

Custom-built screen solutions for tonnage and lowest TCO

Customised screening and feeding solutions are developed by Kwatani's in-house team of experienced mechanical engineers and metallurgists. This results in designs that deliver the optimal processing performance and tonnage at the lowest total cost of ownership (TCO).

When a South African diamond operation needed to improve the performance of its degrit screens, Kwatani customised a bespoke solution that doubled the feed-rate.

The customer was operating a number of multi-slope screens to dewater product between 0.8 mm and 5.0 mm in size, before it was treated by dense medium separation (DMS). However, the screens were causing a severe carry-over of water onto the conveyor belt to the DMS.

"The feed-rate on each screen was being limited to about 250 t/h," says Kwatani CEO Kim Schoepflin. "We tackled this by designing and manufacturing a customised multi-slope screening machine to fit the customer's existing footprint."

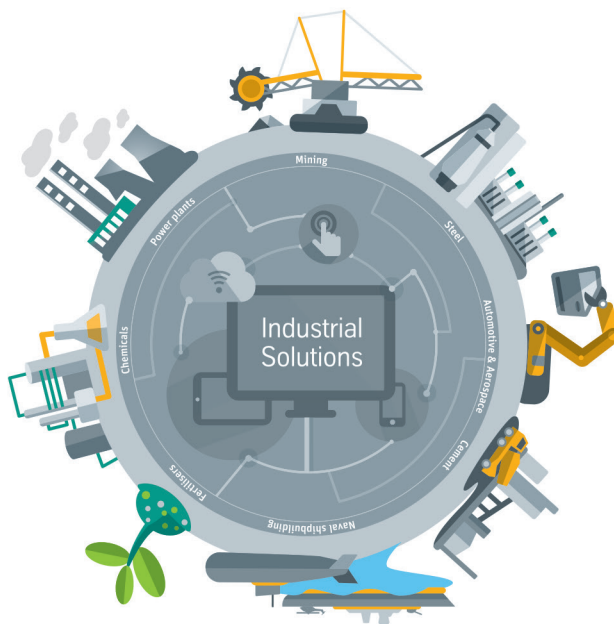
Schoepflin says Kwatani's replacement was able to double the feed-rate to about 500 t/h, with minimal water carry-over. As a result of the success of this unit, the customer requested that Kwatani replace the whole bank of screens.

In another contract, a customer asked for assistance with underperforming screens that could not deliver the original design parameters and also wanted to improve the tonnage throughput by 17%. "We conducted a careful evaluation in collaboration with the customer, and came up with an innovative and economical solution," Schoepflin says. "Simply replacing the existing screens with Kwatani's new larger screens would have been costly and time-consuming, so we decided instead to replace the screen's existing gearboxes."

The replacement gearboxes delivered greater vibration, but without exceeding the output torque that the existing drive motors could provide. "Drawing from our portfolio of locally designed and manufactured exciter gearboxes, we were able to implement this solution very quickly," she says. "The two new exciter gearboxes were delivered to site and were in operation within two weeks – successfully and immediately increasing the screen's throughput."

The benefits to the customer did not stop there, says Schoepflin. The newly optimised operating parameters meant that the material bed depth was lower, so the drive motors drew a lower amperage, reducing the cost of power consumed.

"Our customised screening and feeding solutions – developed by our in-house team of experienced mechanical engineers and metallurgists – are based on consultation with each customer," she concludes. "The result is a design that delivers the optimal processing performance and tonnage at the lowest cost of ownership." □



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