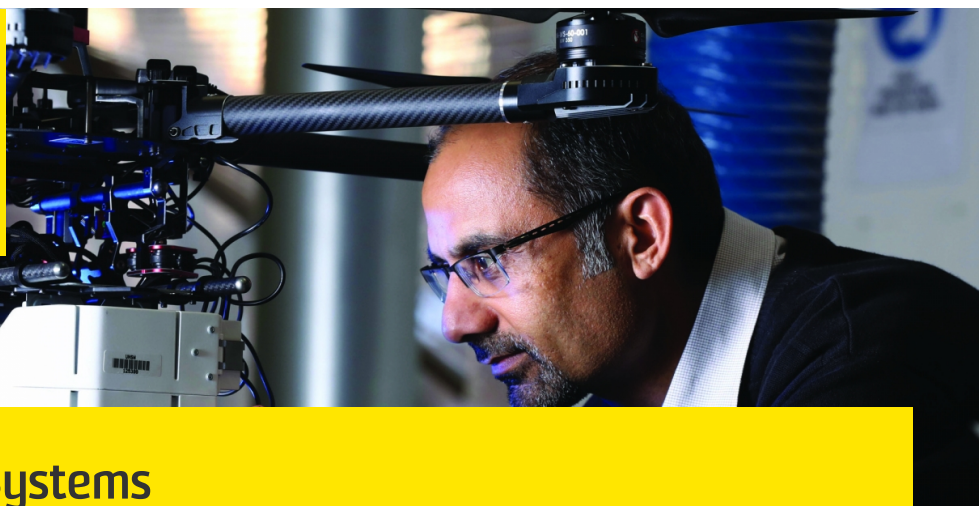# Advanced Sensing Systems

Advanced sensing systems provide an integrated solution for environmental and safety monitoring across a range of industries, including mining, defence, agriculture, forestry, food processing and health.

Competitive advantage

- Expertise in design of application-specific sensor hardware, data acquisition using various platforms including satellites and drones, and customised algorithms to convert the data into solutions
- Environmental monitoring expertise in challenging environments—remote water quality, sensitive ecosystem health, remote monitoring for temperature, pressure, gases etc
- Safety monitoring expertise, including structural deformation, hazardous spillage detection, in situ sampling and warning systems
- Expertise in machine vision—real-time object tracking, target recognition, resolving patterns, image enhancements, and 2D- and 3D-mapping

Impact

- Improved environmental sensing and safety management

Successful applications

- A drone-based scanning system for mapping structural parameters of pit walls, Glendell coal mine, Glencore
- Drone generated spatial data processing software, Agronomeye
- Drone based hyperspectral mapping system to monitor sensitive swamp vegetation, Russel Vale colliery, WCL
- Remote water sampling using drones, Glendell coal mine, Glencore
- Thermal hotspot mapping using drones, Ulan Coal mine

More Information

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