To remain competitive in the future, sensitive and high-performance production methods are required to efficiently process the fibers to deliver the required strength properties.

The new PM3 at the Sandersdorf-Brehna site meets these challenges using state-of-the-art technology to produce high-quality containerboard – resource-efficient and uniquely using recovered paper. Siemens Fiber Industry supplies the power distribution, consisting of gas-insulated medium-voltage switchgear and distribution transformers, as well as the complete electrification of low-voltage switchgear, frequency converters and motors. The paper machine drive is designed to be predominantly gearless, with a high proportion of synchronous motors for highest efficiency. In addition, the drive system is water cooled, to further optimize overall efficiency.

At Progroup Paper AG’s paper factory of in Sandersdorf-Brehna, Saxony-Anhalt, Germany, one of the most modern paper machines (PM3) is producing high-quality containerboard from wastepaper. Siemens supplies the power distribution and electrification, including the Sipaper DCS APL process control system based on Simatic PCS 7, as well as a multi-motor drive solution based on gearless drives with Sipaper Drives APL Standard. The process control system developed by OEM Voith on the basis of Simatic PCS 7 is used together with the Sipaper standard software. The backbone of this automation is the network technology, which offers higher bandwidth and functionality via Ethernet and Profinet, includes secure communication, and equips the system for the future of digitization. As a result, the PM3, with an annual production of 750,000 tonnes, can meet the growing demand for containerboard for Progroup Paper AG’s own corrugated sheet board plants. The start of production is planned for 2020.

The current boom in the paper industry is accompanied by numerous challenges. This includes not only increases the costs of energy and raw materials, but also the demands on product quality. Packaging strength criteria, for example, play an important role in the case of the waste-paper raw material.

Siemens supplies all the electrical equipment for Progroup AG’s new PM3 paper machine

- Innovative drive solution for the PM3
- Increased flexibility, scalability, availability and security
- Continuous communication with Profinet and Ethernet
- Automation based on the proven Sipaper standard
- Complete, end-to-end electrification of medium- and low-voltage grids
The components are integrated via the Sipaper DCS APL process control system based on Simatic PCS 7 and the proven Sipaper automation and drive standard, which has been specially developed for the paper industry. Simatic PCS 7 increases the flexibility, scalability, availability and security with the Sipaper Safety solution of the system while at the same time increasing performance and efficiency.

The automation control function of the Sipaper DCS APL process control system ensures that all components are fully functional and digital control and calculation tasks for the drives can be carried out in the shortest possible time. Progroup Paper relies on Profinet for the plant-wide communication of the PM3 at the field level. At the same time, all process-relevant data are continuously and consistently diagnosed, monitored and evaluated. For example, the paper machine uses the Sipaper DPA (Drive Performance Analytics) app, which optimizes the setting of the paper machine based on the data generated by the multi-motor drive. So, the system provides a detailed overview of plant availability at any time, creating the conditions for a largely automated production.

Progroup AG, located in Landau in the German state of Rheinland-Palatinate, Germany, is one of the leading manufacturers of containerboard and corrugated board in Europe. Since it was founded in 1992 in Offenbach/Queich, the company has been pursuing a consistent growth strategy which, in addition to technological leadership, is also based on the use of innovative and environmentally friendly production technologies. Progroup operates production sites in six countries in Central Europe. Progroup currently operates two paper factories, eleven corrugated sheetfeeder plants, a logistics company and an RDF power plant. With 1,150 employees, the company generated sales of around 966 million euros in 2018.