

**Balance cranes have come a long way with more and more operators becoming aware of this new type of cargo handling equipment for their bulk operations. World Port Development went out to discover.**

**T**hey look very much out of place. That is often the first impression of an Equilibrium Crane (or balance crane) in action. Being used to 'straightforward' design of bulk loading and un-loading equipment, the huge 'block' of counterweight on the back of the crane makes an awkward sight. But seeing the crane in operation one is made aware of the benefits of the "big hump on the back" and the design starts to make more sense. Due to their build simplicity balance cranes offer a much longer lifespan than other cargo handling equipment. The crane has low energy consumption and maintenance costs, is easy to maintain and is user-friendly. Often such a crane is supplied with a standard Caterpillar engine (offering a global service network), CAN Bus controlled hydraulics and controls for ease of maintenance, diagnostics and maximum availability. Also electric motors are installed as the prime power source, thus eliminating exhaust emissions and reducing noise pollution. One company that has recently discovered the benefits of a balance crane is Antwerp-based Schelde-Natie. Schelde-Natie has grown to become the biggest Belgian company handling approximately 4 million tonnes of grains, derivatives, cocoa broad beans and vegetable oils annually. Schelde-Natie is a member of the Schutter Group, a Dutch controlled concern with plants operating all over the world. For over 30 years, Schelde-Natie has been discharging seeds at the Cargill Plant in Antwerp. In co-operation with Cargill, Schelde-Natie realised a new project where the goal was to discharge 575.000 tonnes of colza a year. To achieve this objective, a new Equilibrium Crane with grab replaced the old grain elevators for off-loading vessels and a "bulk flow" for discharging trains.

### Benefits abound

US-based Cargill plants in Houston (Texas) and Savage (Minnesota) are already using balance cranes provided by US company E-Crane and therefore it was no surprise that Schelde-Natie opted for this manufacturer as the choice for their crane. "The main benefits that the E-Crane offers are the enormous savings on energy and maintenance costs," says Frank van Raemdonck, Manager at Schelde-Natie. "Moreover the crane generates far less noise than the former grain elevators. The lifespan is another big



plus when compared with most of the competition. Even though our crane-operator wasn't used to working with an equilibrium crane with rigid boom, he could quickly and easily adjust to it," van Raemdonck added. The Dutch office of E-Crane was mainly involved in the pre-study, engineering and implementation of the new crane. "Even adjustments after the design was completed could be implemented on our demand without any problem. We have been involved in detail in the process, at every step of the way: the construction, the assembly, the mounting," explains van Raemdonck. E-Crane has supplied several E-Cranes in the Brazilian and Argentine market, including 2 cranes for material handling for Acindar, San Nicolas, Argentina. "It appears that barge shipping of iron ore from the Brazil interior to steel producers in Argentina is becoming feasible. There seem to be plans to ship iron ore to the ports of Rosario or Buenos Aires to be loaded from barges onto larger ships for export as well," said Jerry Hoffmann, Sales Manager, E-Crane. The agricultural sector in Argentina also offers opportunities for balance cranes. "Several clients in Argentina (Rosario Area) are discussing potential E-Crane applications to offload grains from barges originating from

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the interior for processing or transhipment as well as offloading fertilizer from ships onto barges for the return trip," Hoffmann added. Another benefit of a balance crane is the easy and quick assembly of the crane. According to E-Crane their latest project in Bangladesh was completed within 10 days. After that, on-site testing and tuning started by extensively testing the crane for two days with necessary adjustments made to the electrical and hydraulic system to ensure peak performance. To guarantee that the crane was commissioned in the best way possible and to make sure that the crane was going to be correctly maintained the operators and on-site mechanics participated in an intensive 3-day training course. The crane, installed at Monem Sugar Refinery Ltd (MSRL) in Dhaka, is capable of delivering 300,000 tonnes of refined sugar annually. This highly purified sugar can be used in food processing industries, pharmaceutical industries, bakeries and confectionery units, as well as for household applications. MSRL is part of the Abdul Monem Group, which is a leading roads and highways construction company, bottler of the famous Coca-Cola and owner of "Igloo" ice cream. **WPD**