PUDU

Industry Solution

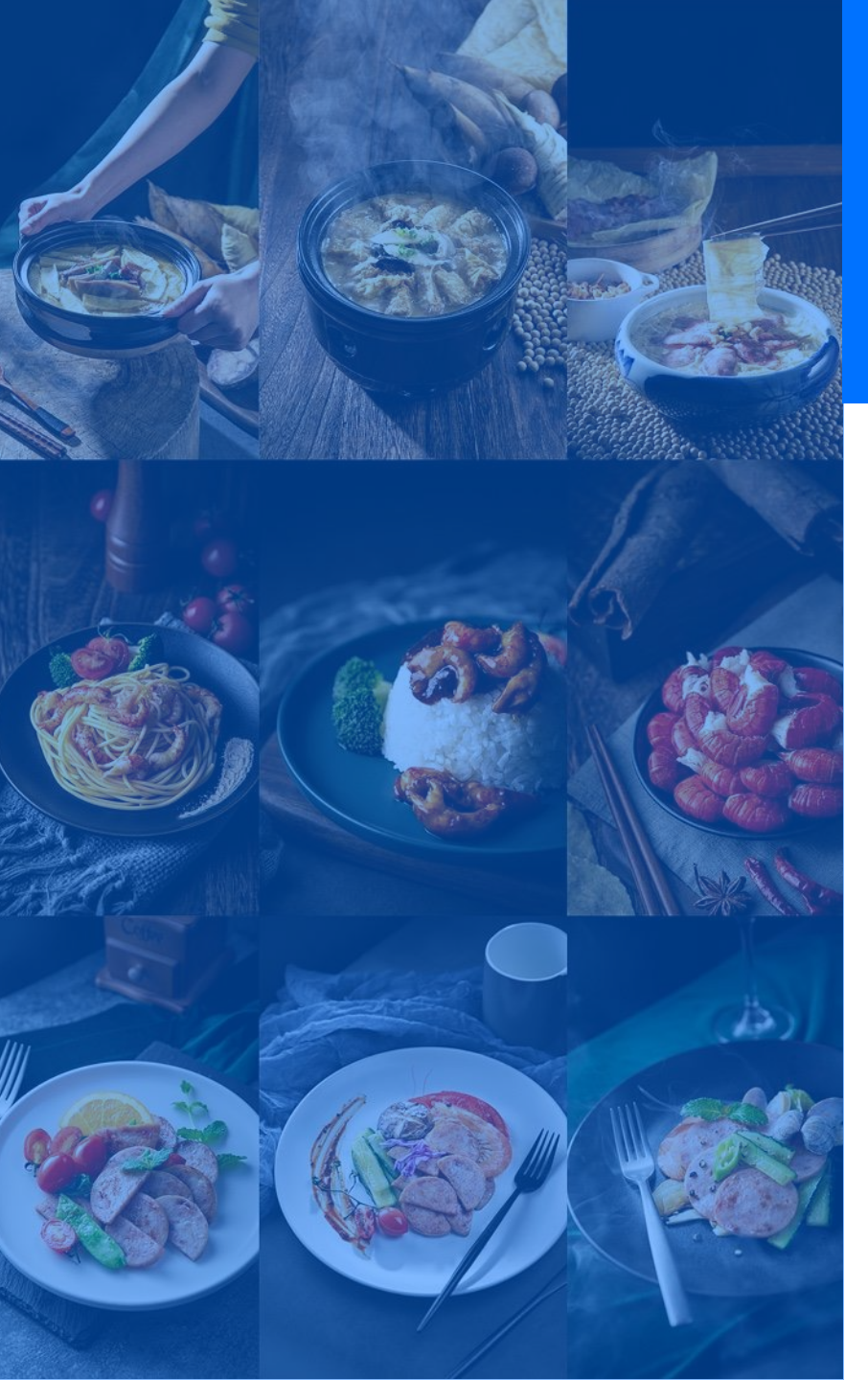# Catering Industry

/ Global Leading Robotics Company /

CONTENT

PUDU

2023

01

Scenario Solutions

Restaurant Experience Process

Pre-meal

Dining

Post-meal

Customer

| 1. Find a store | 2. Waiting line | 3. Seat | 4. Order | 5. Have a meal | 6. Additional dish | 7. Pay the bill | 8. Leave |

Q1：Homogeneous marketing methods with weak appeal

Q2：Long Waiting time

Q3：High customer volume

Q4：Slow service

Q5：Slow food service

Q6：Long queues, low efficiency

Q7：spends more time clearing tables than attending to customers

Waiter

| 1. Flyer/Banner | 2. Guide to table | 3. Show the menu | 4. Set up the table | 5. Deliver | 6. Serve | 7. Process the payment | 8. Clean the table |

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Intelligent end-to-end Business Process

Cashier

Order

Place the food

Clear the table

Delivery

Promotion

Semi-outdoor delivery

Guide to table

Queue calling

Pay the bill

Pudu Restaurant

PUDU

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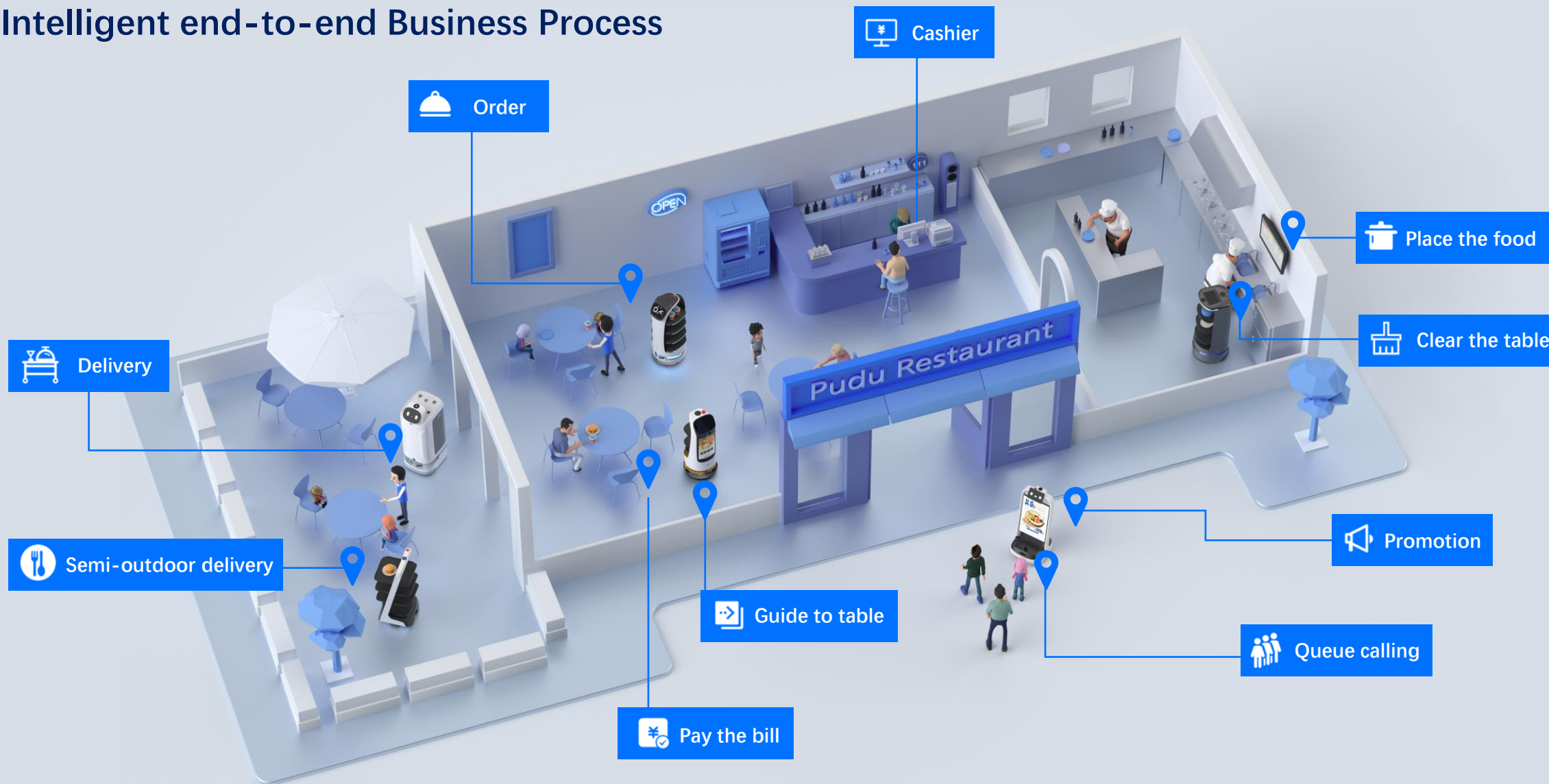
Pre-meal: Promotion

New and Innovative Store Marketing Methods

The large mobile advertising screen provides a broader, more frequent, eye-catching, and precise marketing method for stores, allowing the store's brand, promotional activities, special products, etc., to reach more customers and further improve the conversion rate of marketing campaigns.

Pre-meal: Promotion

Enhancing Consumer Experience Differentiation and Promoting Customer Flow Conversion Quickly

With more eye-catching and novel ways of attracting customers, smarter and more thoughtful dining services, and more convenient product access, customers can enjoy a completely new store experience, which quickly enhances the store's differentiation and competitiveness, and leads to faster customer flow conversion.

Ketty 18.5" Ads screen, variety promotion

Promotion more accuracy

- Utilizing intelligent LCD screens to attract customers from all angles
- Large advertising screens better fitting the customer's perspective
- Combining with speakers to significantly attract family-style customers
- Supporting multiple scenarios, allowing for customizable media size and content
- Supporting various types of media, such as audio, video, images, and links

Weight	38KG
Charging time	4.5H (support self-charging)
Battery life	> 8H
Speed	0.5-1.2m/s

PUDU2 32" Capacitive touch advertising screen

The interaction is diversified

- Seamlessly integrated mobile robots with advertising screens
- Display a variety of videos and showcase promotional content in real time.
- Indoor mobile advertising machine can bring message directly to target audience
- Product promotion, brand promotion, and marketing display, easily achieve marketing objectives

Weight	39KG (PUDU2) +13KG (AD Screen)
Charging time	8H
DPI	1920*1080
AD Screen power supply	Via robot charging port

Pre-meal: Promotion

Robot with Ad screen
33.4 RMB
(Unlimited usage, single daily fee /device)

Traditional fixed Ad screen
200 RMB
(15s/180times/day/point)

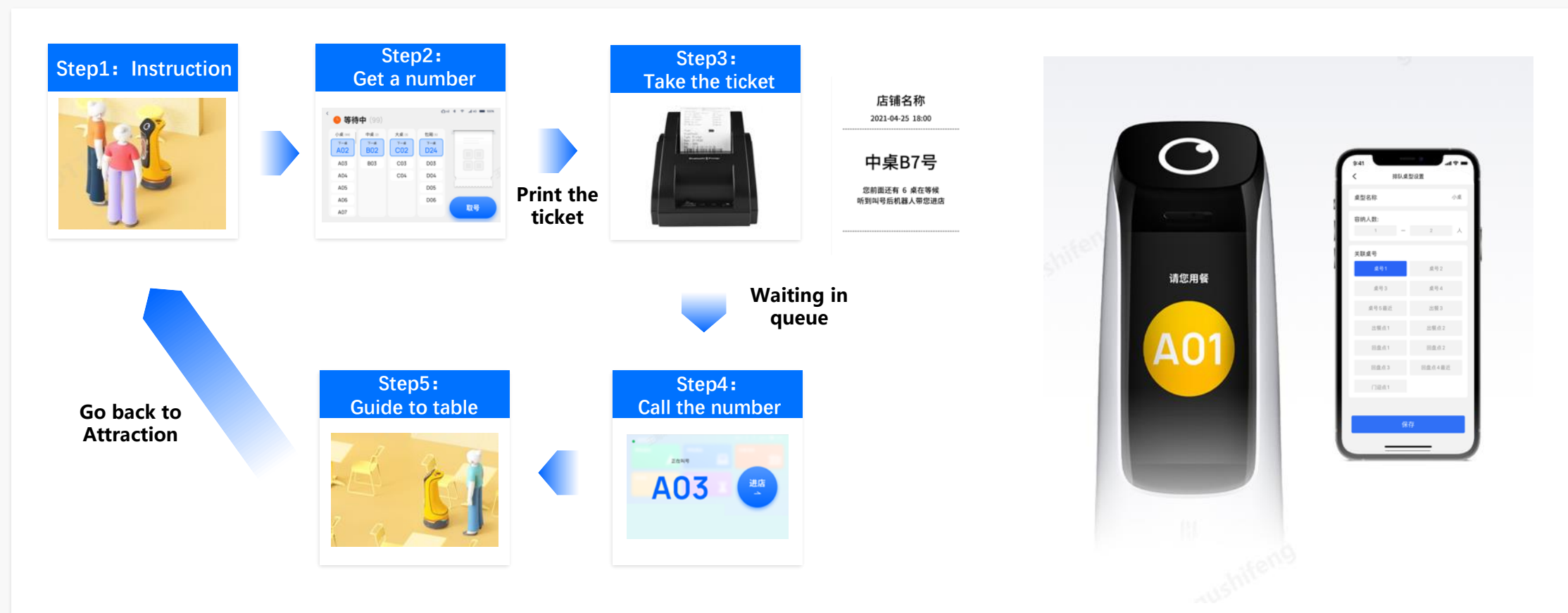|	Robot with Ad screen	Traditional fixed Ad screen
Attraction	Integrating movable and technology can deliver a more engaging and interactive viewing experience, driving greater viewer interest and attention	Most traditional advertising relies on static images and videos, which can lack creativity and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

Pre-meal: Queue calling + Guide to table

Attraction→Queue calling→Guide to table， piece together 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.
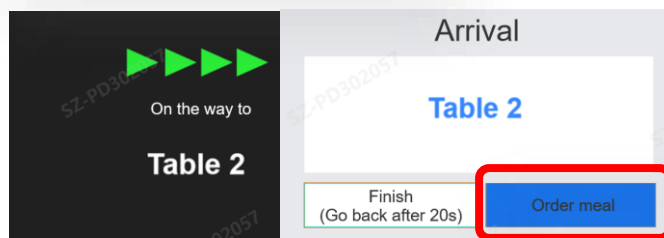

Step1：Instruction

Step2：Get a number

Step3：Take the ticket

Print the ticket

店铺名称
2021-04-25 18:00

中桌B7号
您前面还有 6 桌在等候
听到叫号后机器人带您进店

Waiting in queue

请您用餐

A01

Go back to Attraction

Step5：Guide to table

Step4：Call the number
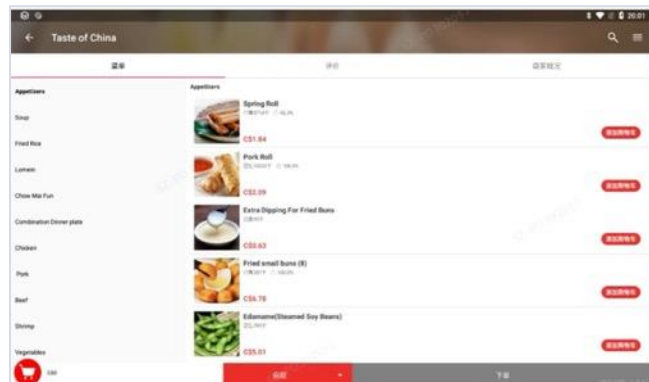
A03   进店

Dining：Seat and Order

KettyBot

Click me to start ordering~

Order meals after guiding to the seat

3rd party food-ordering apps

How to integrate

URL: https://drive.google.com/file/d/1XqPMc5u3BRxDZTKXXxurgyP-Yc_uGb3x/view?usp=share_link
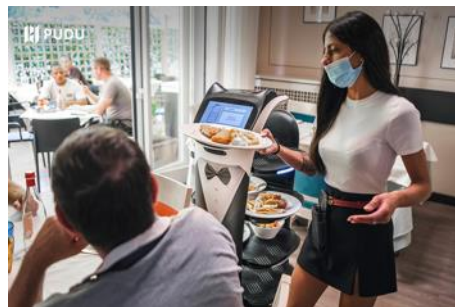
01 3rd party APP development

02 Install the 3rd party APP in Ketty

03 Configuration

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

Dining：Delivery

Human-Robot Collaboration: Driving Quality and Efficiency in Service

Dining：Delivery

Pager

4G/Lora Watch

Pudu Link App

KDS System

1
Call the robot

2
Place on the robot

3
Delivery

5. Next task or go back to kitchen

4
Take food

Dining：Delivery

Meets Almost all Types of Catering

Recommend type	Small store（≤59 seats）	Medium store（60~80 seats）	Large store（≥80 seats）

Small and agile, highly mobile

Coffee shop   Fast food

Japanese and Korean cuisine

Southeast Asian cuisine   BBQ

Dessert shop   ...

Min pass width
55cm

Min pass width
65cm
Max weight capacity
40kg

High Capacity

Hotel restaurant   Hot pot

Chinese restaurant

Western restaurant   ...

Min pass width
80cm
Max weight capacity
40kg

Min pass width
80cm
Max weight capacity
35kg

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Post-meal： Cashier、Pay the bill

Support users with development capabilities for interconnection

Type	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

Customer

Connect with cashier system

Pager

1. Call the robot

2. Confirm the order

3. Payment method

POS

QR

4. Pay the bill
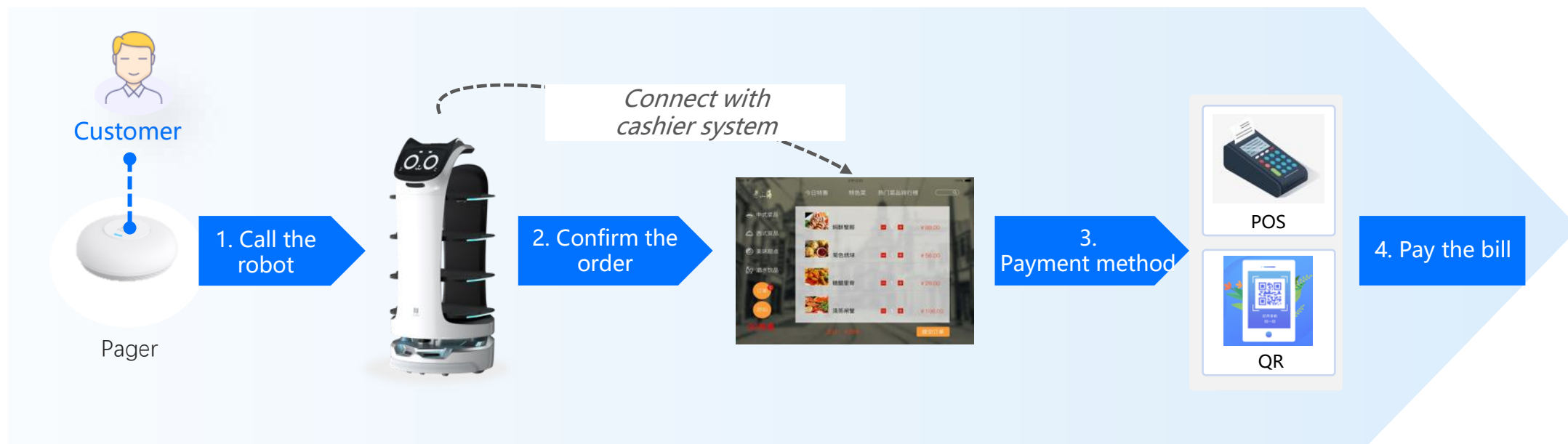
Post-meal： Clear the table

Multi-functional: 5 Modes Switchable with One Click

In order to adapt to different scenarios robot provides a variety of modes to choose from.

- Remote call
- 60KG load capacity
- Contactless delivery
- Autonomous positioning navigation
- Intelligent audio source tracking
- Digitized management
- IPX5 waterproof
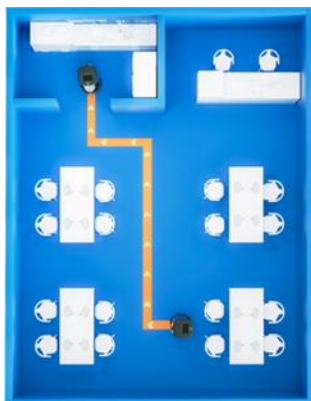- Multiple modes
- Changeable battery

Mode.1： Manual mode

Manually edit the tasks, can click the screen, or press the pause button to modify the tasks at any time.

Mode.2： Go Dishwashing

Go back to the dishwashing area

Mode.3： Go standby point

Go back to standby point

Mode.4： Dish-return Mode

Go back to standby point

Mode.5： scheduled return

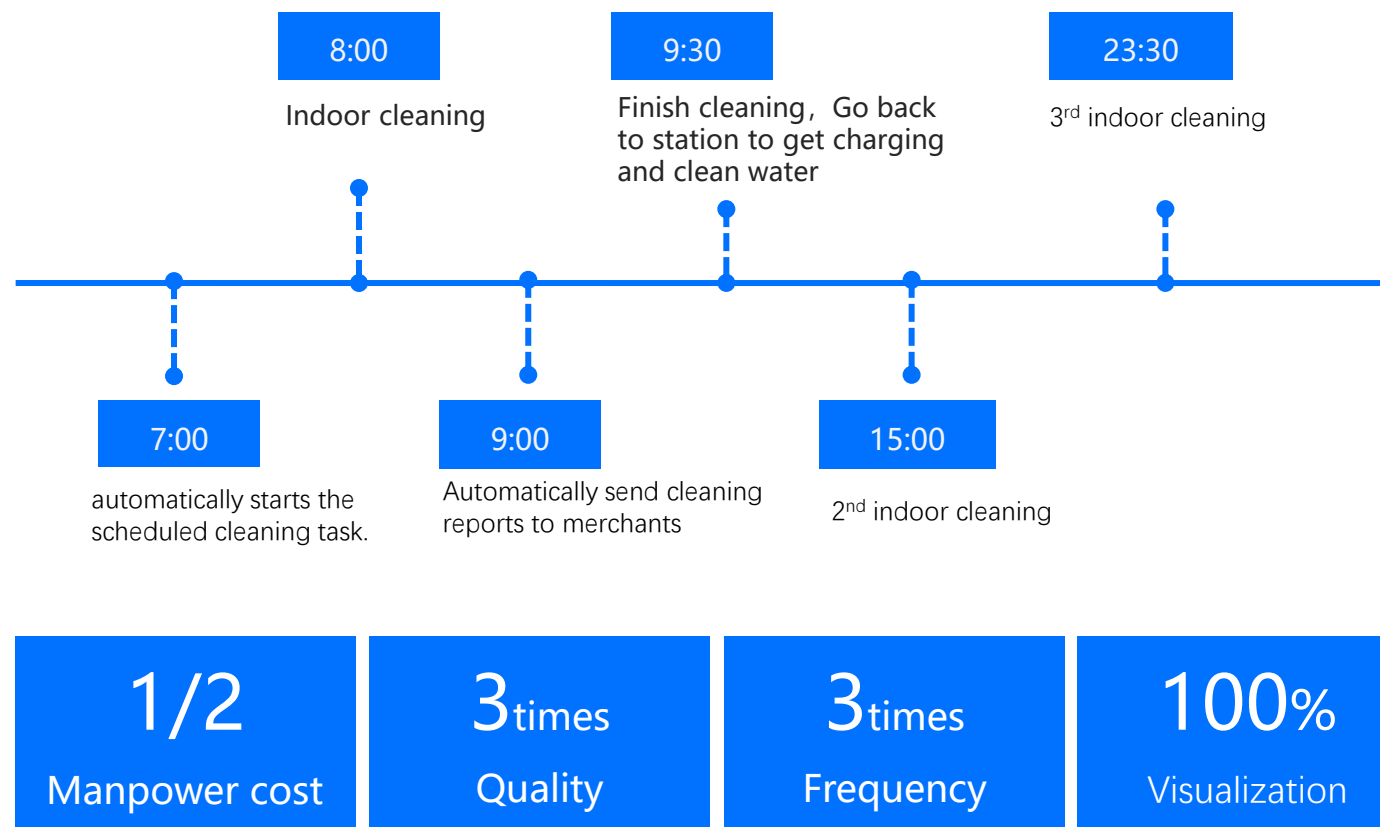Select an automatic return time, and the robot will go back

Post-meal：Cleaning

- ✓ Save manpower、time、money
- ✓ One machine, multiple cleaning modes, suitable for multiple scenarios.
- ✓ 24-hour operation, fully automatic
- ✓ Simple, user-friendly, reliable, and stable
- ✓ Check the machine status at any time
- ✓ Presentation of cleaning reports

One day of CC1

8:00	9:30	23:30
Indoor cleaning	Finish cleaning，Go back to station to get charging and clean water	3rd indoor cleaning

7:00	9:00	15:00
automatically starts the scheduled cleaning task.	Automatically send cleaning reports to merchants	2nd indoor cleaning

1/2	3times	3times	100%
Manpower cost	Quality	Frequency	Visualization

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Post-meal：Cleaning

Digital Platform

Real-time synchronization of cleaning data, display of cleaning duration, area, etc., self-generated cleaning reports, and clear cleaning results
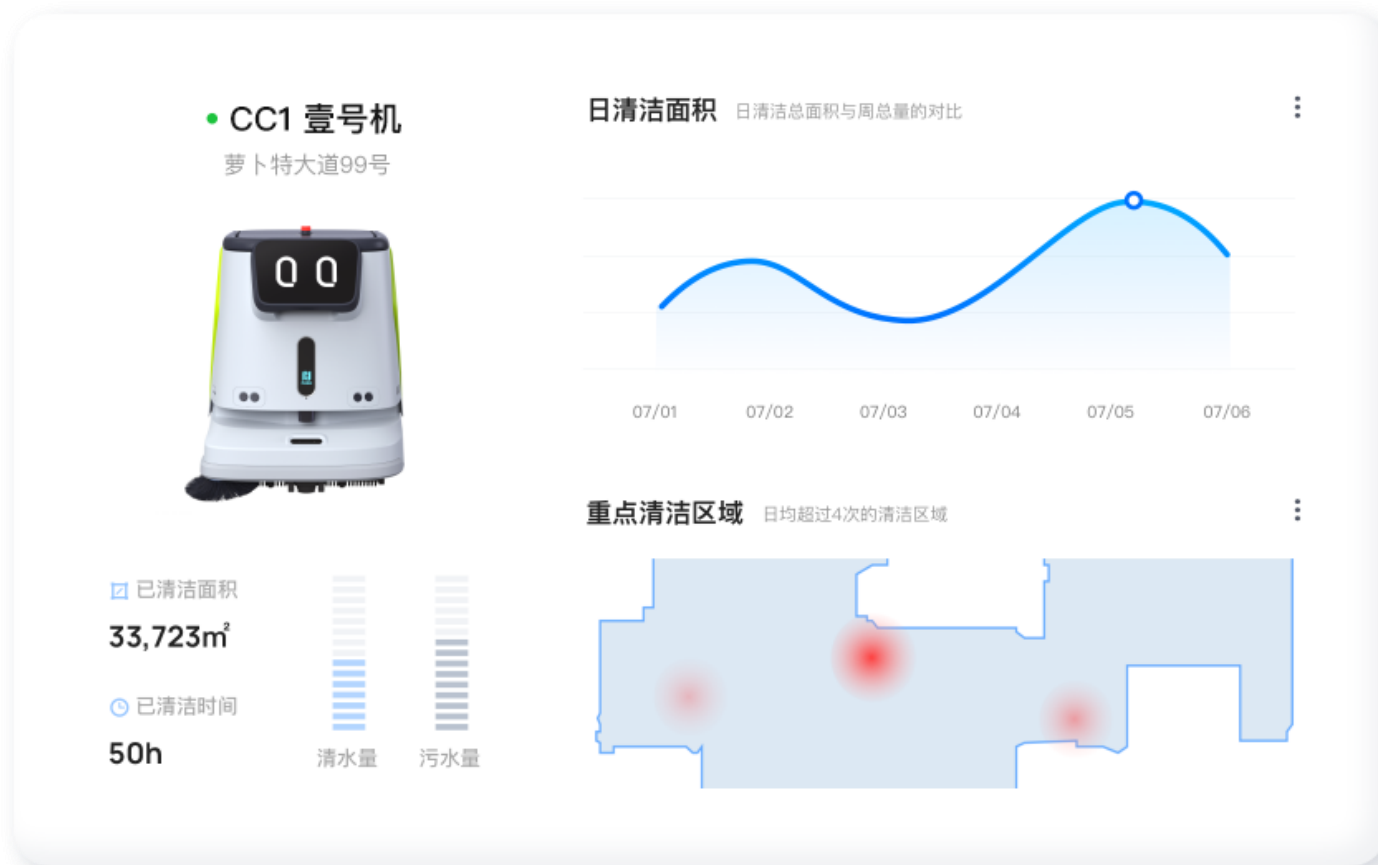
Special Scenario：System Interconnection

order system

Cashier system

KDS system

Integration

PUDU OS

SDK

Connection

Smart catering integration

✓ After the robot greets, guides customers to order directly via robot

✓ After the kitchen completes the dish, called the robot comes to collect the dish

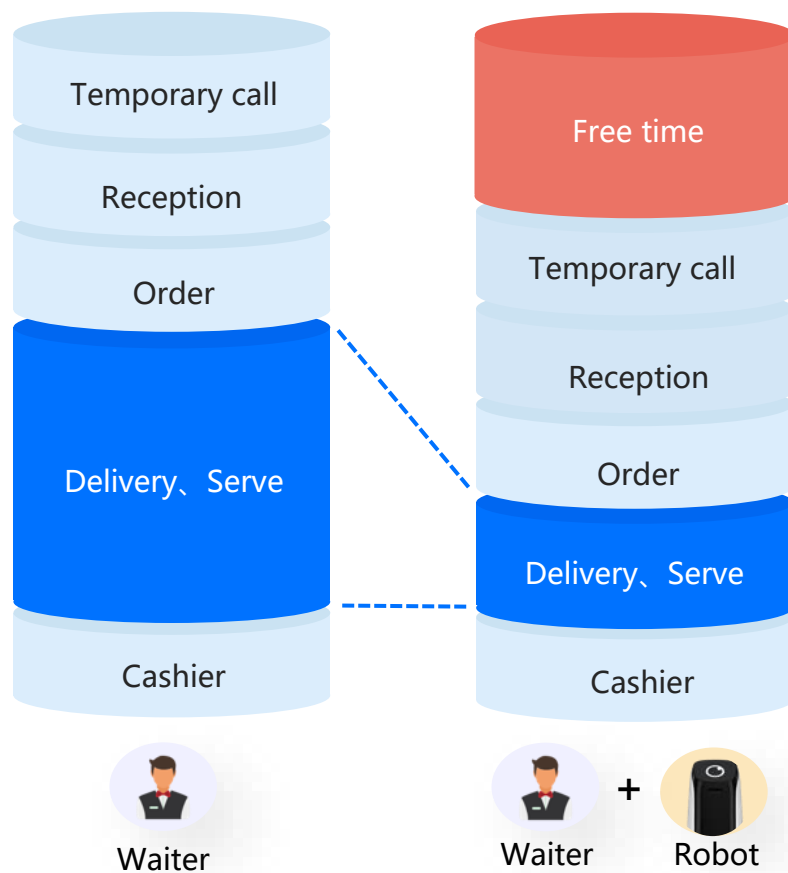✓ After the customer finishes their meal, they call the robot to pay the bill

✓ Through the catering system, the operator can view the operation status of the robot

02

Successful Cases

Value Summary

Temporary call
Reception
Order
Delivery、Serve
Cashier

Waiter

Free time
Temporary call
Reception
Order
Delivery、Serve
Cashier

Waiter + Robot

Improve service quality and business efficiency

Simplify the input cost of substitute services

Improve the working atmosphere

- ✓ Reduce the duration of service staff's single-task work
- ✓ Reduce emotional exhaustion of service staff
- ✓ Increase their free time and opportunities for self-growth

Improve customer dining satisfaction

- ✓ Guide customers to experience the new services brought by robots,
- ✓ Reduce direct contact with customers during meal delivery, and lower the risk of bacterial transmission

Improve restaurant operation efficiency

- ✓ Improve the job stability of service personnel
- ✓ Reduce the related costs of recruiting service personnel

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Successful Cases - Hunter Bar

Location：Oslo Airport International Terminal, Norway.

Industry：Travel catering services.

Employees：4 on duty and 1 on shift, each on duty for 6 hours.

Business hours：10:00-22:00.

Table QTY：35table、120+seats	Aisle：Minimum width 1.3m
Acreage：400㎡	Kitchen：Closed kitchen

* Relevant statistics as of December 2022

URL：https://drive.google.com/file/d/1N9vu2XOCcOHgkfr2h2OrfRW5sOo_RPCn/view?usp=share_link

Successful Cases - Hunter Bar

Process

1 Order & Payment at reception counter

2 The staff manually associates the order number with the location board number

3 After customers randomly select the table, place the positioning board on the table and wait for delivery

4 The intelligent positioning system obtains the location information of the positioning board and displays it on the screen

7 After the robot arrives, the customer picks up the meal on their own and places the positioning board on the robot pallet, which is then brought back to the reception counter by the robot

6 Robot deliver food to the located tables

5 When the meal is ready, the staff operates the robot to deliver the meal based on the order number and location information

Configuration

Item	QTY
Base station	1
Battery charger	1
Display terminal	1
Locators	50
Position boards	35
Bella (Food)	1
Hola (Beverage)	1

* Relevant statistics as of December 2022

Successful Cases - Hunter Bar

The combination of 3rd party table positioning system with Pudu delivery robot solution is coordinated and operated by restaurant staff, and no telecommunication required between the two independent systems with high reliability

Powerful

- ✓ Daily average operating distance **2km** per robot
- ✓ Delivery capacity high up **200+** times

Rapid

- ✓ Rapid response and delivery, reduce waiting anxiety significantly
- ✓ At peak hours, the average waiting time reduce **30%**

Easy

- ✓ Easy deployment
- ✓ No need to change to the original working procedure

Technology

- ✓ Funny experience created by participating in the use of an intelligent robot
- ✓ Free to choose a seat without limitation
- ✓ Experience the convenience and efficiency

* Relevant statistics as of December 2022

Successful Cases - O3 Restaurant & Bar

O³EAT

Location： Warsaw, Poland

Acreage： The total area is close to 1000㎡, dining area and the bar area totaling about 500㎡

Staff Qty： Dining area: reception staff about 4-8

Table QTY： 50+	Maximum capacity： Up to 200 guests
Kitchen： Closed kitchen	Aisle： Minimum width 1.2m

* Relevant statistics as of December 2022

PUDU

BellaBot & HolaBot

Serving at Hotelu O3 in Poland

URL: https://www.youtube.com/watch?v=KZ644p7VAg8

Successful Cases - O3 Restaurant & Bar

Process

Guide to table

Delivery

Bella → Assist to order → Kitchen Preparation → Remotely call → Bella

Customer ... Customer ... Customer

| 1. Seat | 2. Order | 3. Dining |
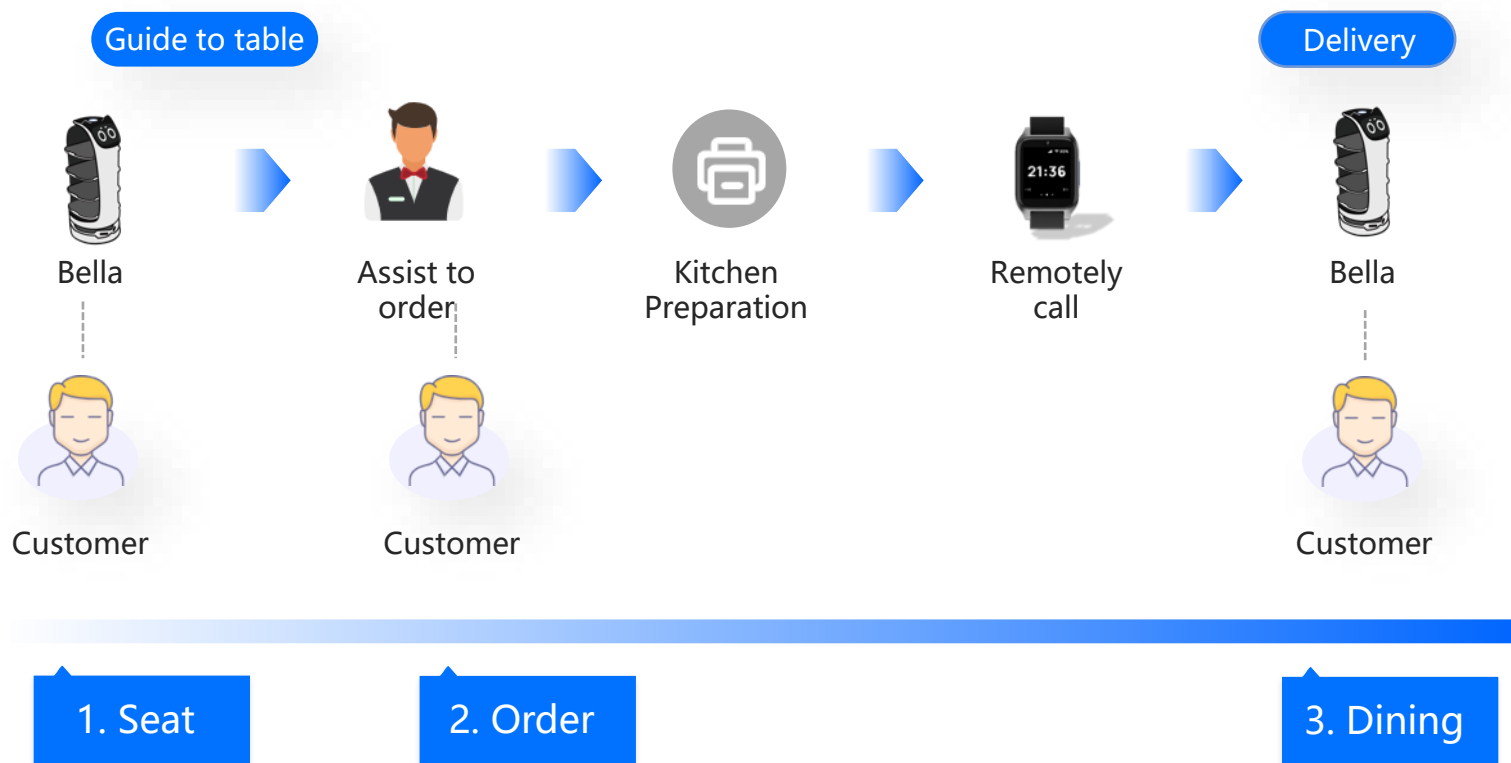
Configuration

Item	QTY
Bella (Food)	1
Hola (Beverage)	1
Lora watch	4
Auto-door	1

* Relevant statistics as of December 2022

PUDU

Successful Cases - O3 Restaurant & Bar

Traditional manual form

8.0 Work duration (hour/day)	**70+** Number of service tables (per day/table)
905.2 Labor cost (USD/month/people)	**45%** Time efficiency (dining, turnaround)

VS

Human-robot collaboration form

7*24 Work duration (hour/day)	**120+** Number of service tables (per day/table)
275.25 Machine cost (USD/month/robot)	**80%** Time efficiency (dining, turnaround)

* Relevant statistics as of December 2022

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Successful Cases – Kura SuShi

a Japan-based revolving sushi chain with over 500 restaurants and more than 35 years of brand history， With instant access to food on the revolving conveyor belt, guests can drop in for a quick meal and a more relaxed dining experience.

4.5	25.0	10,630
ATV（USD）	Turnover rate per day	DART（Thousand USD）

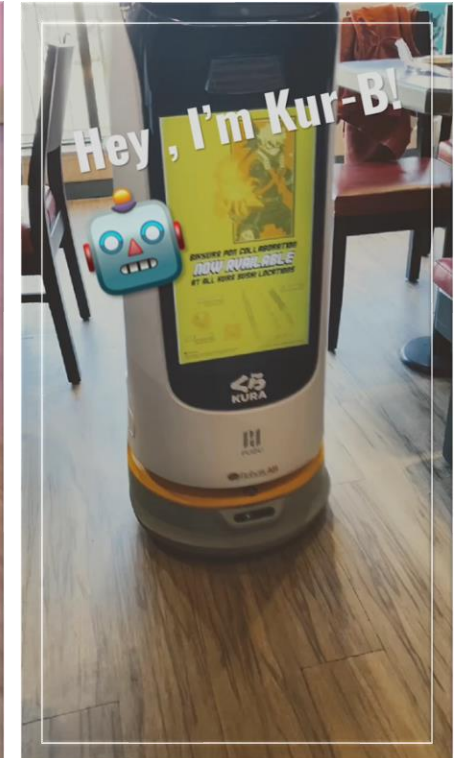Turnover rate = (number of table uses - total number of tables) ÷ total number of tables × 100%.

* Relevant statistics as of December 2022

URL:https://drive.google.com/file/d/170IbuNoSpjO-h4b8fzerJDBLxYob2HQm/view?usp=share_link

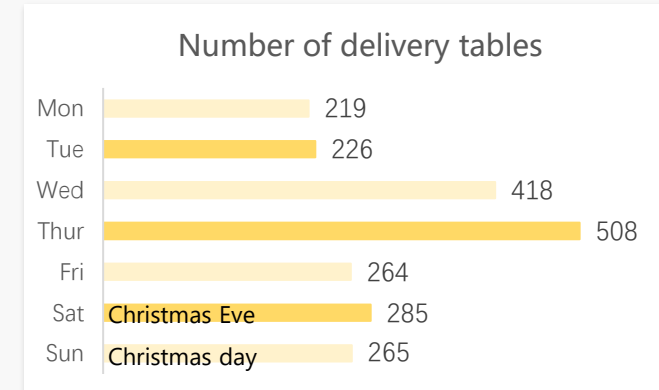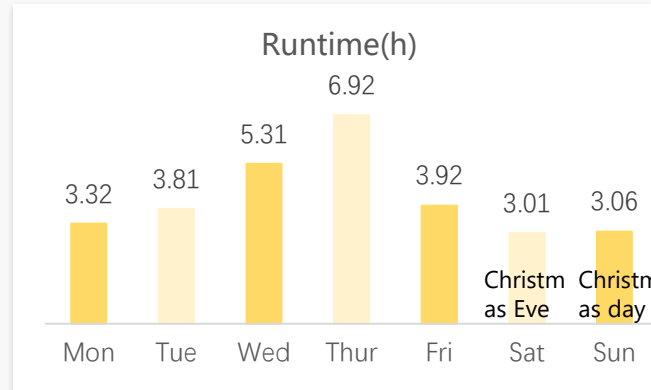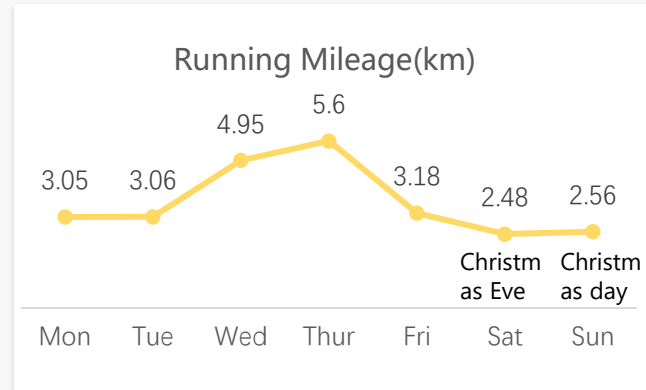URL:https://drive.google.com/file/d/1m4aAjv3-WpTLOWvmFEvZs7s_Hr11r7IH/view?usp=share_link

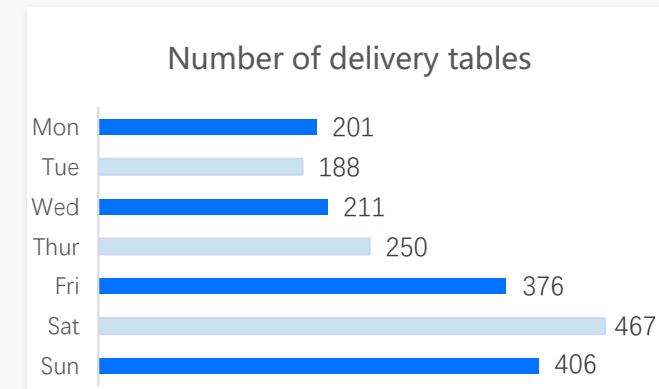URL:https://drive.google.com/file/d/1PvyZmoTGYvi9tuv1HFwTcE59242KYo7i/view?usp=share_link
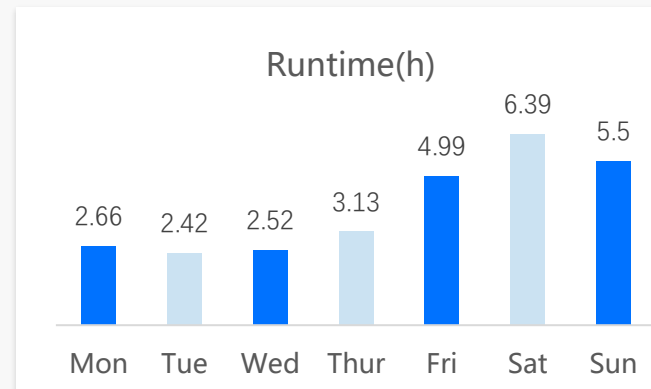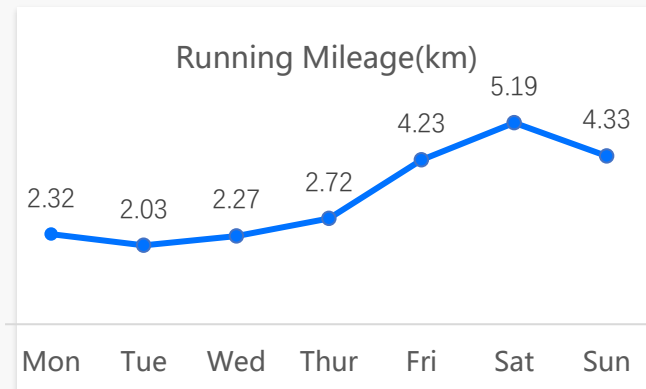
Successful Cases – Kura SuShi

Assist Service Staff, Complete Delivery Tasks during Peak Hours, and Increase Overall Table Turnover Rate

Running data for the past 7 days during the Christmas period

Running Mileage(km)

3.05, 3.06, 4.95, 5.6, 3.18, 2.48 (Christmas Eve), 2.56 (Christmas day)
Mon, Tue, Wed, Thur, Fri, Sat, Sun

Runtime(h)

3.32, 3.81, 5.31, 6.92, 3.92, 3.01 (Christmas as Eve), 3.06 (Christmas as day)
Mon, Tue, Wed, Thur, Fri, Sat, Sun

Number of delivery tables

Mon 219
Tue 226
Wed 418
Thur 508
Fri 264
Sat (Christmas Eve) 285
Sun (Christmas day) 265

Running data for the past 7 days during the normal period

Running Mileage(km)

2.32, 2.03, 2.27, 2.72, 4.23, 5.19, 4.33
Mon, Tue, Wed, Thur, Fri, Sat, Sun

Runtime(h)

2.66, 2.42, 2.52, 3.13, 4.99, 6.39, 5.5
Mon, Tue, Wed, Thur, Fri, Sat, Sun

Number of delivery tables

Mon 201
Tue 188
Wed 211
Thur 250
Fri 376
Sat 467
Sun 406

* Relevant statistics as of December 2022

PUDU

2023

Successful Cases – JingGe Hotpot

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	DART（Thousand RMB）

Turnover rate = (number of table uses - total number of tables) ÷ total number of tables × 100%.

Acreage：350m²	Floor height：3.5m	Aisle：1.2-1.5 m
Table QTY：35	level ground	Kitchen：Open 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

Traditional manual form **VS** Human-robot 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 **11000** RMB	Increase **1.2** times
Delivery Cost	Operation Cost	Delivery Efficiency

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

* Relevant statistics as of December 2022

欢乐送·网咖

巧乐送·餐厅

CC1·写字楼

SH1·购物中心

闪电匣·酒店

欢乐送·医院

葫芦·4S店

贝拉·KTV

03

Product Family Matrix

Creating truly useful robot to improve human productivity and quality of life

Product Family

Delivery Robots

Bellabot	Pudubot 2	Pudubot	Kettybot
Swiftbot	Holabot	Flashbot	

Cleaning Robots

- CC1
- SH1

Pudu Cloud

- PUDU Merchant Management Platform
- PuduLink App
- PUDU Cloud Platform

Technology

PUDU OS	Positioning and navigation algorithm	Perceptual obstacle avoidance algorithm	Motion control algorithm
Multi-machine scheduling algorithm	AI interactive algorithm	Cloud platform algorithm	Simulation testing platform

IOT Solutions

- Pager
- Autodoor
- Elevator
- 4G/lora Watch
- Table Tracker
- Bluetooth Speaker
- …

Accessories Solutions

Cup holder	Food cover
Tray	Display shelf
Self-charging station	…

1-N Customized Solutions

Voice	Emoji
Skin	SDK
…	

Delivery Robots

BellaBot

Novelty、cute、fully-perceptive food delivery robot

Contactless delivery   Multiple located   Tray Sensor

Flexibility   Personalized Presentation   Multi-interaction

Changeable battery   Safety   Service

PuduBot2

Latest、high-performance、extendable、adaptable、intelligent delivery robot for multiple scenarios

Delivery mode   Shipping mode   Cruise mode

Direct mode   Dish-recycle mode   Birthday mode

KettyBot

With Ad screen, serving as both a delivery and receptionist

Minimum passability   AD   Reception

Navigation   Voice interaction   Work plan
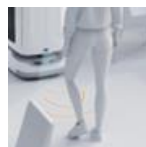
Delivery   Self-charging   Feature settings

GOOD DESIGN AWARD 2022

18.5"

Hi

Delivery Robots

SwiftBot

Delivery Robot for Smooth Peak Hour Operations, Redefining Social Interaction between Humans and Robots

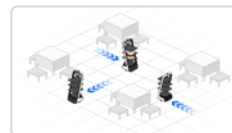Avoidance Reminder | Operating Status Projection | Atmosphere Projection | Foot-activated Door Projection

PuduBot

Classic Intelligent Food Delivery Robot, Pioneering the Industry of Trackless Delivery Robots

Scheduling | 3D avoidance | Independent Suspension

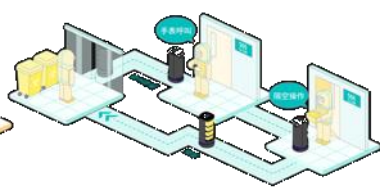Ultra-long Endurance | Optimal Path Planning | Sun-resistant

HolaBot

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

Dish-recycle | medical waste recycle

FlashBot

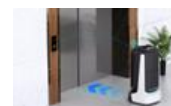Full-Scenario Delivery for Hotels, Offices, Apartments, and Residential Buildings

APP call | Independent cabin door | Customized disinfection time

Take elevator | Auto-door | Arrival notification

PUDU

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Cleaning Robots

PUDU CC1

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

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

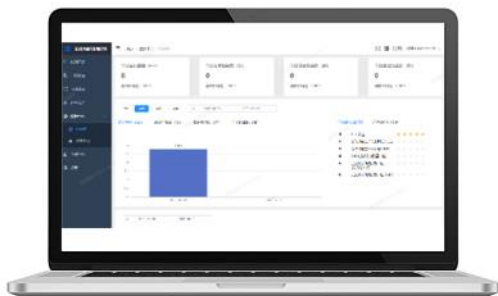| dusting | mopping | sweeping | vacuuming |

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

Pager

4G/Lora Watch

Elevator

Auto-door
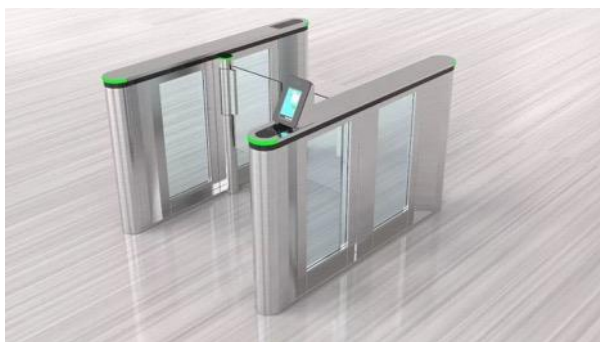
Bluetooth Speaker

Table Tracker

Accessories Solutions

Ketty's Accessories

Enclosed protective cover

Overhead display shelf

Rear housing unit

Self-charging station

Retractable tray border

3-Axis spill-proof cup holder

Fixed beverage holder

Enclosed Protective Cover

Bearing tray（Bella）

Cup holder（Bella）

1-N Customized Solutions

PUDU OS

Robot SDK

Skin

Customized Emoji

Customized Voice

Customized Software

Combined with 3rd party hardware

More options to come soon

PUDU

2023

04

PUDU Introduction

PUDU Introduction

Pudu Robotics

In 2016, Pudu Technology was founded in Shenzhen as a national high-tech enterprise that specializes in research, design, production, and sales of commercial service robots. After seven years of development, Pudu Technology has established hundreds of service points worldwide, with business in over 60 countries and regions, delivering more than 56,000 units. It has become a leader in the field of commercial service robots globally. In the age of intelligence, Pudu Technology will continue to uphold the "inventor's spirit" and solidify its technology, refine its products, create truly useful robot products, and enhance the efficiency of human production and life.

* Relevant statistics as of December 2022

Mission

Use robots to improve the efficiency of human production and living

Vision

To become the world's strongest commercial service robot company

BE INVENTIVE

BE CUSTOMER CENTRIC

THINGKING IN THE LIGHT OF FIRST PRINCIPLES

BE ENTERPRISING & ACCOUNTABLE

PURSUING FOR THE ULTIMATE
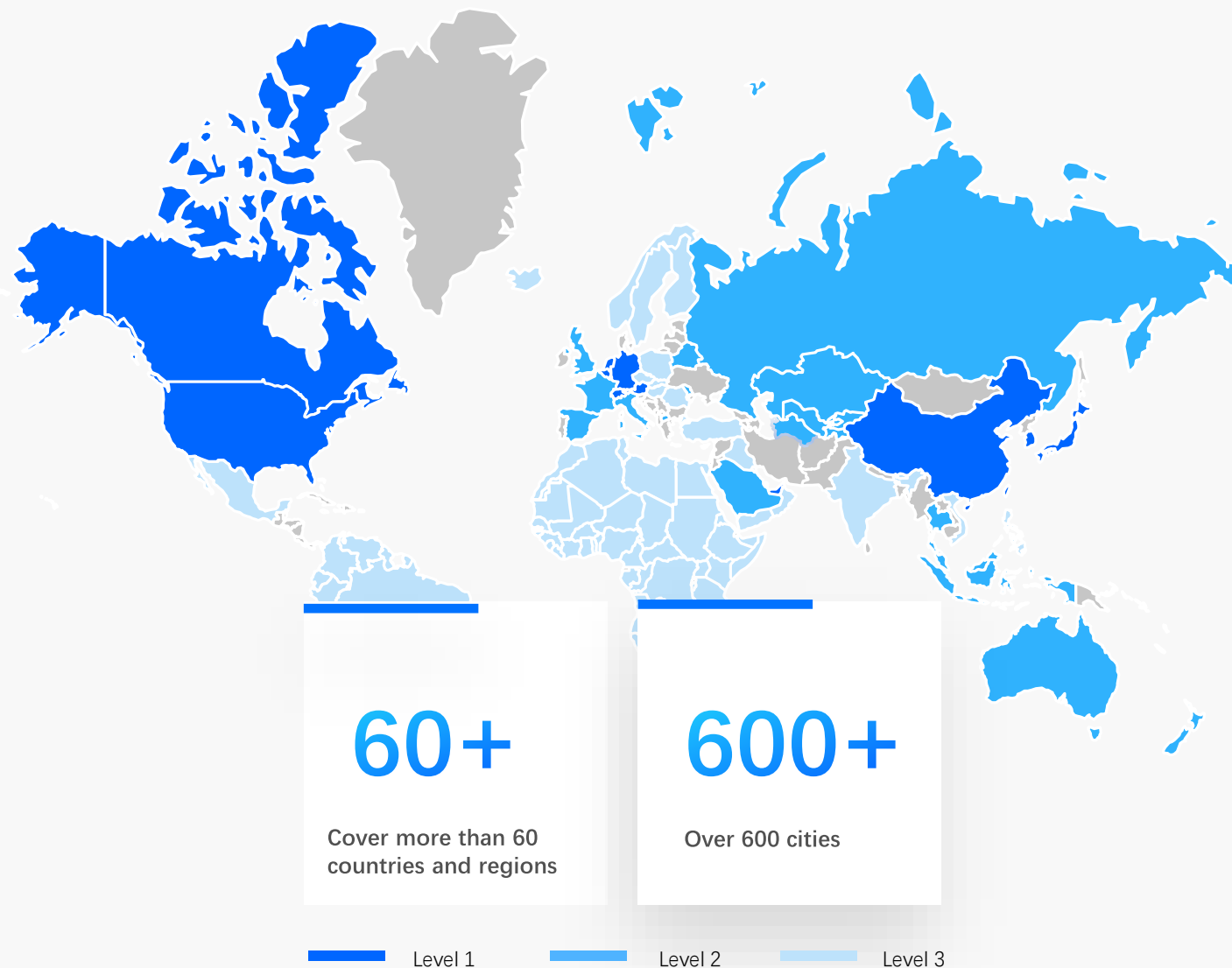
MOVING FAST

BE OPEN-UP

EMBRACING CHANGE

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.

* Relevant statistics as of December 2022

60+
Cover more than 60 countries and regions

600+
Over 600 cities

Level 1   Level 2   Level 3

Scale Advantage

The world largest commercial service robot manufacturer

Total Sales Quantity

56,000+

56,000+ * units have been sold worldwide

Market Share in All Scenarios

TOP1

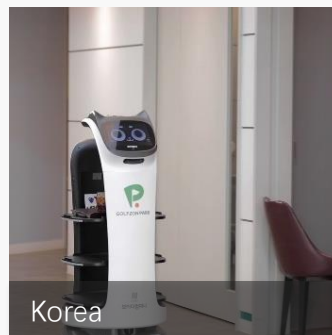The market share in the full range of commercial service robots is No.1

Market Share of the Overseas Catering Industry

>80%

Overseas catering industry's market share > 80%
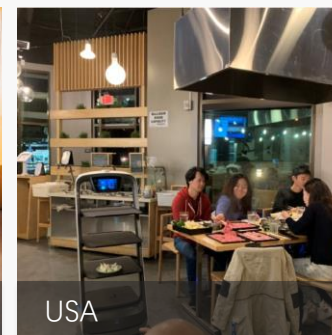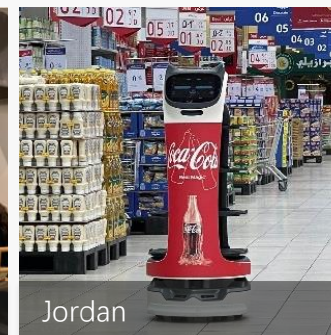
* Relevant statistics as of December 2022
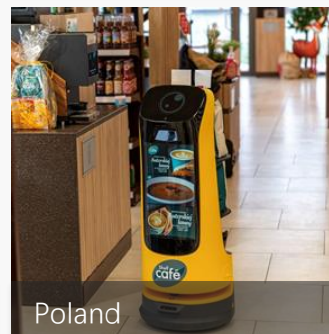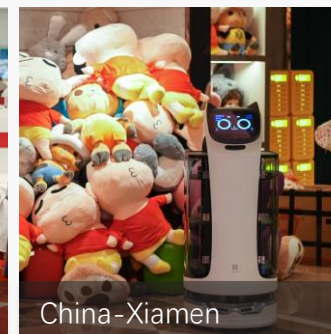
Korea

Australia

USA

Jordan

Switzerland

Poland

China-Shenzhen

China-Xiamen

Malaysia

Japan

China-Hongkong

China-Taiwan

PUDU

2023
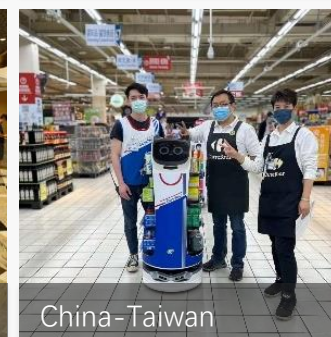
Horner and Certification

Certificate & Patent

All of existing products have passed the multi-certification that match the targeting markets.

Pudu Robotics has applied for about 1300* core patents, of which invention patents are over 60%, involving positioning, navigation, motion control, human-computer interaction, robotics arm, servo motor, computer vision, cloud platform and other technical fields.

 * Relevant statistics as of December 2022

Operation Advantage

Global Multi-level Sales System

China：Multi-level Coverage

KA

Distributor

Multi-level Marketing

Overseas：Highly-controlled, High empowerment

BKA

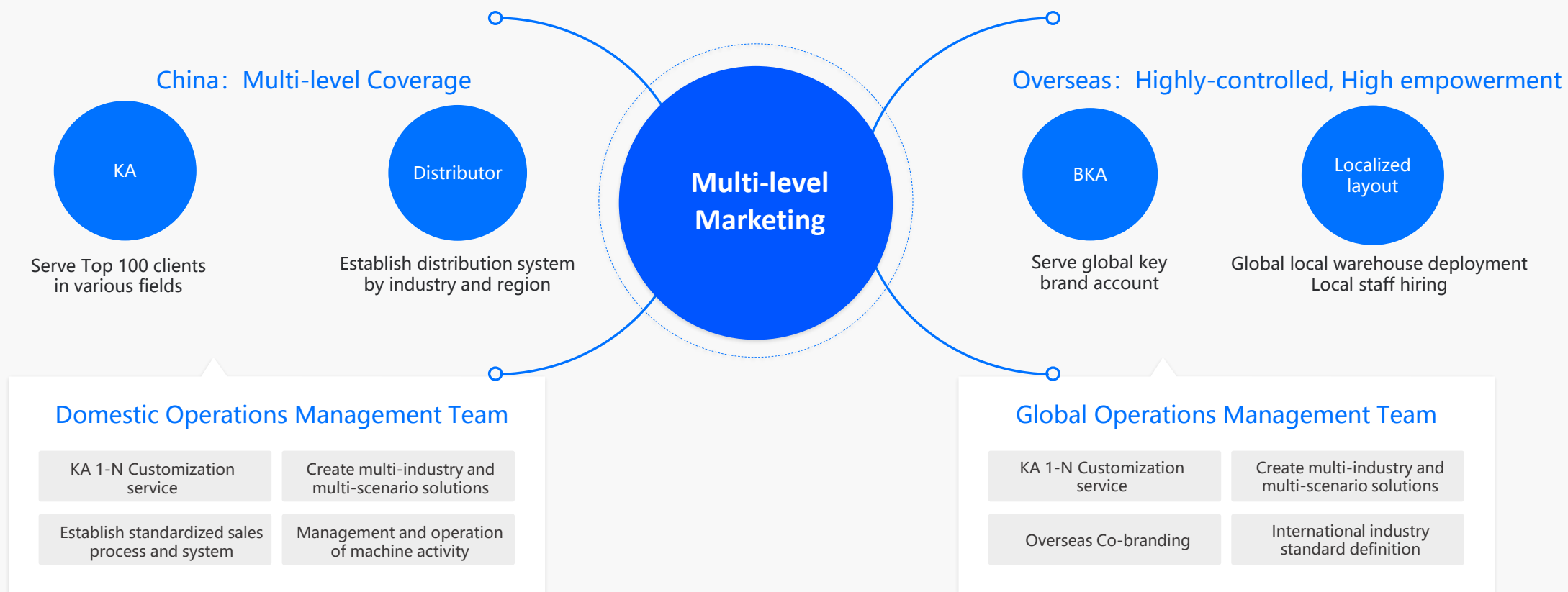**Localized layout**

Serve Top 100 clients in various fields

Establish distribution system by industry and region

Serve global key brand account

Global local warehouse deployment Local staff hiring

Domestic Operations Management Team

KA 1-N Customization service	Create multi-industry and multi-scenario solutions
Establish standardized sales process and system	Management and operation of machine activity

Global Operations Management Team

KA 1-N Customization service	Create multi-industry and multi-scenario solutions
Overseas Co-branding	International industry standard definition

PUDU
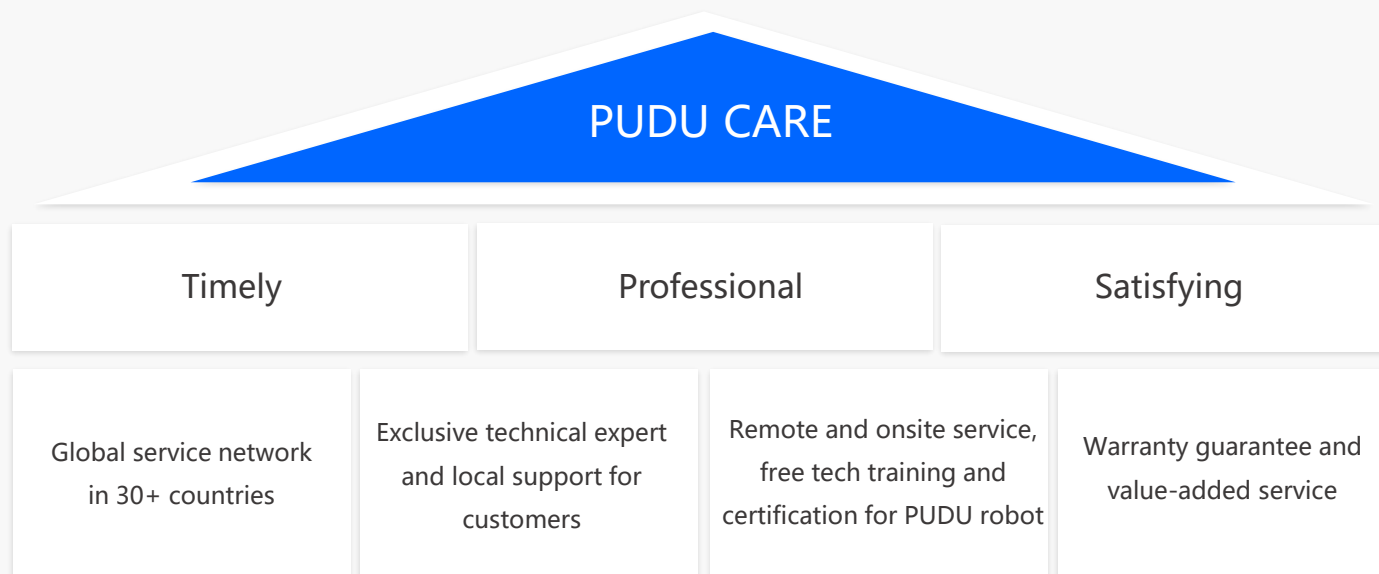
Operation Advantage

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

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

PUDU

Thank you!

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