Grain: a growing market for Cleveland Cascades' loading systems

Cleveland Cascades Ltd, renowned for its global supply of bulk material loading chutes for shiploaders and silo loaders to name a few, has seen an increased demand for grain-loading solutions across its range of products.

Since 1992 the company has been involved in the design and manufacture of loading chutes, with its unique 'Cascade' system being at the forefront of the industry. Loading material through oppositely-inclined cones at low velocity yet high volume results in minimized dust emissions and removes the requirement for expensive dust-extraction systems.

Since becoming private in 2005, the company has experienced rapid growth and has expanded its product range to include the Cascade technology in vehicle loading and conveyor transfer point applications. The company also designs and manufactures conventional loading systems, where dust emissions and product degradation and segregation are not of such high importance.

With over 500 systems operating worldwide with applications in ship, silo, road, rail and tanker loading, the company's key to success is its proven ability to provide a well-engineered solution with professional and committed support.

Cleveland Cascades Ltd approaches every project with the same attention to detail, thorough engineering process and high standards of quality, believing that every system produced is a direct reflection of the company and the best possible form of advertisement to potential new customers.

Grain loading has always been a significant part of Cleveland Cascades, with the company providing its first loading system in 1997. That particular project involved a conveyor transfer point and stockpile loading chute handling 600 tonnes per hour in the UK.

To date, Cleveland attributes almost 10% of its supplied systems to grain loading, a significant share considering the vast array of materials that the company effectively handles. The grain loading systems are across the complete range of products also. This is ship loading, silo/stockpile loading, conveyor transfer points, road vehicle loading and also tanker loading.

Most recently, the company has been involved in grain shiploading in particular, at quantities as high a 2,000tph (tonnes per hour), the highest loading rate of grain that the company has provided.

Using the Cascade Shiploader, recent projects include a project for ISKAR in Derince Port, Turkey. This 18m length application is to load ships at 1,000tph with an annual tonnage just short of 1,000,000 tonnes. Another project for 2014 has recently been cold-commissioned with Telestack for use on one

Fig. 1 – Cleveland Cascades free fall shiploader with carrier-mounted extraction

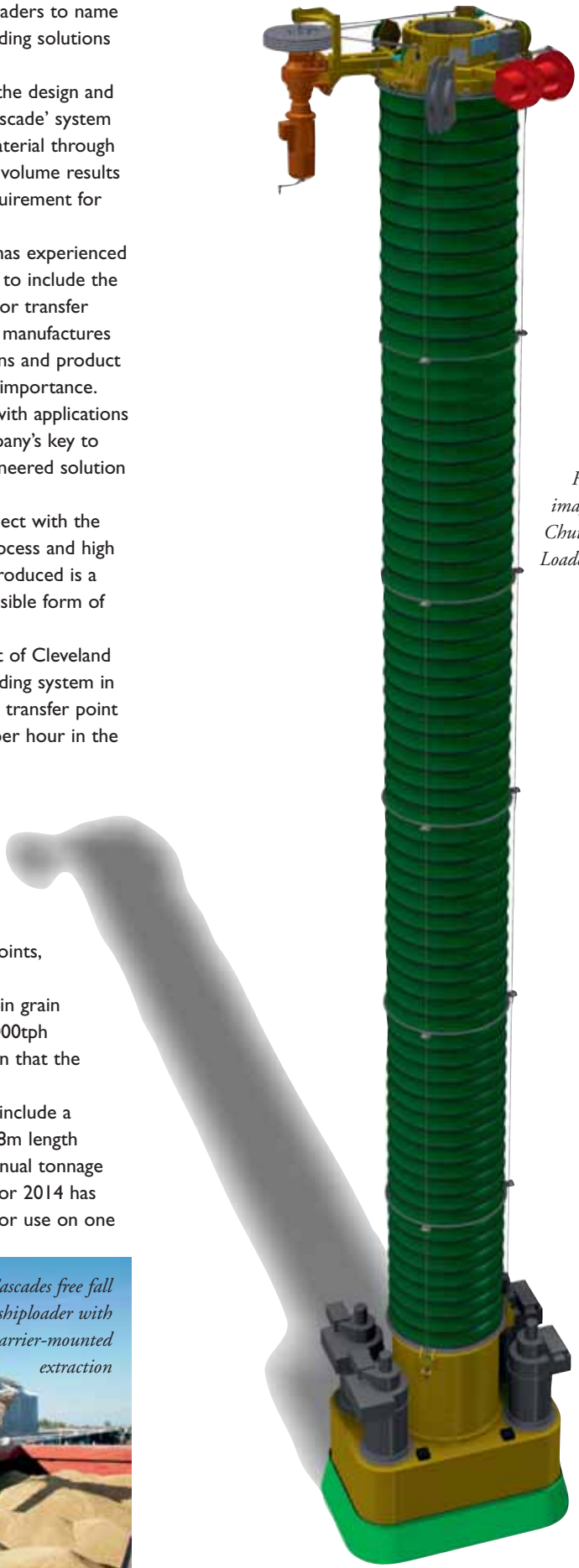

Fig. 2 – Model image of Free Fall Chute for Cargotec Loader in Ukraine.

of its mobile shiploaders. The 16.5m-length system is going into service imminently, and will handle up to 650tph in Ukraine, with an annual tonnage again just short of 1,000,000 tonnes.

The most recent grain-handling application for the company is for three conventional free fall systems, a project for Cargotec for use in Ukraine (see Fig. 2). The systems, handling 2,000tph each, are due for dispatch in September 2014 for installing onto the Cargotec loaders. The chutes are 30 metres in extended length, and also feature four carrier-mounted extraction units per chute for the effective collecting of dust-laden air during loading. Utilizing a double-skirted arrangement which allows for effective loading and precise dust-channelling, the extraction units are specified exactly to the requirements of the project and are placed in the most effective position, at the source of the dust creation, to ensure the most effective levels of dust extraction. Because the units are situated on the carrier outlet of the system, they extend and retract with the chute meaning that the levels of extraction do not waver, which is often the case with fixed units that are positioned away from the systems.

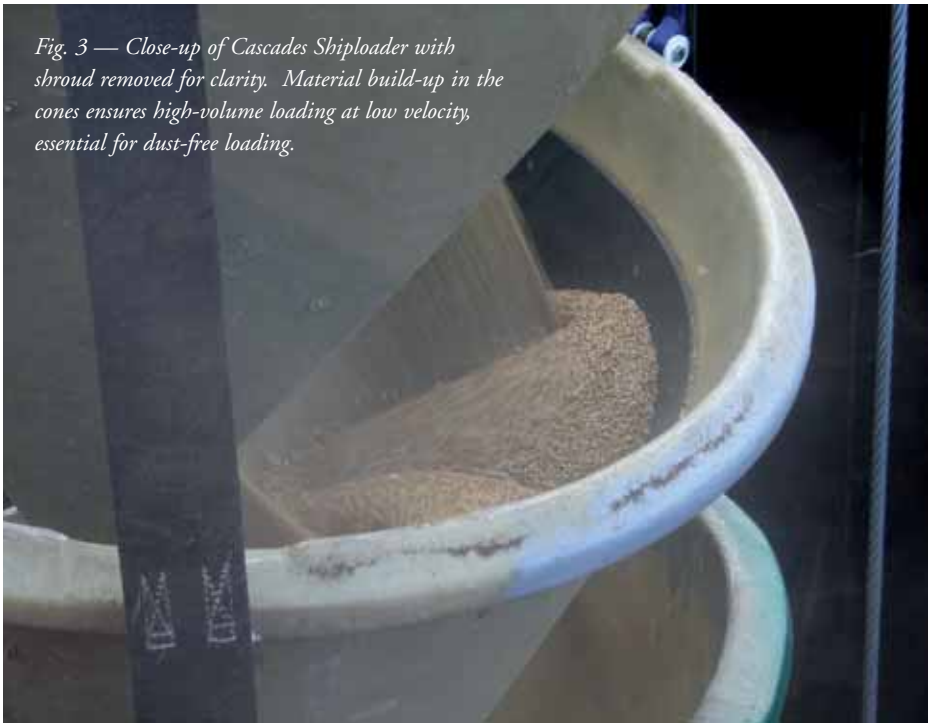

Fig. 3 — Close-up of Cascades Shiploader with shroud removed for clarity. Material build-up in the cones ensures high-volume loading at low velocity, essential for dust-free loading.

Due to the required length, careful consideration needed to be made in regards to the weight of the system. As a result, Cleveland has developed GRP cones with polyethylene liners as opposed to the original steel cones, which in turn provide a huge saving on both weight and cost.

Cleveland Cascades Ltd hopes to remain at the forefront of innovative design within the bulk industry, taking our technology and experience and applying it where possible to solve dust and material degradation issues.

With this ethos of continual improvement and expansion, CCL hopes to further develop itself into and continue to be a well-established figure within the bulk industry.