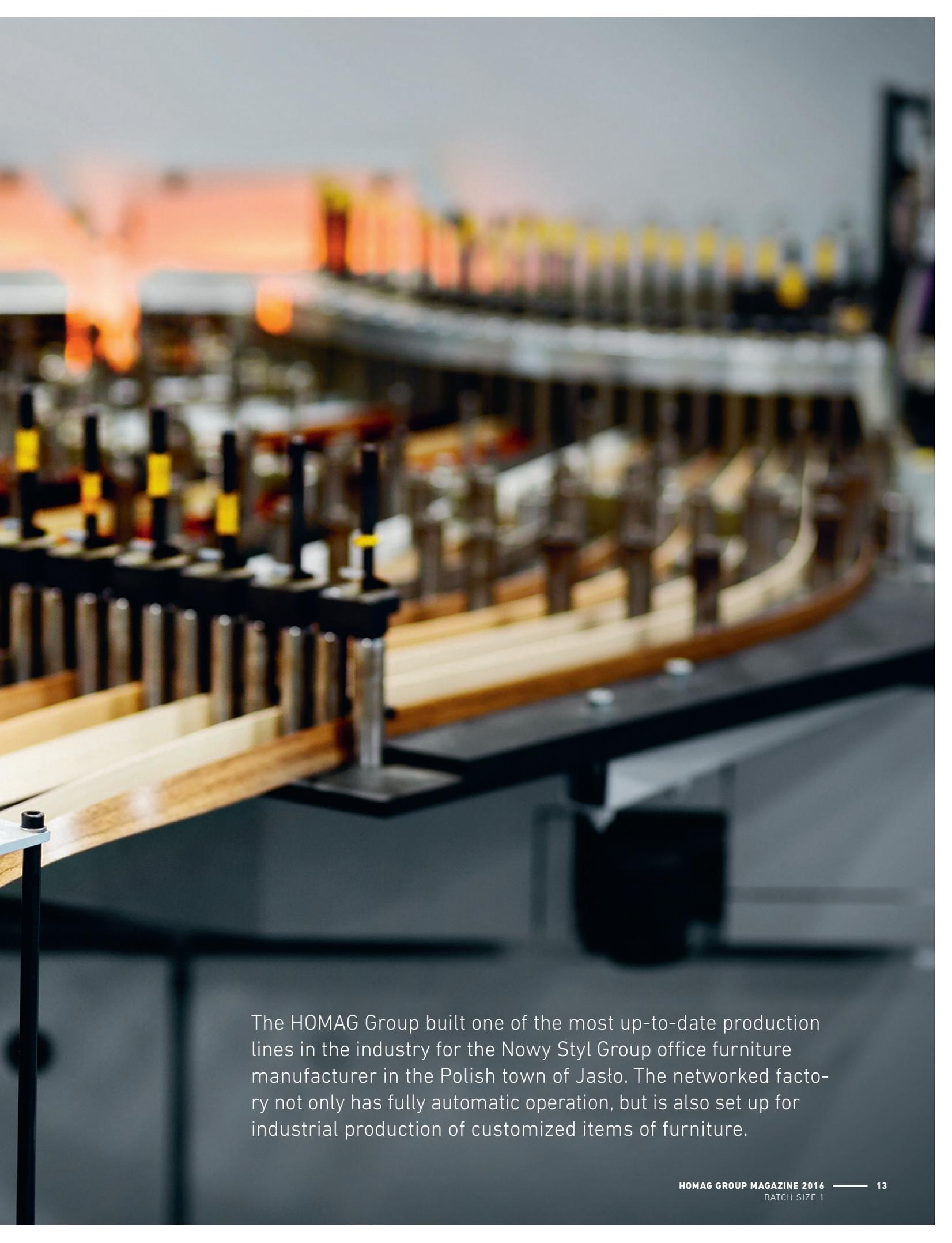


BATCH SIZE 1





The HOMAG Group built one of the most up-to-date production lines in the industry for the Nowy Styl Group office furniture manufacturer in the Polish town of Jasto. The networked factory not only has fully automatic operation, but is also set up for industrial production of customized items of furniture.

1 — Polished and sparkling in the hall Hardly anyone here gets their hands dirty any more. Employees at Nowy Styl oversee the operation of the electronically controlled plants.

2 — Magnificent view Co-owner Jerzy Krzanowski surveys the whole production line from the yellow steel platform. He likes to bring visitors up here to show them the smooth operations at the plant.



— 1

24,000 m²

The production line in the 24,000 square meter hall is one of the most state-of-the-art furniture plants in the world.



— 2

Jerzy Krzanowski's favorite place is the steel platform from which he surveys the whole production hall. He sees his machines saw, drill and finish edges, and watches wooden parts glide along conveyor belts, disappear into processing stations and finally leave the hall as a table, shelf or cabinet. "Following the flow of parts from up here is fascinating," says Krzanowski. The co-owner of the fourth largest furniture manufacturer in Europe is proud of his new factory. "I wouldn't hesitate to use the HOMAG Group again to construct the plant."

The production line in the 24,000 square meter hall is one of the most state-of-the-art furniture plants in the world. The machines are fully automatic, working with maximum precision and almost clinical cleanliness. The employees hardly ever get their hands dirty any more. Their most important job is to oversee the operation.



„Following the flow of parts from up here is fascinating. I wouldn't hesitate to use the HOMAG Group again to construct the plant.“

—— JERZY KRZANOWSKI, NOWY STYL DIRECTOR

Up to 4000 furniture components leave the factory every shift. Usually every part looks different, which is known as batch size 1 production in the industry. The time when standard furniture always left the production line looking identical is over at last. Manufacturers now offer panels, boards and shelves in countless shapes, colors and sizes. Before, joiners would have had to manufacture these different units laboriously by hand. Today the high-end systems from the HOMAG Group produce them within a few minutes and with minimal set-up times – for a fraction of the cost.

SEQUENCE OF STEPS

The first section of the plant in Jasto is a storage area in which many coated chip-board panels in different patterns are kept. Two crane bridges flit back and forth over the stacks. Like birds of prey, their vacuum grippers swoop down on the panels and

move them around. What looks like a game is in fact perfect organization. The plant is networked and knows the production data. Therefore it knows which panels, and in which color, need to lie on top so that they can be moved into production at the right moment.

First of all a program calculates the best possible cut. A modern saw can cut several panels lying on top of one another in seconds. The individual panels are ideally separated out in another machine, which operates with a trimmer. This allows steps, corners and even zigzag patterns to be cut. Leftover panel parts are automatically gathered after cutting and brought back to the storage area. As soon as they are suitable for another piece of furniture, the intelligent control system sends them back into production.

After cutting, each part receives a sticker bearing a barcode – a kind of electronic name tag. All the subsequent machines in the line can now recognize the component and identify which item of furniture and customer order it belongs to. This is important because production here is carried out exclusively to order.

BEAUTY THANKS TO TECHNOLOGY

Perfect edges are an outward indication of good furniture – and are not at all easy to produce. The processes have to run with extreme accuracy. If joints are too wide, dirt will collect in them. Poor processing can result in edges coming off, which is unacceptable for a high-quality supplier.

The HOMAG Group is also at the international forefront in terms of edge processing: Their specialized machines position edging strips in the right color on the freshly sawed parts

at lightning speed. A laser beam melts the back of the edging strip before it is pressed onto the panel. The joint can no longer be seen. The result: new quality standards in the industry. Once edge processing is complete, drill holes, cut-outs, screw sockets and wooden dowels are added to the furniture parts.

The production line now continues, taking the parts to a sorting buffer which puts them in the correct order for assembly and shipping. The buffer, which is almost as high as the production hall itself, looks like an enormous shelf and can hold up to 4000 parts. It thus serves as interim storage to isolate the intensely interlinked processing stages, simultaneously ensuring that minor stoppages do not bring the entire sequence to an immediate standstill. After passing through quality control, the parts are assembled or individually packed and loaded.

The new plant enables up to half a million furniture parts to be produced each year.

NEW PRODUCTION PHILOSOPHY FOR GREATER EFFICIENCY

The construction of a highly flexible furniture manufacturing plant of this size has to be well planned. The machines are required to master thousands of different procedures. Every single one must be thought out in advance – an intricate task. The plant calls on enormous volumes of data from the company. This only works when all areas are involved and networked. Which products do I want to manufacture? How should they be procured? What tasks do the machines need to execute? These are some of the first questions that furniture makers must answer. Often the processes throughout the whole company will then change. “We have restructured our entire production philosophy,” says Nowy Styl Group co-owner Krzanowski.

The HOMAG Group has many years of experience in constructing complex production lines. About a dozen subsidiaries supply the technology for all the steps of the furniture production process – from storage and sawing panels to edge processing, drilling and milling the parts, through to assembly and packaging the furniture. The HOMAG Group has a wide range of machines available for this. “We employ concepts which are innovative but also repeatedly tried and tested,” says Harald Sieber, the project manager for the machine manufacturer. Another advantage is that the HOMAG Group has its own advisory unit – SCHULER Consulting – with particular expertise in the planning and design of plants.

Nowy Styl did not only wish to clarify technical questions; above all they wanted to find the best supplier for the order. “We made inquiries to establish which European com-



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3 — Controlling the buffer Employees can monitor the parts leaving the storage area and the sorting buffer in real time on a screen.

4 — Creative cutting The modern partition center executes the most difficult tasks. Its trimmers can cut corners, steps and even zigzag patterns. Curves are also possible.

5 — A full warehouse Thousands of panels piled in dozens of stacks (background) wait to be assembled into furniture. A conveyor belt transports them to the saw.



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— 5

4000

furniture components leave the Nowy Styl Group factory every shift.

panies were in a position to take on a project like this," says Krzanowski. Four companies made the shortlist, and one of them was the HOMAG Group. The candidates' financial situation was also investigated by the customer, for only a strong company can guarantee it will be able to offer spare parts and service in ten years' time. The HOMAG Group passed the test with flying colors.

COMPLETE PLANTS FROM A SINGLE SOURCE

The crucial factor in securing the order, however, was another point. The HOMAG Group is one of the few vendors of wood processing machines that can supply a complete production line from a single source. "We even develop the control technology," says Harald Sieber. This software controls the production process and always knows which part has to be processed, and where. The individual machines work together like a

big team. "All the procedures are well thought through and perfectly synchronized with each other," Sieber adds. The HOMAG Group's highly qualified engineers, technicians and programmers take care of that.

Generally the operation of a new plant is simulated repeatedly on a computer in advance. Virtual workpieces go through the production process on the screen. Sawing, edge processing, drilling – everything is tested and improved before construction of the plant begins. For Sieber the engineer, this is essential. "This meant we had few problems when it came to implementation at the Nowy Styl Group." And a solution for those was quickly found, says Jerzy Krzanowski. "Because the HOMAG Group are people you can talk to." The companies worked together with trust and pragmatism – just as you might expect from two respectable medium-sized companies.

Krzanowski likes showing off his new production line. Even competitors are allowed to see it. The boss offers a viewing as part of a high-tech tour. Visitors come not only from within Poland, but also from further afield. Jerzy Krzanowski smiles. "They are amazed when they are invited to Poland for a high-tech tour." —