

Watchword: Flexible production

Flexibility is always an optimum foundation, even in the most difficult of times. Instead of attempting to implement an economic stimulus program, office furniture manufacturer Palmberg opted instead to implement a flexibility program to further reinforce its already good market position and at the same time make it fit for the future.

For Palmberg, flexibility means giving the customer what the customer wants the way he wants it. The in-house formula based on providing “Material mix – Colour mix – Logistic mix & Co.” is also a remit for the production of modern office furniture exclusively to address individual customer needs. Using a highly automated production plant for two-shift operation, up to 1500 components are produced per shift in different decor finishes, dimensions and types. This is followed by prompt delivery of the furniture to the customer, the top priority criterion for all the organizational structures in the company.

It was to achieve this aim that the office furniture manufacturer at the Schönberg producing location in the State of Mecklenburg-Vorpommern invested around 5 million Euro in a new production and warehousing hall as well as highly functional new production facilities back in 2008. Concentrated over an area of 2,000 sq.m., the fully automatic panel storage system with directly connected cutting plant and a sizing and edge processing line for batch size 1 take care of flexible office furniture production exclusively to individual customer order. Panels with different decor finishes and equally varied edge configurations emerge from the new production plant as just-in-time furniture components to a high standard of quality for tables, cabinets, sideboards, underdesk pedestals

and work tops in every conceivable format and finish.

Outstanding level of process engineering

Before those responsible for this ambitious project, Technical Manager Dipl.-Ing. (FH) Friedrich Henning and Production Manager Dipl.-Ing. (FH) Klaus Lutz, moved onto the concrete planning stage, they spent around one year researching, taking a detailed and critical look at different production facilities and also a number of machine manufacturers. The target specification, which precisely defined the new plant's capacity in terms of output, flexibility and availability, quickly narrowed down the eligible suppliers, and a clear way forward was finally established in further fundamental discussions with HOMAG's Sales Manager Peter Ch. Nass.

By a joint resolution with the company's Managing Shareholder Uwe Blauman, Palmberg took the plunge "with the sensation of entering into a calculable risk" (original quote from the Technical Manager) and commissioned the HOMAG Group to plan and install a concept for the cross-divisional implementation of batch size 1 production with panel storage and handling, automatic cutting and downstream sizing and edge banding. The new facilities were required to guarantee a high level of productivity as well as the greatest possible production freedom and the greatest possible degree of operating simplicity of the overall plant with an operating team of no more than three or four.

Implementation of all the stipulations set out in the target specification entailed using group components from the system manufacturers BARGSTEDT (handling and transport), HOLZMA (cutting) and HOMAG (sizing and edge banding).

Low manpower – more automatic and logistical operations

While under the former system, the logistical quantity for a week's worth of production was in circulation at any one time, today the new plant collates the complete day's quantity for a specific "job run" and feeds it jointly into the production flow. The preferences expressed by the customer for his office furniture, in other words its design and delivery date, are determined first and foremost by the plant delivery service tour planning with all the unloading points per day in precisely timed sequence. This is the basis on which the day's production schedule is planned. This means that furniture is produced on one day and loaded immediately into waiting truck trailers whose dispatch is planned over five working days.

Highly efficient production sequence

The panel materials are placed on the transverse chain conveyor by means of fork lift. A fully automatically operating crane is responsible for all panel inward and outward storage operations. There are 75 storage locations available for the half-format panels (2800 x 2070 mm), with the warehousing software permitting mixed stacks of different decor finishes, panel thicknesses, materials and formats. A suction beam is then used to feed the required panel version to the automatic angular plant for the planned daily quantity.

Here, order-specific panel cutting takes place using a cutting waste optimization system, and the panels for each order are collated according to the daily quantity. The individual furniture components are then transported into the networked edge processing line, and are processed / edge banded on all four sides in two processing passes. An isolating buffer between the cutting saw and the sizing / edge processing line compensates for any unevenness in the production flow. The individual

parts are then removed, sorted according to individual orders and placed ready for further processing.

Any incidental panel waste pieces are returned to the storage locations, where they are automatically registered and managed, and taken into consideration during optimization for the next production run.

Additional benefits of this system: Pure BAZ worktops or special bespoke versions which are not intended to run on the sizing and edge processing line are engaged by an integrated waste piece storage station and gathered by the cross beam at a separate discharge station.

Palmberg puts customer philosophy into practice

Those responsible at Palmberg consider the integral approach taken to the whole range of processes by the three system manufacturers BARGSTEDT, HOLZMA and HOMAG (Project Manager Andreas Holz / HOMAG Engineering) to have lent the company a key strategic advantage – not only in terms of the hardware, i.e. networking and control of the individual machines, but also of the software required for the various processing sequences. Data flows smoothly without obstruction across all the interfaces, which are really not interfaces at all. This is just one of the reasons why this highly complex production plant was running at 100% output speed within just three months of its delivery.

“We wanted to play it safe and ensure that any risk entailed in this type of plant configuration was a calculable one”, agree the Technical Manager and Production Manager. Equipped with an ultra-modern machine outfit designed to offer outstanding all-hours availability, Palmberg may rest easy in the assurance that it is ideally equipped to meet future market demands and keep its customers satisfied.

“Looking forward to the office” – this slogan used by the office manufacturer to appeal to its customers has now become an aspiration, a reality and a mission with the new production plant.

Display Panel Furniture Part Production

Plant component 1

Automatic area storage system with mechanized panel feed for half formats and waste pieces.

System manufacturer: BARGSTEDT

Plant component 2

Sizing saw (angular plant with labelling). Dimensional and angular accuracy are generated in the saw.

System manufacturer: HOLZMA

Plant component 3

Handling (manual discharge of large formats and waste pieces; 25-tier storage system), rotary station and scanner, angular transfer.

System manufacturer: BARGSTEDT

Plant component 4

2-sided jointing and edge processing (4-sided processing in 2 passes).

System manufacturer: HOMAG

Plant component 5

Double angular transfer for 2nd pass or discharge to the porcupine buffer.

System manufacturer: **BARGSTEDT**

Project engineering

System responsibility:

HOMAG Engineering

The Company

PALMBERG Büroeinrichtungen + Service GmbH

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Founded	1991 after taking over a former East German Furniture Cooperative from the Trustees and privatization by former Technical Operations Manager Uwe Blaumann Realignment of the company for the production of office furniture
Chief Executive	Uwe Blaumann, Managing Partner
Technical Manager	Dipl.-Ing. (FH) Friedrich Henning
Production Manager	Dipl.-Ing. (FH) Klaus Lutz
Marketing Manager	Dipl.-Designer (FH) Stephan Kühl
Products	Office furniture and office fittings (excluding chairs)
Workforce	Around 400
Plant size	Site: 40,000 sq.m. Producing area: 20,000 sq.m.
Turnover	62 mill. Euro Turnover increase from 2006: 60 % Export quota: 10 % to neighbouring countries
Sales	Through specialist office furnishing outlets
Quality certification	Quality Management to ISO 9001/2000 Environmental Management to ISO 14001/2004 EC Euro Audit Regulations Blue Angel environmental mark
Logistics	25 trucks (tractor units) 60 drivers 75 trailers, Of which 25 are permanently on delivery tours, 25 being loaded, 25 used as buffer trucks, Telematic-System for precise position determination in the Internet



Fig. 1:
Aerial view of Palmberg



Fig. 2:
Edge banding line with linked buffer storage system



Fig. 3:
Project Manager Andreas Holz (HOMAG AG), Sales Manager Peter Nass (HOMAG AG), Production Manager Klaus Lutz (Palmberg) (v. l.)



Fig. 4:
Edging variety at the edge banding machine



Fig. 5:
Automatic feed of the panel dividing saw from the panel storage system
(HOLZMA / BARGSTEDT)



Fig. 6:
Automatic panel storage system (BARGSTEDT)

For more information, contact

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