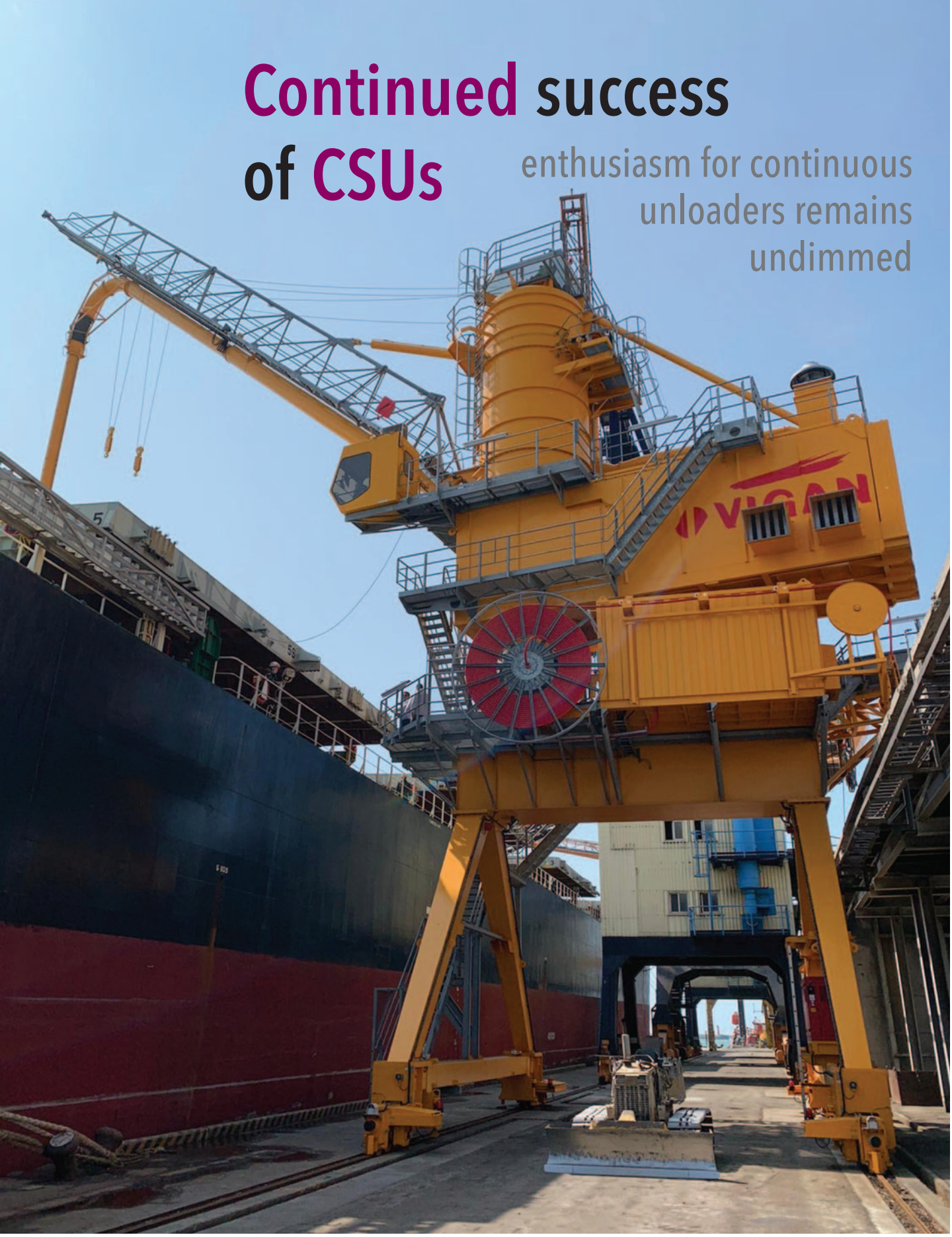
Continued success of CSUs

enthusiasm for continuous unloaders remains undimmed

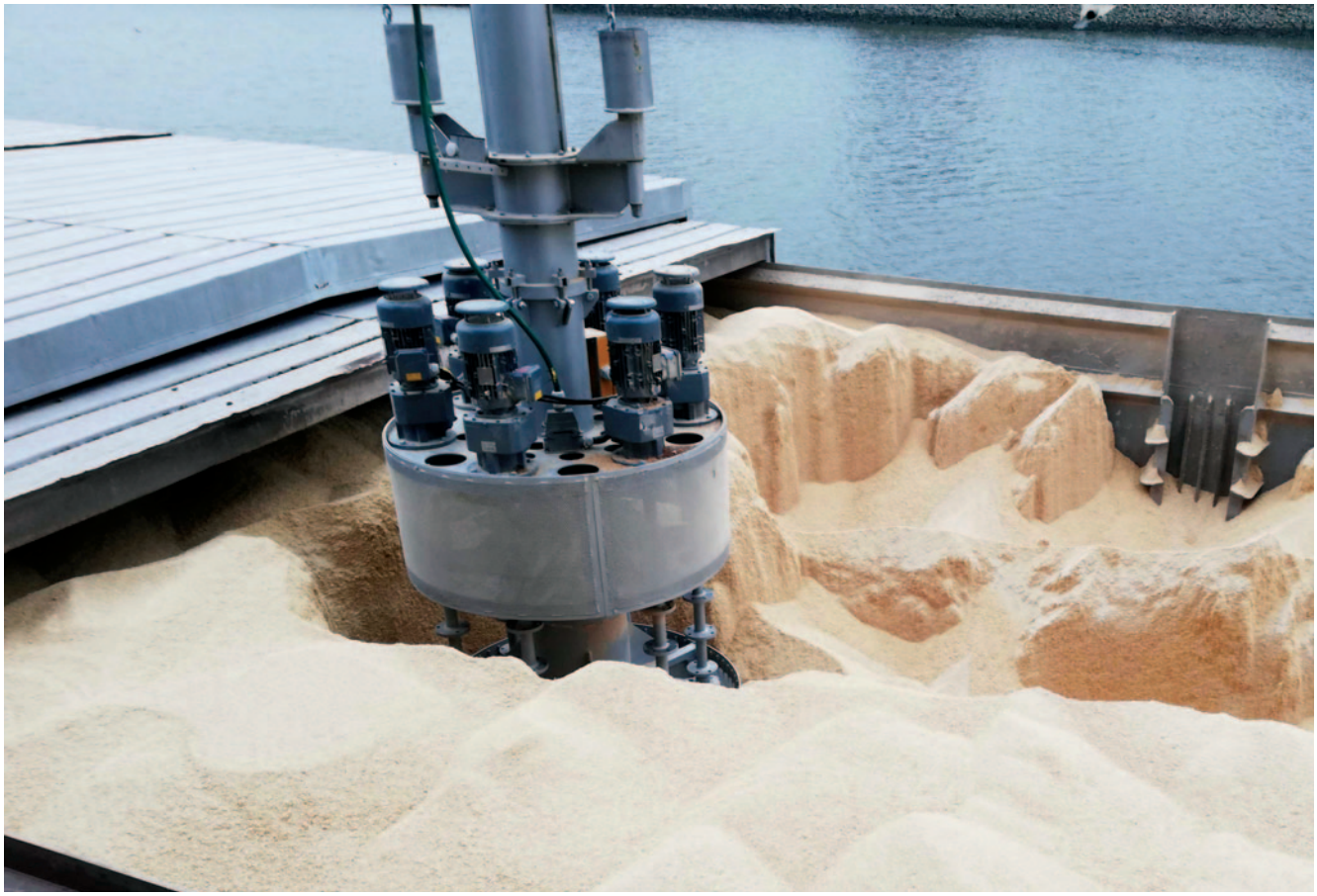


Vigan equipment evolves to meet the changing needs of the market

You could be forgiven for believing that pneumatic unloaders have not changed over the last 30 years. During that period, operators have been unloading dry cargo using a vacuum through a vertical and horizontal piping system into a bin that releases the material via an airlock and a quay conveyor into silos (or directly to the factory).

Contrary to that belief, a lot has changed over the last three decades:

First of all, it became possible to unload cargo with poor free-flowing properties (when compared to grain) pneumatically: soy bean meal, fertilizers, alumina, soda ash



but also 'new' raw materials such as (D)DGS and rapeseed meal. With Vigan's tailor-made cutting nozzles many agglomerating raw materials are gently dispersed for onward smooth pneumatic transport.

The design of Vigan's unloaders — which offer a favourable volume/surface ratio, one round elbow, a horizontal piping system that facilitates a very gentle descent of the cargo into the bin and a slow turning large airlock — means that it is a first choice for operators wanting machines that can handle brittle or sensitive raw materials such as wood and feed pellets, (paddy) rice and malt.

This design has led to the most favourable energy consumption of all pneumatic unloaders in the industry, ranging from 0.7–0.8kW/h. Moreover, operating costs are also favourable, with a cost of around €0.04 per tonne of unloader cargo (based on feedback from customers over many years).

Harder and lighter alloys, newly designed piping and the latest electronic steering mechanisms have made the Vigan equipment among the most efficient unloaders, with a reputed robustness and a high ROI. The company's machines are reliable and last for a long time.

Vigan's turbines are still fast, with turning rotors based on the design of a jet engine. Up to four of theses turning on the same axle makes it a challenging technical feature. The connections between each step have been improved over time. The return is significant: almost no losses in between every rotor and one of the strongest vacuums in the industry, resulting in extremely high air velocities and displacements.

And last but not least, Vigan's filter systems are adapted to process large quantities of cargo. Depending on the origin and the nature of that cargo, the dust content will vary tremendously. Depending on the quality and origin of grain, the harvesters sometimes collect more than just seeds. Cargo such as alumina and soda ash are very powdery by definition. Vigan's filters are adapted, both in surface and in regeneration capacity. Capacity targets will remain unaffected.

The above-mentioned features have proven their value. In the last years — and earlier — Vigan has had successes with malt plants in Belgium, Germany and the Netherlands. In Vietnam and Belgium people discharge rice and paddy rice with the company's barge unloaders. The cargo suffers no measurable damage.

Although cocoa nut fragments are considered a very problematic cargo, Vigan has customers that have been unloading this material for over 20 years.

More recently in the Netherlands and the UK, large power plants have chosen Vigan pellet unloaders. Its machines cope best with their needs, both in terms of product specifications and with the very demanding safety features.

Vigan's equipment is designed with specific explosion panels, and will immediately prevent transmission of fire hazard if a problem should arise — after all, the pellets being transported are used to feed the burners!

Although Covid has made entrepreneurs more careful in their decisions, 2021 looks promising. The tendency of companies in Europe and other continents to use waterways for cargo transport has created more opportunities for Vigan barge unloaders. The general policy to have fewer trucks on the roads is spreading. More and more logistics operations will include pneumatic unloaders in the near future.

Concerns on noise and dust emissions are more noticeable than ever. Our "whispering" machines have acoustically insulated cabins, piping, suction nozzles and turbines. Our machine design will direct remaining noise away from sensitive areas. Our filters adapt to the most demanding dust polluting standards.

So yes, a lot has changed throughout the last decennia. And these tendencies will continue as cities grow, living areas will have to share space with industrial zones. It will force us to be creative, to adapt and to reinvent. So we will.