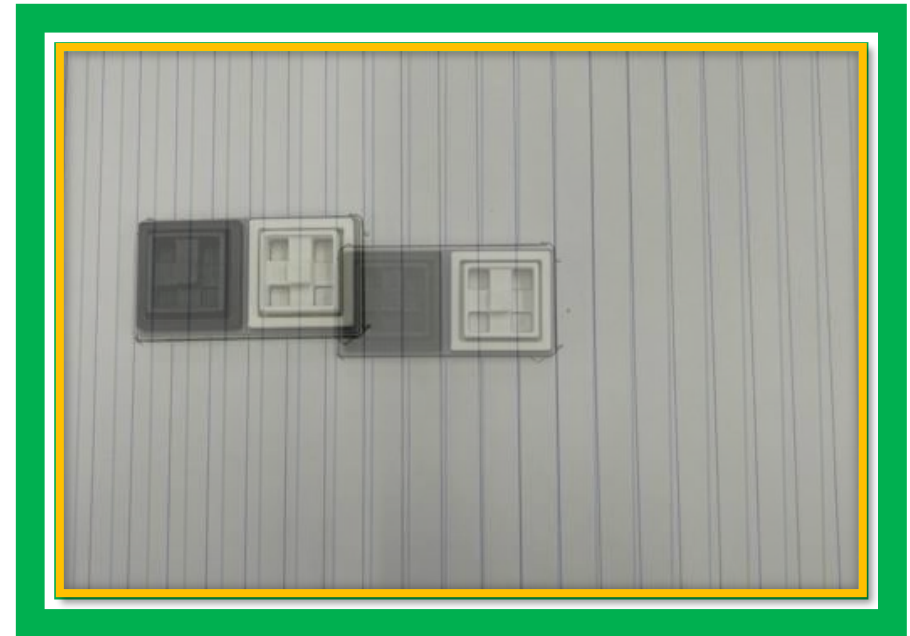# Ford Workshop – Image Alignment Tool

V 1.0

Agenda

Project Overview

What are we looking for…

• Application that uses a master image to give intuitive feedback to the user if the current image is different. Shows what is different and helps the user place the image back as close to original as possible.
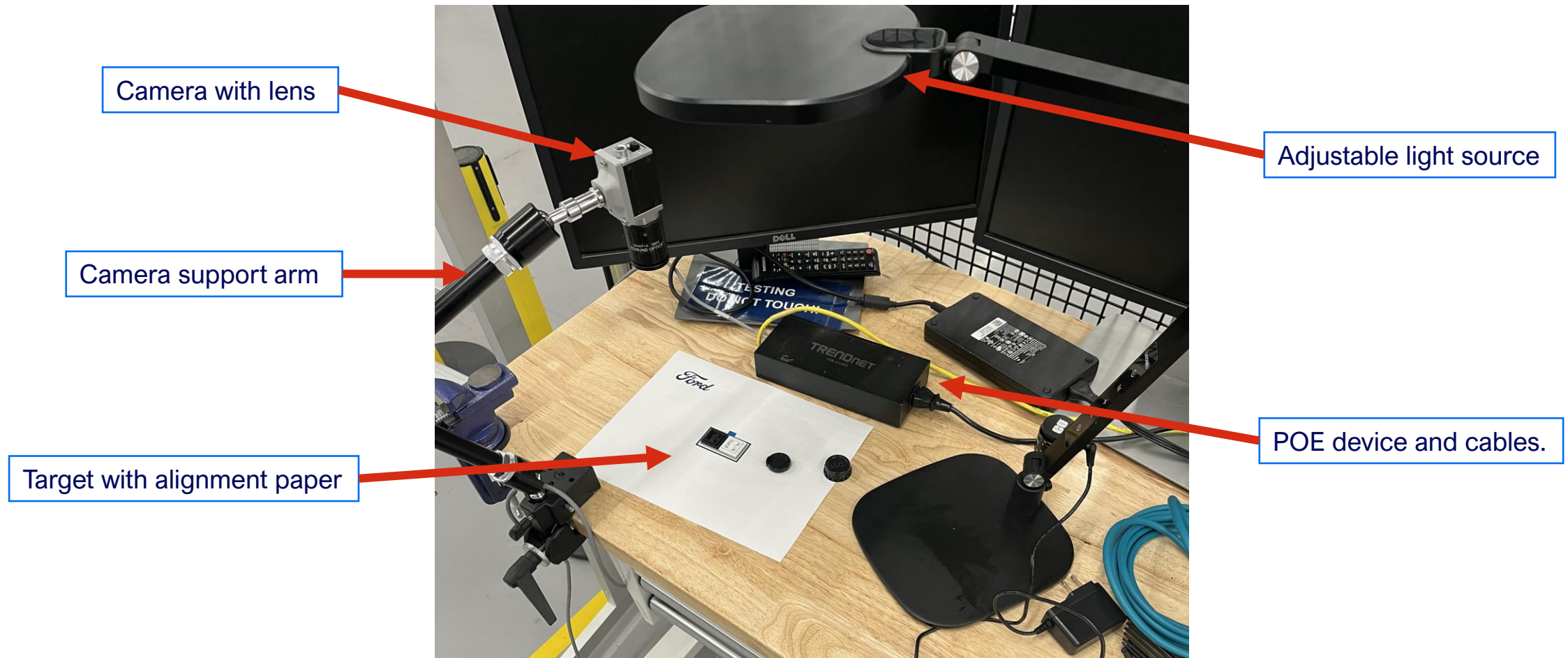
We will be grading on the key points below:

1. Contrast.

2. Focus/sharpness.

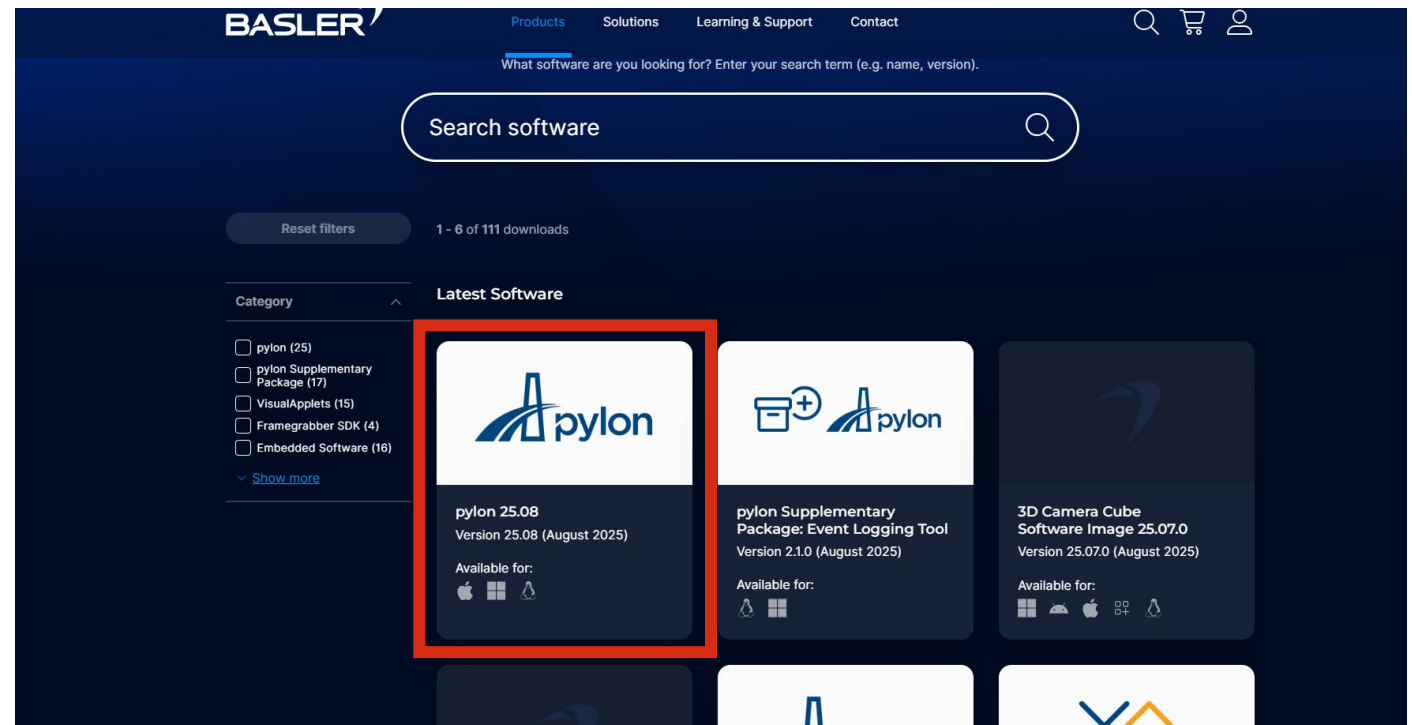3. Position/orientation.

4. Zoom.

5. Angle

Workstation Setup

What is in each workstations for development

Camera with lens

Camera support arm

Target with alignment paper

Adjustable light source

POE device and cables.

Software Needed

Link: [Download Basler Software | Basler AG](#)

- Please use the software highlighted in the red box to the right

Software Navigation: Camera Connection

Connecting to the camera.

1) Connect available ethernet connection to your computer.

2) Wait a moment and inside the pylon software you will see a camera appear under the GigE. Double click on the camera.

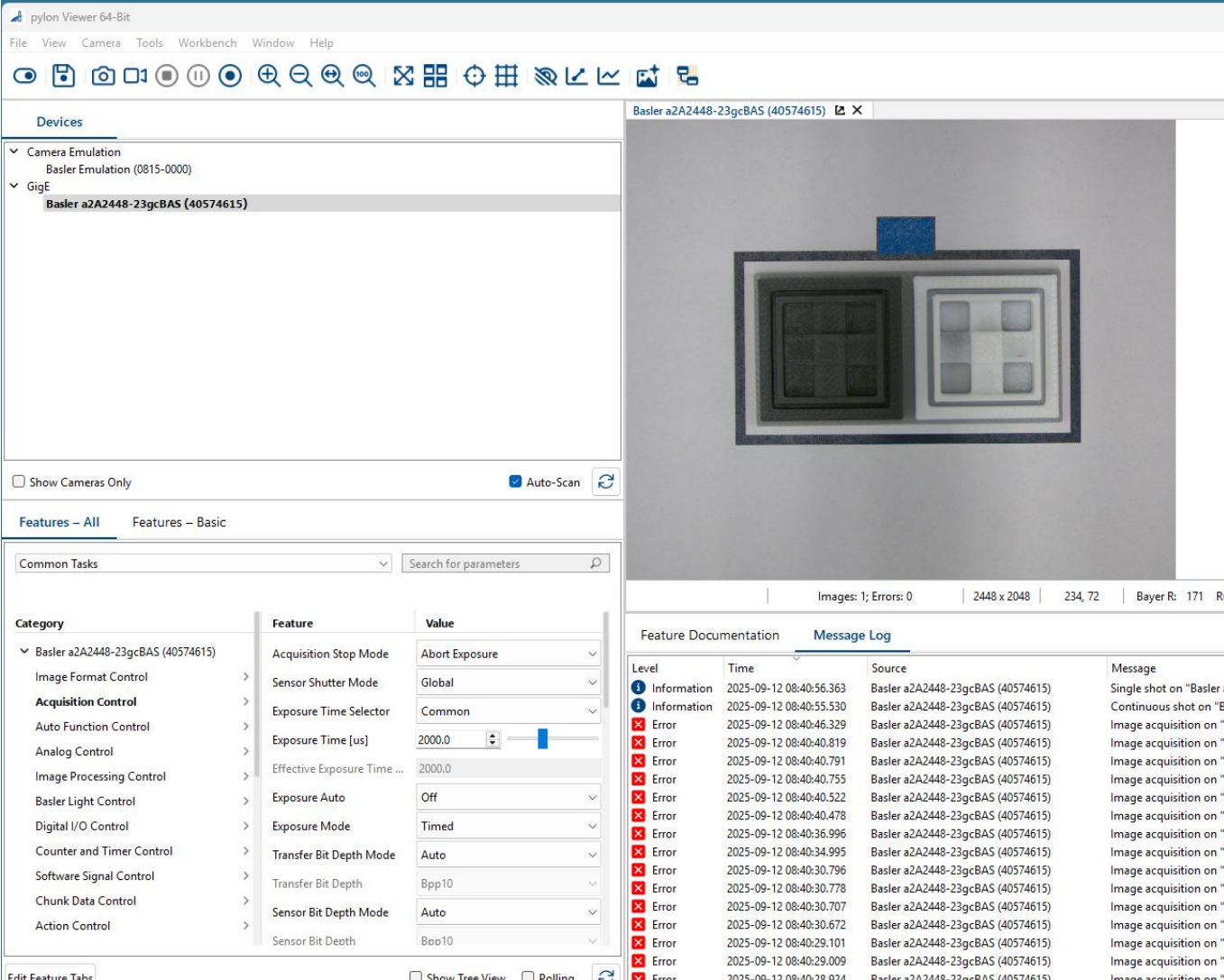3) Once connected the camera will turn bold and the camera/video recording symbol above will turn blue.

Software Navigation: Live View

Live view to make adjustments for different cases.

1) To start a live view press.

2) On the right you'll see the live image. This will help is aligning or changing conditions.

3) Pressing this button will make the view take up the full screen.

Software Navigation: Taking an Image

How to take a photo and save it.

1) To take a single photo press

2) Updated image will show to the right.

3) Press the save icon.

4) File location window will pop up. Save the image as needed.

Note: We would like for this to be your own design.
This is just a basic step to get an image.

Using the Supplied Devices

Manfrotto Arm Adjustment

Turning this nob will allow the arm to be manipulated into other positions.

Cameras shutter and focus adjustments

Shutter: This adjustment dial allows more or less light to the image chip. It affects the brightness of the image.
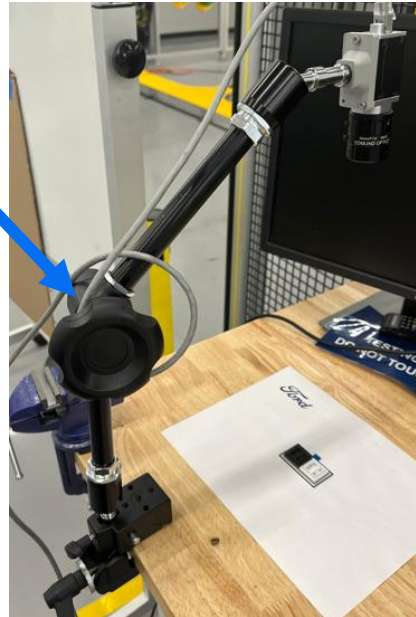
Desk Light Controls

This will allow the light color to be changed.

These will allow the light intensity to be adjusted up and down.

Focus: This adjustment allows for the images to be clearer on the image chip. It affects the sharpness of the image.