ARC CENTRE OF EXCELLENCE FOR ENABLING ECO-EFFICIENT BENEFICIATION OF MINERALS (COEMINERALS)

Minerals for our future

The ARC Centre of Excellence for Enabling Eco-Efficient Beneficiation of Minerals (COEMinerals) is discovering and inventing science-based, more-efficient ways to recover minerals that address key industry and environmental challenges associated with mineral processing.

PARTNERSHIP CAPABILITIES

- **Development of new, more-efficient and less wasteful technologies for the minerals sector:** Innovations in mineral separation and processing
- **Research:** Exploring new ways to reduce waste, water and energy use in mineral processing using science-based approaches
- **Addressing challenges:** Addressing the challenge of recovering minerals and metals from urban waste sources and tailings dams
- **Industry Engagement:** Partnerships to test, adapt and trial new technologies and techniques
- **Education and Training Programs:** Capacity building for current and future mineral engineers

PROVEN IMPACT

- **Environmental Benefits:** Reductions in waste, water use and the potential to reduce emissions in future as well as new techniques with the potential to replace toxic chemicals used for valuable metal and rare earth recovery
- **Maximising Mineral Resources:** Minerals are a finite resource and many are becoming harder to recover against a backdrop of growing demand. The Centre's innovative approaches and inventions are resulting in higher mineral (metal) recovery, reduced environmental impact and lower energy and water consumption during mineral processing
- **Research Excellence:** Publications, patents and commercial development across the TRL scale in mineral processing technology innovation
- **Woking in close collaboration with industry:** COEMinerals formally partners with industry as well as progressing new mineral beneficiation techniques in close collaboration with wide ranging industry and resources sector collaborators

TRANSFORMING THE MINERALS SECTOR TO MEET GROWING DEMAND

Centre Director Laureate Professor Kevin Galvin's groundbreaking innovations are driving economic benefits and reducing environmental impacts across the global resources sector.

Professor Galvin's research has focused on particle separation techniques across a range of commodities including zinc, iron ore, lithium, chromite, tin and manganese.

One of Professor Galvin's most successful inventions is the patented REFLUX Classifier (RC™) – an industrial machine that separates fine mineral particles based on either density or size. To date, more than 240 full-scale REFLUX Classifiers have been installed in over 15 countries. It is estimated the technology has helped process more than $75 billion worth of raw materials and delivered a net benefit of more than $7.6 billion to end users.

The REFLUX concept has since been incorporated into several other innovative products, such as the REFLUX Flotation Cell (RFC™), the GradePro™ Classifier, the Graviton Separator, and the CoarseAIR™ coarse particle flotation cell.

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