

A virtuous example of Automated Glass Logistics by **ITALCARRELLI**



The world of glass production and logistics is currently undergoing a transformative era with the introduction of automated and technologically-advanced systems. Here Italcarrelli stands out as a key contributor to this revolution - playing a pivotal role in automation development at Lannutti Mornimont, a leading flat glass logistics centre in Belgium. Spanning over 60,000 square metres, the impressive complex is managed by Italcarrelli-branded laser-guided vehicles (LGV) that are entirely designed, manufactured and programmed in Chiampo, Vicenza, Italy.

SEAMLESS LOGISTICS

Inside the logistics centre, trucks carrying loaded glass racks, known as Float Liners, come and go. The electric ITALCARRELLI

A major player in automating glass logistics, ITALCARRELLI handles glass racks with precision with its laser-guided vehicles. The company's sophisticated Warehouse Management System (WMS) maximizes efficiency while its advanced safety features and energy management system jointly ensure uninterrupted operation. Such cutting-edge solutions promote efficiency, safety, and sustainability - all consolidating automation as a characterizing feature of the industry's future.

Italcarrrelli's
Warehouse
Management
System



PTN 330 LGV Inloader takes centre stage - a laser-guided vehicle that can transport loads of up to 33 tons. The PTN 330 LGV Inloader exhibits remarkable autonomy and precision, retrieving racks and independently transporting them to the sorting

area. Serving as a logistical operations hub, this extensive area can accommodate up to 300 Jumbo racks. Mind that these warehouses handle 200 flat glass racks daily - all testifying to the facility's efficiency and management capabilities. All handling and logistics

are expertly managed by Italcarrrelli's sophisticated Warehouse Management System (WMS), or RICU. This advanced system allows for seamless and intuitive management of the entire Autonomous Guided Vehicle (AGV) fleet, providing real-time information on the glass

and rack locations through a user-friendly tablet interface. With RICU, all rack loading and unloading operations are precisely synchronized, thereby maximizing efficiency while minimizing downtime.

PRECISION IN HANDLING

The PTN 330 LGV Inloader's reliability and maneuverability are both ensured by step-by-step electric motors directly connected to the wheels. This configuration enables a prompt and precise response to the guidance system inputs - ensuring safe and smooth load handling. Additionally, the vehicles are equipped with an advanced load lifting safety system (patented 'SicurLift') as well as collision avoidance devices, which jointly guarantee the protection of both materials and operators.

Effective energy management is crucial for efficient logistics operations. Italcarrrelli's Battery Exchange System (BES) allows all the company's vehicles to independently exchange batteries. When batteries fall below a certain charge

3 operator-free
Inloader Italcarelli
vehicles after
delivering the racks



threshold, the vehicles proceed to the charging area, where automated battery swapping occurs. This process ensures uninterrupted operation - so avoiding downtime caused by charging and ensuring consistent productivity. Upon sorting the glass in the dedicated area, an operator then uses an Italcarelli EN4L series Side-loader that can handle loads of up to 16 tons. With advanced features and exceptional maneuverability, the operator retrieves all glass packs from the racks



The automated
battery exchange
system, BES



in just two retrievals. This flexibility optimizes storage space and enables precise and safe handling. After retrieval from the racks, the glass packs are placed on one of the 500 shelves within the warehouse.

DEFINING THE FUTURE OF AN INDUSTRY

A similar process is implemented when orders are completed. The sideloaders transfer the glass from the shelves to the racks. Subsequently, the racks are collected by an Italcarelli PTN 330 LGV transporter and positioned in front of one of the doors, whereupon they're loaded onto a truck for transportation to their destination. Thanks to the collaboration with Italcarelli, this efficient and highly-auto-

mated structure exemplifies excellence in the flat glass logistics industry. Indeed this combination of Italian technology with logistics expertise creates a modern and exceptionally-efficient work environment that can deliver state-of-the-art flat glass handling and management. In sum, Italcarelli offers an advanced solution for the complete automation of glass transportation from production sites to final storage warehouses - promoting efficiency, safety, and sustainability in glass logistics. Here automation allows for optimal resource management, reducing energy waste and minimizing CO2 emissions. By using its autonomous guided vehicles (AGV) as an innovative traffic management

system, WMS, as well as sophisticated safety and remote assistance systems, all operations are optimized - thereby ensuring precise and safe handling. Italcarelli represents a solid foundation for the future development of the entire industry, placing automation at the core of glass handling and management technologies going forward.

ITALCARRELLI SpA

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