

Progress Group, 39042 Brixen, Italy

Malaysian company IJM Corporation implements state-of-the-art automation solutions

Riding the waves of change in Malaysia construction industry, IJM Corporation, one of the largest conglomerates in Malaysia, has decided that it is time to expand its business into prefabricated building system or commonly known as Industrial Building System (IBS) in Malaysia. Operating as IJM IBS, a fully-owned subsidiary of IJM Corporation, this pioneering business is based in the thriving industry hub of Bestari Jaya, Selangor. By integrating state-of-the-art Industrial 4.0 technology from Progress Group, a European market leader in precast manufacturing, IJM IBS presents a revolutionary Smarter Way to Build.

Transforming the Future of Construction

Issues that plaguing today's construction industry such as low productivity, skilled labour shortage and increasing demand for better quality homes can now be overcome by adopting IJM IBS precast system. IJM IBS offers a comprehensive end-to-end precast building solution, covering design, cost-planning, fabrication, delivery, and on-site installation. With a focus on sustainability and innovation, IJM IBS is well-positioned

to capitalize on emerging opportunities in these areas. The strategic collaboration with Progress Group, one of the leading companies in precast automation systems, amplifies their capabilities. Progress Group, equipped with state-of-the-art machinery, software, and their own precast plant, shares a common mission of creating better living conditions. This partnership enhances IJM IBS's ability to deliver advanced solutions, setting new industry standards.

Precast: Building the Future

The precast concrete market, driven by factors such as increased demand for affordable housing, urbanization, environmental concerns, and technological advancements, offers a diverse range of products. IJM IBS plays a key role in this landscape, offering a wide array of elements, including columns, beams, slabs (BubbleDeck/half slab/full slab), plain wall panel, customizable patterned wall panels, toilet pan, staircase, architectural elements and more. These precast elements enable faster, safer, and more efficient construction with reduced waste.



IJM IBS produces advanced precast products with Progress Group's automated machinery in Bestari Jaya, Selangor, Malaysia.



ebos software: Streamlining the manufacturing process from start to finish.



With the 3D carousel plant visualization, integrated in ebos, IJM has always an eye on production control and analysis.



One of the main products and best seller of IJM is the bubbledeck slab.



Innovative Bubbledeck slab system removes excess weight by using plastic bubbles as voids within the floor slab.

Across Malaysia, offices, warehouses, factories, and high-rise residential projects have already embraced this innovative approach. Furthermore, numerous government projects such as schools, hospitals, civil servant quarters, and offices are currently in progress, showcasing the expanding reach and potential of precast concrete in the construction sector.

Pioneering Sustainability in Construction

With their state-of-the-art plant and innovative approach, IJM IBS sets a new standard in top-quality precast production while minimizing waste. Leveraging cutting-edge technology and streamlined processes, they have achieved an impressive waste percentage of less than 1.0%. This environmental focus not only benefits our planet but also enables IJM to produce precast components with enhanced efficiency and cost-effectiveness.

In-House Automation Delivers Bespoke Solutions

Utilizing advanced automated machines, IJM achieves precise in-house production of reinforcement wires and mesh to meet exact specifications. Cutting-edge technology, such as the M-System Evolution mesh welding plant that is equipped with magnetic traverse for automated logistics, ensures accurate opening cuts and bar spacing. The EBA stirrup bender bends wires precisely based on design data, eliminating the need for manual labor. The outcome is a customized mesh ready for casting, requiring minimal additional adjustments and enhancing efficiency.

Effortless Automation, Optimizing Production's Rhythm

Utilizing cutting-edge automated machinery from Progress Group, IJM IBS has achieved a seamless production process that leaves no room for imperfections. These state-of-the-art machines handle each stage with precision, from securing the mesh to transferring it onto the pallet, and even employing robotic assistance to position magnetic shutters. The result? A remarkably streamlined production cycle with minimal human intervention.

These remarkable machines boast the ability to simultaneously compress, compact, and vibrate the slab on the pallet, resulting in an impeccable final product. The Form Master, responsible for shuttering and de-shuttering, alongside the storage robot, handles the shutters in a fully automated manner, contributing to enhanced precision, accelerated operations, and even greater cleanliness thanks to the addition of a pallet cleaning device.

Furthermore, they have revolutionized their working environment with the implementation of pallet lifting and transport equipment, which significantly reduces the burden of heavy labor, creating a more appealing workspace. Likewise, the fully automated tilting equipment effortlessly tips the entire pallet, showcasing IJM's commitment to efficiency and ease.



IJM IBS PPVC: Prefabricated and fully equipped with architectural finishes, ready for efficient delivery to the construction site.

By implementing a concrete spreader that only utilizes the necessary amount of concrete, as determined by advanced software directly communicating with the machinery, IJM IBS drastically reduces concrete waste. This innovative approach not only contributes to environmental sustainability but also showcases its commitment to responsible resource management.

Lastly, the power trowel employed expertly smoothens the surface, elevating the overall quality of the product to new heights. Through this meticulous attention to detail and un-



Effortless Finishing: Power trowel creates smooth surfaces, eliminating the need for painting.

wavering pursuit of excellence, IJM demonstrates their dedication to delivering flawless results that surpass industry standards.

Exquisite automation: Elevating efficiency, refining quality, enhancing flexibility, fortifying safety, and unlocking cost savings.

Digital factory

Progress Group also supports IJM IBS as digitalization partner on their way to a digital factory. The broad product portfolio of software solutions from Progress Group, based on the three pillars BIM, ERP and MES, guarantees a perfect integration of all business and production processes from a single source. IJM was already able to achieve a higher efficiency in their automated plant with Progress' specialized MES software, ebos®. ebos is a complete software solution for work preparation, production and process management, control and analysis and delivers an overall picture of the whole production process. Beyond that, with the mobile application "ebos, storage control and manual adjustments in the external warehouse can be handled easily. In addition to the MES system, IJM also chose Progress' ERP solution e^{rp}bos, which was developed specifically for the precast concrete industry. The whole process chain can be managed in e^{rp}bos, allowing IJM to always have a complete overview of its business and performance. Due to the openness of the Progress' software, it was no problem to interface erpbos to SAP, which is used as a corporate wide ERP-System for Finance and Procurement. A central digital platform ensures now that anyone can access the data from anywhere, ensuring 100% transparency. The project life cycle is constantly updated, making it possible to make decisions in real time and keep costs and time under control. Accurate resource planning and consumption control



Efficient and automated storage system ensures fast and smooth factory operations.



The M-System Evolution is an advanced mesh welding plant that produces customized reinforcement mesh for precast elements.



e²Pbos supports IJM to ideally plan capacities and production to achieve maximal productivity.

as well as optimal production planning significantly increase productivity and prevent production downtime thanks to always up-to-date stock levels.

Chan Huan Ong, Assistant General Manager at IJM IBS SDN. BHD., expressed satisfaction with the collaboration, stating, "We are thrilled with the Progress Group automated machinery. It has significantly improved efficiency, quality, flexibility, safety, and cost savings in our precast concrete component production." He further described the collaboration as mesmerizing, calling it "Simply a Smarter Way to Build."

FURTHER INFORMATION



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IJM Corporation Berhad was founded in 1983 in Malaysia. It started as a small construction company and had since grown into a diversified global enterprise with operations in construction, property development, manufacturing, port, and infrastructure. Today, IJM Corporation is one of the largest conglomerates in Malaysia and has a presence in over 10 countries around the world.



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