

CASE:

Ozius: Managing environmental risks with advanced technology

The Innovation

Ozius has developed new solutions to remotely sense and analyse natural and built environments. Combining environmental science, remote sensing technology and artificial intelligence, the Brisbane-based start-up helps its customers to identify and manage environmental risks at mine sites. Analytics based on past and present data assist to predict future trends and to specify the need for interventions. Ozius aims to provide more accurate information for better decision-making processes that go beyond meeting regulatory requirements.

The diffusion and adoption process

What are the factors driving the adoption?

A number of factors and dynamics on organisational and industry level have been favourable for the diffusion and adoption of Ozius' technology:



Mining companies driven by regulatory, operational, and social demands:

Innovative technology assists mining operations with addressing all of these demands more effectively while limiting costs.



Remote and large-scale operations:

The new technology assists with reducing the need to physically inspect remote areas on a large scale while providing more advanced insights into environmental conditions.



Striving for being preventive rather than reactive:

Advanced analysis of historic and present data involving artificial intelligence can help to take action before a larger problem occurs.



Increasing awareness of social issues and pressure from regulators and community groups:

Technology may help to demonstrate that issues are being addressed and assist with communication and reporting.



“Instead of looking at one or two points on the ground, we can fill the gaps in time and space. We can see everywhere; and we can go back in time. We can tell you what is going on every square metre of your operations for the last 40 or 50 years and how the environment has functioned.”
Ben Starkey, Ozius Business Manager

What are the barriers to diffusion and adoption? And how is Ozius managing these bottlenecks?

While some factors have been favourable for the diffusion of Ozius' solution, the company is facing challenges and bottlenecks. Different approaches and strategies assist with addressing these challenges.

Challenge

Regulatory requirements may still demand mining companies to fulfil traditional on-site measurement activities to generate statutory reports; even though the new technology may meet or exceed these requirements.

Strategy:

✔ Demonstrating additional benefits of the new technology that go beyond mere regulatory requirements to justify the adoption



Educating stakeholders from government, regulators, and mining companies about the reliability and capability of the new technology

Challenge

Resource constraints of a start-up trying to enter the mining industry.

Strategy:



Extensive networking attempts engaging in exchange with industry insiders in order to diffuse knowledge about the technology and learn about industry demands



Participation in start-up accelerator to increase recognition and legitimacy across the industry



Addressing key individuals within mining firms who may be able to become a champion and advocate for the innovation internally

Challenge

Resistance from incumbent firms that offer traditional environmental engineering services to mining operations to meet regulatory requirements.

Strategy:



Demonstrating benefits of new technology with the help of pilot projects



Communicating with customers to further explore what the existing, 'traditional' approach is lacking and what can be done to fill these gaps



Attempting to facilitate a paradigm shift from relying on 'traditional' on-site measurements to using advanced analytics with additional benefits

"I think where regulators can certainly assist is to be a bit more dynamic in change processes. The science behind what we are doing is actually used by the regulator as an auditing tool. It is just on a different scale, not specifically for that problem. So the science behind it is tried and tested."
Ben Starkey, Ozius Business Manager

"We have put a lot of effort into trying to just be respected in the industry. We had to build a network; we had to work really hard at convincing people to let us have a go and do a pilot. The turning point for us was being involved in a start-up accelerator – that gave us a presence and some recognition."
Ben Starkey, Ozius Business Manager

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