



Staying ahead in a changing market with automation and software integration

Automated machinery to produce precast elements as well as the reinforcement and the integration of the fitting software are essential for staying relevant in the vastly evolving market of precast concrete. F.B.I. Tasbud sees itself as a pro-ecological and innovative factory of modules and prefabricated concrete elements that fits perfectly into the needs of the modern construction market in Europe. The company, situated near Warsaw, is preparing for the future needs of precast concrete element usage with state-of-the-art machinery for production and the associated software solutions. Progress Group is the partner of choice to provide the solutions from one single source.

From industrial needs to housing construction - staying ahead with modern production lines

The company states that the current trend is going from prefab elements made mostly for industrial projects to an increasing market of housing construction. This increase of the usage of the prefabricated elements needs to be consid-

ered while planning for the future and thus Tasbud invested extendedly in automation. They installed a production line for sandwich walls; a line for isolated, solid walls; a line to produce concrete columns and beams and a multi-functional reinforcement production robot, all from specialized companies of the Progress Group. The large production capacity and wide range is needed due to Tasbud's business being equally in Poland and also export to other countries, with the bestseller being sandwich walls and columns.

„The most important features of the automated systems are error-free production, easy handling and the longevity of the machines“, Tasbud's General Manager Piotr Krakowski explains the further investment in moulds and tilting tables and adds: „Progress is a manufacturer that is significantly involved from the planning stage through the design of production lines, which is extremely important in the case of the dynamically developing Polish prefabrication market. Investors have to analyze various possibilities and learn all the faces of the solutions that can be used in the production infrastructure.“



F.B.I. Tasbud equips its precast plant with automated machinery and software from Progress Group.



The multifunctioning machinery Pluristar can straighten, cut and bend the needed reinforcement steel directly from coil.



The reinforcement for the elements is being produced automated and thus exactly as planned.

Modern precast production in a nutshell

For the automated production of prefab elements, several machines of Ebawe Anlagentechnik, a Progress Group company, connected with modern software solutions from Progress Software Development are needed to make the production efficient. Shuttering systems for walls and slabs as well as for tilting tables are in use at Tasbud. The shutter handling equipment includes a combined pallet cleaner and a plotter. This gantry structure is computer-controlled and thus the markings of the plotter are exactly as planned in the CAD data. The carousel plant has a pallet transport system with side shifters as well as longitudinal pallet transport equipment. The concrete spreader with a bucket capacity of 3m³ and a concrete spreader with the capacity of 2 m² are flying

over the production lines to cast the fresh concrete uniformly over the shuttered area of the pallet and thus making the production safer, whilst additionally saving space and material. Further machinery for securing a high surface quality is a roughing equipment with lift to treat the concrete element as well as a compacting equipment, which is basically shaking the pallet to spread the concrete evenly. To smooth the fresh concrete surface even more before curing a power trowel got installed in order to achieve the best quality with no need of manual labour. The pallet lifting equipment includes a rail-mounted pallet stacker, which is a lifting device that receives the pallets containing the freshly casted elements from the production line. They get stored in a curing rack system with three side by side curing racks and a single rack nearby with a heating system. After removing the element from the pal-



The concrete delivery system flying over the pallets is handling the delivery fully automated and with exact data, thus is saving concrete and time.





The pallet stacker is stacking the casted elements to the curing rack.



After the curing of the concrete surface the next phase is fine smoothing with a power trowel.

let, the release agent spraying device cleans the pallet - fully automated.

The modern production plant also consists of 8 hydraulic tilting tables with dimensions of 13 x 4.50 meters and machinery for the best-selling product, the double moulds for columns with a total length of 14 meters, width from 200 to 800 mm and height of max 800 mm. Hydraulically managed lateral shutters preset for wooden shuttering guarantee use flexibility thanks to the use of flywood bottoms and end plates. Both table and column moulds are provided from Tecnocon - also a Progress Group company.

“The most important features in Progress production lines are their failure-free operation, simple service and durability. “, states Tasbuds General Manager Piotr Krakowski.

Reinforcement production and software integration

To complete the production a multifunctional reinforcement machine, the Pluristar, has been installed to straighten, cut, and bend the needed steel for reinforcing the elements. It can process wire diameters of 6 - 16 mm directly from coil. The heart of the Pluristar is the combined straightening system consisting of a roller straightening unit and a rotor



Before entering the system again, the pallets are being cleaned automatically.

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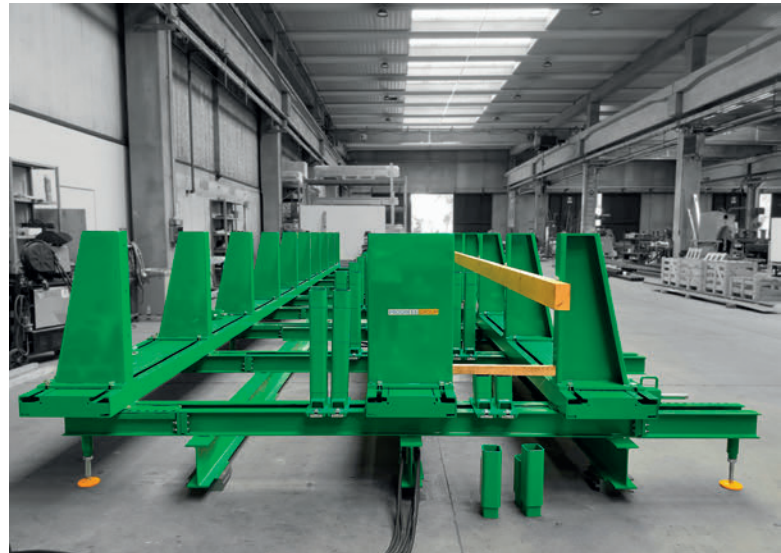


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The double moulds are being used for producing the best-selling products - the columns and are 14 meters long.

straightening unit. This unique combination allows the flexible manufacture of stirrups, straight rebars, and rebars with large bends using just a single machine. The Pluristar is also equipped with a 3D bending system allowing not only 2-dimensional, but also 3-dimensional stirrups to be produced. "The Pluristar is optimally matched to the needs of the reinforcement workshop for the elements planned for production.", says Mr. Krakowski.

They are also currently in a dynamic development process of implementing the ebos® software in its full functionality. This MES-system is a comprehensive solution for work preparation, production, and process analysis. Many standalone

software solutions can thus be replaced by one integrated system. Interface problems are hereby eliminated, and one user-friendly system manages the whole manufacturing process from start to finish. ebos® handles work preparation, production, and process analysis, so the whole manufacturing process from start to finish.

Why it made sense to order all from one single group

After years of experience in the production of reinforced concrete elements, Tasbud can see that only automation at this level gives visible reductions in management costs and production processes. According to them the main advantage



The tilting tables are used for the production of large area flat precast concrete elements, such as solid walls or sandwich walls.

of the Progress manufacturer is its comprehensive equipment and line management software. Another important fact is the experience with which they approach the planning of production lines, actively maintaining a dialogue about the needs and possibilities of individual customers. In addition, Progress is a leading manufacturer of devices for the processing of reinforcing steel, which translates into functionality, efficiency, and maintenance of this advanced infrastructure. ■



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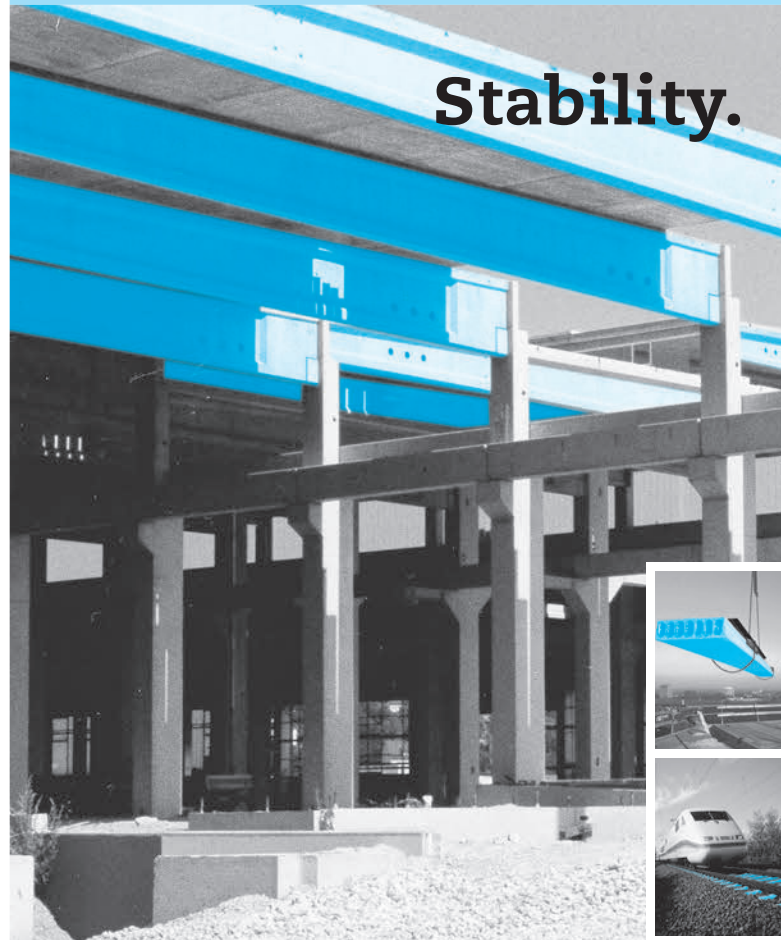
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