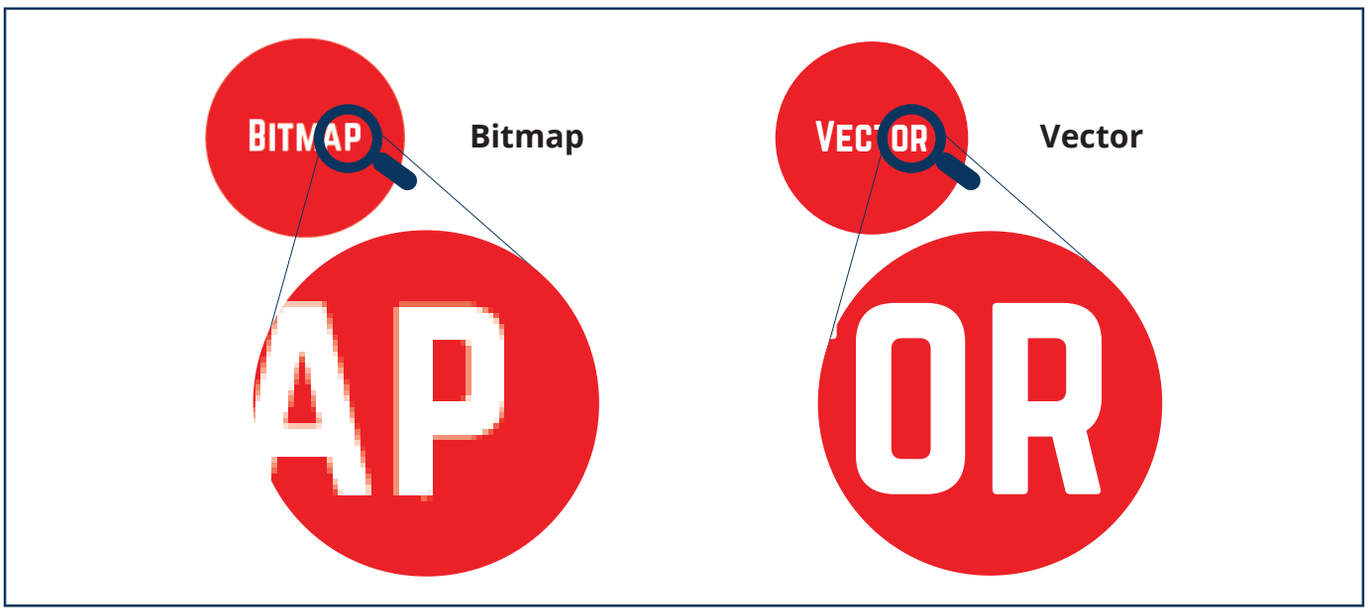
Vector or Bitmap files, what's the difference?



Bitmap Images (*also known as Raster Images*)

All photographs are Bitmap images and are composed of pixels. A pixel is a single poin,t or the smallest single element in a display device. If you zoom in on a bitmap image you will begin to see it's made up of little tiny squares.

A bitmap image has a specific number of pixels. Typically, bitmaps created for printing purposes are generally 300 ppi or above and referred to as High-res images. Alternately bitmaps created for the Web and screen only use are 72 or 96 ppi (Low-res).

High-resolution bitmaps contain smaller and more densely packed pixels than low-resolution bitmaps. The more pixels you have in a Bitmap image, the larger the file size will be.

Bitmap images are resolution-dependent, when you enlarge them you will lose image quality and resolution. At a certain point of enlargement, the image will start to look degrade and appear 'pixelated'.

Common Bitmap file types: JPEG, PNG, GIF and TIFF

Vector Graphics

Logos are generally (*and should be*) created as vector files. Vector images are mathematical calculations from one point to another forming lines and shapes. If you zoom in on a vector graphic it will remain sharp and clear no matter how far you zoom.

Vector Graphic files are resolution-independent, for this reason, they can be enlarged to any size without any loss of quality, as the mathematical formulas remain the same. There is no need to concern over resolution issues with vector graphics and you are able to scale your imagery to suit all of your web or print needs, no matter the size.

It's worth mentioning that many vector file formats such as Ai, EPS and PDF are capable of having a bitmap image placed within them. A quick way to find out if your vector file contains a bitmap is to zoom in on the item and see if it pixelates – if it doesn't, the likelihood is that it is a vector graphic.

Common Vector file types: Ai, EPS, PDF and SVG

File sizes

Vector images often have a smaller file size than comparable bitmap images because there is less information required in a few equations than storing the information for every pixel. However, this isn't always the case – if the vector is very complex the file can be larger than a bitmap equivalent.