

## INTRODUCTION

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Building upon the successful partnership which resulted in Chrysol, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) invited RFC Ambrian to propose a strategic business and marketing plan to commercialise another disruptive technology for the mining industry. A high-speed magnetic resonance (MR) sensor coupled with a computer-controlled diverter enables bulk sorting of ore shortly after mine face extraction. RFC Ambrian co-founded, advised, and incubated NextOre, the company formed to bring this exciting technology to market.

## THE TECHNOLOGY

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CSIRO's application of MR technology to ore sorting builds upon MR application as an imaging tool used in the medical field for decades. Through pioneering of a new MR science (called zero field nuclear magnetic resonance) and developing applications in mineral resources, CSIRO was able to demonstrate sensitivity to common minerals containing copper, iron, and other critical commodities with a high level of accuracy.

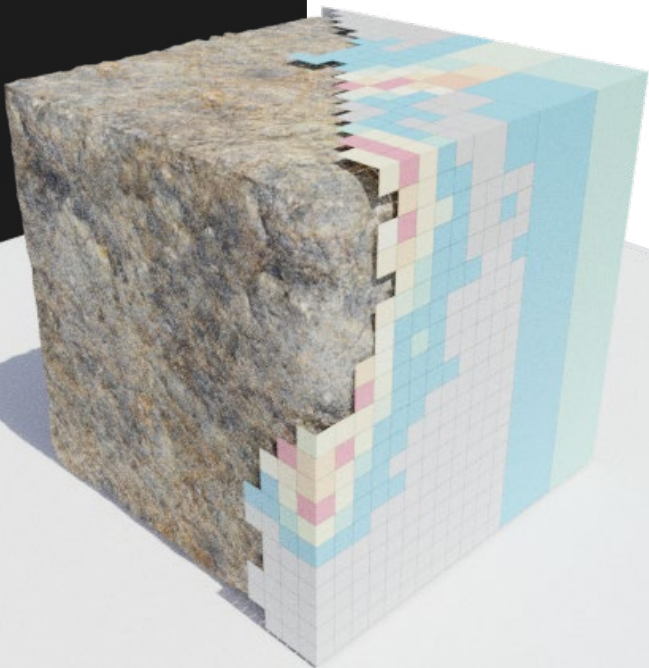
By mounting a high-speed, continuous sensing apparatus around a conveyer belt paired with a computer-controlled diverter, the system enables rapid measurement of ore grade and subsequent removal of barren, low-value material. Currently focused on copper ores (with demonstrated iron ore and gold ore applicability), NextOre's technology is able to measure the content of all material travelling along a conveyer belt (as opposed to surface characterisation) prior to electricity and water-intensive processing steps such as grinding or flotation.

## THE TECHNOLOGY *(continued)*

As sensing and sorting is completed before ore processing, NextOre offers the opportunity to significantly reduce the tailings production associated with processing low grade ore while reducing electricity used in crushing and grinding and water used in flotation. With higher grade ore and lower volumes entering the processing step, the mine has a number of options to increase productivity and profitability and to decrease the resources necessary to produce essential commodities.

## COMMERCIALISATION

RFC Ambrian's background which combines commercial, financial and technical experience allows both early identification of impactful technologies as well as the skills and resources to bring these highly impactful industrial technologies to market at scale. Following the successful commercialisation of gold assay technology via Chryso Corporation, CSIRO again elected to work with RFC Ambrian in commercialising NextOre's bulk sensing and sorting technology.



Orebody characteristics and flexibility of a given mining operation influence the degree of impact MR bulk ore sorting is likely to deliver. Thus, RFC Ambrian's extensive involvement in the mining industry value chain was crucial in identifying and selecting priority mining operations as early target customers. In addition, RFC Ambrian's relationships with mining businesses in Australia and across the world allowed early adopters to be identified through targeted and meaningful engagement with both executive and site-level management.

Working closely with engineers and operational representatives of trial customers, RFC Ambrian and CSIRO partnered in technical studies of operations

## COMMERCIALISATION *(continued)*

to develop suitable trial plans and quantify estimated bulk sorting benefits to mining operations. RFC Ambrian negotiated trial conditions and contracts and continues to work with customers in fine-tuning the technology's application to realise or exceed the value proposition.



## DEVELOPING AND FINANCING NEXTORE

Much of the early effort in launching NextOre was achieved without significant funding being raised; instead it required effective application of skilled personnel to build out a business around the fundamental technology.

Key activities included developing a pricing model, drafting business plans and financial forecasts, identifying suitable mining operations for the technology, and carrying out early customer-acquisition activities. RFC Ambrian along with partners CSIRO and Advisian (a subsidiary of the Worley Group) elected to bootstrap the company by contributing services for ownership and delaying fundraising until progress was made allowing for funds to be raised at a more attractive valuation.

Prior to raising capital, NextOre performed studies on potential mine sites, negotiated contracts for supply of units to early adopters, and demonstrated the technology in a live operating environment.

Once the company embarked on a capital raise, it was apparent that sources of early stage capital for mining and industrial technologies would again be difficult to obtain. RFC Ambrian was able to attractively position the company utilising government incentives to leverage the benefits for early investors (e.g. tax incentives, grant funding). Additionally, RFC Ambrian tapped its network of industry contacts and high-net-worth individuals to find the necessary funding and closed the initial capital raise in late 2019.

## CONTINUED LEADERSHIP

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In addition to fundraising and commercialisation support, RFC Ambrian continues to provide ongoing support and leadership to NextOre. The company's CEO, Chris Beal, accepted the role while working as an employee of RFC Ambrian while the Executive Chairman of RFC Ambrian also serves as Chairman of NextOre.

Under the RFC Ambrian's guidance as a strategic commercialisation partner, in just 2 years NextOre has successfully proved its technology on multiple operating mine sites and developed customers across the globe including in Mexico, the Philippines, Peru, Brazil and domestically in Australia.

### ABOUT US



RFC Ambrian prides itself on identifying and growing key allies by deeply understanding industrial technologies and how their application will drive value in the market. Coupled with an impressive network of existing relationships, RFC Ambrian is well placed to support and grow technologies in the Basic Industries.

To learn more about our hands-on assistance and commercialisation success, [contact the team](#).

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