What's in the included software

ToupView is one of the TOUPTEK PHOTONICS's most famous camera control software. It provides functions to fully control the camera and present the video stream processed by Ultra Fine^{TM} color engine at high speed, which includes dedicated pipeline to process the raw data into a realistic scene. Besides, diversified useful tools are provided for specific purpose, such as **luminance calibration, measurement, image stitching, extending depth of field, video watermark attachment, color composition, imaging processing** and so on.

Multi-language mechanism is also realized to support random language, which includes but not limited to **English,French, German,Indonesian, Japanese, Polish, Russian, Chinese,Turkish** and so on.
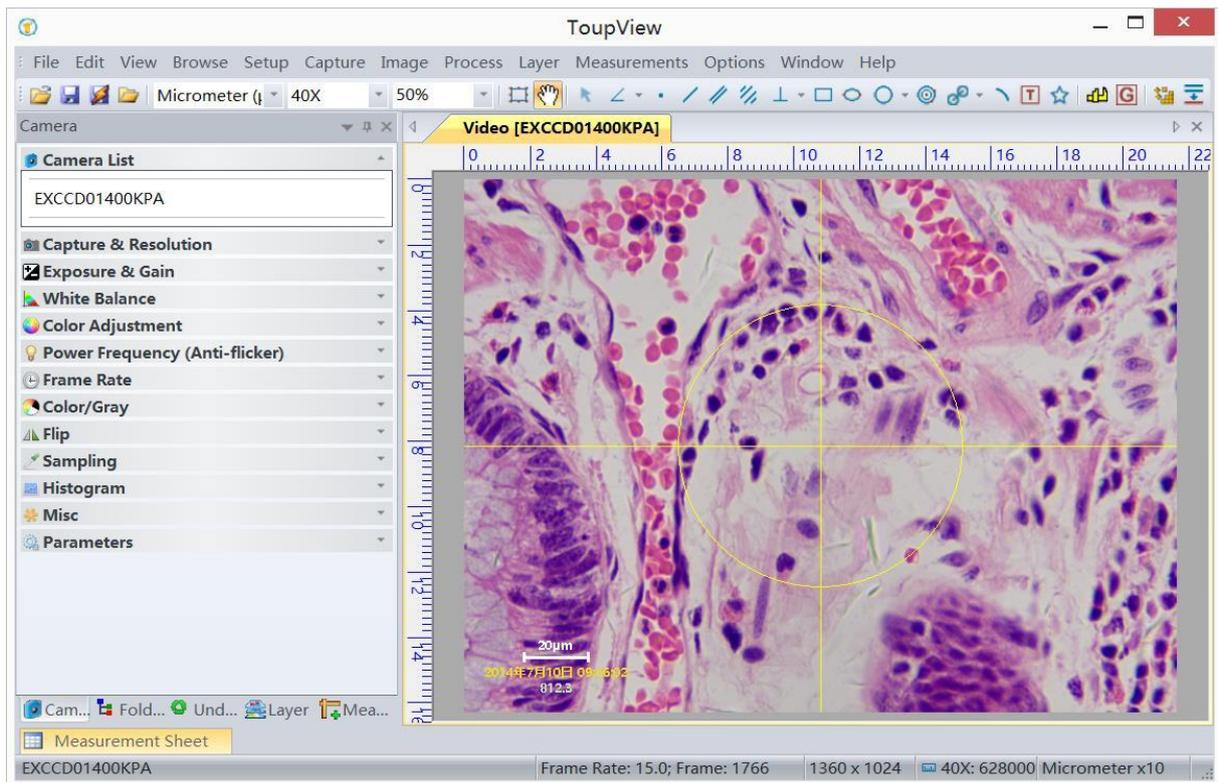
ToupView is totally compatible with ToupCam full series of digital cameras. With authorized license, ToupView software could be used with other cameras, which support **Twain** or **DirectShow** interface.

Powerful **Windows/Linux/Mac OS SDKs** are also provided for further development.

Now ToupView is widely used in the field of medical microscopic imaging, industrial detection, machine vision, astronomical observation, etc. ToupView is one of the best software in the camera industry, and the United States education department is strongly recommend.

User-friendly UI design

- Well-arranged menus and toolbars ensure quick operating;
- The unique design of 5 sidebars -- Camera, Folders, Undo/Redo, Layer, Measurement are orderly classified ;
- Convenient operating method (Double click or right-click context menu) as much as possible;
- Detailed help manual;

Professional camera control panel

Exposure & Gain	Auto exposure (exposure target preset) and manual exposure (exposure time can be inputted manually); Up to 5 times gain;
White Balance	Advanced single-click intelligent white balance setting, temperature and tint can be manually adjusted;
Color Adjustment	Hue, saturation, brightness, contrast, gamma initialization adjustment;
Frame Rate Control	Adjustment of frame rate available for different computer configurations;
Power Frequency Setting(Anti-filcker)	Natural light/DC, AC 50 HZ, AC60 HZ switch function thoroughly eliminates video flicker;
Flip	Check the "horizontal" or "vertical" option to correct the sample direction;
Skip and bin sampling	Bin mode can obtain low noise video stream; Skip mode obtains sharper and smoother video stream. Support video stream histogram extension, Negative and positive switching, Gray calibration, Clarity factor for focusing etc.
Parameters	Load, save, overwrite, import, export self-defined parameters of camera control panel (including calibration information, exposure and color setting information);

Practical functions with good results

Video functions	Various professional functions : Video broadcast; Time lapse capture; Video record; Video watermark; Move watermark; Rotate watermark;

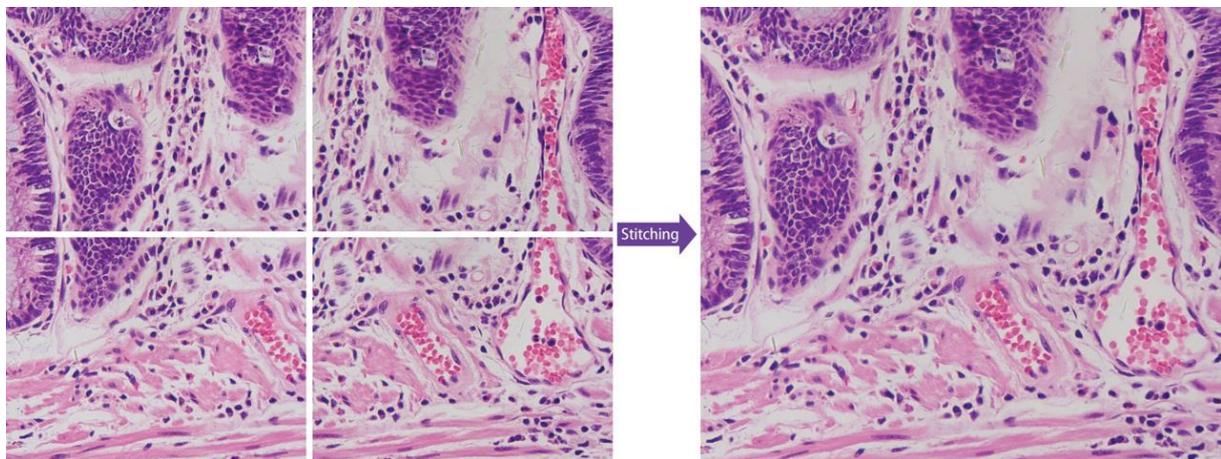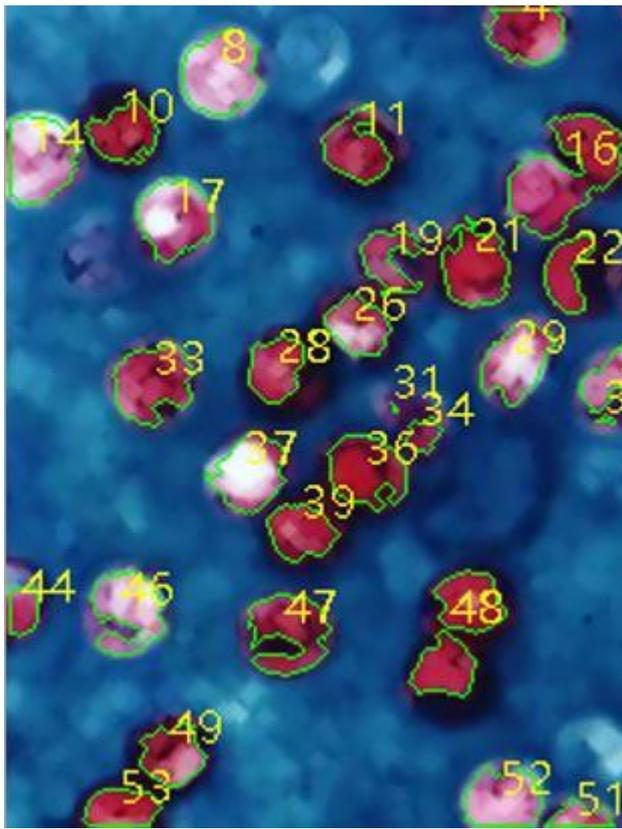|	Video stream grid; Video measurement; Video calibration, Gray calibration; Video EDF; Image stitch; Video scale bar, date and etc.;
Image Processing and Enhancement	Control and adjust image by contrast, denoise, all kinds of filtering algorithm and mathematical morphology algorithm; image rotate, image scale, image print;
2D Measurement	Easy video or image calibration. Various video and image measurement methods like area, perimeter, angle etc.. Measurement results can be hierarchical controlled according to characteristics or preferences;
Image Stitching	Image stitching can automatically combine a sequence of relevant images into a perfect larger one. No requirement on the image order；Support video window, image window, browse window image stitching operation.
EDF(Extended Depth of Focus)	Aimed at generating a clearer image by combining a sequence of previously captured multi-focus images; Support video window, image window, browse window EDF operation. Provided with maximum contrast, weighted average, FFDSSD algorithms to meet with most applications. Consider image shift, rotation and scale in the EDF process to guarantee EDF accuracy & speed；
Professional Segmentation & Count function	Integrate the advanced 6 image segmentation and particle counting algorithm (Watershed (W), OTSU Dark, OTSU Bright, RGB Histogram, HSV Histogram and Color Cube). Manual segmentation function (Split objects) ensures the success of a complete segmentation. The count result can be exported to Microsoft Excel for further analysis;
Image Stacking	Image stacking adopts advanced image matching technology. With the recorded video, regardless of shifting, rotation, scaling, the high fidelity image can be stacked to decrease the image noise.
Color Composite	Color composite adds appropriate pseudo color to monochrome fluorescence images. Fluorescence probe and color can be chosen from the pre-defined database. Dye database can also be easily created for special fluorescence probe.

Image Stitching
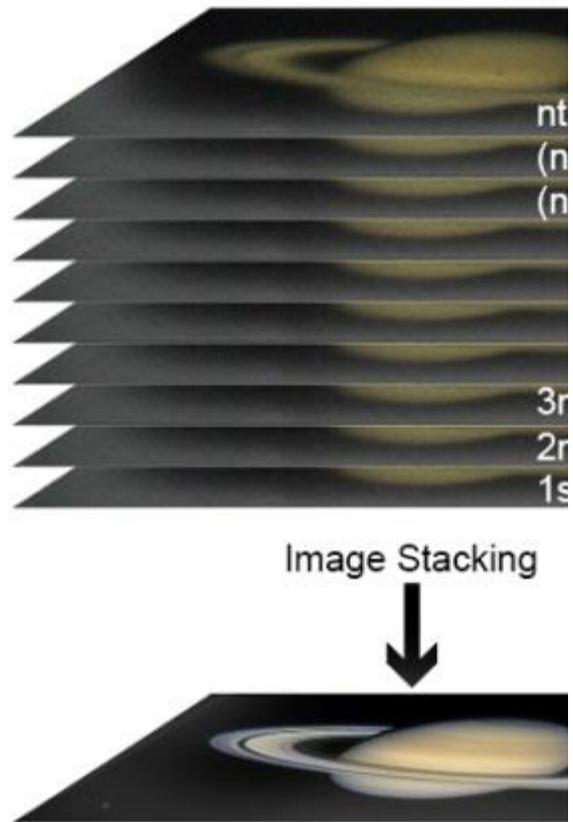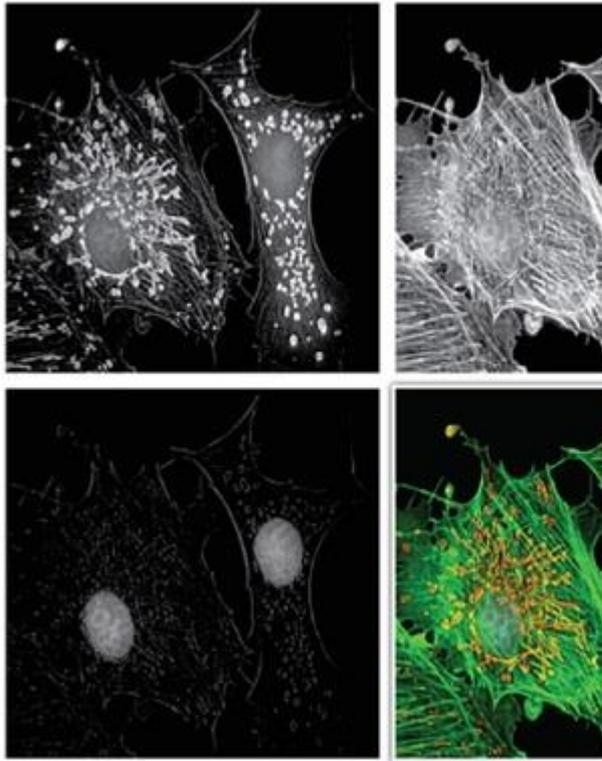
Image Segmentation & Counting

Image Stacking

Color Composite   EDOF

Powerful compatibility

Video Interface	Support Twain, DirectShow, Labview, SDK Package （Native C++、C#）
Operating System	Compatible with Microsoft® Windows® XP / Vista / 7 / 8 (32 & 64 bit), Mac OSX, Linux
Language Support	Unlimited language support, currently available in Simplified Chinese,Traditional Chinese, English, Russian, German, French, Polish and Turkish,Japanese

Hardware requirement

PC Requirements	CPU: Intel Core 2 2.8GHz or Higher Memory:2GB or more USB port:USB2.0 or USB3.0 port Display:17" or Larger CD-ROM