



MARINA BAY SANDS
SINGAPORE

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MARINA BAY SANDS DEPLOYS AUTONOMOUS MOBILE ROBOTS FOR BACK-OF-HOUSE DELIVERIES

The initiative, which is a first in Singapore's hospitality sector, reduces labour dependency by up to 30 per cent



The Autonomous Mobile Robots are deployed for deliveries plying close to 20 pre-programmed routes in Marina Bay Sands' Heart-of-House, an underground city comprising Team Member Dining Rooms, central kitchens and offices

Singapore (17 June 2025) – In an industry first, Marina Bay Sands has successfully deployed a fleet of 12 Autonomous Mobile Robots (AMRs) for back-of-house deliveries to optimise its hotel and Expo & Convention Centre operations. Typically deployed for supply chain deliveries in factories around the world, the AMRs perform a critical but manpower-laborious task of deliveries for the 24/7 integrated resort (IR).

Before the AMR adoption, the IR saw over 200 manual deliveries across 80 routes each day. Between 2019 and 2023, delivery volumes surged by around 35 per cent as operations expanded, leading to the property exploring the use of automation.

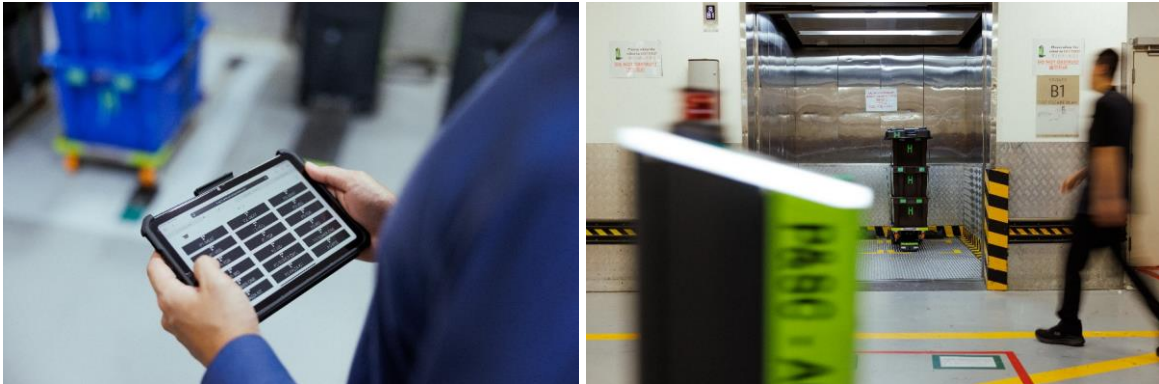
With the use of the AMRs, Marina Bay Sands has seen up to a 30 per cent reduction in labour dependency. Procurement and Supply Chain Team Members have been re-assigned



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to higher value tasks, upskilling in areas such as inventory management as well as operating and dispatching the AMRs, ensuring the smooth integration of robots into daily operations.



(from L to R): A Team Member controls the AMRs via an app to assign tasks, monitor movements and troubleshoot issues; the AMRs are programmed to enter lifts and disembark at specific floors

With close to 20 pre-programmed routes, each AMR can transport a maximum load of 300kg and travel at a top speed of up to 84 metres per minute. Safety laser scanners allow for intelligent wayfinding and obstacle detecting, enabling them to come to a halt in front of obstacles and safely navigate around objects in their path.

Following the successful deployment of four robots to manage deliveries for the Hotel in March 2024, Marina Bay Sands introduced another eight robots to support deliveries for the hotel and the Expo & Convention Centre in September 2024. Another five will be programmed and rolled out in the second half of 2025.

“Running a large-scale integrated resort like Marina Bay Sands requires effective workforce planning, and since day one, we have fostered a culture of productivity by investing in innovation,” said Shijith Prathapan, Vice President of Procurement and Supply Chain at Marina Bay Sands. “As we continue to invest in Singapore, we will pursue even more innovative tools to elevate workplace processes together with our suppliers, who have been instrumental in enhancing our productivity.”

To-date, more than 200 work processes have been automated across various business functions, allowing the resort to repurpose over 162,000 manhours towards greater value-added tasks annually.

Marina Bay Sands is also continuously refining existing productivity measures, to ensure processes are optimised with modern technology. The Wardrobe, a prime example of



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automation and productivity with an inventory containing over 200,000 pieces of uniforms in 18 conveyors running round the clock, underwent an upgrade last year.

Previously, each uniform was embedded with a high-frequency chip which can track the location of clothing as well as the number of washes. Last year, the integrated resort replaced the chip in each uniform with an ultra-high-frequency chip and upgraded its inventory management system – allowing an additional function of automated stocktaking. By pushing a trolley of uniforms into a high-tech black box known as the “U-Door”, the team can capture the number of uniforms in just 30 seconds, counting up to 400 pieces of clothing within this timeframe. In the past, the stock-taking task was done manually.

Technology adoption extends to food waste management strategies



Beyond thoughtful sourcing, Marina Bay Sands' pursuit of food sustainability encompasses reducing food waste at source through artificial intelligence, donating to communities in need and processing food waste through industry-first technologies

Marina Bay Sands also drives innovations in food sustainability, recording significant progress in its ambitious trials to elevate circular waste management practices with a range of innovative food waste treatment pilots, as reported in its [Responsible Business Report 2024](#). These complement five aerobic digesters capable of breaking down food waste into non-potable water for discharge that were introduced early on in 2013.

In 2024, Marina Bay Sands completed a two-year pilot of WasteMaster, a cutting-edge food waste processing technology that transforms high-calorific output into fish feed for a local aquaponics farm. Waste subsequently excreted by the fish is broken down by beneficial bacteria into nitrates, which are then used to fertilise high-quality vegetables in a local farm and sold in selected supermarkets and restaurants. This technology continues to be used in 2025.



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“These pioneering trials demonstrate Marina Bay Sands’ commitment to pushing the frontiers in the hospitality and sustainability industries in Singapore while reducing the environmental impact of our operations,” said Meridith Beaujean, Executive Director of Sustainability at Marina Bay Sands. “Through various technologies and best practices, we diverted 65 per cent of our food waste in 2024, and hope to achieve 100 per cent by end-2025.”

To-date, the integrated resort processes and diverts up to 12,000kg of food waste daily, and since 2013, close to 10 million kg of food waste has been diverted from landfills through food waste management technologies and donations to charity partners. This includes freezing unserved, safe food in industrial blast chillers and donating to partners like The Food Bank Singapore.

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About Marina Bay Sands Pte Ltd

Since its opening in 2010, Marina Bay Sands has stood as an architectural marvel and the crown jewel in Singapore’s skyline. Home to the world’s most spectacular rooftop infinity pool and approximately 1,850 rooms and suites, the integrated resort offers exceptional dining, shopping, meeting and entertainment choices, complete with a year-round calendar of signature events.

Marina Bay Sands is dedicated to being a good corporate citizen to serve its people, communities and environment. It drives social impact through its community engagement programme, Sands Cares, and leads environmental stewardship through its global sustainability programme, Sands ECO360.

For more information, please visit www.marinabaysands.com

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