

PRESS RELEASE

Exxaro partners with the University of Pretoria in cutting-edge technology research programme to drive safer and sustainable mining

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As part of its commitment to enhancing South Africa's educational and technological spheres, Exxaro Resources today announced a partnership with the University of Pretoria to establish the first ever Exxaro Chair in Extended Reality (XR) Technology.

Extended reality technology refers to all real-and-virtual combined environments and human-machine interactions generated by computer technology, including augmented reality (AR), mixed reality (MR), and virtual reality (VR).

Through this partnership, the Exxaro Chair in XR Technology will offer a framework firstly on how the XR technology can be used to address mining industry challenges, and secondly on identifying the best available technologies for the solutions. This investment in technological advancement will allow for constant research towards a safer, economical, and more environmentally sensitive form of mining.

'We are proud to have such a strategic partnership with the University of Pretoria and to be among the mining companies to explore the potential benefits of XR technology as a strategic intervention across its operations' says Exxaro CEO Mxolisi Mgojo. 'Together, we are expanding upon the practical capabilities of XR in the South African context while supporting our need for industry to embrace the opportunities of the 4th Industrial Revolution. The possibilities of what we could develop are really exciting.'

Exxaro will work with the Virtual Reality and Interaction (VRI) Laboratory, an initiative of the Department of Information Science at the University of Pretoria, as well as the Department of Mining Engineering. The VRI Laboratory applies XR technologies to create interactive user experiences for various applications.

The Exxaro Chair in XR Technology programme will assist in selecting the most effective XR technology for specific applications, and then design methods that can enable intuitive interaction with the virtual environment. It will also offer extensive user testing of proposed solutions to ensure that the solutions address and solve as many of the challenges as possible.

Among the solutions that will be explored are the application of individual and shared VR; mobile, tethered, and cave setup VR; communication VR; tracked and untracked VR space; as well as hand tracking and full body tracking.

Professor Ina Fourie, the Head of the Department of Information Science and the inaugural Exxaro Chair in XR Technology said 'Exxaro opens new opportunities for us to excel in industry-related XR research. They offer us an opportunity to become international leaders in the use of XR technology in the mining industry and mining safety. Many other applications and opportunities can follow.'

'The EBIT Faculty is honoured to work with an industry leading company such as Exxaro in taking the UN Sustainable Development Goals (SDGs), especially SDG 9 – Industry, Innovation, and Infrastructure, and also to strengthen SDG 8, which is Decent Work and Economic Growth, both being what South Africa desperately needs' says Professor Sunil Maharaj, Dean of the University of Pretoria's Faculty of Engineering, Built & Information Technology.

Mgojo concludes, 'We are extremely excited for this partnership as part of our drive to support research that overcomes the obstacles associated with the 4th Industrial Revolution. We believe that XR technology has immense applications for dealing with mining-related challenges and that can optimize the resources of companies like Exxaro.'