German-Chinese joint venture supports the modernization of an Eastern European AAC plant

The global autoclaved aerated concrete industry is undergoing continuous change. Producers are facing aging plant infrastructure, increasing labor costs, higher expectations regarding product quality, and more diverse market requirements. In this environment, the modernization of existing production facilities is becoming an important strategic option for many manufacturers.

At the same time, comprehensive plant upgrades present significant challenges. They often require careful planning, precise execution, and a clear focus on minimizing production interruptions. A recent modernization project in Eastern Europe illustrates how targeted retrofitting, combined with structured project management and modern automation technology, can improve the performance of an existing AAC plant within a limited implementation period.

Wehrhahn Teeyer Smart Technology (Changzhou) Co., Ltd

Cooperation between two leading AAC technology companies

In 2025, Wehrhahn and Teeyer, two established companies in the international AAC equipment industry, founded Wehrhahn Teeyer Smart Technology (WTST) as a joint venture. The cooperation brings together Wehrhahn's long-standing engineering expertise in AAC plant technology and Teeyer's extensive manufacturing capabilities, project execution experience, and global market presence.

With Teeyer having delivered more than 1,200 production lines worldwide and Wehrhahn being recognized as a long-established German specialist in AAC plant engineering, WTST combines complementary strengths from two major technology providers. The joint venture is positioned to offer integrated equipment solutions for AAC producers, particularly in the fields of plant modernization, automation, digitalized production, and efficiency improvement.

Modernization of a production line from 1987

The project in Eastern Europe involved an AAC production line originally commissioned in 1987. Over time, the plant had developed several operational limitations. These included frequent equipment failures, a high dependency on manual labor, long production cycles, limited process stability, and an elevated product damage rate.

For the client, the key requirement was to improve productivity and product quality while keeping the shutdown period as short as possible. Before the project began, a modernization period of at least six months had been expected. WTST completed the on-site transformation within four months, thereby reducing the duration of lost production time and supporting a faster return to regular operation.

Measurable improvements in plant performance

Following the retrofit, the plant achieved clear improvements in several key performance areas.

Production capacity increased from less than 400 m³ per day to more than 800 m³ per day. This represents an effective doubling of the previous output level.

Labor requirements were also reduced. The number of operators needed per shift decreased from 15 to 8, mainly as a result of increased automation and improved process coordination.

In addition, the product damage rate was reduced from more than 5 percent to below 1 percent. This improvement contributed to more stable product quality, reduced waste, and better utilization of finished goods.

Key technical measures

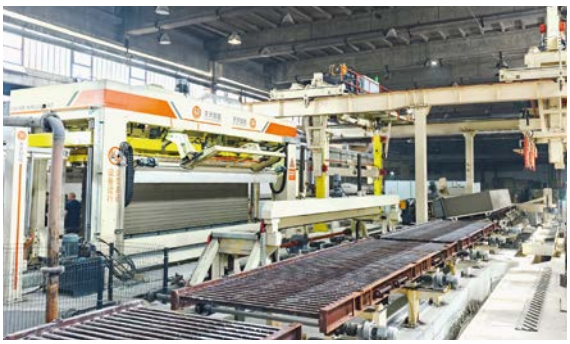
The modernization focused on selected technical areas that had the greatest influence on capacity, quality, and labor efficiency. WTST implemented customized and modular equipment upgrades adapted to the existing plant conditions.

1. Upgrade of cutting process and mold system

The previous horizontal cutting process was replaced with a vertical cutting process. In parallel, the old four-side-opening molds were replaced by a modular box-type mold system.

This change enabled the production of hand-grip blocks, reduced pre-curing time, and improved cutting accuracy. Automatic demolding and oiling were also introduced, helping to eliminate slurry leakage and improve process cleanliness.

Old inefficient horizontal cake cutting system



State of the art tilt cutting

2. Automated transfer car system

The existing manually operated transfer car was replaced with an automated transfer car system. The new system improved positioning accuracy and contributed to shorter and more stable production cycles.

Its modular design also supports easier maintenance and helps reduce potential difficulties related to spare-parts availability.

Existing mould caused process disturbances

Mould replacement stabilised the process.

3. Intelligent stacking and loading technology

The former manually operated stacking hoist was replaced with a high-precision loading machine. The new system enables automated stacking based on simplified mechanical movements and improved control accuracy.

As a result, stacking precision increased, manual intervention was reduced, and the overall reliability of the handling process improved.

Structured project execution

A central factor in the project was WTST's lifecycle service approach, which divides modernization projects into clearly defined phases.

During the site survey and design phase, engineers recorded the existing plant dimensions and analyzed the available infrastructure. This allowed the project team to optimize the layout while limiting the need for civil construction work.

In the product design phase, the equipment concept was adapted to the plant's site conditions, target capacity, and required product range. Installation simulations supported planning accuracy and helped reduce implementation risks.

The project implementation phase focused on coordinated execution, installation management, and schedule control. This structured approach helped ensure that the transformation could be completed within the planned shutdown window.

The final phase, production ramp-up support, included commissioning, on-site technical support, and recipe optimization. These measures supported the transition from installation to stable production and helped the plant reach the intended output and quality levels.

Manual operation and positioning significantly slow down production efficiency.

Fully automatic smooth and safe product handling

Modernization as a practical path forward

The Eastern European retrofit project shows that targeted modernization can be a practical alternative to full plant replacement. By focusing on selected technical bottlenecks, existing AAC plants can improve capacity, quality, automation, and operational reliability without the need for complete reconstruction.

For AAC producers facing aging equipment and rising efficiency requirements, this approach offers a structured path toward more competitive production. Wehrhahn Teeyer Smart Technology positions itself as a partner for such transformation projects, combining engineering know-how, equipment manufacturing, automation, digitalization, and project execution experience.

Through retrofit solutions and continued technology development, WTST supports AAC manufacturers in adapting existing production facilities to current and future market requirements.

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