

## Customized mechanical CSUs from Bedeschi to suit all requirements

Bedeschi has great expertise in the design, engineering and manufacture of dry bulk handling equipment (conveying systems, circular and longitudinal storage, vertical wall blending storage, eco-hoppers, crushers) and everything related to port logistics, on-shore and off-shore (transshipment, shiploaders, ship-unloaders). Thanks to its long experience and expertise in the handling sector, the

Italian company is able to guarantee eco-friendly solutions for any plant capacity, meeting the most stringent environmental and safety standards worldwide.

Bedeschi offers a range of state-of-the-art mechanical continuous ship-unloaders (CSUs) for grain and oilseeds, derivatives and non-free-flowing materials ranging in capacity from 300tph (tonnes per hour) to 15,00tph. Its systems are able to operate

on rails or rubber tyres, as well as fixed on any quay or jetty, unloading ships of up to 150,000dwt in size.

Every machine is tailor-made for each specific project — varying in terms of the required performances, erection/manufacturing necessities, ship dimensions, and always according to the most stringent environmental standards. In terms of optimization of costs and time, Bedeschi

*Bedeschi ship-unloader, Cereal Docks (Marghera, Italy).*





*The Bedeschi CSU at the Cereal Docks in Marghera, Italy, handles mainly soya beans for a local oil extraction facility.*

bases its unloading system on the proven chain elevator technology, which grants lower power consumption, gentle handling of the material, and simple and inexpensive maintenance.

Bedeschi has considerable experience in supplying machines either in sections, ready to be assembled at site, or fully assembled machines that are ready to operate. When the latter option is selected, it eliminates the need for a dedicated erection area on site, minimizes assembly and commissioning time and ensures that the amount of time the quay is unavailable for other users is minimized.

Among interesting projects recently secured by Bedeschi for CSUs are Cereal Docks (Marghera, Italy) and Ashdod Port (Israel).

The first is an 800tph shiploader able to handle ships up to Panamax size. The terminal serves an oil extraction facility, so the main material is soya beans. Due to the

high abrasiveness of the material, all parts in contact with the product being handled have components that are highly resistant to wear. The chain elevator is equipped with a hydraulic kick-in kick-out system to optimize accessibility to any part of the hold, increasing unloading efficiency. The same unloader is able to reload byproducts of the oil extraction process on barges at a capacity of 400tph. This machine was delivered fully assembled to the quay as the room available and the refurbishment of the site did not allow for an on-site erection. With this solution, the civil works and the construction of the equipment were handled simultaneously, reducing the execution of the whole project to just one year.

The second unloader will be installed at Ashdod Port in Israel. With a rated capacity of 1,200tph and a layout designed for ships up to Post Panamax size, this machine will be dedicated to unloading

grains and non-free-flowing materials like DDGS (dried distillers grains with solubles) and meals.

To ensure operability with non-free-flowing materials, the CSU is equipped with a rotating cutter able to effectively de-compact any kind of meal. Thanks to the dimensions of this device, most of the product can be unloaded without the assistance of auxiliary Bobcats/wheeled loaders, increasing safety and reducing unloading time.

The system will offload material to trucks using a twin track dust-free loading facility with a dedicated control cabin, or to a vacuum belt conveyor system also supplied by Bedeschi, connecting the quay to the storage area.

In this case the space available on site means that it will be possible to assemble the CSU on site, and this will be done by local crews under the supervision of Bedeschi personnel.