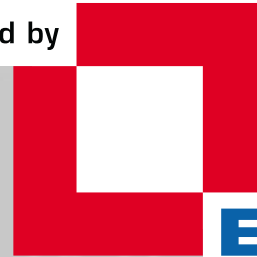
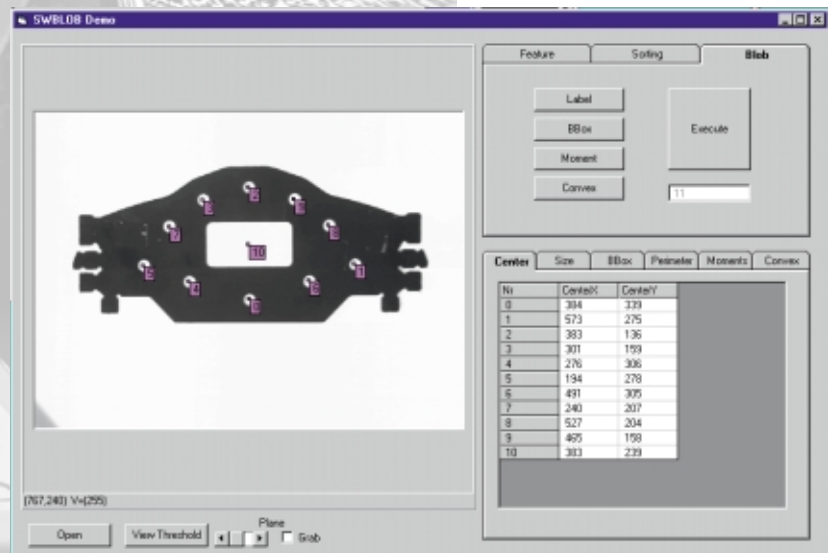


# ► Blob

powered by



COMMON VISION  
**BLOX**



Software tool for  
Blob Analysis

# ► Blob

## ► Measuring of morphometrical parameters

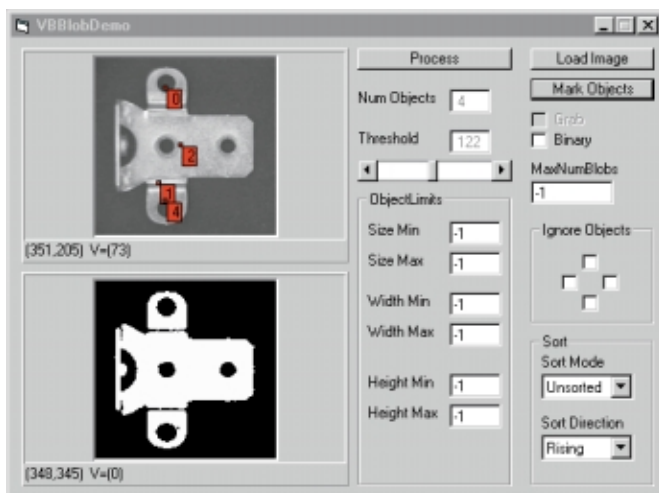
Blob is a Common Vision Blox tool for measuring morphometric parameters in objects of any shape (contiguous pixel ranges) which are defined by means of a binary threshold (blobs and holes in blobs). In this process, Blob does not analyze individual pixels but operates with a representation of contiguous object ranges in an image row - the run length code. Each image row is coded in such a way that the start and end address in the X direction is stored for every contiguous object range. This approach speeds up operations considerably compared with a pixel-based algorithm. Then the adjacency of the object chords in the current row to the existing objects is analyzed, and the measurement parameters of these objects are updated accordingly. Objects can be of any shape and complexity. They can also contain any number of holes. The blob analysis is one of the most used methods to obtain statistical information about existing defects resp. defect classes. The Blob tool is used for segmentation of objects (blobs) in binarised images.

## ► Possible Results

- Number of blobs
- Number of holes
- Centroid of an object
- Diameter of an object
- First and second moments
- Perimeter of an object
- Number of pixels belonging to an object
- Bounding box of an object
- Points that lie on the convex perimeter

## ► Possible Filter Functions

- Filters for blobs and holes i.e.:
- Limit of size (pixels of an area)
  - Limit of height
  - Limit of width
  - Limit of number of holes in an object
  - Blobs touching border of AOI



## Moments

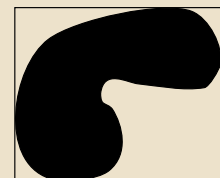
Moments are object-dependent parameters which describe the orientation of nonsymmetrical objects. Note that circular objects do not have any orientation (see BlobGetMoments). The ratio of the minimum moment of inertia to the maximum moment of inertia indicates how pronounced the orientation is.



Object with pronounced orientation showing the axis of the minimum moment of inertia.

## Convex Perimeter

The convex perimeter approximates better to the actual perimeter than the bounding box but returns much less data than, for example, the chain code or streak data. For the convex perimeter, projections are applied to the object from different sides. The simplest case is the boundary box with two projections at an angle of 90° to each other.



The perimeter is calculated more precisely when the number of projections is doubled, and operations are based on steps of 45° instead of 90°.

