

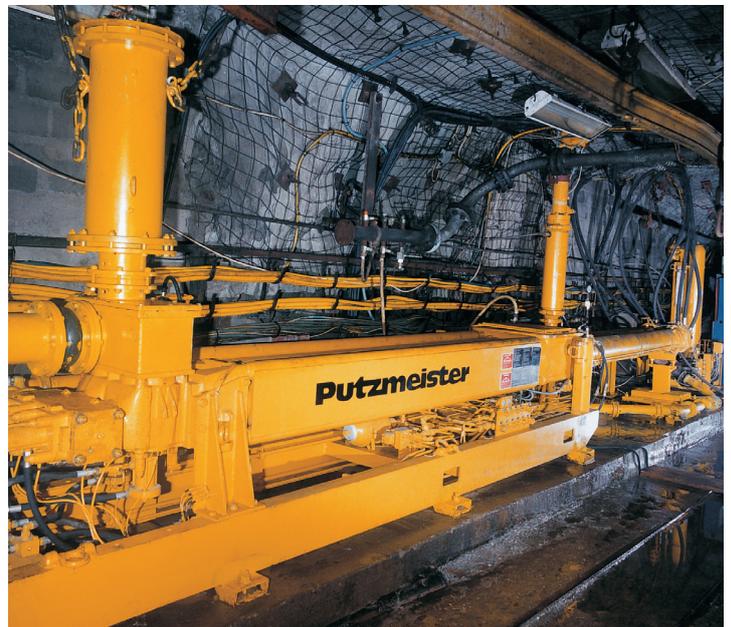
## The Reserve Bank of Australia weighs in on the mining CAPEX/OPEX debate!

In its March 2018 report, the RBA estimated around \$100 billion will be spent sustaining capex for the three main commodities (coal, iron ore and liquefied natural gas) over the next five years. Sustaining capex in the coal and iron ore sectors is expected to increase from the 2015/2016 low level in coming years as assets age and replacement mine activity rises, particularly from around 2020.

Investment in mining itself is expected to be relatively subdued over the next few years, because firms have limited appetite for further expansion. Instead, sustaining capex is likely to take on more importance as firms look to maintain their newly expanded productive capacity of existing mines and asset in line with increasing prices of commodity sales.

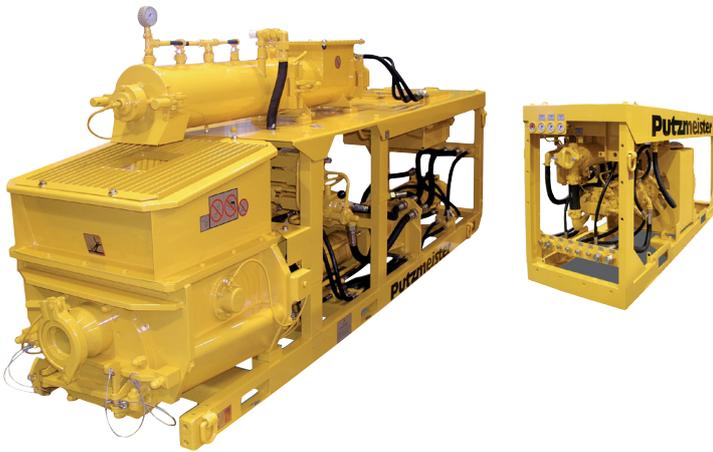
A catch-up in spending is expected to provide a modest boost to mining sector capex over the next year or so. Asset-sustaining capex across the two commodities is expected to be similar in magnitude and increase gradually over coming years as assets reach a more mature stage of their life-cycle.

**In short, the RBA is saying mines will be spend more on new equipment and assets to maximise production on existing mines as old equipment reaches end of useable life and depreciation value.**



Considering the RBA's bullish view for mining capex in the foreseeable future, it's reasonable to presume we'll enter another era of decision making uncertainty in the trade-off between capex and opex. This is impacted as key engineering, finance and executive stakeholders grapple with opex ambiguity. Even though opex is small in the first year in the presence of capex, subsequent year on year accuracy of opex predictions (and its impact) becomes increasingly less precise. That desired precision and accuracy is further hampered by a swag of variables requiring deep examination and collaboration such as:

- Financial metrics
- Life of mine
- Current profitability
- Proposed cash flow and
- Departmental influences



**Where** to spend money is a constant tug of war but it's not the only battle being fought.

**How** to spend the money can often be just as contentious.

CFO's must consider multiple factors to determine expenditures, and every ensuing year brings with it a host of changes and market conditions that impact those decisions.

The hazardous and inherent elements in these scenarios include:

- the decision maker attraction toward the path of least resistance; and
- a lean towards packaged machinery and engineering solutions that present the short-term cost benefits of lower installation expenditure.

The complexity of the landscape facing decision makers does not finish there!

## Consideration must also be given to interdepartmental influences such as:

- Procurement
- Engineering
- Management
- Maintenance
- Operations

Finally, add in the cumulative effect of the growing awareness of the profound connection between how costs of acquisitions are displayed and interpreted, and the impact that this will have (and is now having) on mine closure and rehabilitation, and we start to appreciate the absolute minefield (pardon the pun) that senior management and key stakeholders must operate in.

Tailings management represents a significant part of this scenario. With tailings dams among some of the largest man-made constructions in the world - rehabilitation and closure costs form a very significant material value of any mining company.

With costs of mine closures and rehabilitation escalating in to the hundreds of millions (to billions of dollars) - getting the tailings management formula right is essential. Get it wrong and unexpected crippling and unforeseen rehabilitation costs can wipe billions from a public mining company's market capitalisation.

## Summary

This conversation, which at first appears to be complicated and convoluted, can be dramatically simplified when a "precise" approach to critical and pivotal discussions with key stakeholders is employed.

Balancing cost vs. robustness and longevity may require innovative solutions which are not pre-engineered or built via a software model or program, thereby driving the solution toward customisation and uniqueness.

## Conclusion

Each case is different as each mine and application have different levels of priority and focus driven by all the variables as mentioned above. Working through these in a precise way allows us to locate the key drivers for each customer and use this knowledge to create the most appropriate strategy underpinned by the most suitable componentry.

Putzmeister has one of the longest histories of pumping solutions for tailings management, and an accumulated knowledge base of international experts in every country on the globe.

The Putzmeister “precision” approach is not a throw away term. We work with firms – contributing to and collaborating with, through our knowledge bank and extensive network of experts to tailor definitive solutions for each mine’s needs.

We get your problem... we understand what you are facing... and we can provide solutions rather than just advice and information.

Our solutions are for the long term – total cost of ownership minimisation as well as the shorter term opex trades offs (which may seem initially attractive) but with precise and skilled contributions from Putzmeister. We prescribe a balanced approach to substantially minimise variables and bring transparency to scenarios that can otherwise appear fraught with vulnerabilities.



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