

# New Fast Measuring Method for Process Optimization of Sucrose Crystallization

## Introduction and Background

The optical scanning of suspensions and image analysis were tested on magmas and massecuites in all steps of sucrose crystallization at Nordzucker. Image analysis is a fast method for measuring crystal size distribution for the optimization of the mean-crystal size.

## Comparison to Sieve Analysis

In comparison to sieve analysis, results from image analysis have been proven to be reliable:

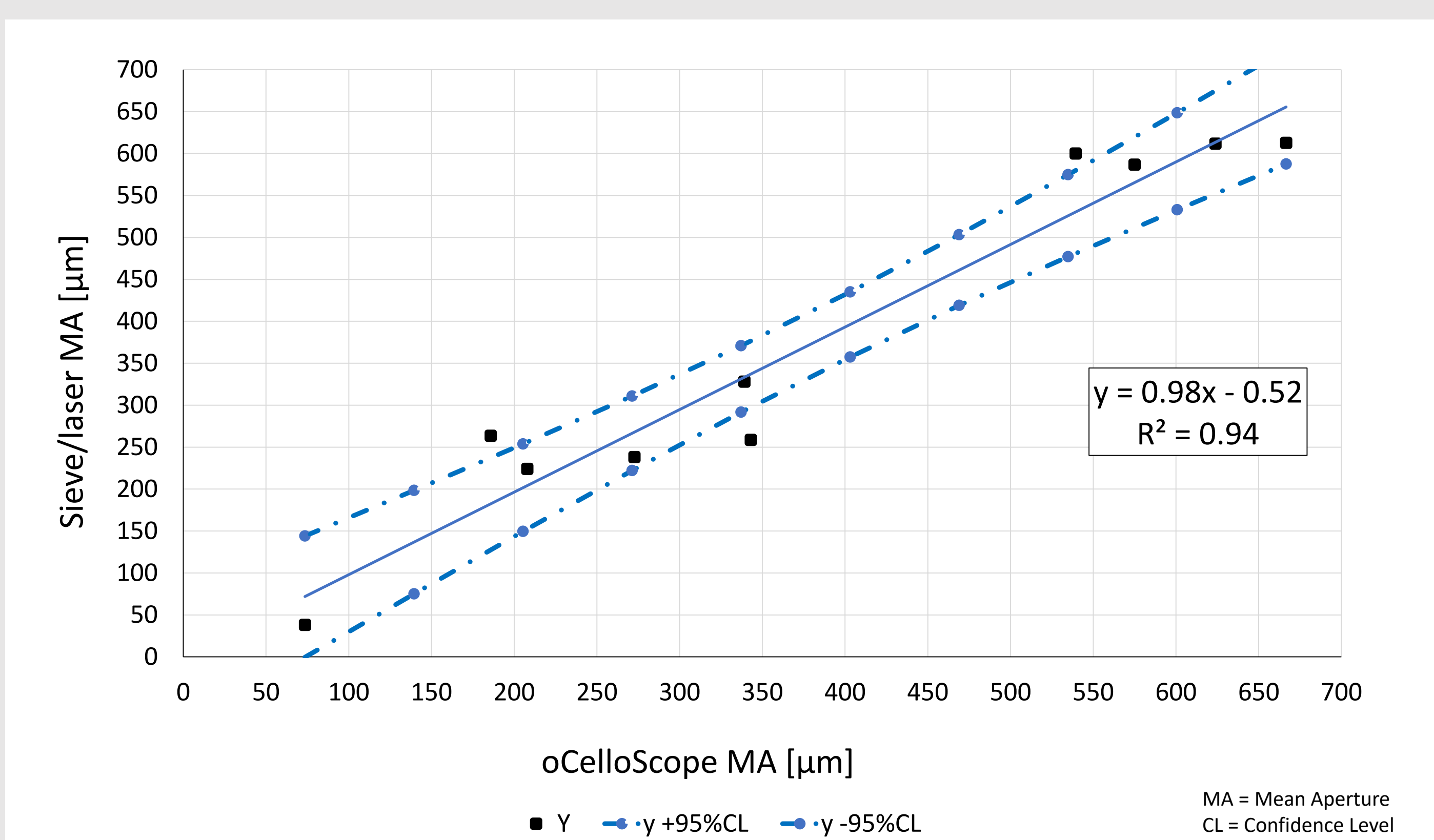


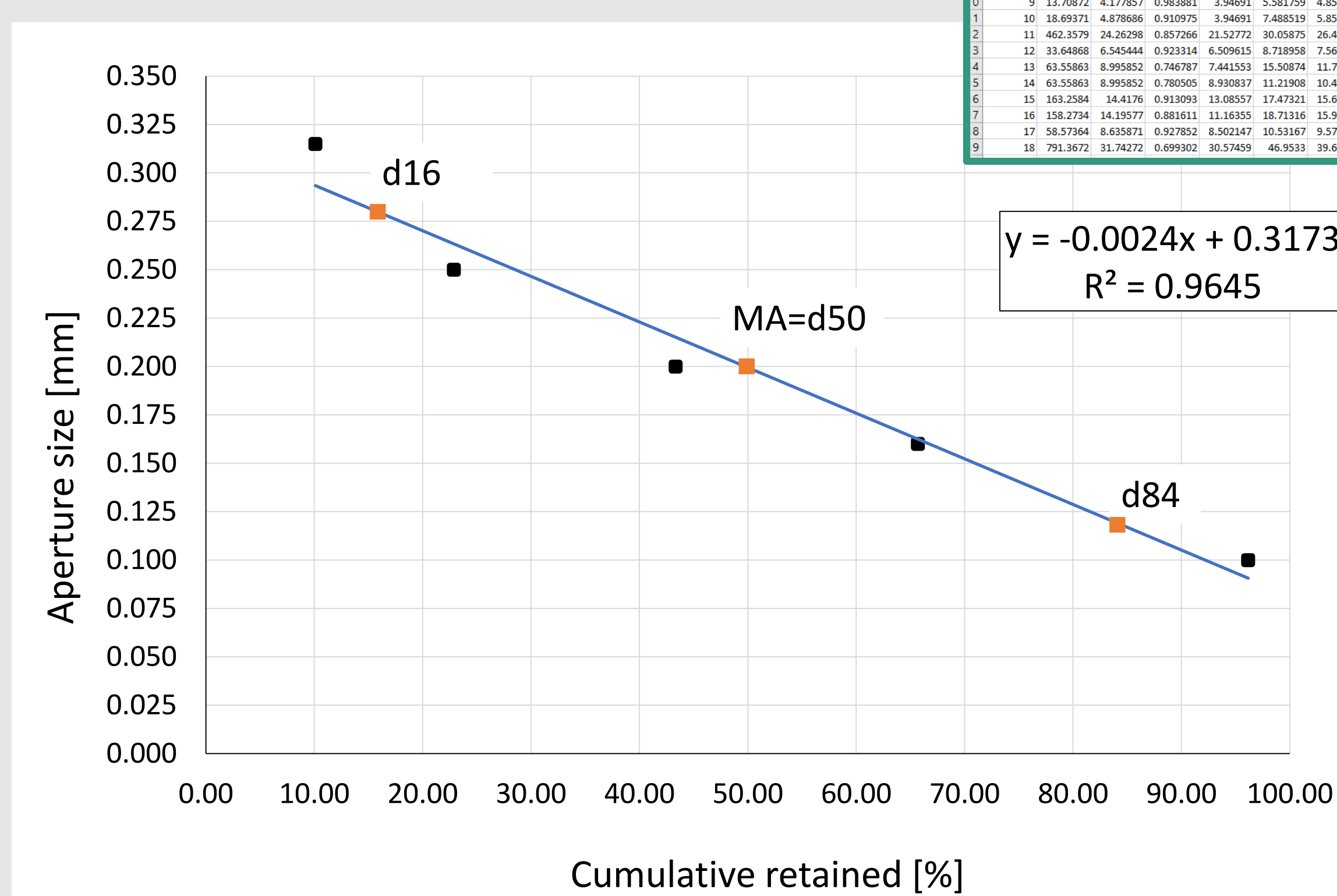
Image Analysis also provides:

**Mean Aperture, MA, and Coefficient of Variation, CV%.**

These are generated according to ICUMSA standard methods:

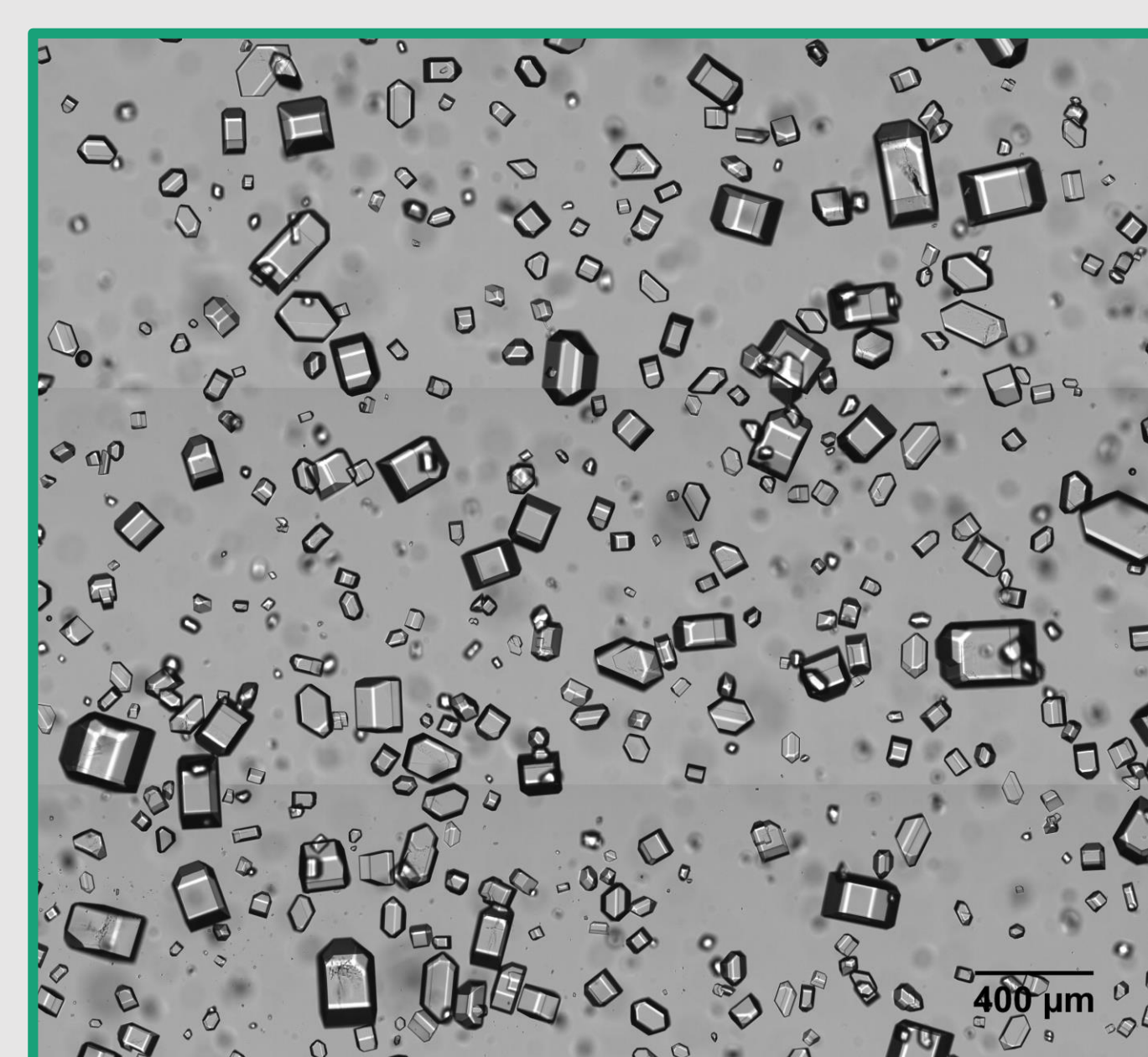
- Powers
- Rens
- RRSB
- Butler

**Powers Method:**

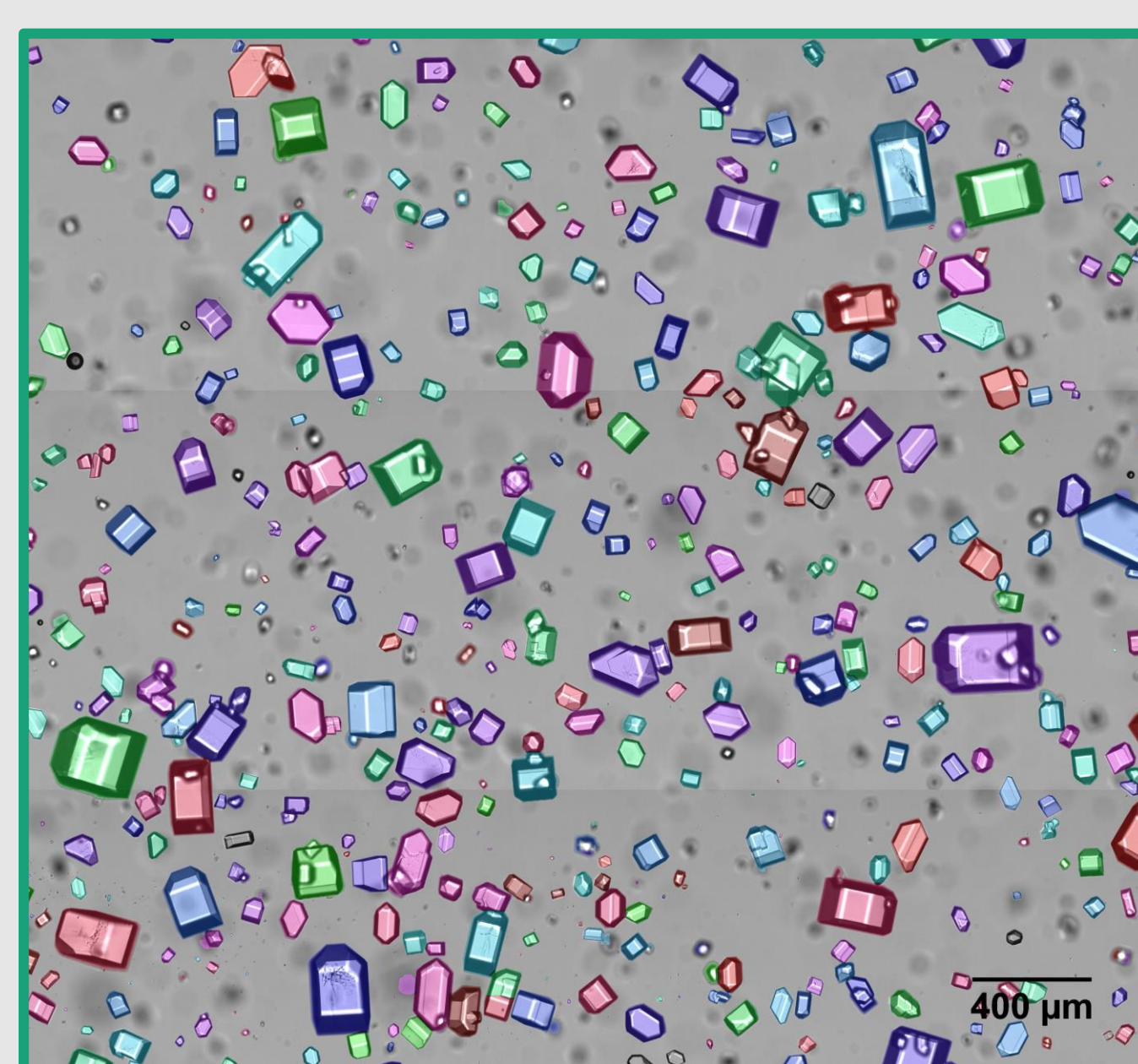


## The ParticleTech Sugar Analyser

This method is about **60 times faster** than the conventional washing, drying, and sieving method. It provides **accurate data and results** and includes a valuable **visual tool** as well.



Best focus image

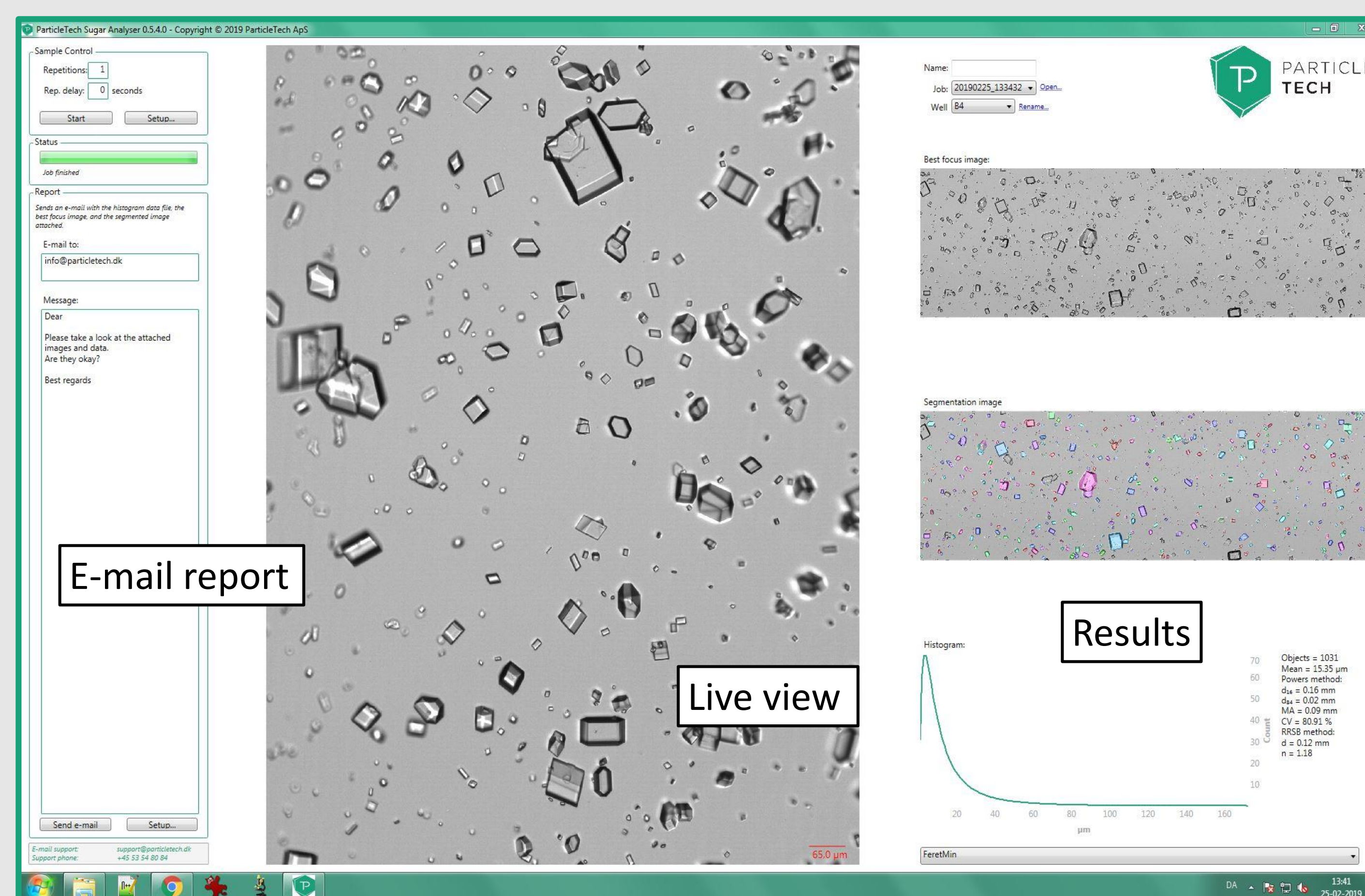


Segmented image

**Data generation:**

- Measured distributions of: Feret diameters (min, mean, etc.), area, circularity, EQPC, etc.
- The results provided are tailored according to needs.

The user friendly software generates results within **1-3 minutes** after a sample is prepared. The ParticleTech Sugar Analyser can be used on the production floor or in the lab.



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