



BULK

Qube Bulk provides customers with the full range of bulk material handling services including road/rail transport, stockpile management and bulk/rotabox shiplading.

Qube Bulk currently handles more than 85 million tonnes per annum of bulk products and, with our continued involvement in a number of bulk commodity handling projects, these volumes are expected to increase.

We apply a green field approach to all aspects of bulk logistics, utilising management expertise of Qube Bulk and other specialists to devise the most efficient, timely and cost-effective solution for our customers' bulk handling needs.

Qube Bulk capabilities include mine, road, rail, storage, port and ship services. Qube Bulk handles various bulk ores, concentrates, mineral sands, salt, coal and dangerous goods. We own and operate strategic infrastructure throughout the supply chain.

Qube Bulk is independent, experienced and actively investing in bulk export chain projects. This combination provides customers with a low risk solution. Independence is particularly useful in open access facilities where there are multiple users. Where

possible, we look to invest in bulk material handling systems and port facilities.

Our customers benefit directly from our extensive experience in project development, supply

chain management, port operations, and the design, development and operation of infrastructure. We work with exporters, rail operators and port owners, and we understand the complex interaction between the various stakeholders.

With substantial experience in the operation of large-scale, bulk export facilities and bulk material supply chains, we offer significant value to our project partners.



ROTABOX™ CONTAINERISED BULK SUPPLY CHAIN SOLUTION

Qube's pioneering development of a containerised bulk supply chain solution has revolutionised the way bulk ores and concentrates are transported and loaded.

Rotabox™, a system of rotating container tippers with integrated lid lifters, delivers productivity gains, logistical flexibility and environmental advantages.

As bulk haulage operators and stevedores, we not only build the gear but we use it ourselves, day in, day out. We know exactly how it operates and this has driven continuous improvements in Rotabox™ design and functionality.

Innovative - Low Capital Investment - Environmental Benefits

Now in its fifth generation, improved Rotabox™ technology delivers on many levels:

- Combines the use of a rotating frame (designed and built by Qube) and purpose designed bulk containers with lockable lids to ensure zero fugitive dust emissions;
- Enables ores and concentrates to be loaded into sealed containers, transported to port, stored securely and ultimately rotated into a ship's hold;
- Alleviates the need for expensive bulk storage sheds, conveyors and ship loaders and requires no other fixed infrastructure other than a berth;
- Enables a scalable stockpile capacity and footprint at the port;
- Sealed containers reduce spillage and product losses;
- Container lids are roved and replaced automatically before the container leaves the hold, ensuring fugitive dust is trapped and any carry back of product into the environment is eliminated;
- Containers are easily transferable between road and rail transport services;
- Qube's integrated logistics expertise ensures a seamless transfer of product from "pit to port", with up to the minute visibility of key supply chain information.

Benefits gained from Qube's expertise in designing and operating complex containerised bulk supply chains include:

- Shore cranes provide good loading rates while ship's cranes provide redundancy;
- Fewer supply chain interfaces reduces costly double handling;
- Single point of accountability leads to clearer communications and fewer unplanned outcomes.

Key Contacts:

Todd Emmert
Director Bulk
P: +61 8 6141 1904
E: Todd.Emmert@qube.com.au
www.qube.com.au/bulk