



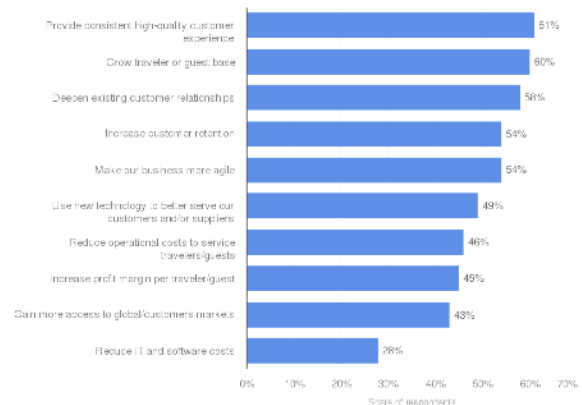
# China's Hotel Giant Boosts Business Success with Gausium Vacuum 40 Diffuser

## BACKGROUND

The coronavirus pandemic is challenging companies and organizations in every sector around the world. As one of the most service-intensive sectors with high operating leverage, the hospitality industry has experienced precipitous drop in demand, which tests the resilience and adaptation of the hoteliers.

As the pandemic continues and the world evolves to the new normal, hotel owners and managers are re-evaluating their current business model and updating their SOPs to adapt to this change. One remarkable trend in the hotel industry is the awareness of robotics and digital solutions as resorts to successfully navigate through the COVID-19 crisis and sustain competitiveness. According to a 2020 survey on main business priorities of tourism and hospitality companies worldwide, 49% of the respondents confirmed that their priority was to use new technologies to better serve customers and/or suppliers, and 27% stated that they had a team to manage digital transformation (Statista, 2021).

Main business priorities of travel and hospitality companies worldwide in 2020



Source:  
Statista, Amazon Web Services  
© Statista 2021

Additional information:  
Worldwide; Statista, Amazon Web Services, mid-2020; almost 1,000, most respondents were in executive-level positions as vice presidents, or significant minority held C-level positions at these organizations.

# CHALLENGE

Hanting is the first hotel brand of Huazhu Group – the world's top 10 and China's 2nd largest hotel operator known for its standardized IT system. Since the first hotel launched in 2005, Hanting is dedicated to providing travelers with high-quality, conveniently-located, and reasonably-priced hotel services. By the end of 2020, Huazhu had opened over 2,780 Hanting hotels nationwide, accounting for 9.31% of the economy hotels in China according to the statistics of China Hotel Association.

The pandemic impact was evident in the financial reports of Huazhu Group. Hotels suffered huge loss of revenue due to lockdowns and reduced mobility. The crisis has also caused enduring changes in customer preferences and consumption behaviors. For instance, customers have shown a growing preference for contactless service supported by digital platforms and intelligent technologies. They have also developed increased concern for hygiene and health standards, which compels hotels to reinforce their commitment to environmental hygiene and upgrade protective measures.

Huazhu Group, as an industry pioneer in embracing digital in hotel management, had implemented digital systems to its hotel operating procedures before the coronavirus outbreak and has been keenly aware of the changing customer preferences and expectations that will continue throughout the

post-COVID-19 era. On 30 April 2020, right before China's Labor Day Holiday, the Group launched 130 post-epidemic cleaning operations in its 2,560 Hanting hotels, and invited customers to supervise the entire process of deep cleaning on-site and via live streaming to reassure them of the hotel's safety (Meadin, 2020).

As the industry gradually recovers from the pandemic, Huazhu Group is continuing its digitalization efforts to upgrade its customer service and stay ahead of the industry. It was looking for intelligent and digital solutions to provide safe accommodation conditions for customers as well as delivering a positive brand image. At the same time, the increasing cleaning service expenses resulted from labor shortage call for efficiency-boosting and cost-saving solutions.

## The Challenges at Hanting Hotels



**Higher hygiene standard and stricter safety regulation**



**Labor shortage of cleaning services**



**Intense focus on operational standards and guest experience**



**Pressure to reduce operating costs**

# SOLUTION

In order to effectively implement the cleanliness SOP and address customers' concern for hygiene and safety during the post-COVID-19 era, Huazhu Group has introduced a batch of autonomous cleaning robots, Gausium Vacuum 40 Diffuser, to assist with cleaning work at Hanting Hotels.

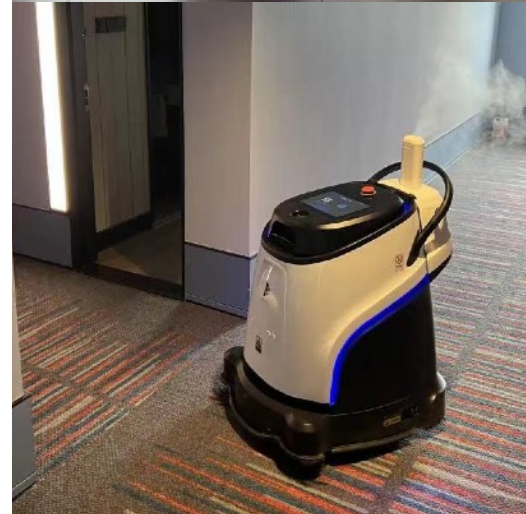
The Hanting Hotel located in Jiayuan Road, Suzhou, is among the first chains that have introduced a unit of Vacuum 40 Diffuser. Since February 2022, the robot has taken over the floor cleaning of the hotel lobby and the accommodation corridors across 5 floors. The lobby adopts marble floor covering around 45 square meters, while the accommodation corridors are furnished with low pile carpets covering a total area of 670 square meters.

## All-inclusive Autonomous Cleaning Solutions

Gausium Vacuum 40 Diffuser is a floor vacuuming robot with an add-on diffuser kit for purposes of disinfection or aroma diffusion through fogging. It is a smaller-sized model in Gausium's cleaning robot portfolio and can travel freely in the long and narrow corridors of the Hanting Hotel.

The cleaning robot is exceptionally versatile. It works perfectly on varying flooring types, be it a hard surface, a low pile carpet or a high pile carpet, and effortlessly picks up fine dust or debris with a 24 kPa suction motor. It can identify flooring materials and automatically switch between cleaning modes. On top of floor cleaning and sanitizing, it can also create pure air of pleasant scents with its medical-grade H13 HEPA filter as well as the aroma atomizer of the diffuser kit.

Every day, the Vacuum 40 Diffuser starts floor cleaning and atomizing disinfection at the hotel lobby before 7:00 in the morning, and it works 5 shifts throughout the day. It only takes the robot 5 minutes to finish the floor cleaning of the entire lobby. At around 2:00 in the afternoon, when the housekeepers finish room cleaning, Vacuum 40 Diffuser starts to clean and sanitize the carpet area of the accommodation corridors. It takes the robot 1.5 hours to finish the cleaning work at the corridors of all the 5 floors.



## Vacuum 40's Work Routine at the Hanting Hotel

Operation	Location	Shift	Duration	Coverage
Sweeping, Dust Mopping & Atomizing Disinfection	Lobby	Daytime: 4 Nighttime: 1	5 mins per shift	45 m <sup>2</sup> (484 ft <sup>2</sup> ) per shift
Vacuuming & Atomizing Disinfection	Accommodation Corridors	Daytime : 1	1.5 hrs per shift	670 m <sup>2</sup> (7,212 ft <sup>2</sup> ) per shift

## The Vacuum 40 Solution at Hanting Hotels Includes:



**Vacuuming, Sweeping  
& Dust Mopping**



**Atomizing  
Disinfection**



**Auto Charging**



**Elevator Calling**



**Mobile App**



**Data Reporting**



### Fully Unmanned Operation

Relying on Gausium's advanced semantic SLAM (simultaneous localization and mapping), Vacuum 40 can perform autonomous and flexible obstacle avoidance during the cleaning process. Whether it's dynamic obstacles such as guests and luggage, or static ones like tables, chairs, and cleaning carts, the robot is able to detect and pass around them instantly. It can also interact with other smart devices such as delivery robots and avoid them in real time.

The Vacuum 40 solution at Hanting Hotels is customized with functionality of Elevator Calling. The robot is integrated with the smart elevator system of the hotel through API, which allows it to take elevators on its own and move freely between floors.

The solution at Hanting Hotels also includes Auto Charging. A charging dock is deployed at the ground floor for autonomous charging. When the power is low, the robot will automatically return to the charging dock to recharge itself and thus extending its uptime for round-the-clock cleaning.

Remote access is achieved through Gausium Mobile App that enables the hotel service managers to monitor and control the cleaning tasks from anywhere. After the cleaning tasks are completed, data reports of cleaning performance metrics and status of the consumables can be viewed and downloaded by the managers through their smart devices.

The entire cleaning process of the Vacuum 40 Diffuser requires minimal human interference, which enables the reallocation of resources to more delicate tasks like cleaning and disinfecting door knobs and elevator buttons.

## RESULTS

The Hanting Hotel management team are impressed by the multiple advantages the Vacuum 40 solution provides. Above all, they appreciate that the Vacuum 40 Diffuser frees the room service workers from the tedious and repetitive floor cleaning tasks and allow them to engage in more value-added work.

**“The robot has significantly improved the cleaning efficiency, so that our service staff can use the time they previously spent on floor cleaning to do a lot more finer work, such as cleaning the glass door and serving the guests,” Said the manager of the Hanting Hotel. “Also, the robot looks cute and attracts the attention of our guests. It helps enhance our image in the eyes of our customers.”**

As a labor-intensive industry, hospitality relies heavily on standardized manual inputs and

operations. The adoption of digital and intelligent solutions such as Gausium Vacuum 40, helps the hotel to automate a considerable proportion of its repetitive service work and digitalize its management. By improving the hotel's operational efficiency, the autonomous cleaning solution also helps achieve significant cost reductions.

The Vacuum 40 autonomous cleaning solution has helped the hotel cleaning team to eliminate human error, improve service efficiency and stabilize service quality, and thus enhance customer satisfaction. The smart cleaning services provided by Vacuum 40 Diffuser significantly increase the frequency and consistency of cleaning and disinfection and reduce the risk of cross-infection, and thus boost customer's confidence in the service environment of the hotel.

The partnership with Gausium is part of Huazhu Group's smart digital service strategy that has been implemented in more than 5,700 of its hotels since the pandemic outbreak in 2020. By the first quarter of 2022, according to Huazhu, 50 Hanting hotels would have deployed a Vacuum 40 Diffuser. The Group plans to make the Gausium Vacuum 40 solution an integral part of its standardized digital operations and have the robot deployed in its 3,000+ Hanting hotels nationwide in the near future ([Sohu, 2022](#)).

## About GAUSIUM

Gausium (alias “Gaussian Robotics”) was founded by Edward CHENG in 2013 out of a passion for autonomous driving. It started as a solutions provider of SLAM (simultaneous localization and mapping) and integrated robotics software. Today, Gausium has become a leading solutions provider of AI-powered autonomous cleaning and service robots with currently the world’s most comprehensive commercial cleaning bot portfolio. Currently, Gausium’s products and services include commercial floor cleaning robots, indoor delivery robots and supplementary accessories like docking stations, cloud platform and application software.