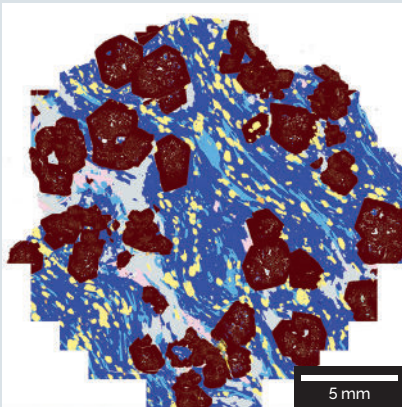




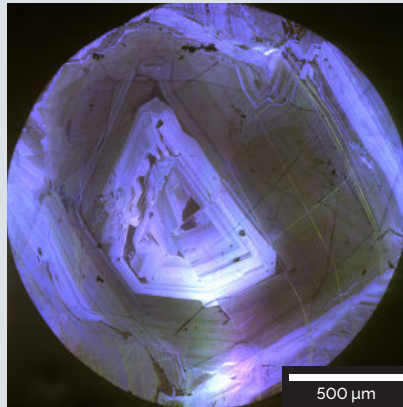
# TESCAN TIMA

FOR EARTH SCIENCE

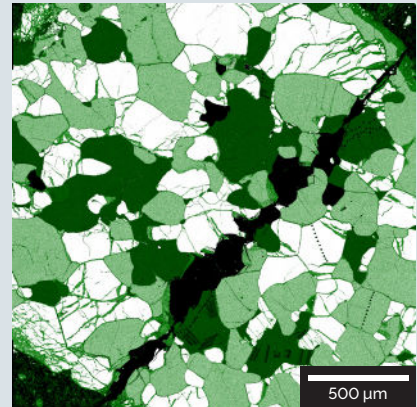
The combined Automated Petrography and Microanalysis solution for Geoscientists



▲ Automated mineralogical map of an eclogite.



▲ Cathodoluminescence image of a diamond.



▲ Magnesium distribution in a peridotite xenolith from alkaline basalts.

## Key benefits:

- ✓ Identify and quantify minerals automatically—even without extensive experience—using algorithm-generated, or user-defined rules and the built-in mineralogical database
- ✓ Analyze thin-section scale samples and obtain reproducible data thanks to the 4 EDS detector system and TESCAN's unique, high sensitivity spectral summing algorithm to detect low abundance elements
- ✓ Correlate high resolution BSE images, elemental maps and cathodoluminescence in a single run
- ✓ Pinpoint the locations of specific minerals using TIMA's automated search for minerals of interest
- ✓ Free-up instrument time for interactive microanalysis by taking advantage of the offline data processing capability with access to all elemental maps
- ✓ Understand chemical variability within entire grain populations as well as the bulk chemical sample composition using built-in EDS batch quantification
- ✓ Estimate the presence of elements undetected by EDS (e.g. Li, Be) using TIMA's data processing software to identify phases based on the proportions of other elements and stoichiometric re-calculation

## Applications:

- Mineral microanalysis: resolve and identify fine grains using high spatial resolution imaging and elemental analysis
- Thermobarometry: obtain the coordinates of minerals or mineral pairs selected for further analysis using EPMA
- Geochronology: automated identification of minerals suitable for dating and automated, detailed cathodoluminescence imaging
- Rock classification: use volumetric proportion of minerals to calculate the chemistry of rock – even fine-grained or glass-containing rocks
- Automated search for petrogenetically significant phases based on their EDS signature or BSE brightness (REE, PGM, precious metals)
- Provenance studies applicable to, for example, garnet or spinel group mineral chemistry, in sedimentary rocks or archaeological artifacts
- Screening to select samples for further analysis with other advanced techniques (EPMA, LA-ICP-MS)
- Porosity quantification and pore association