

ADVANCED SERVICES CASE STUDY

ORICA MINING SERVICES



IMPROVING 'BLASTING OUTCOMES' FOR CUSTOMERS

USING CUSTOMER BLAST DATA TO SIMULATE FUTURE BLASTS

INCREASING CUSTOMER PRODUCTIVITY AND REDUCING COSTS

Australian company Orca Mining Services provides explosives that are used in roughly 1,500 blasts per day in the mining, quarrying, oil and gas and construction industries. Orca set out to develop a capability to 'improve blasting outcomes' for customers.

It focused on the key areas where it could deliver value, namely increasing customer productivity and reducing the overall cost of drill and blast operations.

Orica digitized an array of data about past blasts, both from its own records and those supplied by customers, covering factors such as the objectives of the blast, conditions of equipment at the site, the exact techniques and products used in the blast, and the outcome of the blast. It used that data to build a range of online tools for pre-blast modelling and post-blast measurement, packaged in an online system called Blast IQ.

Customers use the system to simulate their blasts, inputting geological data and details of the outcome they want from the blast. Blast IQ simulates the blast, using models created from the digitised blast histories, so that the customer's engineers can design a blast that produces rock of the desired size for loading, hauling and grinding (which together account for most of a mine's operational costs), which improves downstream productivity and reduces wastage (HBR 2018). Blasts can also be tailored to utilise energy more efficiently, which again helps to reduce costs for customers. The technology also calculates the optimum explosives charge to achieve the desired outcome (Oricaminingservices.com)

Blast data is shared between personnel anywhere on site, which helps with efficiency, and data on the environmental impact of every blast is recorded so that users can monitor and evidence blasting compliance.

Orica is continuing to develop propositions to increase the value customers can get from its



capability, and is now codifying the decision logic of the most experienced blasting managers, through predictive modelling, to serve up personalized recommendations on demand (HBR 2018). As more and more customers use Blast IQ and input more of their own data, the company will build a large enough dataset to develop more powerful machine learning models.

Sources

Harvard Business Review (HBR 2018) <https://hbr.org/2018/05/how-advanced-analytics-is-changing-b2b-selling>

Blast IQ video <https://www.youtube.com/watch?v=fKkH1NGvS2k>

Blast IQ website http://www.oricaminingservices.com/au/en/section/products_and_services/blast_iq_system