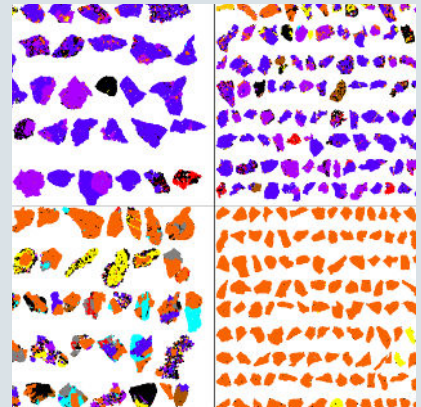ТESCAN

TESCAN TIMA
FOR MINERAL PROCESSING

The Automated Mineralogy solution for particle-by-particle measurement of mineralogy, grind size, liberation, and separation

Key benefits:

✓ **Understand complex mineral relationships – at the size-by-size and particle by particle level – and optimize processing plant performance using the built-in metallurgical distribution analysis system**

✓ **Collect high speed, detailed measurements on more types of samples, with better mineral chemical resolution, increased sensitivity for low abundance elements and good sampling statistics using the 4 EDS detectors and TIMA's unique spectral summing algorithm**

✓ **Maintain continuous operation, rapid turnaround with a minimal number of laboratory operators using the options for remote, multi-user off-line analysis with automation software to support unattended operation**

✓ **Analyze base metals, precious metals, and other commodities using built-in quantification and the comprehensive mineral identification, mineral composition, and grain/particle textural classification with user-defined scripts**

✓ **Process samples in large batches and maintain high efficiency data collection using continuous unattended operation**

✓ **Free instrument time for interactive microanalysis or automated measurement and by taking advantage of TIMA's offline data analysis and reporting capability**

Applications:

▪ **Recovery:** discover the proportion of recoverable losses, the proportions of hazardous elements (e.g. arsenic and antimony), and diluents in concentrates

▪ **Flotation:** differentiate the recovery of multiple minerals containing the same element e.g. copper in chalcopyrite, chalcocite, and covellite

▪ **Comminution:** predict target grind size in future feed ores to optimize mineral liberation for flotation and leaching

▪ **Leaching:** quantify the degree of carbonaceous minerals to predict the degree of "preg-robbing"

▪ **Smelting:** plan concentrates with similar smelting properties

▪ **Geometallurgy:** link geology and metallurgy for optimal mine planning and mineral processing

▪ **Plant surveys:** add detailed mineralogical and liberation values to mass flow and chemical assay data

▪ **Plant monitoring:** analyze daily, weekly, and monthly plant samples with multiple size fractions from multiple streams

▪ **Metallurgical modelling:** populate your models with customized particle-by-particle data (morphological, mineralogical and chemical composition, liberation degree, etc...