



DINGO INNOVATION: NEW DEVELOPMENTS IN PREDICTIVE ANALYTICS

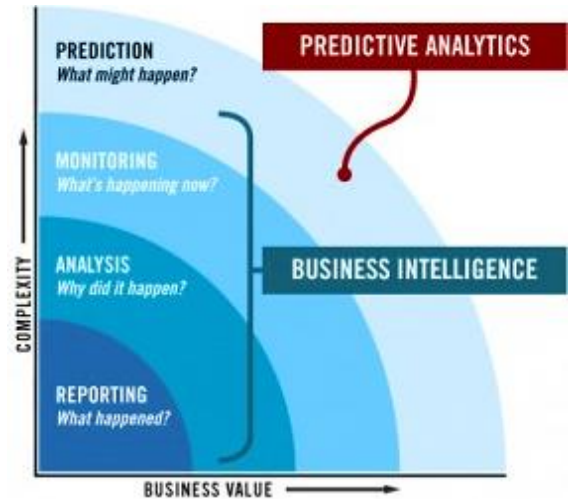
Starting January 2019 Dingo will introduce practical machine learning models that are built using real customer data and targeted at specific industry problems.

ANOMALY DETECTION – January 2019

Dingo has spent the last 12 months developing and refining Machine Learning models, in collaboration with [Queensland University of Technology](#), to detect anomalies in condition monitoring data in Dingo's OEM independent global asset health database. These models highlight anomalous behavior in the data and will be available to users of Trakka®. As more quality component failure data is added to the data set, the accuracy of the anomaly detection models will improve.

By detecting anomalies automatically, it will allow our users to:

- ✓ Detect developing issues well before traditional engineering limits are reached
- ✓ Find slight changes in data trends, not discernable to a human analyst
- ✓ Act faster to correct abnormalities and restore equipment to normal operating condition



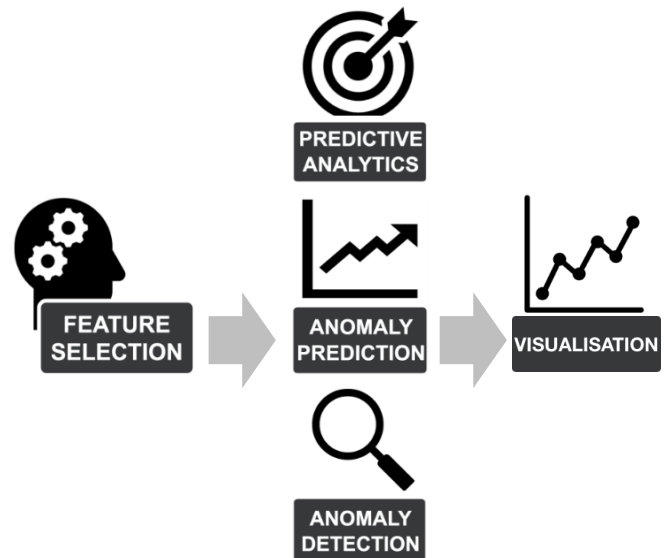
REMAINING USEFUL LIFE– June 2019

Dingo is also developing sophisticated predictive analytics models aimed at predicting the remaining useful life of assets. Trakka users will have access to valuable analytical information about the Probability of Failure and Degradation Indexes.

These models are built by Dingo subject matter experts for common asset specific failure modes, e.g. Engine piston ring wear. They are designed with scalability in mind and can be easily retrained to work with a broad range of asset / failure mode problems experienced by real mining operations, making them highly reusable without further development.

By creating an accurate Remaining Useful Life (RUL) model, it will allow our users to:

- ✓ More confidently plan component replacements
- ✓ Optimize repair costs when components are nearing end of life
- ✓ Improve related processes such as budgeting and supply chain logistics and management



IMPROVE SAFETY

REDUCE COSTS

EXTEND LIFE

INCREASE AVAILABILITY

