

JAPAN: THE LAND OF RISING ROBOTICS

Japan is considered as a nation for restoring culture, where traditions are deep rooted, and technology is the fulcrum. The incredibly developed technology is what makes life full of conveniences in Japan. From the provision of vending machines containing clothes and shoes, to ETAF automatic doors that open shifting bars according to your body shape, the Japanese incorporate technology into their everyday lives.

The government introduced, the use of Smart Gates at the airports for foreign nationals, visiting Japan. These passengers using the facial recognition system need to have a passport with electronic chips, which are scanned by the dedicated devices at the gates to automatically match the photo in the travel document taken at the gate. The system allows passengers to finish customs declaration procedures through an app on their smartphones. Some of the airports have recently introduced the personal mobility machines.

The autonomous machines are designed to replace wheelchairs by transporting passengers who face difficulties in walking long distances or who have limited mobility to their designated boarding gates. The system is compatible with the WHILL autonomous models and operates using sensors and area maps. After transporting the passenger, the self-driving machine is capable of returning to the base automatically. At Haneda Airport, they are introducing contactless systems to allow passengers to check-in and check their luggage without meeting an employee. Through the use of posters, we ask passengers to refrain from having conversations in locations where people are in close proximity. The is to encourage passengers to stay at a safe distance from each other by suggesting a standard distance and changing the way they use the public area.

One of Tokyo's most popular districts has recently added some unusual new attractions: transparent public toilets. Designed by Shigeru Ban Architects, the two new sets of see-through restrooms have been installed in Shibuya, the bustling city center famous for its busy pedestrian crossing. Though the restrooms sound risqué, they're actually part of an innovative project aimed at changing people's perceptions of public toilets. Focusing on two important aspects cleanliness, and the second is whether anyone is inside. Shigeru Ban Architects' design tackles these two concerns by offering a toilet with glass walls that -- at first -- allows the public to see through from the outside. But once a user enters the toilet and locks the door, the walls turn opaque to provide privacy. The goal of this new renovation project is to get rid of old stereotypes about public toilets in Japan and to ensure that anyone can use the facilities, including people who are disabled while maintaining the safety and hygienic levels.

One thing that every tourist to Japan immediately notices is the large number of vending machines. Known locally as *jidou hanbaiki*, you'll find them on every corner, at every station, outside every convenience store and adjacent to every rice paddy. You'll even find vending

machines on top of Mount Fuji. Japanese vending machines are at the forefront of a convenience renaissance, and no nation will ever be able to catch up. There are 4.14 million vending machines in Japan, according to Japan vending system manufacturers association. For reference, that means more vending machines than sushi restaurants. You'll find Japanese vending machines that can tell you the weather, help you take a selfie, or use facial recognition software to guess your age and gender and then offer a personalized beverage recommendation. To further ensure safety these machines now have a sheet with antibacterial effect on vending machines.

As we all know, Robots are very imperative to Japanese culture. They have been around for the longest time. Right from assisting customers in shops to guiding patients in hospitals robots are now present in every corner of Japan. Some entities are even highlighting robotic colleagues as a selling point to young, recruits.

As global trends show the roles of robots growing ever greater, the "Robot Nation" of Japan is putting to use cutting-edge robotic technologies in a variety of fields besides manufacturing while keeping in mind societal demand. Robots are now working on the front lines in a diverse array of areas, including aeronautics, medicine/welfare, disaster mitigation, disaster investigation and rescue. The use age old technologies and invention of robots has proved to be a blessing in today's scenario for the Japanese and the world shall follow.