

6.6

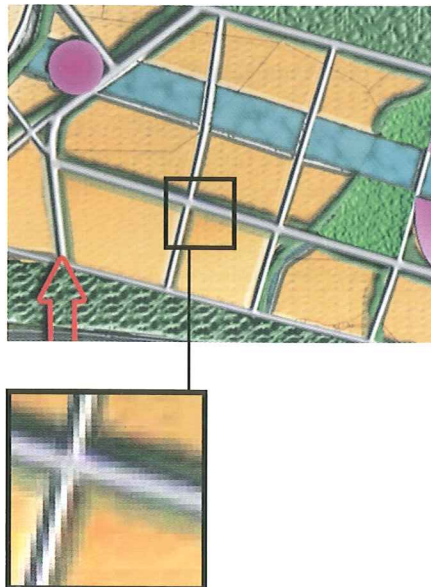
Types of image

Whether a 3-D model or a 2-D illustration, static images can be divided into two categories – raster or vector. Each has unique qualities that are exploited differently, and can be combined.

Raster/bitmaps images

Raster (also known as bitmap) images include digital photographs, scans or images created with a photo-editing software programs. Such images consist of a grid of colours comprised of pixels. Each pixel is assigned a colour value and a location on the grid. Bitmap images are resolution-dependent. This means detail or definition can be lost if they are re-scaled on screen, or printed at a lower resolution than that for which they were created.

There are generally two applications for raster images – screen or print – and they must be used appropriately. For screen images such as websites and digital presentations RGB images (Red, Green, Blue – the primary colours of light) are used. For print-based images CMYK (Cyan, Magenta, Yellow – the primary solid colours – and Black) are used. As each pixel contains a lot of information, bitmaps generally produce large file sizes. Some bitmap types use compression to reduce file sizes. When sharing bitmap files it is important to know which applications support the file type.



Quality of raster image becomes pixelated when magnified

Vector images

Vector images or objects are made up of mathematically-defined lines and curves called vectors, which describe an image according to its geometry. Vector objects are resolution-independent. They can be scaled to any size and printed at any resolution without losing detail or clarity. Popular commercial CAD and graphics programs create vector graphics. Attributes of these lines/curves can be adjusted in weight (thickness) and colour, along with the colour within an enclosed object. With these variables it is possible to specify or design custom-made illustrations to suit any purpose.

It is common practice to embed both raster and vector graphics in one file for a variety of uses. The most commonly used file format is known as PDF.



Quality of vector image retains clarity when magnified