

## Problem-solving with mobile solutions from Kilic Engineering



*“We have only eleven metres in which to collect grain from trucks and deliver it over the edge of the wharf to an ocean-going vessel.”*

This was the simple brief from Kilic Engineering’s (KE’s) customer in Vietnam which was on the hunt for a versatile machine that could load agricultural products at its busy river port facility. Having worked with KE before and having followed the development of the KE BunkerSweeper, Baria Serece was confident KE could solve the problem.

As with many problems, the statement as to limited space was the tip of the iceberg. As the KE team delved deeper into the customer operation, a comprehensive understanding of the materials being handled, in load methods, vehicle movements, trade weight requirements and desired load rates was developed.

A machine that was able to take corn, wheat and soybean meal from trucks, ship grabs and front end loaders was the result with the target vessel being loaded at 600tph (metric tonnes per hour).

“This was always going to be a problem that KE could solve,” said Jason Kilic, KE’s Managing Director.

“Me and the team have been delivering material handling technology to the agricultural since the company was started by Tony Kilic in 1975. It has been thoroughly rewarding to find that our knowhow can add value in overseas markets in addition to here in Australia.

“It was an exciting dynamic as we challenged the Baria Serece team, presented ideas, debated the application and ultimately designed a solution.”

### MOBILITY IS KEY

The machine — a drive-over hopper — was designed, manufactured, fully assembled and tested at the KE facility in Australia before it was packed into two forty-foot containers and shipped.

The drive-over hopper, with modified conveyor, feeds the client’s existing system to load vessels. There is also a second option for the client to use a front-end loader or grabs to transfer product into a hopper. This hopper feeds a bucket elevator, onto a swing conveyor through a dust-suppression chute and into the vessel.



The bonus of both options is that they provide a mobile solution.

“They are self propelled, so the whole machine moves along the wharf,” Kilic said. “They are designed for the driver to dump and go. The tonnage rate is way out there: it’s designed for 600tph which equates to, with all your truck movements, about 450tph. That equates to unloading three B-doubles in 16 minutes.

### OVERCOMING LOGISTICAL HURDLES

“We worked hard in Vietnam to support the local team in unloading and re-assembling the machine, having it all together and ready for on-site testing within a (long) day,” said Kilic.

“I’d love to say that everything went smoothly and according to plan. The truth is, there were a few things that went wrong, and this kept KE on its toes as we leveraged our supply chain for local support, manufactured and air-freighted a couple of replacement parts, made follow up trips and collaborated with our customer’s team to tweak and optimize the machine’s performance.”

Ultimately Baria Serece have a machine that does everything asked of it, including effectively dealing with the tight traffic conditions around the wharf area. Just as importantly, KE and Baria Serece maintain a strong relationship and continue to work together.

### SUCCESS STORY

“Clearly we are globally competitive. Our abilities and solutions are tested by customers like Baria Serece against competitive bids from around the world, so our success gives us confidence to continue to develop offerings that galvanize change in the Vietnamese market — it’s an exciting time!” says Kilic.

Winning business, designing a solution and manufacturing it from KE’s Australian manufacturing facility is just part of this great story. KE’s experience in working with a global supply chain has enabled it to tailor equipment to ensure there are local resources to leverage to assist KE’s overseas customers with any issues. More importantly, KE has quickly adapted to deliver customer support through a variety of channels.

“Through the times that KE is not in country, we are open for contact across multiple messaging channels across which we provide everything from old fashioned



operation and maintenance manuals to ‘how to’ videos and animations. On the rare occasion that something fails, we ship parts from our factory, source from an in-country resource or send detailed drawings to effect modifications.”

The KE team are enjoying the challenges new markets are throwing at them and thriving on delivering novel, hard-working equipment solutions that enhance the safety, productivity and reliability of KE customer operations.

### ORIGINS OF THE DRIVE-OVER HOPPER DESIGN

The origins of the design of the original BunkerStacker3000 go back to the year 1999, when Kilic built the machines predominantly for the old South Australian CBH, now Viterra. However, in 2013, the company engaged in a major refresh of the design.

“We decided to go back to the drawing board with a clean canvas. That was after listening to a lot of operators and truck drivers. We spoke to people on the ground about what they liked and didn’t like and would like to see. We challenged everything, we picked the best bits and put together a design that tried to tick all the boxes.”

### ABOUT KILIC ENGINEERING

Kilic Engineering is a diverse mechanical engineering company based in Adelaide, South Australia, owned and operated by the Kilic family since 1973. It has a long and proud history of excellence in designing, manufacturing and installing a very wide range of conveyors, material handling systems, structures and associated equipment. KE has extensive material

handling expertise across bulk commodities and industrial assembly lines, and it exports its solutions internationally.

The company is grateful to and pleased to also acknowledge the contributions of its local suppliers including Tristar Electrical, BL Shipway, CavPower and SEW Eurodrive.

Key products for KE include:

- ❖ **‘Super Roo’ Bunker Stacker:** the BunkerStacker 3750 is the latest generation KE self-propelled drive over hopper that delivers grain at 750tph on the belt, reducing truck wait times and lowering customer operating costs. It is self propelled and controlled from the operator platform at the underbelly (UBB) belt conveyor. Three modules lock together so it can be driven and operated as a single unit. The fully gridded six metre drive over hopper allows for ‘dump and go’.
- ❖ **‘Big Roo’ Bunker Stacker:** with this unit, tipper trucks dump cargo and go. It has a drive-over design, with no reverse dump. Wheat moves on the belt at 600 tonnes per hour. The adjustable boom height is up to 8m. The Big Roo is a self-propelled, drivable solution. A single operator is needed for the entire system. It has a robust mechanical and electrical design, and a straightforward maintenance programme.
- ❖ **BunkerSweeper Cargo Reclaim Solution:** in this system, the KE BunkerSweeper lifts grain, the auger system drives into product, and there is a bucket elevator and swing conveyor. The KE hopper fits to the stacker, and has a hydraulic flow valve and adjustable boom height. The combined equipment offers an outloading capacity of 500tph.