

## TELESTACK SUCCESS STORIES : CASE STUDY

***“Telestack’s innovative mobile ship-loaders form integral part of the largest transshipment terminals in Ukraine”***

**Country / Region:** Ukraine

**End User:** Nibulon Agricultural Limited Liability Company

**Location of Site:** Ukraine - 4 x Different sites

**Product:** TS 227 Rail Mounted Parallel Travel / Radial Telescopic Shiploader

**Application:** Mobile telescopic conveyor ship-loading from Over-head slatted conveyor

**Material Type:** Grain

**Max Lump Size:** 0 - 40mm

**Tonnage:** Up to 250 TPH @ 0.7 t/m<sup>3</sup>



### ***What is the situation now?***

Telestack Limited have recently installed the first of four innovative and unique grain handling mobile ship-loaders to form an integral part of the largest transshipment terminal in Ukraine. On a single mobile chassis each unit consists of the key functions including, rail mounted parallel travel, radial slewing, luffing and telescopic features. Telestack Limited continue to excel in providing customised bulk material handling solutions to its wide customer base. The company offers the Ship and Barge loading/unloading industry the most innovative and customised mobile conveying systems on the world market today. Telestack's success derives from achieving sustainable value for the client; using mobile bulk handling technology to enhance operational efficiency, minimise environmental impact and maximise product flexibility, serviceability and availability.

### ***Unrivalled Site Mobility and Flexibility***

The TS 227 Parallel / Radial Telescopic conveyors are loading 3000 - 5000 dwt barges/vessels up to 250TPH fed from a slatted conveyor installed on site. The Ship-loader is fed from an overhead slatted conveyor system with specific discharge points. This system is fed directly from the grain silos onto the overhead conveyor and directed to the selected discharge chutes.



***Figure One - TS 227 Rail Mounted Mobile Ship-loader fed directly from Overhead slatted Conveyor to Barge***

The Ship-loader is installed with electric driven rail bogie units, which are used to move the unit in parallel mode to the pre-defined transfer points from the slatted conveyor. The entire unit moves smoothly down the quayside to each specific discharge point, which is controlled from the central control panel (Optional remote control) and ensures loading change times are minimised to **enhance production rates**. As the unit is installed on the rails, it eliminates the need for further operators to move the ship-loader, with only one person required to operate the machinery during the entire loading process, with all control / monitoring signals integrated into the fully diagnostic control panel within the Ship-loader.

The most distinctive feature of this unit is the ability to move from **parallel travel to radial travel** at the pre-defined discharge points which are aligned at the centre of each hatch. This is achieved by the hydraulic jacking legs which lift the machine from the front rail (closest to the barge/vessel) and lower the unit to the hydraulic driven radial wheels. This feature allows for **complete radial trimming** of the hatch and specific area of the barge / vessel. The radial feature also enhances production rates, as it allows the operator to load a larger area of the barge / vessel from **the single feed-in point**, which minimises the required movements and ensures the barge/vessel can be easily balanced with an equal load during the loading process. Once the loading sequence is complete, the machine is lifted (via the hydraulic jacking legs) back onto the rail and moved parallel to the next loading point. This method ensures for an **efficient loading cycle** while trimming the entire hatch of the barge/vessel.



*Figure Two - Mobile Ship-loader on rails moving parallel down quayside to next discharge point*

The telescopic feature also adds further **operational flexibility** during the loading cycle, as it allows the operator to load (In conjunction with the radial facility) the complete area of each hatch from the single feed-in point. This process is replicated over the four hatches to ensure that the barge is loaded evenly throughout. The combination of these features ensures the operator has the maximum flexibility / mobility for an efficient and effective loading cycle.



**Figure Three - Mobile Ship-loader loading barges directly from grain silos**

### ***Integrated Dust Suppression and Extraction Techniques***

A major consideration when handling grain materials is the dust emitted when the material is aggrivated, this was a key feature identified by the customer. Telestack custom designed **unique dust suppression / extraction features** to meet the needs of the application. This included the design of the hydraulically raising transfer chute which connects to the slatted overhead conveyor which eliminates dust emissions and spillage at the transfer points. This allows the operator to move parallel to each specific discharge point and raise / lower this chute with ease, confident that no material / dust is escaping form the discharge point. This is further enhanced by the completely sealed feed-boot and integrated primary and secondary skirting. The outer conveyor and innovative inner conveyor telescopic dust covers on the Ship-loader ensure that dust is eliminated when material is on the belt. This feature protects the

material from the rain / wind and ensures the quality of material is maintained. This is further enhanced by the 8.5 meter telescopic free fall chute with integrated dust extraction, which **eliminates dust** as the material is fed into the barge/ vessel. The telescopic chute also ensures complete flexibility when the loading cycle begins as it can trim all sections of the vessel with ease. The telescopic chute raises up/down during the loading cycle to reduce the drop height of material and in conjunction with the **built-in dust extraction system**, it eliminates dust emissions.



**Figure Four - Integrated Telescopic Chute and Dust Covers eliminate dust emissions during loading cycle**

Telestack have used all these systems in previous projects i.e. parallel travel, dust suppression / extraction, radial movement, however the incorporation of the options in these units has identified Telestack' drive to **push the barriers of engineering** to succeed and to expand the capabilities of the equipment. The success of this innovative custom engineering is shown in the mobility and operational flexibility of these units to improve and sustain an efficient and affective loading cycle. The combination of the site mobility, flexibility and customization of these units has highlighted Telestack's emphasis to meet the design criteria of all customers within a short lead time.