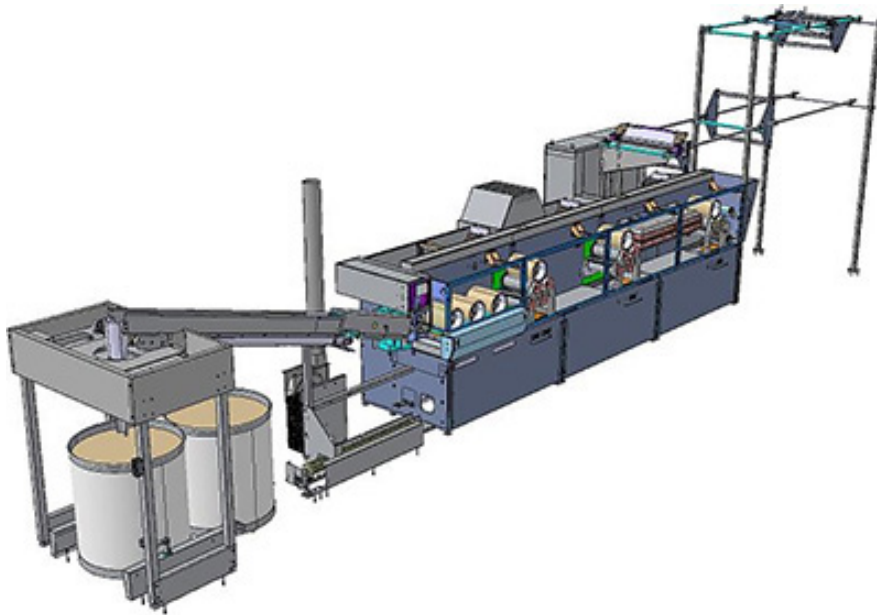


N. Schlumberger

Modelling energy efficiency

The energy efficiency of machines is a key selection criterion for manufacturers in the textile industry. N. Schlumberger performed a full energy audit of a stretch breaker in order to identify areas of improvement.



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OUR CLIENT

Corporate name
N. Schlumberger

Turnover
EUR 38 million

Workforce
200 people

Activity
Manufacturer of machines for the textile, environment and energy sectors

N. Schlumberger designs high technology and multi-energy machines for the textile and packaging industry. In particular, the company manufactures a synthetic fibre stretch breaker. In order to break the fibres of fabrics, the machine feeds the bands onto the rolls, which by pinching impose their speed onto the textile. The differences in speed between the successive rolls cause stretch breaking of the fibres. The total installed capacity of all electric components on these machines is 136 kW. The energy efficiency of these items of equipment, which plays a key role in the selection of a machine and

therefore of the supplier, has become over time a major concern for companies in the process industry. *“Customers want to know the energy cost per ton produced, explained Marc Domas, manager of electrical studies at N. Schlumberger. We therefore commissioned Cetim to perform a study in order to more accurately determine the capacities involved and examine the areas for improvement.”*

Developing the machine

In order to best characterise the stretch breaker, Cetim created a model of the entire power transmission chain using a system modelling software. This action was carried out

Cetim's asset

Cetim boasts expertise in instrumentation and modelling as well as multi-disciplinary skills required for drawing up comprehensive energy balances.



as part of the Capme'up programme 'investments of the future' project. In parallel, a test campaign was undertaken on an instrumented machine so as to record the physical measurements (torque, force, temperature and electric power). The model was used to analyse the influence of certain settings, such as band speed, on the operation of the stretch breaker. It also helped to identify the power and loss paths through the transmission components. *“We discovered that in certain phases, the motors driven by others become energy generators. We now have a good basis for improving the machine”*, concluded Marc Domas.