# **PuduTech Smart Robot Solutions for Hotpot Scenario**

Define your exclusive team of robots

/ Global Leading Robotics Company /



# 01 Why Hotpot Industry Need Robotics Upgrade

### **Hotpot Industry Status**

### PUDU



The market size of China's hot pot industry reached **499.8 billion yuan in 2021**, with over **33000 newly registered** enterprises. In the past five years, the compound annual growth rate of the hotpot market size is **9.5%**. It is expected that the market size will reach **668.9 billion yuan by 2025**. Compared to other catering industries, the hotpot industry is easier to achieve scale, standardization, and intelligence

#### Industry competition is becoming increasingly fierce, and industry pain points urgently need to be solved

Cost growth

Rapid growth in labor prise and significant increase in the proportion of labor expenditure employment risk

The catering industry has a large turnover of

increase difficulty in job collaboration and hard

to a balance between labor costs and efficiency

human resource, unstable employment will

High work intensity

Low value and high intensity of repetition result in poor work experience, further increasing the risk of personl turnover User experience improvement

The catering business is complex, and manual services under limited costs inevitably result in service delays and unstable quality, which affects customer experience and leads to customer loss





intelligent robots for higher efficiency



# 02 Pudu Robotics Introduction



### **Pudu Robotics**

Shenzhen-based and founded in 2016, Pudu Robotics is a world-leading tech-focused enterprise dedicated to the design, R&D, production and sales of commercial service robots on a mission to use robots to improve the efficiency of human production and living.

Since its inception, Pudu Robotics has heavily invested in R&D, obtained multiple awards such as Red Dot and applied hundreds of core patents to lead the development of the robotics category and provide high technology products that would appeal to targeted markets. Pudu Robotics has been rapidly growing in recent years to become a "leader" in the global markets with coverage of over 60 countries and regions worldwide. The robots are widely applied in restaurants, hospitals, schools, office buildings, government halls, subway stations, waiting rooms, etc.

## Scale Advantage

#### Globalization

Pudu Robotics has established a business presence in North America, Europe, East Asia, Asia-Pacific, the Middle East and Latin America. The products have been exported to more than 60 countries and regions around the world, covering more than 600+cities worldwide. Pudu Robotics has established a trustworthy international brand image and become one of the representative enterprises of China's "intelligent" manufacturing abroad

**60+** 

more than60 Countries and regions **600+** 

over600cities

# Pudu Robotics: The world largest commercial service robot manufacturer

**Total Sales Quantity** 

56,000+

53,000+ units have been sold worldwide

Market Share in All Scenarios

TOP1

The market share in the full range of commercial service robots is No.1 (Exceeds the sum of the 2nd, 3rd, 4th, and 5th places on the market) Market Share of the Overseas Catering Industry

> 80%

Overseas catering industry's market share > 80%



# **C**ooperation

Pudu Robotics has reached strategic cooperation with many famous brands.



### Honor

Pudu Robotics has been recognized by organizations and institutions in various industries.





# **03** Product Family Matrix

### **Product Family Matrix**



#### Creating Truly Useful Robot to Improve Human Productivity and Quality of Life



### **Product Family**



### **Delivery Robots**



### **Delivery Robots**

### PUDU



#### HolaBot



First Delivery Robot with Remote Call Notification Function for Multiple Delivery Scenarios





FlashBot

APP call





Auto-door



Customized disinfection







Arrival notification

### **Cleaning Robots**

### PUDU





#### PUDU CC1

All-Purpose Cleaning Monster: Four-in-One Scrubbing, Sweeping, Mopping, Vacuuming

A that integrates sweeping, mopping, vacuuming, and dusting, easily meeting all cleaning needs with just one device







Scrubbing

Mopping

Sweeping



#### PUDU SH1

#### Professional Mini Digital Floor Scrubber: A More Professional and Thorough Cleaning Solution

The compact and flexible design allows for easy transition between tasks on multiple floors and surfaces



### **PUDU Cloud**





#### **PUDU Cloud Platform**

#### For distributors

Management platform for managing business opportunities, clues, sub-distributors, merchant customers, and selling robots.

#### PC – Web

- 1) Singapore Group: https://css.pudutech.com
- 2) Germany Group: https://csg.pudutech.com
- 3) China Group: https://cs-internal.pudutech.com



### **PUDU Merchant Management Platform**

#### For end-store

A platform for robot configuration, remotely controlling, managing stores and viewing robot operation data.

PC – Web

- 1) Singapore Group: https://businesss.pudutech.com
- 2) Germany Group: https://businessg.pudutech.com
- 3) China Group: https://business.pudutech.com





PuduLink App 【iOS】

PuduLink App [Android]

### **IOT Solutions**



### **Accessories Solutions**

PUDU



#### **Enclosed Protective Cover**









#### Bearing tray (Bella)



#### Cup holder (Bella)



### **1-N Customized Solutions**





# 04

### **Scenario Solutions**

### **Restaurant Experience Process**





### **Requirement Analysis for Marketing Process for Hotpot**

### PUDU

#### **Pain Points:**

### **High cost & low quality**

- High labor, recruitment, and management costs of salespeople
- Need special training
- Always lack of manpower which decrease the service quality
  Marketing skills hard to master which may significantly affect customer communication

### Limited marketing patterns

- Fixed display and limited promotion points
- Outdated marketing patterns that no longer attract consumers' attention
- Undynamic, limited, and inflexible advertising and publicity
- Untargeted static advertising that is unable to deliver the intended value



### **Before-meal : Entrance Attraction & Advertising Solution**

#### New and Innovative Marketing Methods Enhancing Consumer Experience of Differentiated Promoting Quick Customer Flow Conversion

With moving at the entrance and waiting areas ,the large mobile advertising screen on robot provides a broader, more frequent, eye-catching, and precise marketing method for restaurant , allowing the restaurant 's brand, promotional activities, special products, etc., to reach more customers and further improve the conversion rate of marketing campaigns.





### **Promotion Comparison**

| Robot with Ad screen |  | Traditional fixed Ad screen   |  |  |
|----------------------|--|---|--|--|
|                      | <b>33.4 RMB</b><br>(Unlimited usage, single daily fee /device)   | <b>200 RMB</b><br>(15s/180times/day/point)  |  |  |
| <u>Attraction</u>    | Integrating movable and technology can deliver a more engaging and interactive viewing experience, driving greater viewer interest and attention                         | Most traditional advertising relies on static images and videos, which can lack creativity and fail to make a lasting impression.   |  |  |
| <u>Usability</u>     | With a simple setup on a computer, it is easily published and manages<br>Ad content on our robots, leveraging the latest in wireless<br>communication technology         | Need labor work when change the content   |  |  |
| <u>Coverage</u>      | Our robots are movable, allowing for flexible and unrestricted coverage of any area  | Unmovable, fixed area, restricted range about 0-5meter  |  |  |
| <u>Cost</u>          | With movable robots and large-screen advertising, can provide flexible<br>and customizable advertising options that can meet the specific needs<br>of any coverage area. | Traditional fixed advertising screens retail settings often require<br>multiple screens to effectively support marketing and promotional<br>efforts, resulting in higher costs. |  |  |

### **Before-meal: Queue Calling + Guide to Table**



#### Attraction $\rightarrow$ Queue calling $\rightarrow$ Guide to table work in consequence without a break

The KettyBot can be used for the entire process of greeting, queuing, and seating after the table has been configured on the Pudu Link App, and an external Bluetooth printer can be used for printing vouchers such as queue number tickets.



### **Dining: Seat and Order**







### How to integrate

- 1. 3rd party APP development
- 2. Install the 3rd party APP in KettyBot
- 3. Configuration

Configure the third-party application package name and path, set "Guiding mode" and "Table services"

### **Requirement Analysis for Food Delivery of Hotpot Scenario**

PUDU

# **Pain Points:**

#### High labor costs

Large employee turnover, increasing various hidden expenses

#### Long time and boring working

Long term, high-frequency, and extensive delivery work can easily lead to poor employee experience, improve employee mobility, and increase labor costs for enterprises

#### **Difficulty in ensuring service quality**

Simple delivery work takes up a lot of work time, making it difficult for stand staff to focus on serving customers

#### **Difficulty in human resource coordination**

Insufficient manpower during peak periods, delayed food delivery, and decreased customer satisfaction



### **Dining: Delivery Solution**

### PUDU

### Human-Robot Collaboration: Driving Quality and Efficiency in Service



New collision avoidance algorithm redefines rush hour delivery logic

### **Dining: Delivery Solution**

### PUDU



Suitable for private compartments area

Suitable for all dining regions

Suitable for waiting and dining areas

Suitable for all dining regions

### **Dining: Delivery Scenarios Configuration**

### PUDU

#### Meets Almost all Types of Catering



### **Dining: Delivery with IOT Equipment**



### After-meal : Cashier & Pay The Bill

| Туре    | Description   | Robot Model           |
|---------|---|-----------------------|
| SDK     | Through SDK can call the robot to move from point A to point B remotely | Pudu、Bella、Ketty、Hola |
| Pudu OS | Support to re-customize the whole process of the robot APP              | Pudu2、Bella           |
|         |   |                       |

Support users with development capabilities for interconnection



### **Dish Recycling Present Situation**

### PUDU



Labor costs account for over **50%** of the overall operating costs while dish recycling occupies over **20%** of the labor costs and showing an increasing trend

## High Working Intensity

Manual delivery with long time and high working intensity. According to statistics, the load of single recycling delivery can reach **15kg**, and everyday delivery exceeds **200** of recycling boxes with the cumulative weight exceeds **1000kg** 

tigh Oil Pollution

high oil pollution scenario ,recycling process hard to avoid **secondary pollution**, which affects the dining experience



Pursuing the ultimate service experience poses higher challenges to recycling efficiency. The task of recycling **starts at random locations** which requires a very short response time that is extremely difficult

### Pudu Robotics' Understanding of Dish Recycling Scenario



### **High Light of HolaBot**

### PUDU



Fast battery swapping technology The battery can be quickly replaced, achieving 7 \* 24 hour operation

#### Linkage suspension

Adaptive variable suspension, vehicle specification level standard, changes damping according to different road conditions and driving requirements, and controls resonance frequency to the optimal state. 70cm ultimate passability, 7mm obstacle crossing ability

Sound direction tracking Intelligent turning around 'Hola, "&" Hey, Pudu "speech recognition and directional tracking with omnidirectional six microphone array, 360° sound source positioning, robot tracks the direction and automatically turns around



4G+NFC intelligent remote call solution

Real time summoning of robots and issuing task instructions, receive arrival notifications, and achieving on-demand availability



### After-meal : Recycling Solution for Hotpot



### **Requirement Analysis for Cleaning of Hotpot Scenario**

Heavy cleaning workload

Pain Points:

High frequency and large-scale cleaning are required, resulting in a high intensity labor burden

High difficulty

The cleaning environment of hot pot restaurants is complex, involving varying degrees of oil stains in aisles, table bottoms, kitchens, etc., making cleaning more difficult

highcost

Traditional cleaning methods require the purchase of various consumable cleaning tools and equipment to meet different cleaning needs, resulting in high cost investment

Kitche

Narrow environment under the table

Aisle

Difficulty in management

Lack of digital and visual intelligent management tools, difficult to ensure cleaning effectiveness, and low management efficiency

High frequency large area cleaning







### After-meal: Cleaning

12000Pa Ultra-strong

**Sunction Power** 

**350rpm Brush Speed** 22kg Brush Pressure

**4 Cleaning Modes** 

unparalleled portability

#### Exchangeable

Battery



45

**5** h

清洁周报 (2021.10.1-2021.10.7) 5523 m

#### Smart operation and lean management

The device can be connected to the app, control the cleaning status, obtain digital cleaning reports to quantitatively display water and electricity consumption, and plan resource usage reasonably

Pudu SH1 **One for All** 

Integrating multiple cleaning functions with a flexible and easy-to-use design, one SH1 can meet the floor cleaning challenges of hot pot restaurants

### **Other Scenario: IOT**





# 05

### **Successful Cases**



### **Value Summary**



### Successful Cases – JingGe Hotpot

### PUDU



### JingGe Hotpot (Xi Zhi Men)

Location: Located in a shopping area, which has 5 floors of restaurant area with 100+ food brand, surrounded by office buildings, communities, universities, and zoos

| 130            | 5.6   | 42                       |
|----------------|---|--------------------------|
| ATV (RMB)      | Turnover rate per day<br>Turnover rate = (number of table uses -<br>total number of tables) ÷ total number<br>of tables × 100%. | DART (Thousand RMB)      |
| Acreage: 350m² | Floor height: 3.5m  | Aisle: 1.2-1.5 m         |
| Table QTY: 35  | level ground  | Kitchen: Open<br>kitchen |

8 tables for two、19 tables for four、6 tables for six、2 tables for eight

\* Relevant statistics as of December 2022

### Successful Cases – JingGe Hotpot

### PUDU

# Traditional<br/>manual formVSHuman-robot<br/>collaboration form

The store has added 2 PUDU2 to the food serving process, which has reduced the waiters from 2 to 1. The original waiter's responsibility has shifted from being the food runner to the food preparer. This change has also led to a reduction in the frequency and number of temporary staff used.

| 1/7           | Save <b>11000</b> | Increase <b>1.2</b> times |  |
|---------------|-------------------|---------------------------|--|
| Delivery Cost | Operation Cost    | Delivery Efficiency       |  |

| Туре   | Delivery Cost       | No. of Dishes/day                         | Working Hours | Structure of human<br>resources |
|--------|---------------------|---|---------------|---------------------------------|
| Manual | 7000RMB/ppl/month   | 100 dishes /workday<br>180 dishes/holiday | 10 Hours      | 2waiter+temporary staff         |
| Robot  | 1200RMB/robot/month | 120 dishes /workday<br>220dishes/holiday  | 10 – 24 Hours | 1 waiter+2 robot                |

Relevant statistics as of December 2022

### Successful Cases – Haidilao Hotpot





### Successful Cases – Haidilao Hotpot



### Investment

Purchase cost: 2 robots+4 watches+initial installation fee =38000 \* 2+1000 \* 4+2000=82000 CNY Depreciation period of 3 years maintenance expenses for the second and third years =3750 \* 2 \* 2=15000 CNY Usage cost: Electricity fee of 40 CNY/month

### Profit

Labor cost savings: 1 person comprehensive labor cost=7500 CNY/month Piece-rate cost savings: 3000 CNY/month

Note :Data based on China market

Break-even point



### Haidilao Shenzhen No.11 Restaurant







Monthly average ncome10500 CNY

Purchase cost pay back in 8 months

3 years comprehensive investment return rate

| I |                        | back in o monuns investment return ra |        |        |  |
|---|------------------------|---------------------------------------|--------|--------|--|
|   |                        | Y1                                    | Y2     | Y3     |  |
|   | Total cost(CNY)        | 82480                                 | 90460  | 98440  |  |
|   | Total profit(CNY)      | 126000                                | 252000 | 378000 |  |
|   | Investment return rate | 52.7%                                 | 178.5% | 284.1% |  |



### **Successful Cases**



Yemei Hotpot ,delivery



BanuHotpot ,delivery& recycle



Baheli Hotpot ,delivery



Yijia Hipai Hotpot ,delivery



Haidilao Hotpot ,delivery& recycle



Xiapuxiapu Hotpot, delivery



# Operation Service

### **Operation Advantage**





### **Operation Advantage**

### PUDU

#### Offline Service:

- 1 Year Free Warranty
- 7 × 24 Hours Service
- Local Service & Support

Pudu Robotics has a thorough after-sales support system and humanized after-sales policy as well, whenever it is needed, we are going all out to offer service and reach your satisfaction.

#### PUDU CARE Timely Professional Satisfying Remote and onsite Exclusive technical Warranty guarantee Global service network service, free tech expert and in 30+ countries and local support for training and certification value-added service for PUDU robot customers

# Thanks!

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