

# PEGASUS HAS ARRIVED!

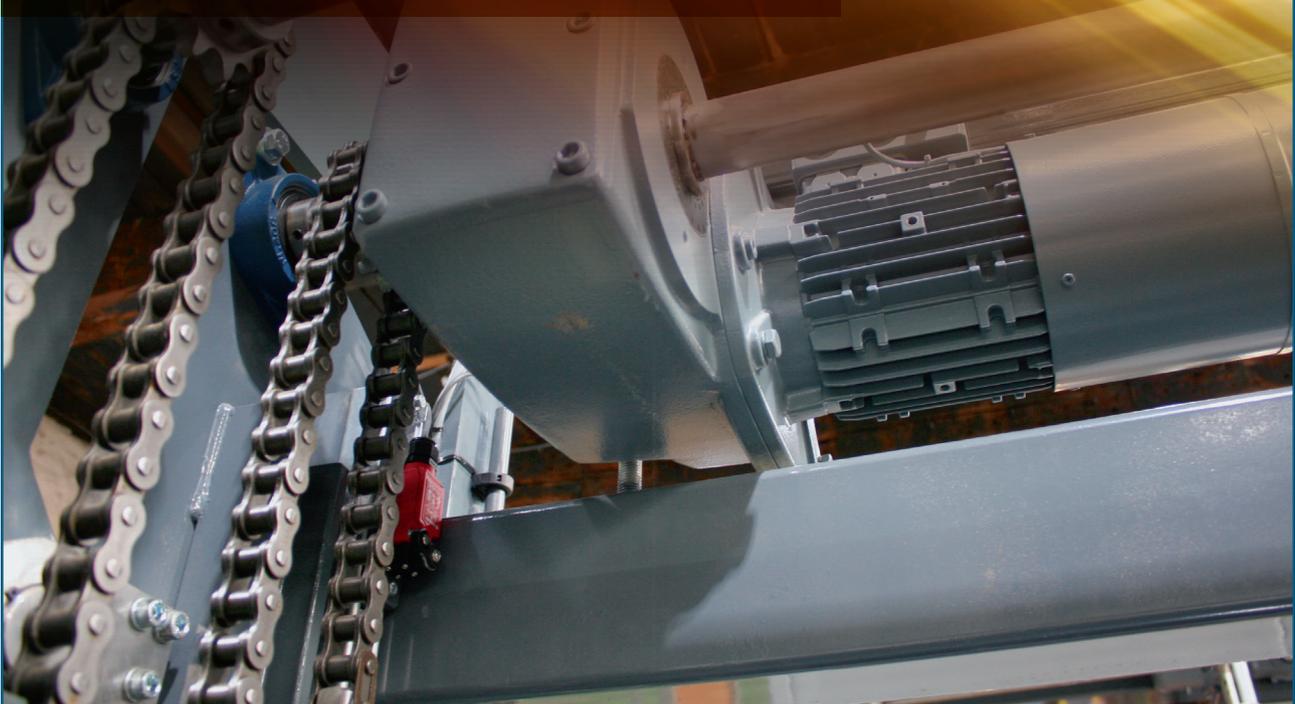
MADE IN  
BRITAIN 

## AVANTI INTRODUCES AN ALL ELECTRIC SEPARATOR-PALLETISER

It was 2011 when Managing Director and Owner, Simon Mander, took the steps to bring all areas of manufacturing, including fabrication and assembly in-house, thus adding to electrical panel building, software design and execution. Product development has always been at the heart of the Avanti philosophy.

“This drive led us to pose the question to our customers – ‘What is your next materials handling barrier that prevents your converting machines

running at full efficiency?’ At Avanti we like to call this Asset Optimisation,” explains Mander. “Our customers told us the issue did not lay with conveyors, but with peripheral equipment. They told us about a worrisome challenge: run full speed on die-cutters without being slowed down by the separator or palletiser. The accepted norm was that on certain work mixes, on certain patterns, the separator palletiser line would be a constraint – we don’t like constraints.”



“PEGASUS MEANS YOU DON'T HAVE TO ACCEPT THOSE BOTTLENECKS ANYMORE.”

SIMON MANDER

### Removing Constraints

The Pegasus Palletising and Separator Line has been built with support from Innovate UK. This has allowed Avanti many months of research and development and also allowed them to bring in the expertise of Jan Vanhoutte, the man who designed and introduced automatic separating and palletising to the corrugated market. Market research confirmed that the demand will be for smaller cases, running many outs from the die-cutter – 40 plus, and this will be the norm.

Pegasus was designed to handle exactly that work, down to 140mm.

Up to now, many bottlenecks in palletising and separating have been accepted. “Pegasus means you don't have to accept those bottlenecks anymore,” says Mander.

As Avanti had the benefit of a blank sheet of paper, not having to make design changes to an existing product, it made for some ‘Blue Sky Thinking’. “A clean piece of paper allowed us to focus on solving the customer's issues, not the machine issues,” continues Mander.



**Separator uses electric dives to reduce operating costs**

The combination of this research and development led to the birth of a new, state-of-the-art separator palletiser system. The new features are Avanti's response to the demand for equipment that supports fast running packaging lines in high intensity environments.

The layer loading on Pegasus is carried out by the BFG (Big Friendly Giant – Roald Dahl). The BFG solution marries up the virtues of speed of the inline tower type palletiser with the precision of the classic pick and place palletiser.

Five main problems were identified:

- 1. Separator slowing the lines down in various ways** – overcome by having a cycle of less than 4 seconds, using just electric drives to reduce operating costs and utilising plastic belts to eliminate marking the board.
- 2. Second separator** – overcome by using a split drive 90 degree transfer, following the second separator to give greater flexibility. This allows the second separator to always separate at least 2 bundles at a time, giving a 2 second cycle time per bundle.
- 3. 90 degree transfer** – using their conveyor experience, Avanti positioned de-synchronisation buffers throughout the line and either side of devices that were constrained by cycle time (like the separator and 90 degree transfers), helping the system to 'catch up' and therefore optimise the cycle of each device.
- 4. Slow and complex layer formation of overlapping patterns** – by using an optimised layer formation, the system can handle multiple bundles at the same time, so even complex patterns with difficult to handle products can attain very high output levels. Most of the time the system is forming two or more layers simultaneously. This is achieved by the split drive rotation device (which is tempting to call a turntable), but is in fact much more complex.
- 5. Final stack quality** – this is an existing issue and deserves more attention because the final product must be presented as a straight, clean and tidy pallet. To ensure the final stack quality, bundles must be presented consistently to the layer loader throughout the process. The main issue with bundle integrity is the handling between devices. Transitions between units, smooth synchronous drive operations and the use of small pitch belts are all what makes the new Avanti system so much more innovative than other palletisers.

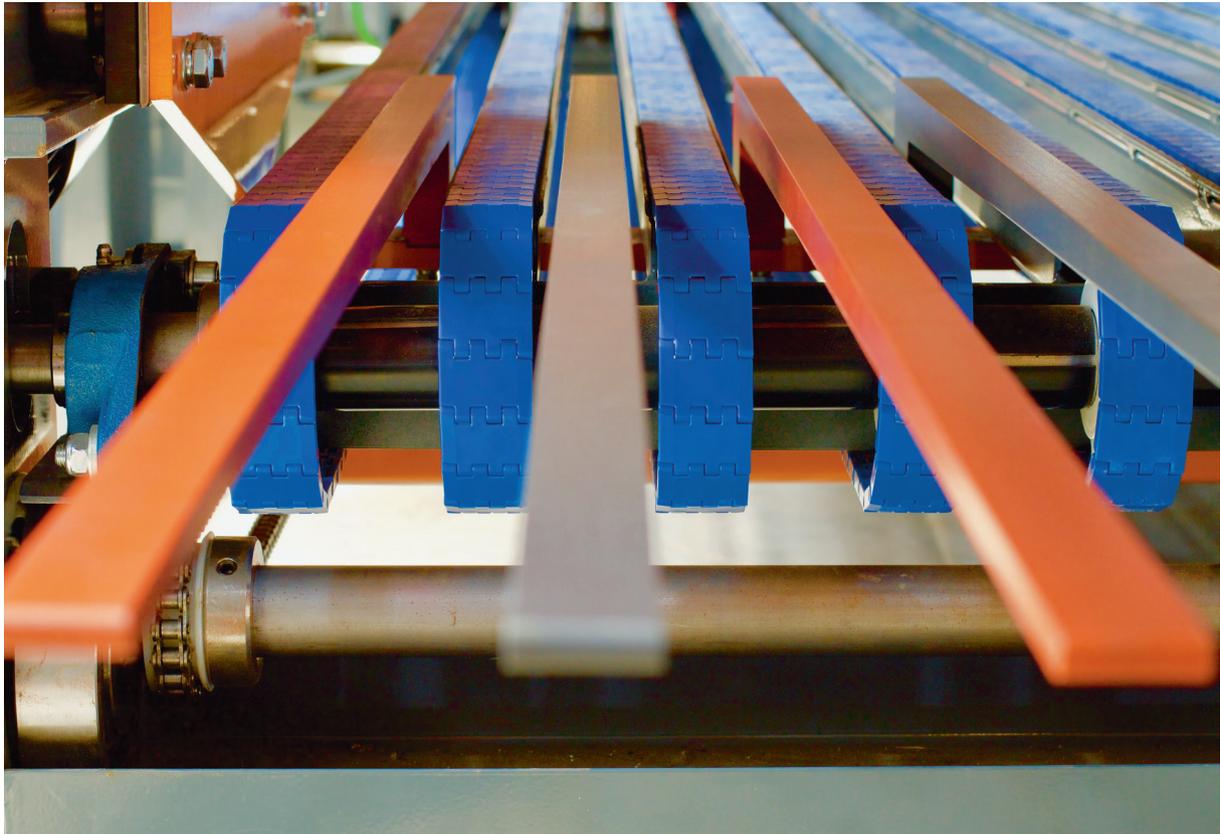


**BFG solution**

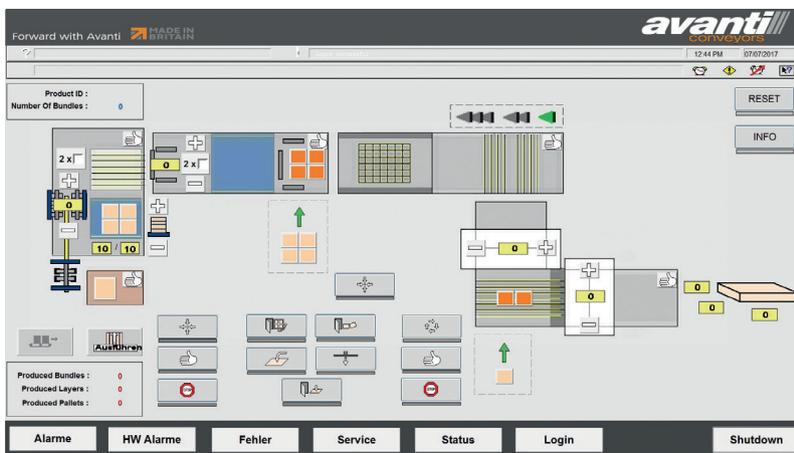
A second set of fingers gently places the load down rather than roughly shoving the load against a backstop. This results in a low drop height and precise load building, often without the need for additional four way squaring.

“WE HAVE LISTENED TO OUR CUSTOMERS AND BELIEVE THAT PEGASUS IS A GIANT LEAP FORWARD IN DELIVERING ASSET OPTIMISATION OF DIE-CUTTING LINES.”

SIMON MANDER



Very small drop ensures precise load building.



The iMPRESS touch screen control is very user friendly, based upon Avanti’s well known iMPRESS conveyor system controls, offering direct and remote diagnostics. An LED

lighting system highlights an area should a problem occur, so that the operator can quickly interject. The Pegasus iMPRESS controls are constantly checking how fast the die-cutter can run with

a particular product and advise the maximum possible speed.

Avanti have a simulation tool too, which shows you in real time how fast Pegasus can specifically separate your products and form your loads.

Pegasus is now complete and is manufactured at the Avanti factory in Derbyshire in the UK. They are hosting a series of Open Houses in the New Year to demonstrate Pegasus to customers. “We have listened to our customers and believe that Pegasus is a giant leap forward in delivering asset optimisation of die-cutting lines,” concludes Mander. “We are excited and proud to launch Pegasus to our customers.” ■