

# Matradee L

Brochure





# Matradee L Introduction

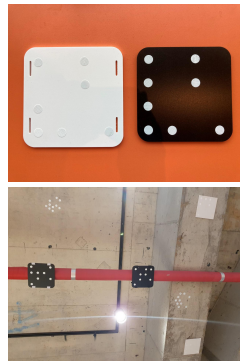
## Navigation

### IR Camera

Identifies positioning tags on the ceiling to confirm the position of the robot on the map.

### Positioning Tags

Positioning tags on the ceiling.



### RGBD Camera

Identifies airborne obstacles that LiDAR cannot detect.

### LiDAR

Constantly refreshing to detect fast moving objects

## Store Environment

### Ceiling Height

For Matradee L to identify the positioning tags, the ceiling must be a maximum of 23 feet high and not have significant irregularities (such that would prevent the tags from being positioned evenly).

### Passage width and obstacles

The Matradee L requires a channel of more than 36 inches to drive safely. Any obstacles should be removed.

### Floor Surface and Material

Matradee L cannot operate on floors with irregularities greater than 1/4 inch or a slope greater than 5 degrees. Delivery of less-stable food items (soups, drinks, tall items) may require even smoother floors for safe operation.

## Features

### Delivery Mode

Delivers food via the optimal route after an employee has loaded the food and selected the correct table location.



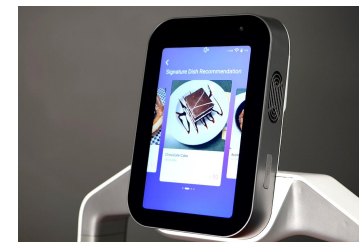
### Cruise Mode

Automatically cruises preset routes and displays promotional material while greeting guests.



### Other Functions

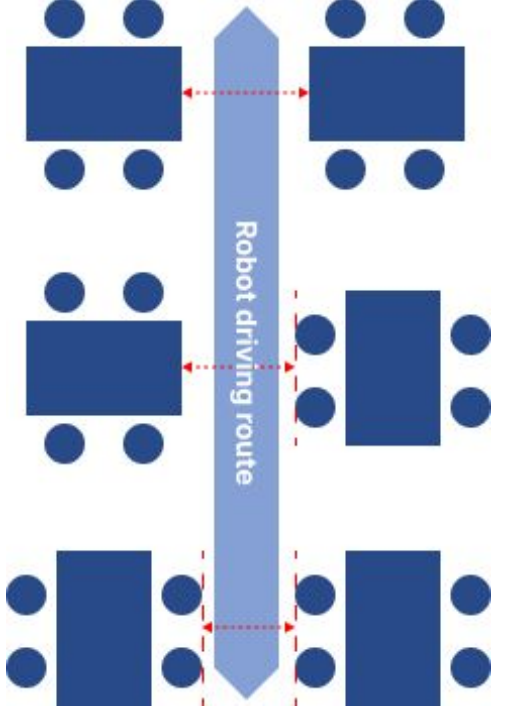

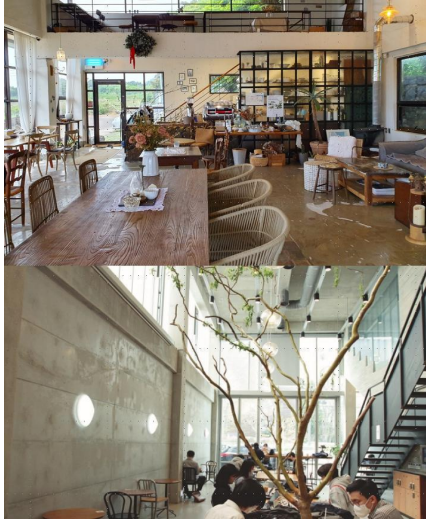
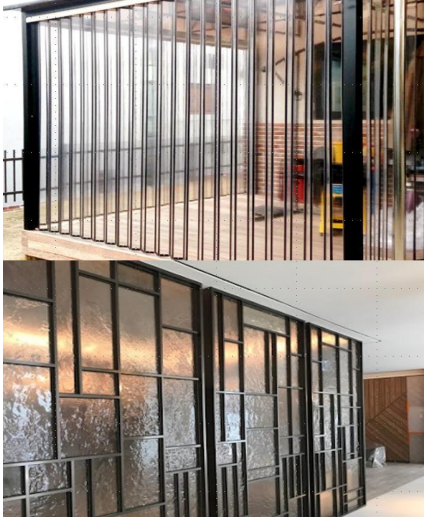
Upselling via the customizable screen, host functionality, signature dish recommendation, etc.





# Delivery Environment

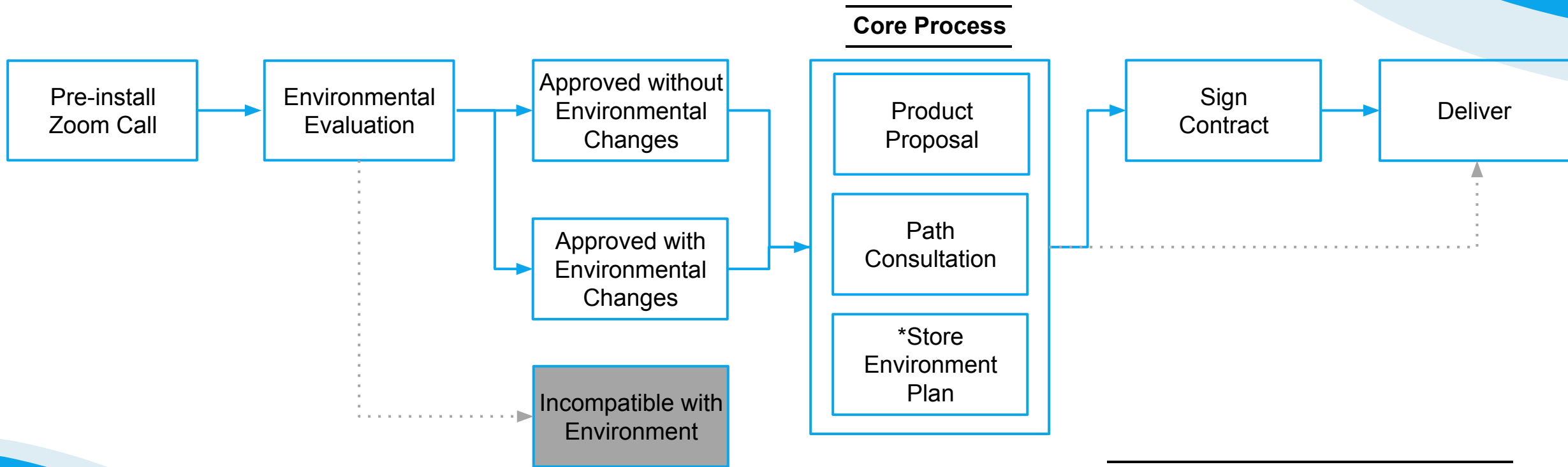
We check the store environment in advance (floors, ceilings, passages, obstacles).  
Environment consultations are also available for stores.

Ground and Material	Ceiling	Channel Spacing	Obstacle
<p>Robot can't run over floors where:</p> <ul style="list-style-type: none"> <li>• The ground height difference is more than ¼ inch.</li> <li>• The slope is more than 5 degrees.</li> <li>• On "rustic-style" wooden floors or foot-movable carpets.</li> </ul>	<p>Robot cannot recognize location tags if:</p> <ul style="list-style-type: none"> <li>• Ceiling is above 23 feet or below 6 feet.</li> <li>• Ceiling slope is over 30°.</li> <li>• Ceiling structure has excessive decoration.</li> </ul>	<p>Robot driving width: minimum 36in.</p> 	<p>LiDAR Unrecognized Obstacles:</p> <ul style="list-style-type: none"> <li>• Transparent glass partition</li> <li>• Textured window surfaces</li> <li>• Raised bar</li> </ul>
			
<p>Step difference and inclined surface may need leveling construction</p>	<p>Transformed into a structure that can be attached to the back panel.</p>	<p>Table position adjustment (if necessary). Robot docking location decision.</p>	<p>Create virtual walls in the robot's map.</p>



# Sales Process

First, we hold a pre-installation zoom call to evaluate the environment, then we provide product proposals and robot driving path consultation to spaces that meet the requirements of use.



### \*Purpose of Store Evaluation Plan

To plan the robot's driving path in advance, so that the installation tech can install more accurately as well as provide targeted training for customers.



# Integrating the Matradee L

	Matradee L Present Y/N	Reception/Leading	Order	Food Delivery	Food/Drink Refills, Distribute Samples, etc.	Closing
<b># Trips Between Front/Kitchen and Table</b> (Each waiter trip is time <i>not spent interacting with guests</i> . Waiters can stay longer with guests while robot makes trips.)	Before Robot	Waiter (5x)				
	With Robot (minimal usage)	Waiter (2x)		Matradee (2x)		Waiter (1x)
	With Robot (heavy usage)	Matradee (1x)	Waiter (1x)	Matradee (3x)		



# Non-Restaurant Venues and Other Robot Uses

## Food delivery robots can thrive in other businesses, such as:

- Indoor golf courses
- Lounge areas and VIP rooms
- Offices
- Retail stores



Matradee L at an indoor golf course



Matradee L at a business convention

## Our Matradee lineup can further enhance the customer experience by:

- Integrating with automated door openers that allow robots to pass through without the assistance of a staff member. (Such devices can be obtained from third-party providers.)
- Reducing disturbance to diners, allowing them to eat more peacefully.
- Displaying promotional and/or educational materials.



# Matradee L Differentiation Points

## 1 All in one robot

Not only does it have the capability to safely transport food, but it also features versatile promotional and host modes that can be tailored to the store's specific requirements.

## 2 Customized interface

At any given time, the store has the capability to utilize personalized photos, videos, and audio recordings, as well as play their own branded advertisements in video and audio formats.

## 3 Provides a safe driving experience

With a focus on safety, the system is capable of rapidly and reliably detecting a clear path, autonomously selecting the most efficient route, and effectively navigating around any obstacles through the use of multiple sensors.

## 4 Superior technology

HD camera and 6 microphones, AI voice recognition, 10.1-inch large screen operation, and easy to operate.



# Restaurateur FAQ

## 1 Do food delivery robots actually reduce personnel costs?

One robot can replace the workload of 1 - 2 people (depending on the restaurant).

## 2 How long does it take to install?

Generally, 4-8 hours are required for installation, testing, and employee training. More or less time may be required depending on the needs of the store.

## 3 Will food delivery robots collide with diners?

The robot has the ability to detect and avoid obstacles, including moving ones such as people. Thus far, in the 500+ stores where we have implemented, there have been no reported incidents of collisions with customers, resulting in high satisfaction among restaurant owners.

## 4 Do food delivery robots fail frequently?

Under normal conditions, failure is unlikely to occur. However, it is advisable to regularly inspect the wheels for any debris that may have become lodged to avoid any potential unforeseen issues.

## 5 If location of a table has changed, do I need to reset the Matradee's map?

Yes, if the position of a table in the store changes, the robot's driving path needs to be reset. If a table needs to be moved, please let us know in advance, and we will arrange an engineer to adjust virtually.





# Matradee L Dimensions



Location	Measurement (in)
1. Screen Height	11.2
2. Screen Width	7.5
3. Screen Thickness	3.4
4. Arms Width	3.5
5. Arms Thickness	1.2
6. Arms Length	29.1
7. Top Trays Width	17.0
8. Top Trays Length	19.9
9. Bottom Tray Width	15.8
10. Bottom Tray Length	18.9
11. Base Height	8.1
12. Base Width	19.7
13. Base Length	20.9



# Matradee L Navigation Systems

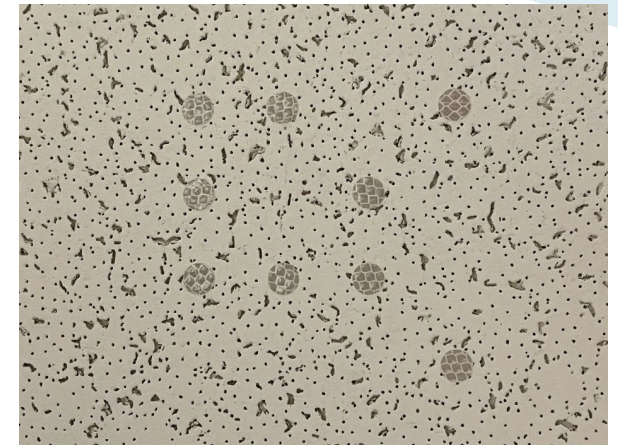
## IR Camera

Identifies location tags, confirming the robot's position.



## Location tag

Reflective stickers on the ceiling function like QR codes to mark unique locations.

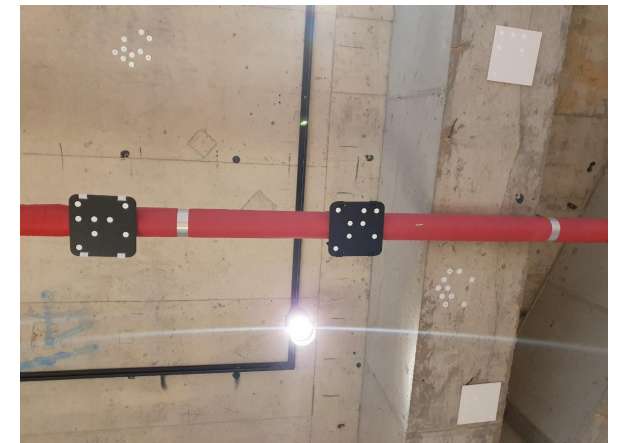


## RGBD Camera

Identifies tall or airborne obstacles invisible to radar.

## LiDAR

360-degree rotation identifies obstacles ahead.





# Matradee L Navigation System: LiDAR

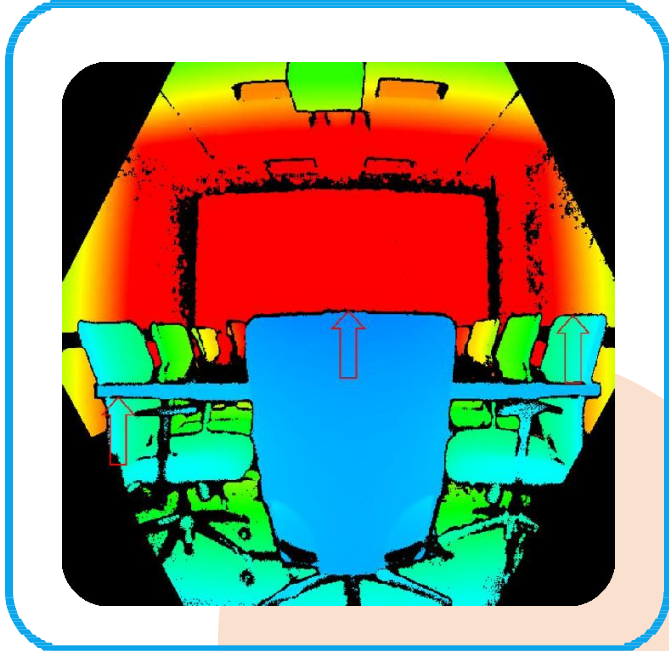


The laser radar (LiDAR) can scan 60 feet ahead to let the robot 'see' obstacles and plan for autonomous obstacle avoidance.

During mapping, the environment is scanned to generate a map which allows the robot to localize itself and find its way around



# Matradee L Navigation System: RGBD Depth Camera

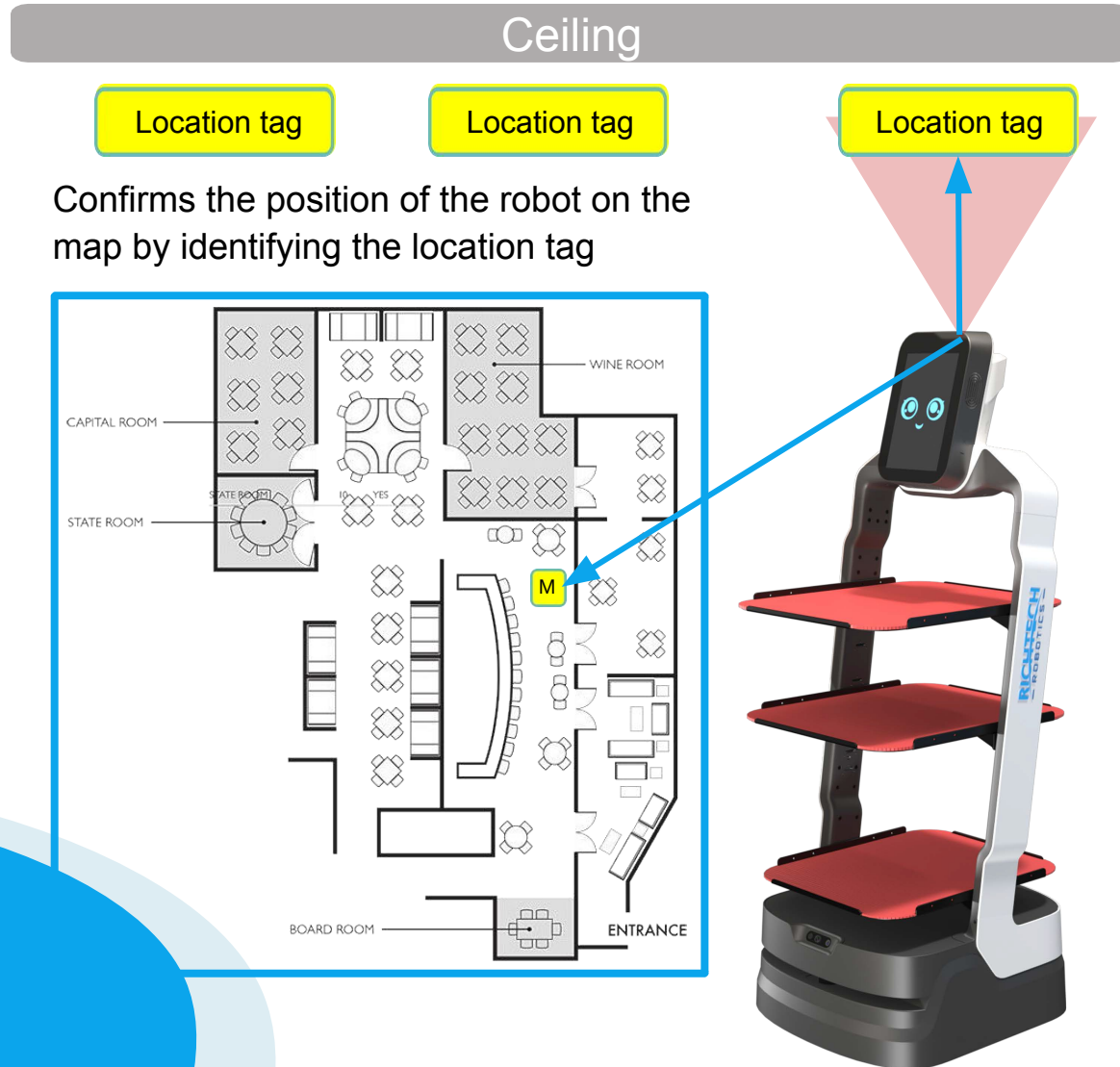


RGBD Depth camera can identify suspended obstacles that LiDAR cannot see.

The objects recognized by the camera are read in color according to the distance



# Matradee L Navigation System: Positioning Tag and IR Camera



Location tag

Location tag

Location tag

Confirms the position of the robot on the map by identifying the location tag

The robot reads the positioning labels as it travels, and determines the position of the robot on the map.

While not strictly necessary, this is a redundancy system that prevents the robot from losing its way in very crowded spaces.



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