

evocra

Evocra is a water solutions company that utilises cutting edge technology to deliver superior environmental and economic outcomes to multiple markets.

The Evocra journey began in 2010 in Tasmania when founder, Michael Dickson made some research breakthroughs in the science of Acid Mine Draining inspired by limitations of some specific aquacultural technology.

He found that using ozone to directly oxidise metal species for precipitation, rather than generating metal hydroxides, was an economical way to decontaminate the water.

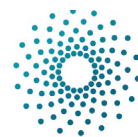
Testing this technology across a variety of samples, he found that he was able to apply the OCRA process to extract valuable minerals from industrial wastewater streams while removing a wide variety of contaminants.

Collaborating for Opportunities

Seeing the potential for this technology to be applied to treat acid mine drainage, Michael initially sought input from leading research institution, the Newcastle Institute for Energy and Resources (NIER) about opportunities to access the mining market. This contact lead to a research collaboration under the lead of chemical engineering expert, Professor Geoffrey Evans.

The Technology

OCRA utilises ozone in an ozofractionation column to directly oxidise contaminants. Organic compounds are degraded to simple inorganic compounds, while metals form metal oxides that can be floated or precipitated as minerals or captured by reagents.



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A New Market

Soon after relocating to NIER, the Evocra research team tested the idea of using their technology to remove PFOS contamination. PFOS belongs to a group of man-made chemicals known as PFAS, once popular in industry because of their unique properties which repel grease, oil and water, making it especially durable.

While PFAS contamination sites were being named across Australia, impacting residents and attracting widespread media attention, Evocra turned their focus to PFAS removal. They were soon able to use their ozofractionation technology to demonstrate 99.97% removal of the PFOS contaminant in one hour. This opened commercial doors for Evocra.

Business Growth

Within 12 months of being hosted at NIER, Evocra achieved their first commercialisation opportunity, and their employee base has since doubled.

Evocra was a finalist for the 2017 Australian Technologies Competition Cleantech Award for Technologies.

In May 2017, Evocra were contracted to treat a significant PFAS spill, which then led to further contracts for PFAS removal at other locations nationally.

In 2019, Evocra signed a licensing heads of agreement with international company Arcadis. Together with Arcadis, Evocra won both the prestigious 2019 UK based Brownfield Briefing "Best International Project" and the 2019 Engineers Australia "Technology Innovation" Award, having operated a major PFAS remediation project.

Evocra continues to explore opportunities for their technology to bring transformational change to how acid mine drainage is managed in Australia.

Evocra cites the collaborative framework of the NIER engagement model to be integral in:

- Hosting their demonstration plant, enabling them to conduct trials
- Validating their technology
- Assessing the need by industry for their technology
- Framing the competitive landscape of comparative / competing technologies
- Engaging in the optimisation of their treatment process
- Providing research and review on the development of new applications and technologies
- Creating pathways to industry and opportunities
- Supporting their engagement with international engineering firms, and
- Mentoring Evocra in the commercialisation of their business plan.

"If you have an innovation company, the rigorous academic validation that someone like NIER can provide can be highly beneficial. Through our partnership we have been challenged and pushed to review and prove our technology and we are better for that, achieving positive commercial outcomes."

- Michael Dickson, Evocra

Get in touch

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