CHARACTERIZATION OF WC-CO ALLOYS
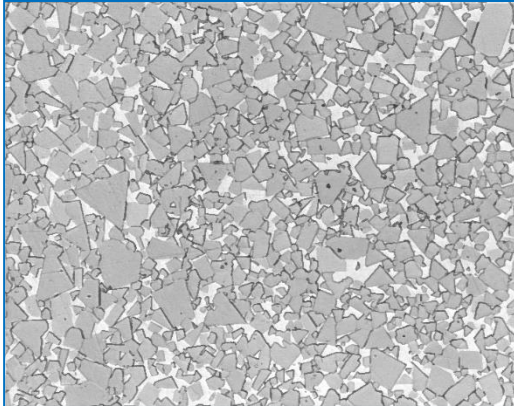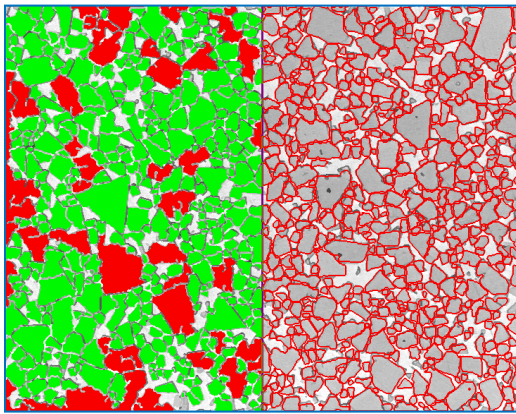
Figure 1: *Original image.*

Figure 2a: *Overlapping particles isolated in red bitplane prior to separation.*

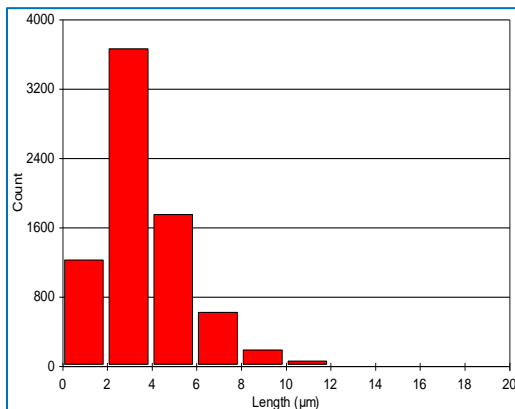***Figure 2b:*** *Outline network of WC particles overlaid against the original image.*

Figure 3: *Length distribution of the WC particles.*

Sample Description

Six mounted samples of tungsten-carbide particles with cobalt binder.

Purpose of Analysis

Demonstrate the ability of the Clemex Vision image analysis system to discriminate and measure all WC particles in the field of view.

Procedure

The original image is modified by gray transformations. The particles that are in contact with one another are isolated in red bitplane using a *Roughness* based *Object Transfer*. Red objects (the roughest) are then subdivided according to their convexity. Certain instructions are established in the routine to separate particles (red) to the green bitplane. Object measurements are applied on the complete particles.

Equipment

Image Analysis System:	Clemex Vision PE
Microscope:	Nikon Epiphot 200
Camera:	Sony XC-77CE B&W
Magnification:	1000X
Stage:	Marzhauser EK8B-S1

Results

	Area (μm^2)	Length (μm)
Minimum	0.6	1.0
Maximum	137.6	16.3
Mean	8.7	3.9
Standard Deviation	10.0	2.1