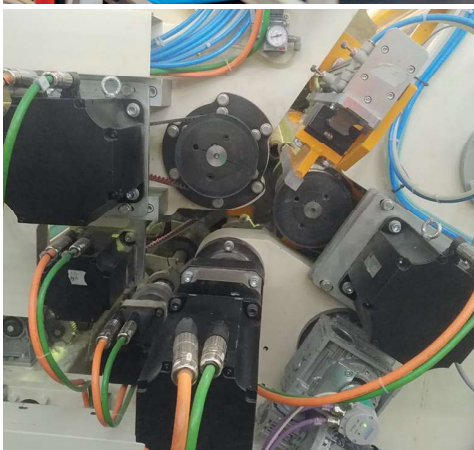
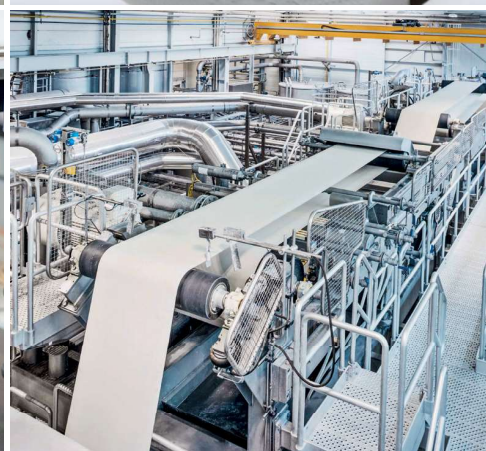
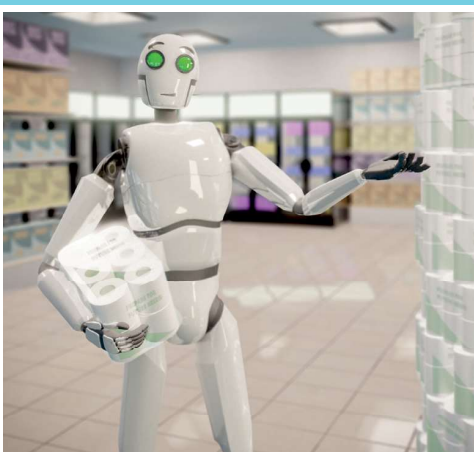


INTERNATIONAL MAGAZINE ON TISSUE PAPER MACHINERY AND TECHNOLOGY

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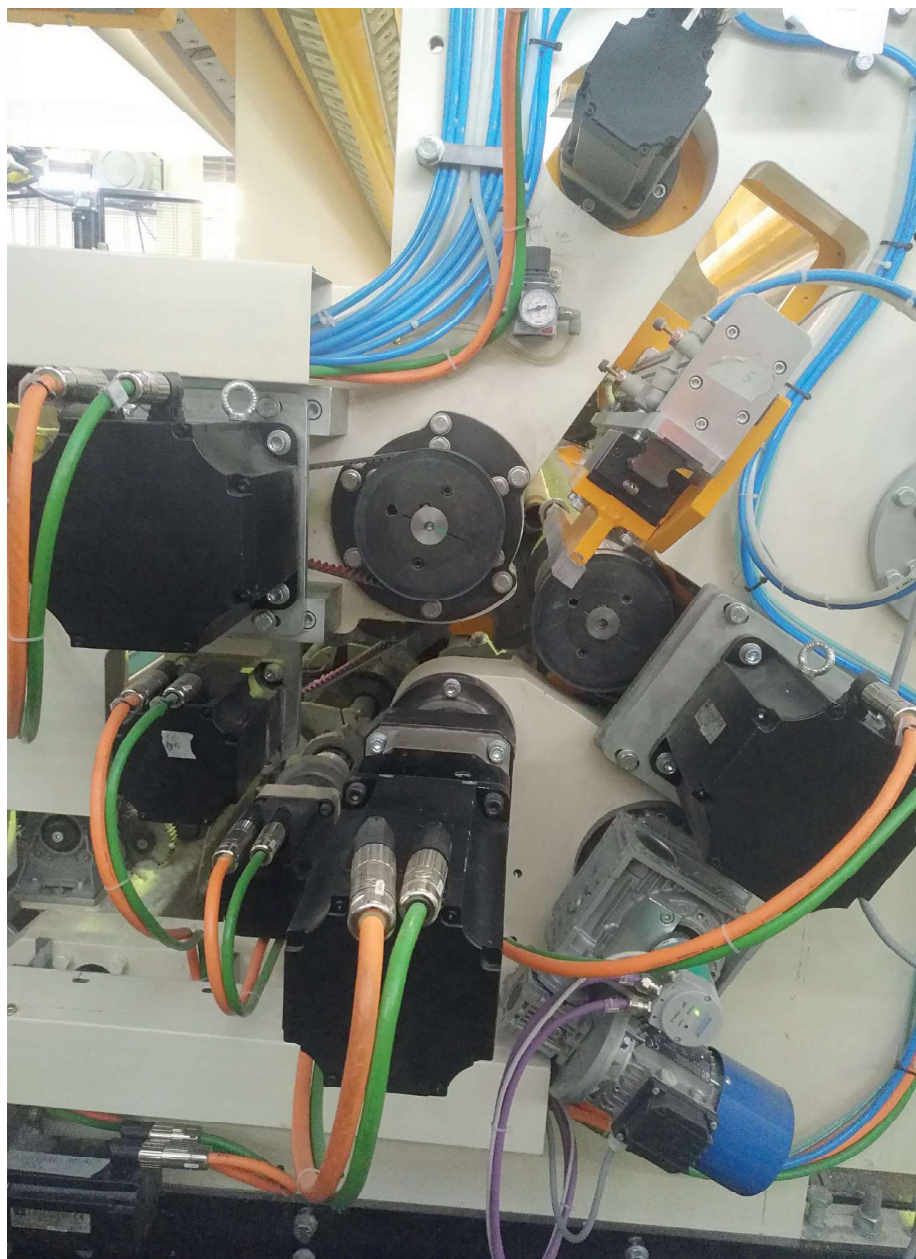
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■ AirEvo inside.

AirEvo, the mechatronic tailor is born

It just so happened that we were looking to solutions for production problems by looking at existing machines or procedures but, we were often left with unsatisfactory results. And then one day it hit us: what if we look for a "tailor" who builds customised machines or solutions? This is how AirEvo was born, an industrial roll machine centred around the customer's production needs. by: AFD Antica Fabbrica Digitale Srls



▲ One roll,
one motor.

It all started with a request from Lorenzo Riva, the general manager of Eurocarta, to modernise an old line. So, we all sat down together at a table: us at AFD, Damiano and Graziano Giannini from OMT, the Eurocarta technicians and their director. By the end of the meeting, it had been decided that a new rewinder would be built, with the aim of creating a machine that would solve Eurocarta's production problems. First, an operating principle was chosen that would provide a changeover guarantee. Thus, an application was submitted for an OMT patent, which allowed a reliable and simple transfer to be calibrated and configured. We then focused on extreme speed and simplicity for changing the production type. Tooling adjustments were made without carrying out any mechanical

interventions on the machine: the core diameter was changed from 25 mm to 90 mm without having to modify the mechanics (solely by altering the parameters on the operator panel) and the perforation length was electronically adjusted from 200 mm to 400 mm without replacing the blades or pulleys. A motor was fitted to each roller: this ensured absolute tension and paper formation control. Given the types of motors used, substantial energy savings were also achieved. We then equipped the machine with strong, heavy-duty “foundations”, by choosing 80 mm-thick plates for the sides of the machine.

We chose CMZ's FCT300 with the CODESYS platform for the electronics; it controls 12 axes via cam or electric shaft. The choice of CODESYS, combined with CMZ's reliability and expertise in axis management, has allowed us to integrate devices from different manufacturers into the system, by assessing their reliability, quality and availability, without necessarily being tied to a single supplier.



▲ AirEvo running.

“ We are not just a **technology supplier**. We listen to and implement the ideas of entrepreneurs that are looking ahead ”

The AirEvo creation

During the construction phase which involved ongoing discussions between our technicians and those at Eurocarta and OMT, further technical changes were made to better comply with the customer's needs. For example, an additional procedure was added to the tail sealing gluer to bind the rolls and a spray glue system was added instead of the roller system, in order to use less adhesive. This collaboration has led to the creation of AirEvo: an exclusive machine characterised by changeover times that have been practically reduced to zero, an electric energy consumption with a cruising speed of 10 kW (less than the energy used for the motor to rotate an industrial roll cutting disc), an ergonomic easy-to-use operator panel, a roll changeover that works even if you forget to insert or misplace the perforator, and glue on the cores. There is a very important final detail: as the Eurocarta technicians participated in the project from its development right up to the commissioning phase, they can easily carry out all the maintenance work on the AirEvo without having to use external technicians. In practice, we have created a “mechatronics tailor”, where the customer has not had to adapt to the needs of machinery as the machine itself has adapted to those of the customer.

A “tailor” that is very fitting with the words of the great Irish playwright, George Bernard Shaw: Shaw's tailor was the only man who took his measurements every time he saw him, whereas all the others kept the old measurements and expected him to fit them. The concept of Shaw's “miraculous” tailor has been used in “mechatronics” to create the AirEvo: it is the machine that takes the measurements to adapt wonderfully to the customer. ●

▼ The operator panel.



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