

DEVELOPING MARKETS WITH A MOBILE BAGGING AND PALLETISING PLANT



In April 2019, Northern Europe's largest supplier of packing solutions for wood pellets, Danish Fisker Skanderborg A/S (Fisker) released details of a novel mobile bagging plant that includes a complete unit for the packing of products such as wood pellets, sand or road salt.

DEVELOPED TOGETHER WITH the Danish biomass fuels trader CM Biomass Partners A/S, part of Copenhagen Merchants Group (CM Group), the novel concept "guarantees" flexibility, economical operation, and customer satisfaction.

– You can now pack wood pellets in Denmark one day and three days later do exactly the same in Italy – on the same equipment, that is. This is not only a flexible and economical solution; it also allows you to use your skills and provide better service to both customers and suppliers by being where the action is, commented **Peter M. Henningsen, CEO at Fisker.**

lands, Poland, Russia, Sweden, the UK and the US. Along with storage, the company provides bagging as a service and owns and/or operates several pellet bagging lines located in Denmark, Italy, Russia and Sweden.

– We wanted a mobile bagging solution that we could use when developing new markets. With a mobile plant we can reduce the investment risk compared to setting up a fixed bagging line at a new destination. At the same time there are compromises to consider in terms of automation, productivity and flexibility, explained **Simon Rodian Christensen, CEO of CM Group.**

Truck mounted versus containers

The entire plant is installed in six standard containers to ensure maximum mobility as it can be transported by truck or ship. When the plant has reached a new destination, two men can make it ready for operation in just a few days.

– Early on in the project we ruled out a truck-mounted solution. While entirely possible to implement there are other issues that limit its usefulness such as road transport regulations and restrictions that differ across Europe, Henningsen explained.

A truck-mounted solution built to one country's weight, height and length regulations might not be able to travel through or in another country.

– Besides there is the added cost and onus of having to own and maintain a vehicle, Henningsen said adding that using standardised containers solves this.

A containerised plant

The six containers contain everything that is required for bagging wood pellets or similar products and making them ready for transport. Some of the containers have been rebuilt to accommodate the plant. These containers have sub-

sequently been re-certified so they continue to be approved for transport by sea.

The plant thus includes a large intake hopper complete with hydraulic lid, a screen equipped with a magnet to remove any metal particles, scales, a bagging machine, a robot for palletising the products, a fully automatic stretch wrapping machine with top sheet placement, and a roller conveyor through to the preparation for further transport.

The plant is complete with safety ancillaries such as dust removal and installed in insulated, heated containers with a built-in compressor only needing to be connected to an external power supply in order to operate.

– In our fully automated fixed installations, we use one operator. For the mobile plant, we've found its best with two operators. However, it is skilled labour that is required – operate the plant, drive a front loader to load the pellets, drive a forklift truck to remove the palletised bags, reload the various wrapping and bag rolls, commented **Simon Rodian Christensen.**

He added that this high-level of automation was also a design criterion, even if productivity, compared to a stationary version of the plant is lower.

– Less automation usually means a lower capital investment but that more people are needed for the operation. This may be fine in places with lower salary costs but being mobile the idea is to move at some point. It's easier to find replacement work for one or two people with the all-round skills than for five or six people each with different skillsets, Christensen explained.

The mobile solution is designed to be placed outdoors but can easily be installed in a large warehouse or similar. It is also designed for 15 kg format. It can be setup for various different formats, but it is an advantage not to have format changes over in the field.

– There is a limit to the bag flexibility and that is it cannot bag Scandinavian long due to the container height. A standard 15 kg bag is 600 mm in length whereas a 16 kg bag, typically used in Sweden, is

800 mm hence the name, said **Peter M. Henningsen.**

Fit for purpose

In early Spring 2019, the mobile plant was trucked from Denmark and setup by CM Biomass in the Port of Rouen, France.

– We had made agreements with a few clients in the region and brought in pellets in bulk by vessel that were later transported to bagging lines. By setting up the mobile bagging line, we could also offer 15 kilo bags without double transport, said **Simon Rodian Christensen.**

According to Christensen, apart from a few human element hiccups, the plant has proved to be "fit for purpose". It remains to be seen when and where it is to go next.

– In fact, the plant is still there in Rouen. Should our pellet operations there lead to a longer-term agreements with a certain minimum annual volume, then we would look to invest in a stationary bagging plant instead. If not then we can up sticks and move the bagging line elsewhere – this is the whole idea of the mobile plant, enable us to develop new markets, ended **Simon Rodian Christensen.**



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Pellets are loaded (1) into an infeed hopper that also has a lid that can be closed. From the hopper, the pellets are conveyed (2) past a magnetic separator and an oscillating screen to remove fines before reaching the dosing hopper for the (3) bagging machine. The sealed bags are conveyed to a (4) pallet stacking robot. The incoming empty pallet is fed via an opening on the right from a (5) pallet loading station while the fully stacked pallet is wrapped before (6) dispatch.

