

3D Software Options

For discussion purposes, one can group software into 3 categories:

1. Sensor Setup, Calibration, Operation and Image Acquisition
2. Image Processing, Computation, Conversion, or Reconstruction
3. Image Viewing, Measuring, Analyzing

Many 3D cameras come with a software package or developer's kit with some level of capability. Sensors generally come with #1, but additional development may be required in certain applications.

A very real distinction between what is offered to consumers in the 3D community versus what you would like to achieve is ***what to do after the images are taken.***

In most cases, sensors include some post-processing features that are inherent to their specific camera and output either a point cloud or depth image, but stop there. In other words, it is up to the user to take those images and either extract the pertinent information out of those images frame-by-frame, or to find other means of incorporating that frame with other frames to develop a 3D model reconstruction of the object.

Other sensors may include application specific algorithms included in the package, such as gesture recognition or measurement capabilities.

Usually, however, #2 and #3 can be achieved with a separate software tool. There are a variety of 3D processing and analysis tools available, each with their pros and cons along with a variation of cost. Most fully functioning tools have the capability to include OpenCV add-on features as well.

For some companies, it may be more cost effective to use OpenCV and other open source tools to create a more simplistic and elegant solution that doesn't require a lot of software training or ongoing licensing costs.

ITS can provide a custom solution for your company, whether it is using an off-the-shelf tool or customized code. There are many options available, some of which may work for your application, some of which may not. We want to make sure that you achieve a viable solution that is the lowest cost and best way forward for your company.