Automation ambitions redefine scale with new FOREL partnership

The story of NBS is, at its core, the story of a company shaped by a fundamental question: how should a glass factory operate today - and how must it evolve for tomorrow? The new East Japan facility emerged from this reflection. It was conceived not as a simple expansion of capacity, but as a fully fledged industrial project designed from the outset to process large-format glass sheets, integrate advanced automation and manage complex production flows - all while retaining the flexibility required for standard production. This vision took shape through close collaboration with FOREL.

A VISION ROOTED IN EXPERIENCE

"Our story began in 1987," says Toshiaki Kato, CEO and Founder of NBS. "At the time, we were a glass delivery company." In the years that followed, NBS steadily expanded its role - from logistics to operational support and eventually to direct management of production activities. The company moved into tempered glass, then laminated glass, ultimately becoming a fully integrated glass manufacturer. "Everything has always been managed in-house, in a fully self-contained way," Kato explains. "This approach allowed us to control every stage, from materials and people to machinery." Today, at its East Japan facility, NBS produces large-format insulating glass and is recognised as one of the most structured players in the Japanese glass industry.

A strategic investment in automation and systemised production has enabled NBS to manufacture jumbo insulating glass up to 3,300 × 9,000 mm. Developed in close partnership with FOREL, the East Japan facility reflects a long-term vision that's focused upon competitiveness, safety and integrated large-format glass production.

FROM STANDARD PRODUCTS TO LARGE FORMATS

Before construction of the new plant, NBS focused primarily on standard products. Ongoing market analysis and close dialogue with customers, however, revealed a clear shift. "We realised that, particularly in the lower sections of buildings, glass sizes in Japan were becoming significantly larger," Kato notes. The company responded with a strategic decision: to build a factory capable of handling jumbo glass sheets up to 3,300 × 9,000 mm, without sacrificing efficiency, quality or cost competitiveness. "In construction, cost remains a decisive factor," he adds. "The real challenge was understanding how to combine large dimensions with competitiveness."

AUTOMATION AND THE SORTING SYSTEM: THE CORE OF THE PROJECT

To meet this challenge, NBS adopted a production model centred upon systemised processes and advanced automation. The objective was to ensure smooth access to every manufacturing stage - grinding, toughening and

insulating glass production - while integrating additional operations with minimal manual handling. The result is consistent quality, precision and enhanced safety, even when processing extreme formats. “When we saw the Sorting System in operation, we understood that systematic manufacturing was the right path,” Kato explains. “For Japan to remain competitive, we need to move beyond the limits of manual production.” During the project development phase, NBS visited other facilities and evaluated existing solutions. It was during this process that collabora-

tion with FOREL fully took shape.

WHY FOREL: A COMPLETE SYSTEM, NOT INDIVIDUAL MACHINES

Approximately 60 percent of the equipment installed at the new facility was supplied by FOREL. The decision was not driven by a single machine, but by the company's ability to deliver a fully integrated production flow. "FOREL's strength lies in covering the entire production chain," Kato explains. "From the Sorting System to edge processing and insulating glass production." In a plant of this scale, coordination between stages is critical. Cutting, intermediate processing and final assembly must function as a continuous, coherent system. Selecting a single partner capable of ensuring this level of integration proved decisive.

AUTOMATION WITH A HUMAN PURPOSE

At the East Japan facility, automation is not solely about productivity. Handling nine-meter-long glass sheets manually is neither feasible nor sustainable, in terms of safety or operational continuity. "Manually handling glass of this size is no longer an option," Kato states. With FOREL's solutions in place, operators now focus on supervision, quality control and process optimisation. The outcome is a safer working environment and a more stable, long-term production model.

A FACTORY DESIGNED FOR THE AGES

Today, the East Japan facility ranks among the largest and most advanced glass plants worldwide. It was designed around automation, systemisation and IoT integration to support production focused on high-value-added products. "When investing in a new factory, it's essential to be clear about what you want to achieve," Kato concludes. "If you are building a system, you need a partner capable of supporting it over time." With this foundation established, NBS looks ahead with clear objectives: to consolidate its competitive advantage and confirm its position as a national benchmark in large-format architectural glass production. A factory designed not only for today's demands - but for decades to come.

FOREL

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