mineralogical analysis in geoscience generally requires the use of a set of complementary analytical imaging techniques - such as SEM-EDS imaging or Raman imaging - to access a thorough knowledge of the sample to better understand the mineralogical, chemical and textural factors that control their behavior, their reactivity.

The use of a SEM-EDS coupled to confocal Raman-in-SEM imaging is a recent and efficient method for identifying the mineral nature of natural materials. Then, combining these techniques within the same microscope is an efficient tool for the obtention of a real mineralogical mapping of rock samples. Moreover, confocal Raman spatial resolution is much better than that of EDS (or WDS). This makes it possible to obtain a mineralogical information on a submicrometric particle that cannot be properly analyzed by SEM-EDS or EPMA. The application of such microscope will be illustrated by various practical examples in the field of geomaterials and mineralogy.