



# FORENSIC ENGINEERING

## EXPERT SCIENTIFIC ANALYSIS FOR SAFETY AND EFFICIENCY

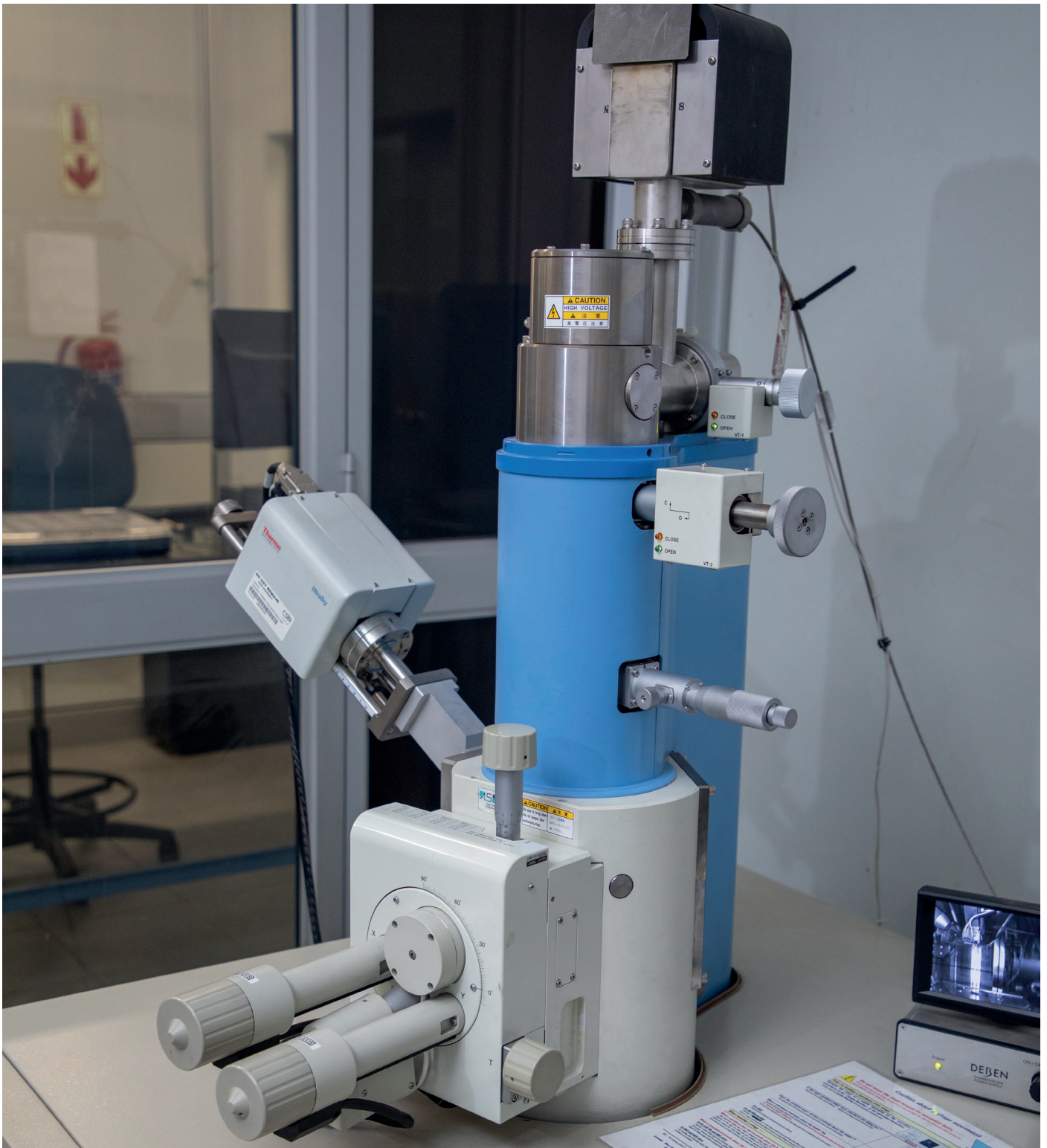
**F**orensic engineering involves investigating and analysing failures or accidents related to mining and metallurgical plant operations. This specialised field improves safety and efficiency in the mining and engineering industries by providing critical insights into the causes of incidents or failures of equipment malfunctions, structural collapses and explosions.

The CSIR provides expertise in forensic analysis, consulting engineering services and litigation support for a broad spectrum of cases, in mining, metallurgical and chemical engineering, oil and gas industries, legal and insurance sectors.

The CSIR specialists developed a process for understanding the causes and mechanisms behind the failure of materials, products, or systems to enhance safety, reliability and operational performance. The CSIR's investigative approach is fundamentally a problem-solving exercise beginning with understanding the background of the problem, through to the last step of the process. This process of root cause identification and implementing preventive actions reduces the risk of failure, downtime and loss of production. It increases productivity in industries such as mining, plumbing, oil and gas and engineering.







The use of state-of-the-art equipment such as transmission and scanning electron microscopes equipped with energy dispersive x-ray spectroscopy (TEM, SEM, EDX), electron backscatter diffraction (EBSD), and x-ray microscopy (XRM) assist in solving forensic investigations.

Experts in physical and metallurgical engineering, and materials science (PhD, MEng and MSc) with strong analytical skills, attention to detail, and ability to communicate complex scientific information.

## CONTACT DETAILS:

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