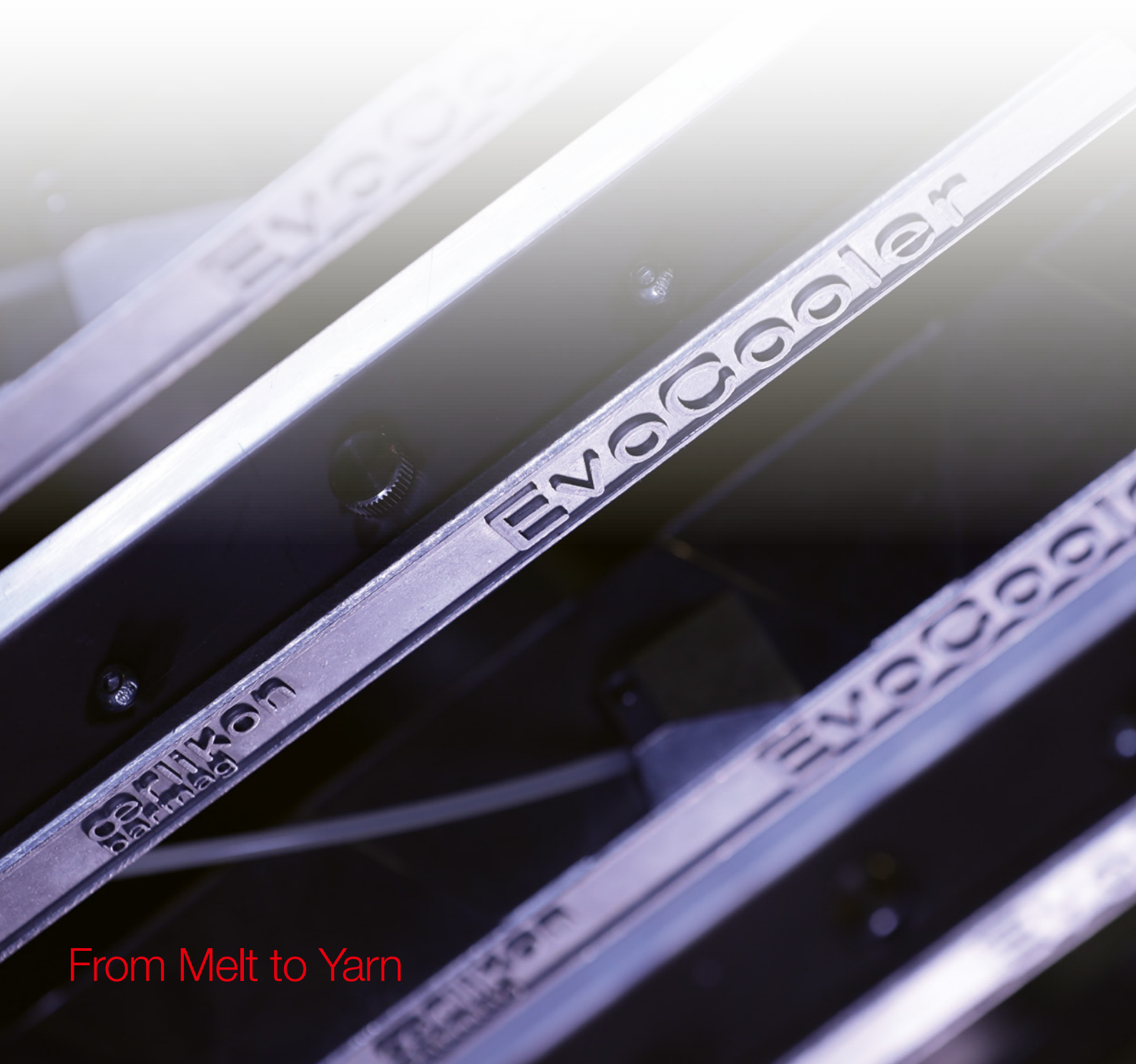


BARMAG

eAFK Evo

Texturing at its coolest



From Melt to Yarn

Your benefits

From Melt to Yarn – Solutions along the textile value chain	4
What is DTY manufacturing?	5
Key benefits	
■ Cost-efficient manufacturing	6
■ Consistent yarn quality	8
■ Digital processes	10





From Melt to Yarn

Solutions along the textile value chain

Place your business ideas in professional hands! Consulting, engineering, plant construction, high-tech machinery and lifecycle management together with automation solutions and all-embracing Industrie 4.0 options – the whole package from Barmag. Many years of experience and our strong global network form the perfect prerequisites for us as your solutions provider.

Define your company's success from the very outset

From chemicals or chips to manmade fibers, from melt to yarn, from polycondensation or extrusion to the textured yarn package – we have your value-added chain under control. And you increase your profits. Because an optimized manufacturing process encompassing all production steps provides you with the greatest-possible influence on the quality of your end product. And on your production costs.

Add to this the fact that our brand strength will make financing your project a profitable investment.

Extensive experience in engineering and management competencies help us deliver even complex projects and processes. You can rely on that!



What is DTY manufacturing?

Apparel, home textiles, automotive – there are countless applications for textured yarns manufactured on Barmag machines. Correspondingly specific are the demands made on the yarns used.

You can rely on decades of research and a constant dialog with customers which make our systems produce the perfect yarn for each and every application. Reliability, efficiency, user-friendliness and the most economical, consistent production of high-quality yarns are the basic criteria Barmag texturing machines are fulfilling.

The idea

The only thing that counts is the efficient manufacturing of your high-quality products. This is where the focus of all our work is on. With highly-developed components, know-how, proven technology and latest solutions for smart automated and digitalized plants, our modular DTY machines manufacture top-quality textured yarns for excellent downstream performance and optimum production costs.

Our experienced experts and engineers are familiar with the requirements of the entire textile technical process chain. They will advise and support you in all phases of your business - from consultative sales discussions for tailored solutions, process commissioning even for difficult products all the way through to global, around-the-clock service. For your individual needs.

The benefits

Your success is very important to us. For this reason, we always maintain a focus on the benefits to you when developing our products. Profit from

- Consistent high yarn quality
- Highest productivity
- Savings in production costs
- High efficiency and low energy consumption
- Flexible processes

e-save

comprehensive efficiency

e-save provides you with a competitive edge

With e-save, Barmag introduced a label for particularly energy-efficient systems, machines and components back in 2004. Over the past years, e-save has established itself as the trademark of a comprehensive efficiency program. This underlines the preeminent role of Barmag when it comes to commercial success and sustainability.

Compared to other concepts available on the market, the eAFK Evo convinces in terms of

- **Energy:** Godet feed system, innovative drive systems and heater designs allow potentially reduced energy consumption.
- **Environment:** Lower raw materials consumption, better carbon footprint due to energy efficiency; for new levels of sustainable production processes with artificial intelligence in a digitalized and automated Smart Chemical Fiber production.
- **Ergonomics:** Improved machine efficiency with less downtime through reliable doff operation, automation interface and simplified maintenance and operation
- **Economics:** Reduced manufacturing costs with superlative doffing efficiency, less wear and spare parts and higher process speeds through innovative cross sections. With excellent package build the ATT ensures highest yarn quality for better yarn prices.

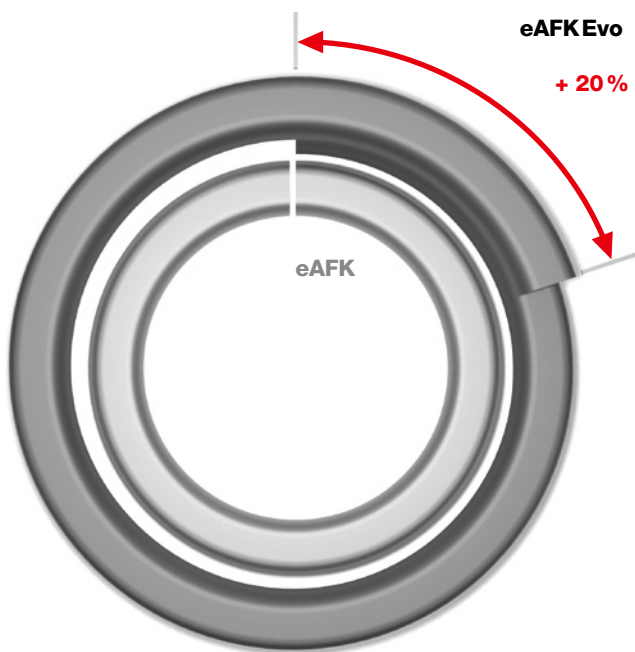
Set new standards in texturing

Competition within the yarn markets is becoming increasingly intense. The consequence: constantly-rising pressure on costs. The solution: optimized production processes, efficient systems, sustainable technologies. All these are provided by our DTY technology concepts, of which the eAFK Evo is the latest.

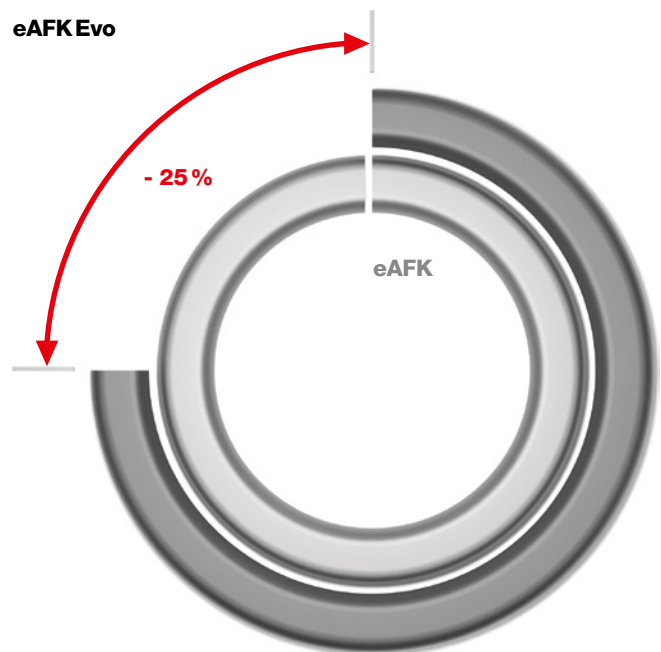
With the new eAFK Evo generation of machines you produce consistently high yarn quality with superior speeds and greater productivity, along with lower energy consumption and simpler operation vis-à-vis comparable market solutions. In particular, the numerous value-added features include two that are excelling with cool technology: the EvoCooler, a completely newly-developed active cooling unit and the EvoHeater, the optimized closed heater.

Just 300 millimeters long, the EvoCooler uses active cooling technology, with which the machine speed can be increased by 10 to 20 percent compared to other systems available on the market. In addition to this, there is no sudden deterioration of the yarn quality when achieving these speeds and reaching the yarn-specific 'surging limit' within the texturing process. Here, the EvoCooler ensures a significantly higher process stability, while also allowing the yarn temperature to be controlled. The yarn quality can be kept at a consistently high level – for correspondingly high sales margins.

Increased productivity up to 20% (benchmark example)

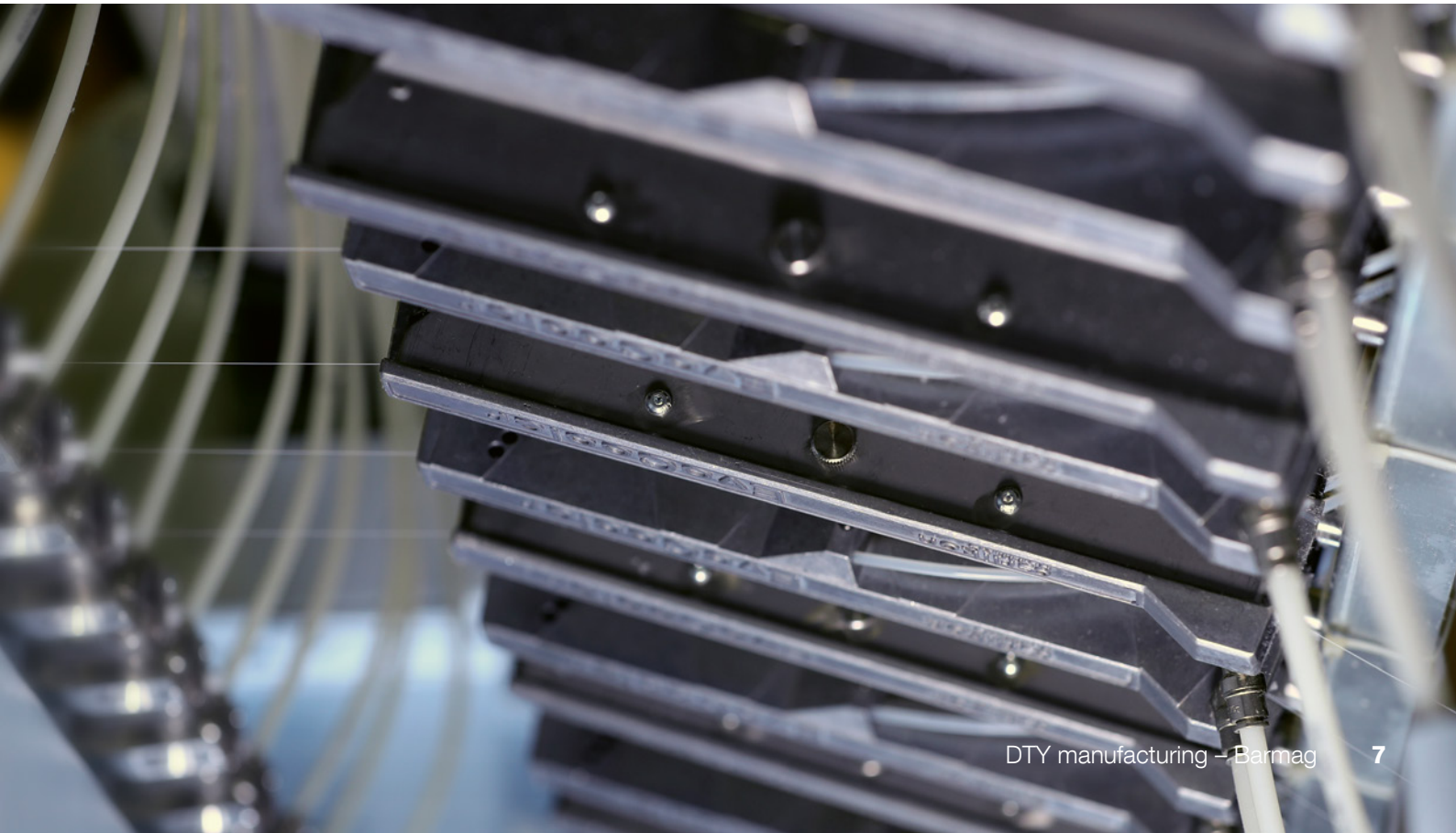


Reduced energy consumption



The EvoHeater is extremely energy-efficient. This second key component of the eAFK Evo ensures energy savings of between 20 and 25 percent for the entire machine, without impacting the high yarn quality. Furthermore, an innovative maintenance concept is used. Here, the inserts can be removed from the heater and cleaned in an ultrasonic bath without any time pressure, while inserted replacement elements ensure that the system continues to operate. Finally, the heater permits simple and safe string-up.

The overall concept of the eAFK Evo is designed in such a way that the air conditioning requirements are significantly reduced. Due to the active yarn cooling, the EvoCooler is not so dependent on the ambient conditions. Moreover, the closed EvoHeater radiates considerably less heat into the workshop.



For a perfect downstream performance

Consistently high yarn quality is the decisive criterion for your business success. Here, we are by your side – with our high-performance texturing components from the take-up to fault analysis with AIM⁴DTY

The EvoCooler stands for efficient cooling independently of environmental conditions. Moreover, it enables extremely even yarn dyeing and consumes no additional energy despite all its benefits

Good yarn is the result of good yarn processing. The FiberGuard online tension monitoring system provides the highest standard of online yarn quality control. It permanently measures the yarn tension, generating up to 1,000 fault graphs per day and machine. Combined with our artificial intelligence AIM⁴DTY 100% of these graphs can be analyzed in the shortest possible time, thus significantly improving your product quality.

Single motor driven friction units secure the optimum uniformity in the core process of a texturizing machine. Every texturing aggregate is run by a permanently controlled high precision motor. This ensures the same yarn treatment on each position.

Single-drive godet feed units ensure slip-free and gentle yarn transport in those areas in which outstanding requirements for yarn processing are decisive. You are able to produce yarn with highest consistency, because friction-intensive products, which usually quickly wear out the components they are in contact with, are processed with greater efficiency and at lower production costs. This due is to the godets, which make additional yarn-guiding elements or wear-reducing components superfluous.

The demands on the DTY package formation constantly increase with the further development of downstream processes. Our Advanced Take-up technology (ATT NG) represents a quantum leap in package building technology, thus providing highest possible speeds in the following processes, best physical yarn properties, and superlative dyeability of yarns and fabrics.



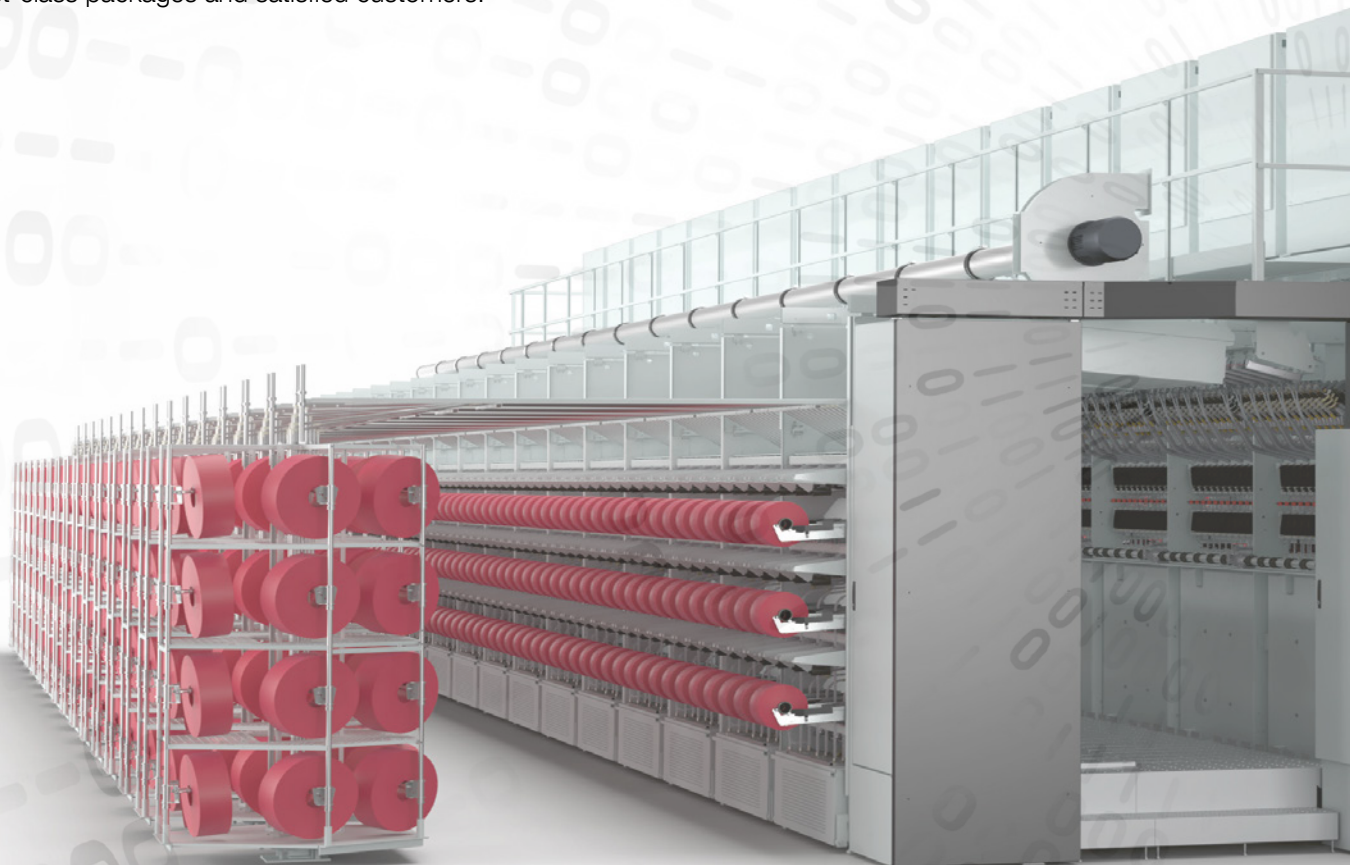
Rewriting the future of digitalized production

Today, people, machines, systems, logistics and products are required to even more communicate and cooperate with each other. Digital transformation is creating whole new dimensions in product quality and production efficiency.

atmos.io is the connectivity platform which provides the hardware infrastructure, software architecture and data models to connect all your process steps. With creating a unique DNA for each bobbin you will always know what is going on in your production facilities.

Transparency through the whole production process from melt to packed yarn can identify any process deviation and cost driver. And this guarantees high efficiency, low conversion costs, first-class packages and satisfied customers.

atmos.io with the eAFK Evo not only enables the plant management to react fast and target oriented to indicated deviations from expected process settings. Modules like for example AIM4 DTY also provide clear problem-solving guidelines based on expert know how to automatically detected deviations or lower efficiency. This supports the industry in solving reaction problems, increasing profit margins and reducing waste.



atmos.io is the connectivity platform which provides the hardware infrastructure, the software architecture and data models for all digital solutions for Barmag machines. Providing seamless data connectivity between shopfloor and the IT and ERP landscape at each customer atmos.io ensures a secure and scalable integration. The platform functionalities can be tailored according to the requirements via the Barmag online solutions.



