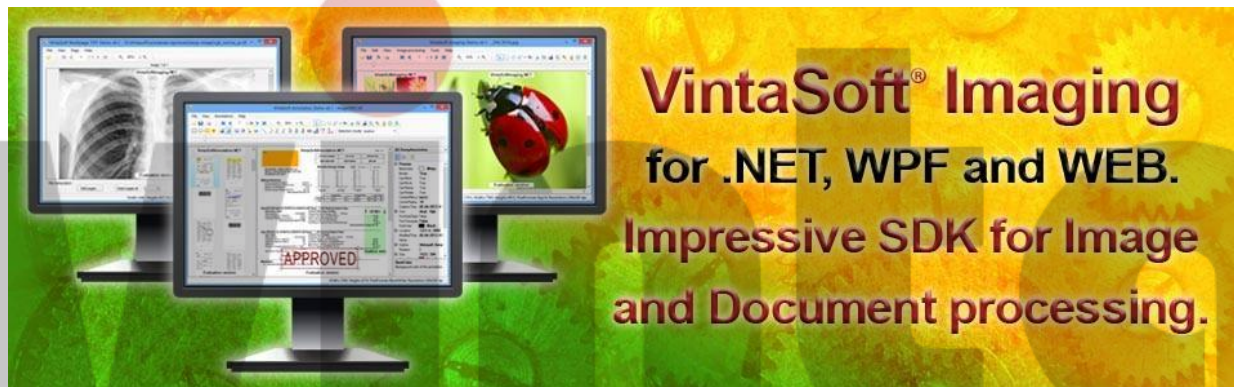


## VintaSoft Imaging .NET SDK & Plug-ins: Annotation, PDF, JBIG2, JPEG2000, Document Cleanup, OCR, DICOM, Forms Processing, Office

VintaSoft Imaging .NET SDK is the impressive and easy-to-use image processing library for programming in .NET environment, which provides the abilities to load, view, convert, manage, print, capture from camera and save images of single page or multipage images.

VintaSoft Imaging .NET SDK is the basis, which can be complemented with functions of related Plug-ins in any combination: *Image Annotations, PDF Visual Editor/Reader/Writer, JBIG2 codec, JPEG2000 codec, DICOM codec/MPR, Document Cleanup, OCR, OMR/Forms Processing* and *Office DOCX Reader*.

### General features



- This .NET library is completely written in C#
- AnyCPU, x86 and x64 mode support
- **Image manipulation**
- **Image loading and saving**
- **Image capturing from DirectShow compatible cameras**
- **Image rendering**
- **WinForms and WPF controls for previewing and printing images**
- **HTML5 and SVG controls for previewing and printing images**
- **Image processing**
- **Image Metadata management**
- **Color management**
- **Additional abilities with Add-on extensions**

### Image manipulation

- Create black-white, grayscale, palette, RGB or RGBA image  
Supported image formats:
  - 1-, 4- and 8-bpp paletted

- 1-, 4-, 8- and 16-bpp grayscale
- 24-, 32- and 48-bpp BGR
- 32- and 64-bpp BGRA
- 16-bpp BGR565 or BGR555
- Load image from a file or stream
- Combine images into image collection
- Direct access to pixel data
- Print image or image collection
- Save image to a file or stream
- Asynchronously save image collection to a file or stream
- Save changes in image collection back to the source
- Save changes in image collection to a new source and switch the source after saving

## Image loading and saving

- **Supported file formats:**
  - **BMP** (read & write)
  - **DICOM** (read only) - [VintaSoft DICOM .NET Plug-in](#) is necessary
  - **DOCX** (read only) - [VintaSoft Office .NET Plug-in](#) is necessary
  - **EMF** (read only)
  - **GIF** (read & write), **animated GIF** (read & write)
  - **ICO** (read & write), **CUR** (read & write)
  - **JBIG2** (read & write) - [VintaSoft JBIG2 .NET Plug-in](#) is necessary
  - **JPEG** (read & write)
  - **JPEG2000** (read & write) - [VintaSoft JPEG2000 .NET Plug-in](#) is necessary
  - **JPEG-LS** (read only)
  - **PDF** (read & write) - [VintaSoft PDF .NET Plug-in](#) is necessary
  - **PCX** (read & write)
  - **PNG** (read & write)
  - **RAW** (read only): DNG, CR2, CRW, NEF, NRW
  - **TIFF** (read & write), **multipage TIFF** (read & write), **BigTIFF** (read & write)
  - **WMF** (read only)
  - **XPS** (read only, WPF only)
- **Decoders**
  - Get image info from file or stream without loading image into memory
  - Get image from file or stream
  - Get image thumbnail from file or stream
  - Get image metadata from file or stream
  - Create new decoder - architecture is open
  - Manage (add, reorder, remove) decoders
- **Encoders**
  - Save image to a new file or stream
  - Add image to a multipage file
  - Save image changes to the image source
  - Save image metadata to a file or stream without re-encoding the image
  - Create new encoder - architecture is open
  - Manage (add, reorder, remove) encoders

- **Low level image file manipulation**
  - Low level TIFF file manipulation:
    - Manage (add, insert, reorder, remove) TIFF pages
    - Manage (add, insert, reorder, remove) tags of TIFF page
    - Get scaled image of TIFF page
    - Get image strip or tile of TIFF page
    - Set image strip or tile of TIFF page without re-encoding the whole image
    - Copy a TIFF page to the same or different TIFF file without re-encoding TIFF page data
    - Remove unused space from TIFF file
  - Low level GIF file manipulation:
    - Manage (add, insert, reorder, remove) GIF frames
    - Modify metadata of GIF frame
    - Get image of GIF frame
    - Change animation parameters (delay, repeat, reverse)
    - Optimize/deoptimize GIF file
  - Low level ICO/CUR file manipulation:
    - Manage (add, insert, reorder, remove) ICO/CUR frames
    - Get image of icon or cursor
    - Set hotspot for cursor
  - Low level JPEG file manipulation:
    - Modify metadata
    - Get scaled image
  - Low level PNG file manipulation:
    - Modify metadata
    - Get interlaced image
  - Low level JBIG2 file manipulation - [VintaSoft JBIG2 .NET Plug-in](#) is necessary
  - Low level JPEG2000 file manipulation - [VintaSoft JPEG2000 .NET Plug-in](#) is necessary
  - Low level DICOM file manipulation - [VintaSoft DICOM .NET Plug-in](#) is necessary
- Create new functionality for low level file manipulation - architecture is open

## Image capturing from DirectShow compatible cameras

- Get a list of available DirectShow image capturing devices
- Get notification about connected or disconnected device
- Get device friendly name, current image capturing format and available image capturing formats
- Set desired image capturing format
- Change additional device settings using the device settings dialog
- Capture images from device

## Image rendering

- Render image region synchronously or asynchronously
- Get intermediate image

- Manage rendering requirements for image files

## WinForms and WPF controls for previewing and printing images

- WinForms and WPF controls for **previewing images**:
  - View multiple images simultaneously in multipage image display mode
  - Progressive multithreaded image rendering with progress indication
  - View images of unlimited size
  - Magnify, scroll and pan image
  - Select rectangular, elliptical or custom image region
  - Zoom image or image region
  - Drag and drop image region
  - Overlay image region
  - Preview image processing results
  - Draw graphic objects (text, rectangle, line, etc) on image viewer
  - Create layers in image viewer and define interaction with user - architecture is open
  - Slideshow images
  - Display special image map for fast navigation along the large image
  - Do what you want - architecture is open
- WinForms and WPF controls for **previewing image thumbnails**:
  - Multithreaded thumbnail rendering with progress indication
  - Display thumbnails vertically or horizontally
  - On demand thumbnail loading
  - Define appearance for the normal, focused, selected and hovered thumbnail
  - Add caption to a thumbnail
  - Select multiple thumbnails
  - Reorder thumbnails by dragging and dropping the thumbnails
  - Do what you want - architecture is open
- WinForms and WPF controls for **viewing and editing image palette**
- WinForms and WPF controls for **annotating images** ([VintaSoft Annotation .NET Plug-in](#) is necessary)
- WinForms and WPF controls for **previewing image thumbnails with annotations** ([VintaSoft Annotation .NET Plug-in](#) is necessary)
- WinForms and WPF controls for **previewing images before printing**

## HTML5 and SVG controls for previewing images

- HTML5 and SVG controls for **previewing and printing images**:
  - View multiple images simultaneously in multipage image display mode
  - Progressive image rendering with on-demand tile rendering
  - View images of unlimited size
  - Magnify, scroll and pan image without server-side postback
  - Select rectangular image region without server-side postback
  - Zoom image or image region without server-side postback

- HTML5 and SVG controls for **previewing image thumbnails**:
  - On-demand thumbnail rendering
  - Define appearance for the normal, focused, selected and hovered thumbnail
  - Select multiple thumbnails
- HTML5 and SVG controls for **annotating images** ([VintaSoft Annotation .NET Plug-in](#) is necessary)
- HTML5 and SVG controls for **previewing image thumbnails with annotations** ([VintaSoft Annotation .NET Plug-in](#) is necessary)
- JavaScript classes for print preview and printing images

## Image processing in WinForms, WPF, ASP.NET WebForms and ASP.NET MVC

- **Get information about image**: get color count, get background color, get border rect., get rotation, get histogram, is image blank and more
- **Apply common processing to an image**: change pixel format, rotate, flip, resize, resize canvas, crop, clear, fill, resample, overlay, overlay masked, overlay with blending and more
- **Apply color mapping to an image**: invert, binarize, brightness, contrast, gamma, hue, saturation, color blending, halftone, levels, alpha and more
- **Apply filters to an image**: maximum, minimum, mean, median, midpoint, dilate, erode, convolution, blur, sharpen, emboss and more
- **Apply effects to an image**: auto colors, auto contrast, auto levels, mosaic, motion blur, pixelate, red eye removal, solarize, tile reflection and more
- **Clear the document image**: despeckle, deskew, border clear and removal, halftone removal, auto text orientation, document segmentation, text recovery from halftones and more - [VintaSoft Document Cleanup .NET Plug-in](#) is necessary
- Process the whole image
- Process the rectangular or custom image region
- Combine several commands into a single command
- Parallelize execution of command on several threads
- Undo/redo results of image processing
- Create custom image processing command - architecture is open
- JavaScript classes for processing images in ASP.NET

## Image Metadata management

- Read and write EXIF metadata in TIFF and JPEG files
- Read EXIF Makernote metadata from RAW files
- Read and write TIFF tags
- Read and write WANG metadata in TIFF files
- Read Adobe Photoshop Resource metadata
- Preview image metadata as tree
- Create classes for reading and writing other metadata - architecture is open

## Color management

- Use the color management when decoding image files
- Use the color management when displaying and printing images
- Perform the color transformation of images
- Obtain the color transformations from ICC-profiles v.2.0-4.3
- Use a number of standard color transformations
- Define custom color transformations - architecture is open

## Abilities with extensions

The image is a promotional graphic for VintaSoft PDF. On the left, there is a white document icon with a red 'PDF' label at the top. Below the label, a list of features is shown with green checkmarks: Reader, Generation, PDF forms, PDF comments, and Visual editor. A hand holding a white marker is pointing at the 'Visual editor' item. To the right of the document, the text reads: 'VintaSoft® PDF for .NET, WPF and WEB. The innovative PDF engine to read, write and edit PDFs.' The background is a warm, golden-yellow gradient with a faint, large watermark of the word 'SOFTWARE' in the center.

- Load, edit and save PDF documents - [VintaSoft PDF .NET Plug-in](#) is necessary
- View all existing PDF files - [VintaSoft PDF .NET Plug-in](#), [VintaSoft JBIG2 .NET Plug-in](#) and [VintaSoft JPEG2000 .NET Plug-in](#) are necessary
- Encode color document images to PDFs using advanced MRC (Mixed Raster Content) compression - [VintaSoft PDF .NET Plug-in](#) and [VintaSoft Document Cleanup .NET Plug-in](#) are necessary
- Work with digital signatures of PDF document, create and edit visually PDF comments (PDF annotations) and PDF interactive form fields, capture user input from them - [VintaSoft PDF .NET Plug-in](#) is necessary
- Annotate images - [VintaSoft Annotation .NET Plug-in](#) is necessary
- Annotate PDF documents - [VintaSoft PDF .NET Plug-in](#) and [VintaSoft Annotation .NET Plug-in](#) are necessary
- Cleanup document images in advance to improve the results of text recognition (OCR) - [VintaSoft Document Cleanup .NET Plug-in](#) is necessary
- View, convert and print DOCX documents - [VintaSoft Office .NET Plug-in](#) is necessary
- Recognize text from document images and save recognition results to a text file - [VintaSoft OCR .NET Plug-in](#) is necessary
- Recognize text from document images and save recognition results to a searchable PDF document - [VintaSoft OCR .NET Plug-in](#) and [VintaSoft PDF .NET Plug-in](#) are necessary
- Load, view and annotate DICOM images, edit DICOM metadata, use DICOM MPR to reconstruct DICOM images - [VintaSoft DICOM .NET Plug-in](#) and [VintaSoft Annotation .NET Plug-in](#) are necessary
- Identify and align the document image, recognize marks (OMR), text and barcodes in a document form - [VintaSoft Forms Processing .NET Plug-in](#) is necessary



- Recognize and generate barcodes from/to images and PDF documents - [VintaSoft Barcode .NET SDK](#) is necessary



- Acquire images from TWAIN scanner and load them into Image Viewer - [VintaSoft Twain .NET SDK](#) is necessary

## Development and Deployment requirements

- **Development requirements:**
  - Development environments: Microsoft Visual Studio .NET 2008, 2010, 2012, 2013, 2015, 2017, 2019
  - Programming languages: C#, VB.NET, any .NET compatible language
  - Development platforms: NET Framework, WinForms, WPF, ASP.NET, .NET Core, ASP.NET Core
- **Deployment requirements:**
  - Microsoft Windows XP, Vista, 7, 8, 8.1, 10 (32-bit and 64-bit)
  - Microsoft Windows Server 2003, 2008, 2012, 2016, 2019 (32-bit and 64-bit)
  - Microsoft .NET Framework: 3.5, 4.0, 4.5, 4.6, 4.7, 4.8, Microsoft .NET Core 3.0