



Industry Solution

Catering Industry

www.eclinepos.com

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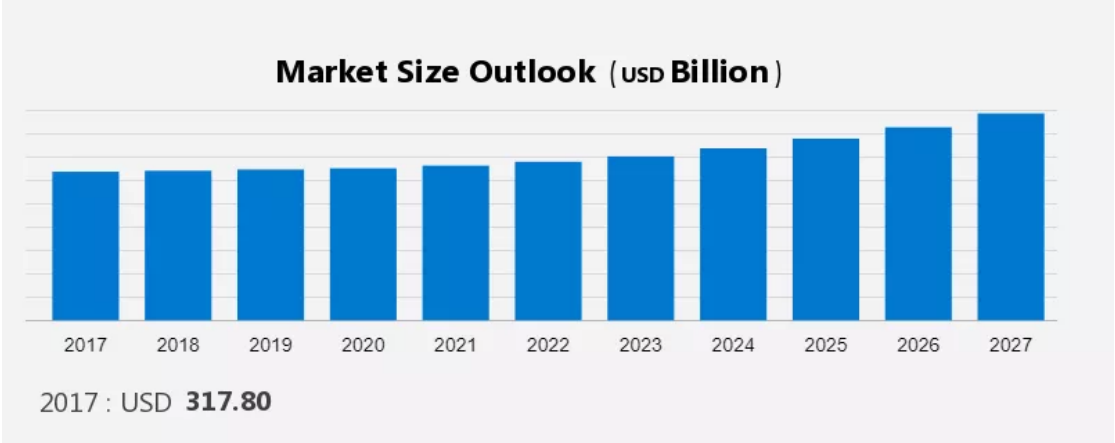
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01

Industry Overview

Current Development Status of the Global Catering Industry



The market will be **ACCELERATING** growing at a **CAGR** of over **6%**

INCREMENTAL GROWTH ▶ **\$184.98 bn** (2018 to 2023)

The year-over-year growth rate for **2019** is estimated at **5.50%**

The market is **FAIRLY FRAGMENTED** with many players occupying the market share

45% of the growth will come from the **APAC region**

One of the **KEY DRIVERS** for this market will be the increasing popularity of online catering.

Vast Market Size

The growth trends of the global catering industry are primarily driven by factors such as increased disposable income, accelerated urbanization, and growing consumer preferences for dining out or ordering takeout. The trend towards healthy eating and the demand for organic food also influence market growth.

- According to a report by Statista, as of 2020, the global restaurant market was valued at almost **\$3.4 trillion**
- According to a report by Grand View Research, it is projected that the compound annual growth rate (CAGR) of the market will reach **6%** from 2021 to 2028

* Relevant statistics as of May 2023

Current Development Status of the Global Catering Industry

Competitive Market

As an example in the Chinese market, the number of stores has nearly **3** times in an 8-year period.

Restaurant Qty

3990
(thousand)
2014



9300
(thousand)
2021

Increasing Costs

The rapid increase in labor costs, a significant rise in labor expenditure ratio.

Labor Risks

The high labor mobility and unstable employment increase the difficulty of work collaboration, hard to strike a balance between labor costs and efficiency.

High Labor Intensity

Repetitive tasks with low value and high intensity can result in a poor work experience, further increasing the risk of employee turnover.

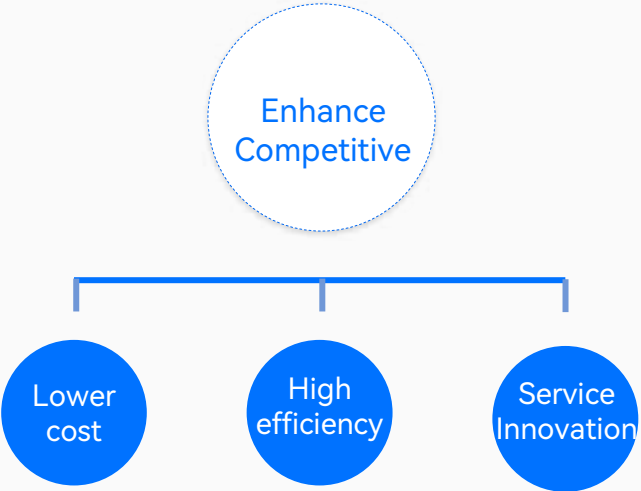
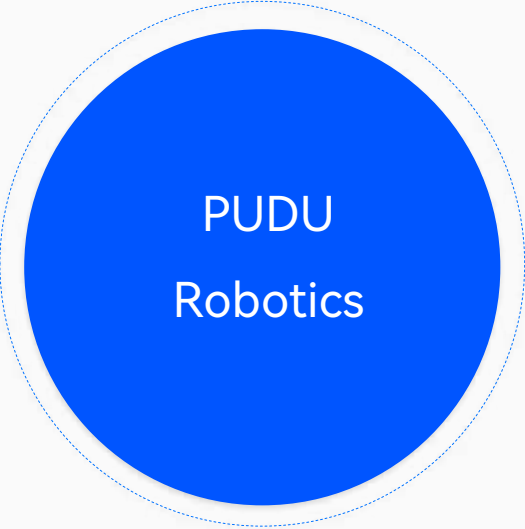
Enhanced User Experience

Limited cost-effective manpower in the catering industry leads to service delays, and inconsistent quality, and ultimately affects customer experience.

* Relevant statistics as of May 2023

Path to Breakthrough

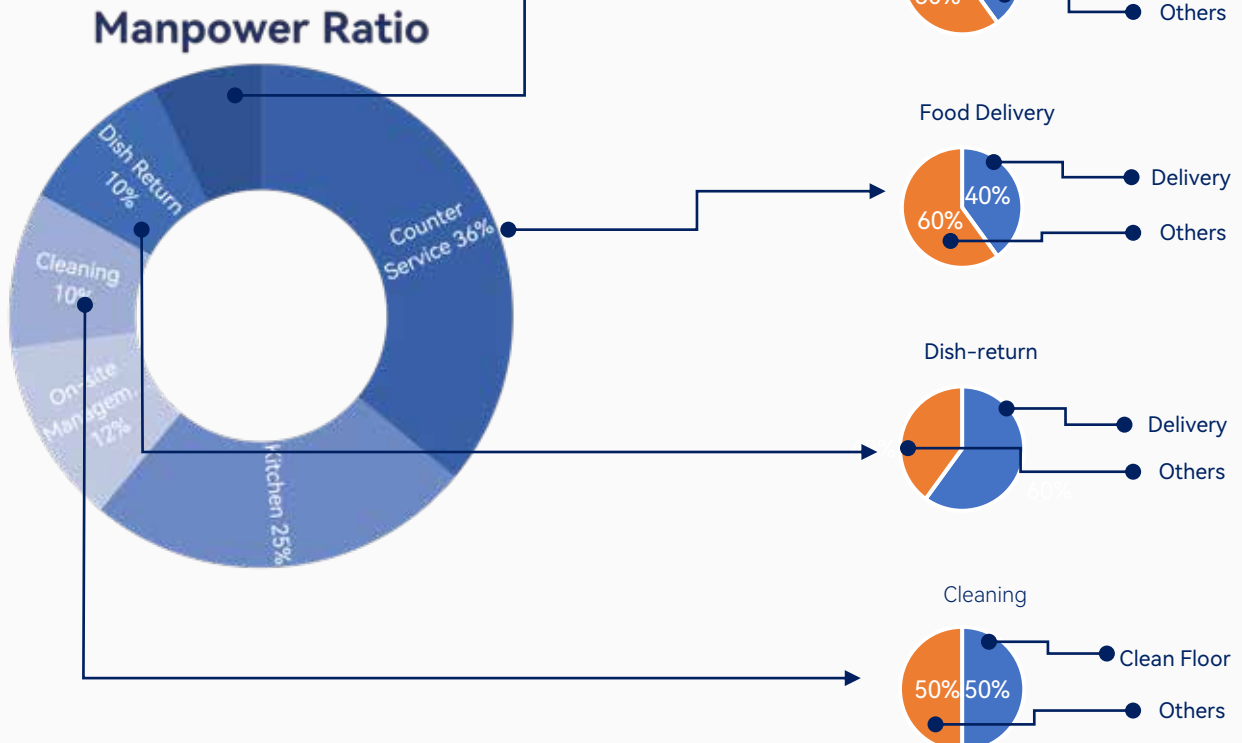
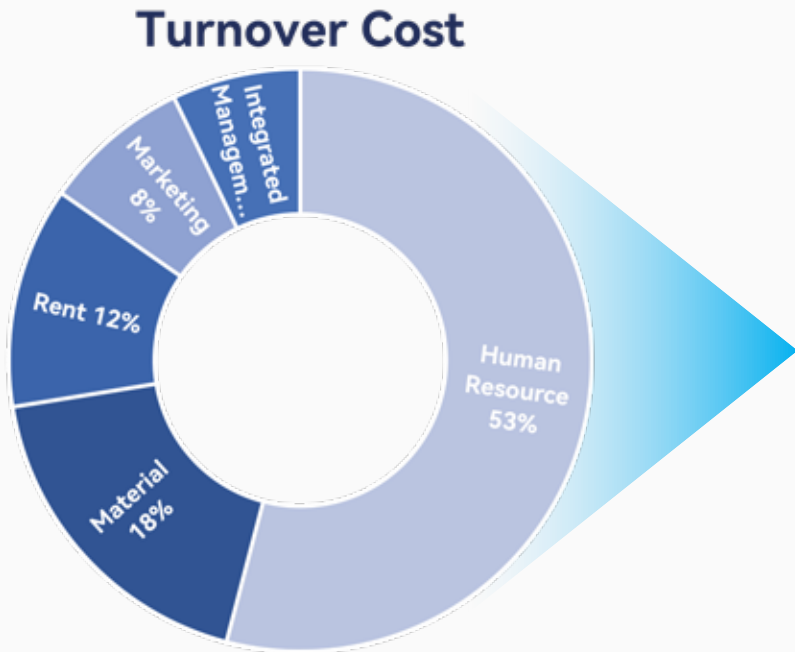
Operational Innovation
Enhancing competitive edge in the catering industry



- Intelligent Ordering System
- Scan-and-Pay Payment
- Online Marketing
- Supply Chain Integration
- etc.

Potential Value of Commercial Robots in the Catering Industry

28.6% of Jobs Can Be Optimized for Efficiency Improvement Through Robotics



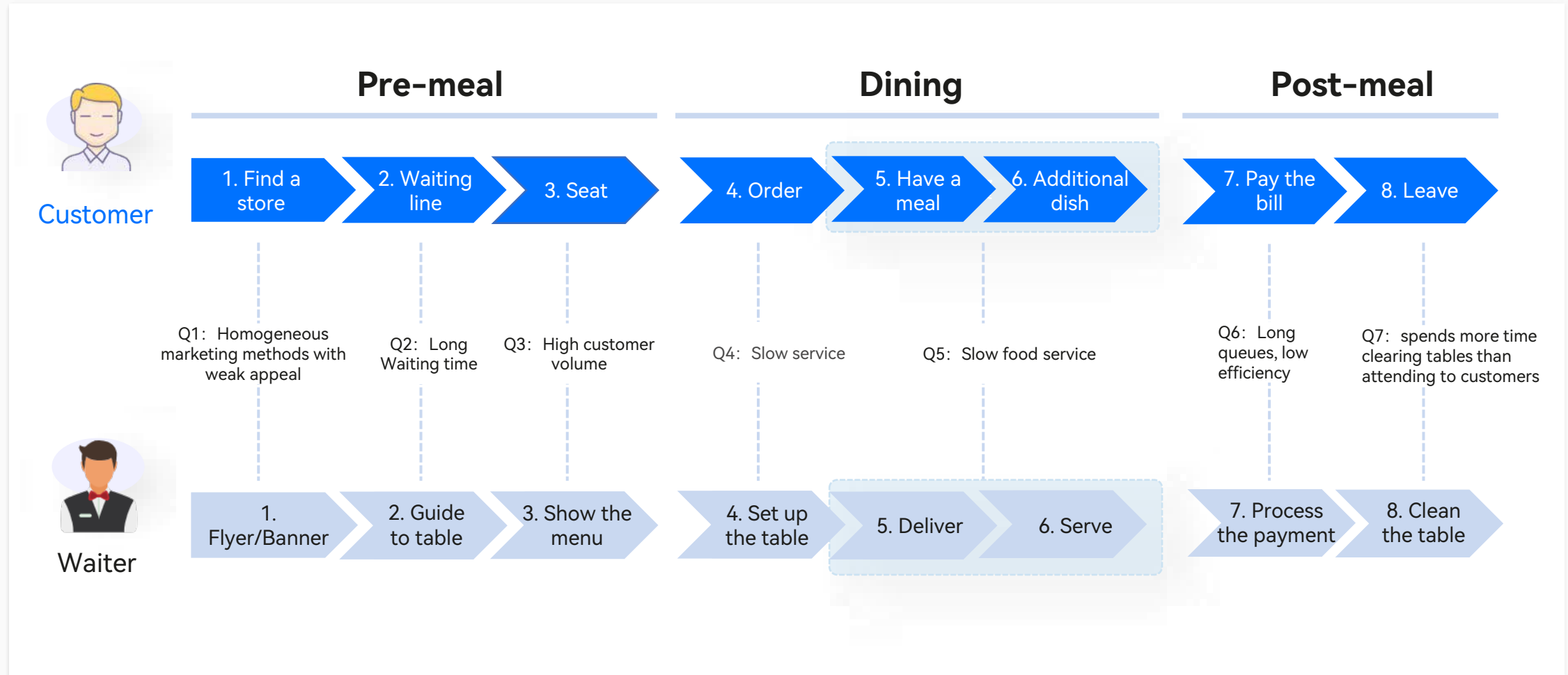
* Relevant statistics as of May 2023



02

Scenario Solutions

Restaurant Experience Process



Intelligent end-to-end Business Process



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)

Attraction	Integrating movable and technology can deliver a more engaging and interactive viewing experience, driving greater viewer interest and attention
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
Coverage	Our robots are movable, allowing for flexible and unrestricted coverage of any area
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.

Most traditional advertising relies on static images and videos, which can lack creativity and fail to make a lasting impression.

Need labor work when change the content

Unmovable, fixed area, restricted range about 0-5meter

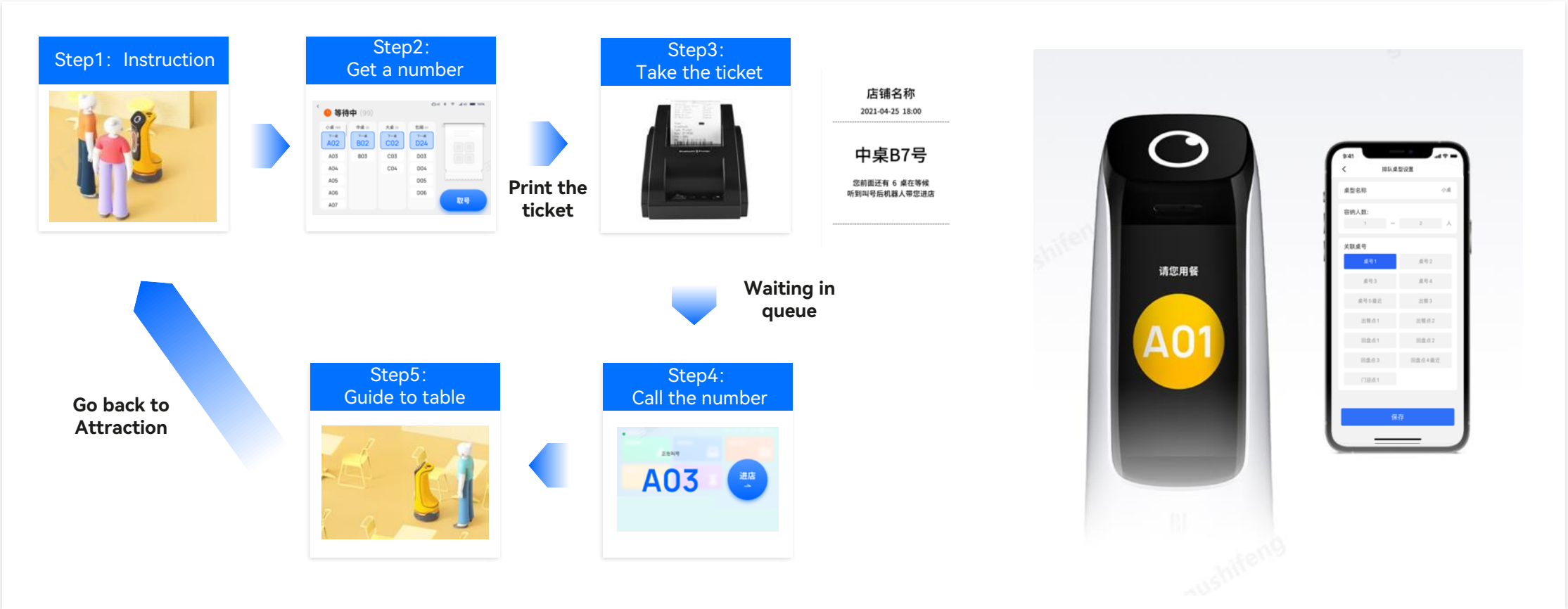
Traditional fixed advertising screens retail settings often require multiple screens to effectively support marketing and promotional efforts, resulting in higher costs.

* Data only for reference, sourced from China, statistics as of May 2023

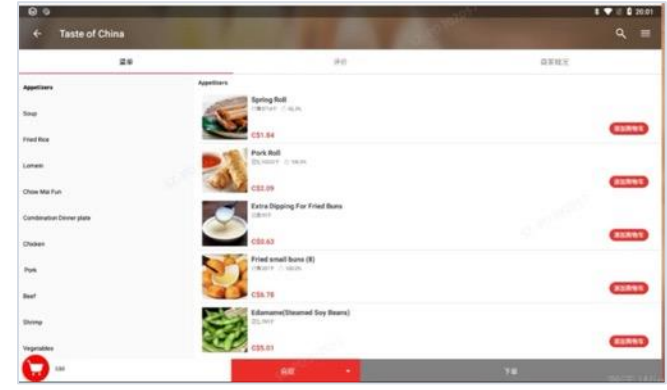
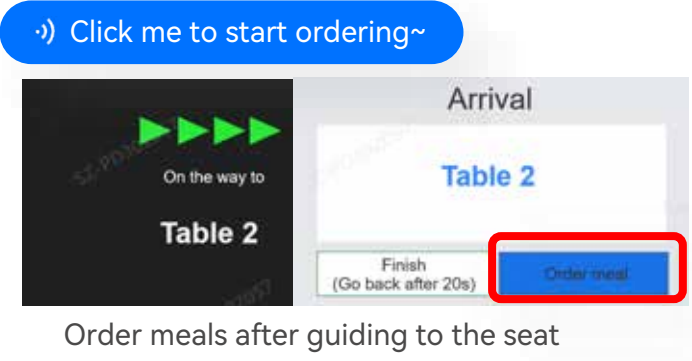
Pre-meal: Queue calling + Guide to table

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.



Dining: Seat and Order



3rd party food-ordering apps

How to integrate

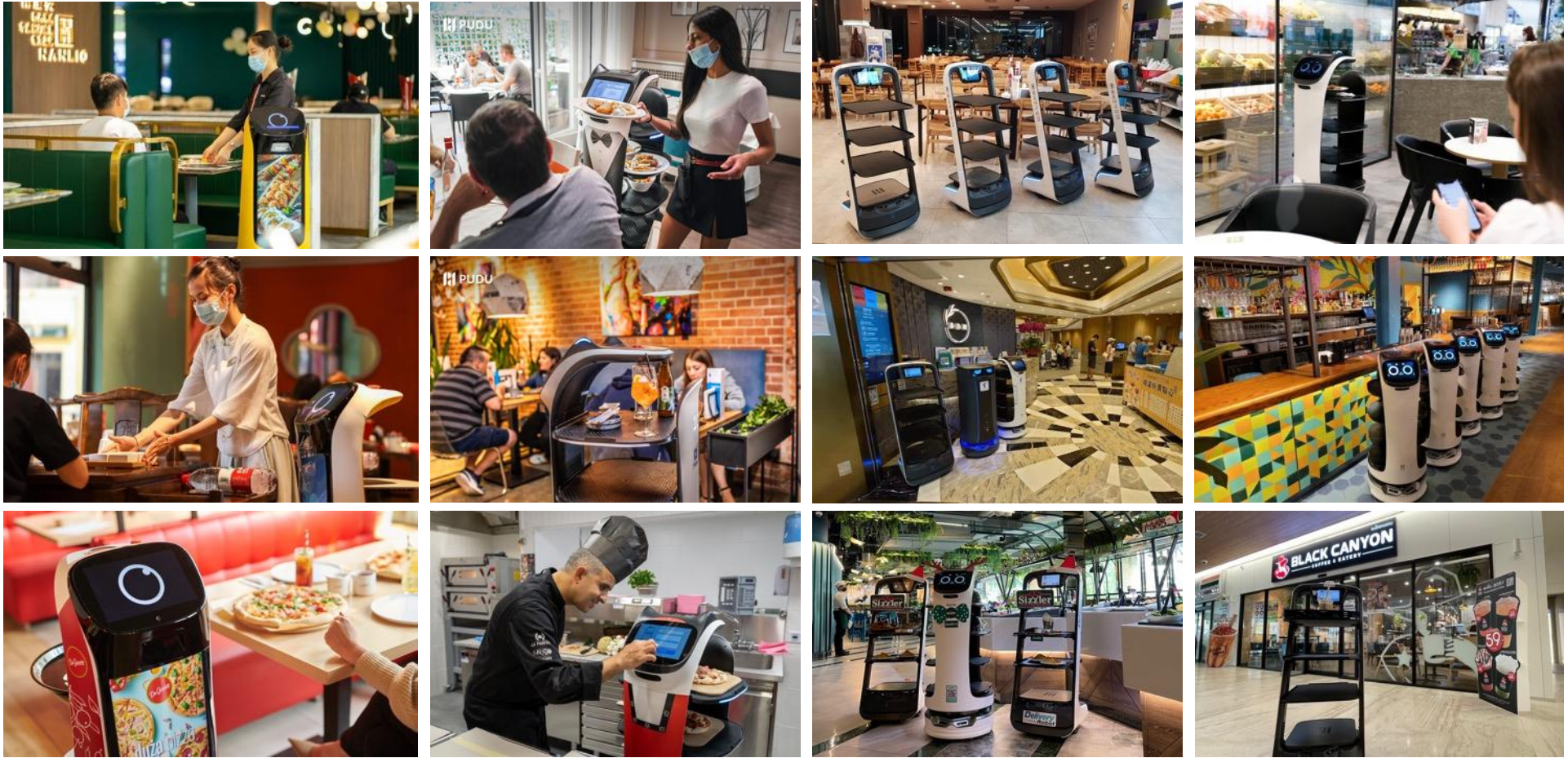


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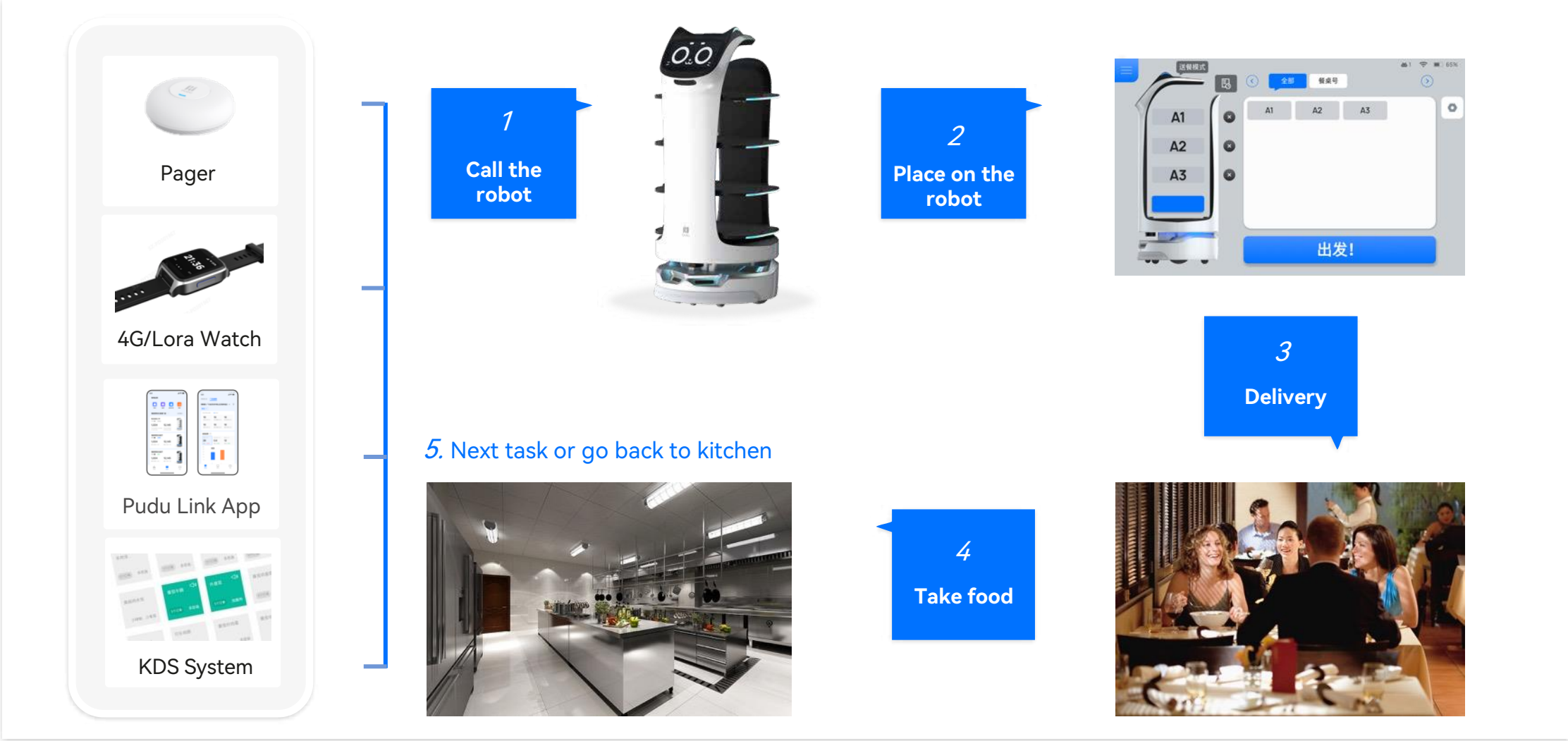
- 01 3rd party APP development
- 02 Install the 3rd party APP in Ketty
- 03 Configuration
 - Configure the third-party application package name and path, set "Guiding mode" and "Table Services"

Dining: Delivery

Human-Robot Collaboration: Driving Quality and Efficiency in Service



Dining: Delivery



Dining: Delivery

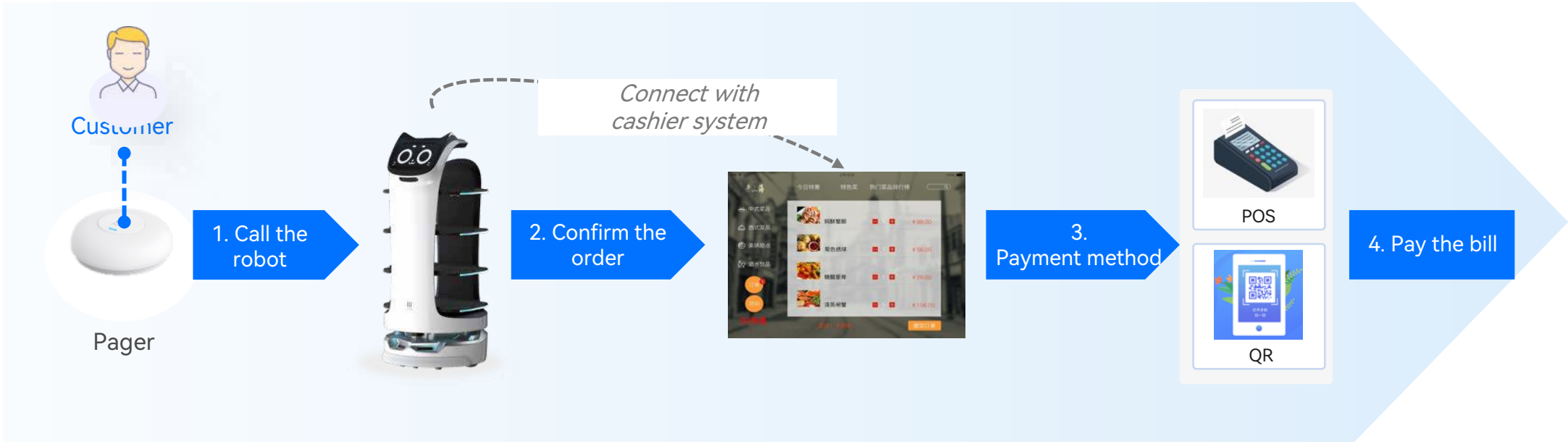
Meets Almost all Types of Catering

Recommend type	Small store (≤59 seats)	Medium store (60~80 seats)	Large store (≥80 seats)
<p>Small and agile, highly mobile</p> <ul style="list-style-type: none"> Coffee shop Fast food Japanese and Korean cuisine Southeast Asian cuisine BBQ Dessert shop ... 	<p>Min pass width 55cm</p>	<p>Min pass width 65cm Max weight capacity 40kg</p>	
<p>High Capacity</p> <ul style="list-style-type: none"> Hotel restaurant Hot pot Chinese restaurant Western restaurant ... 		<p>Min pass width 80cm Max weight capacity 40kg</p>	<p>Min pass width 80cm Max weight capacity 35kg</p>

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



Post-meal: Dish return

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

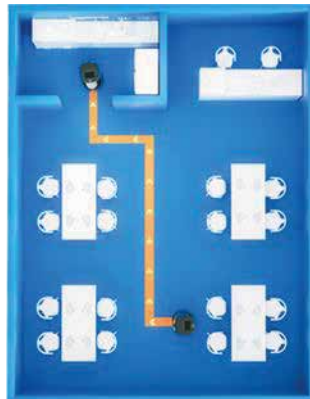
Mode.1: Manual mode

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



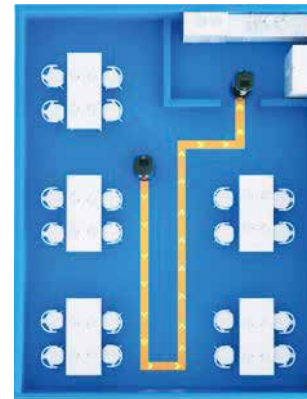
Mode.3: Go standby point

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



Special Scenario: System Interconnection



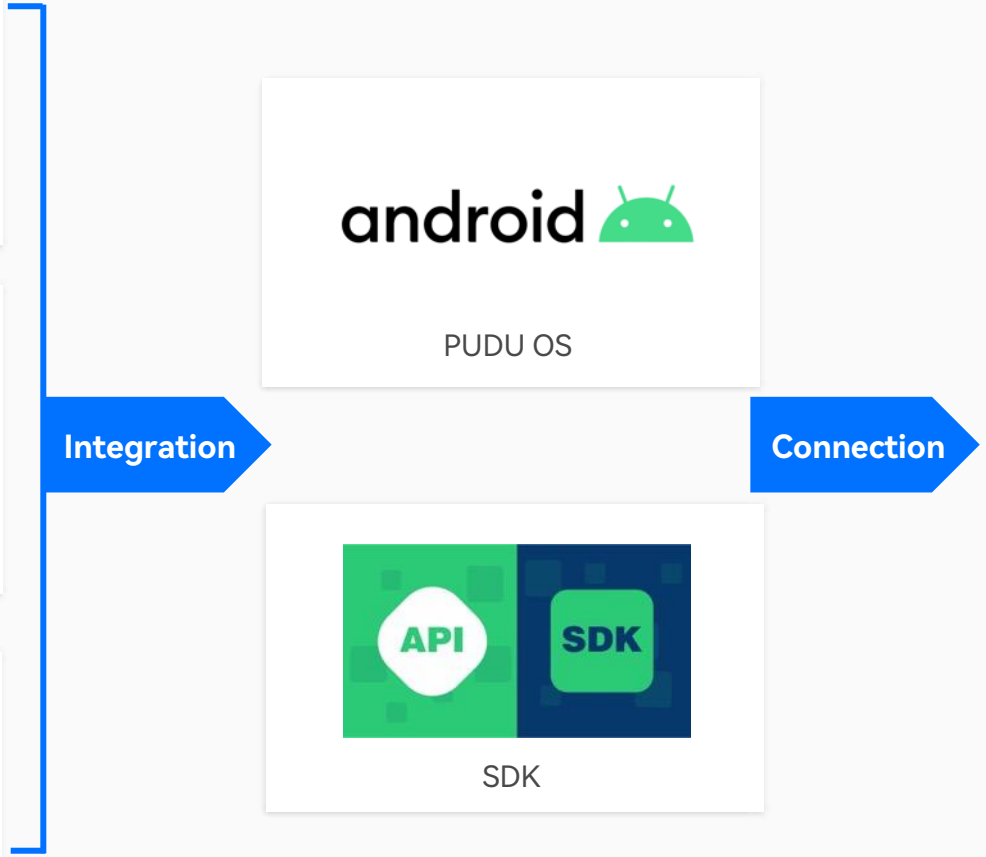
order system



Cashier system



KDS system



Smart catering integration

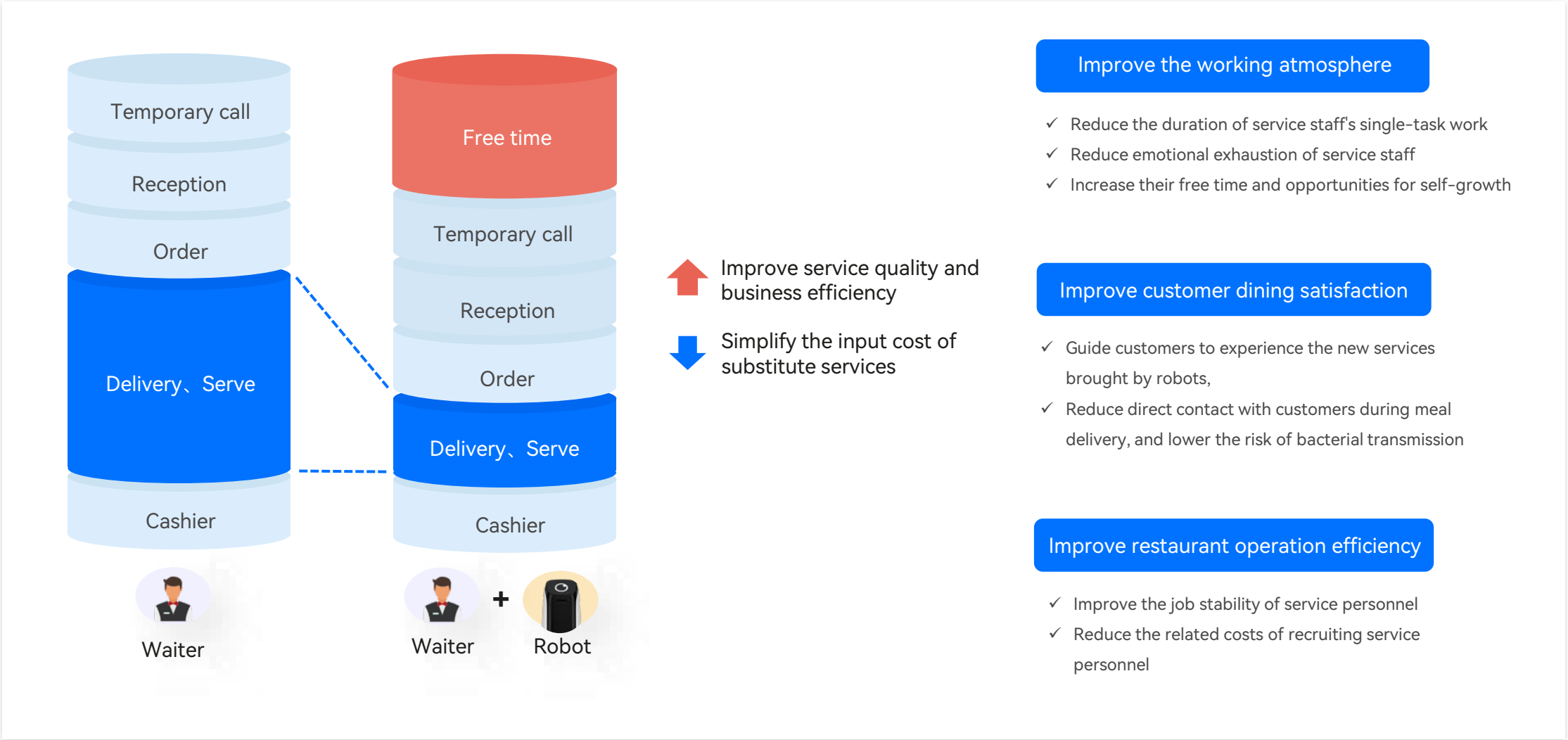
- ✓ After the robot greets, guides customers to order directly via robot
- ✓ After the kitchen completes the dish, called the robot comes to collect the dish
- ✓ After the customer finishes their meal, they call the robot to pay the bill
- ✓ Through the catering system, the operator can view the operation status of the robot



03

Successful Cases

Value Summary



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: 400m²

Kitchen: Closed kitchen



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

* This data is given for reference only, statistics as of May 2023

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

* This data is given for reference only. statistics as of May 2023

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



* This data is given for reference only, statistics as of May 2023

Successful Cases - O3 Restaurant & Bar



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

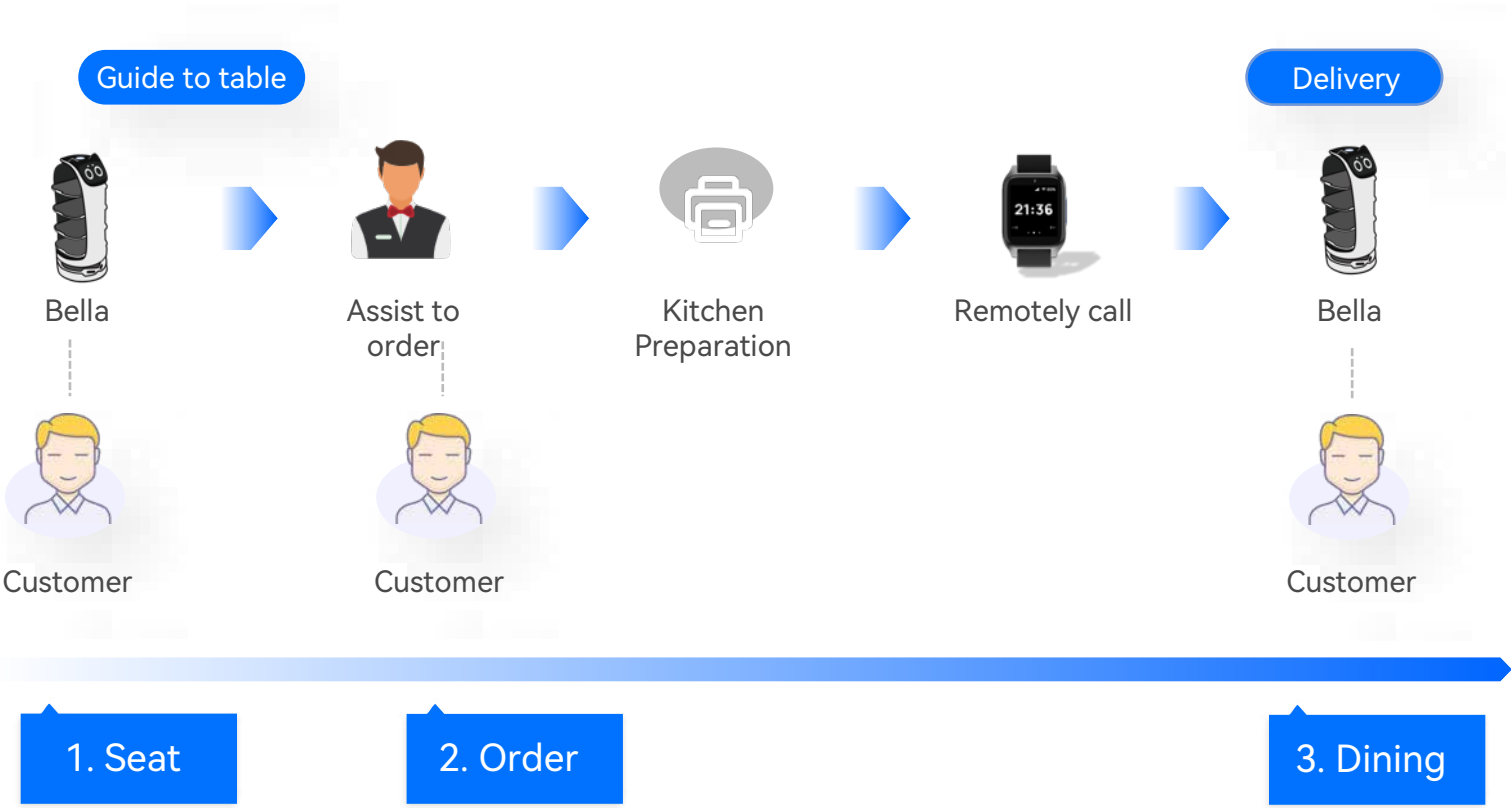
* This data is given for reference only, statistics as of May 2023



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

Successful Cases - O3 Restaurant & Bar

Process



Configuration

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

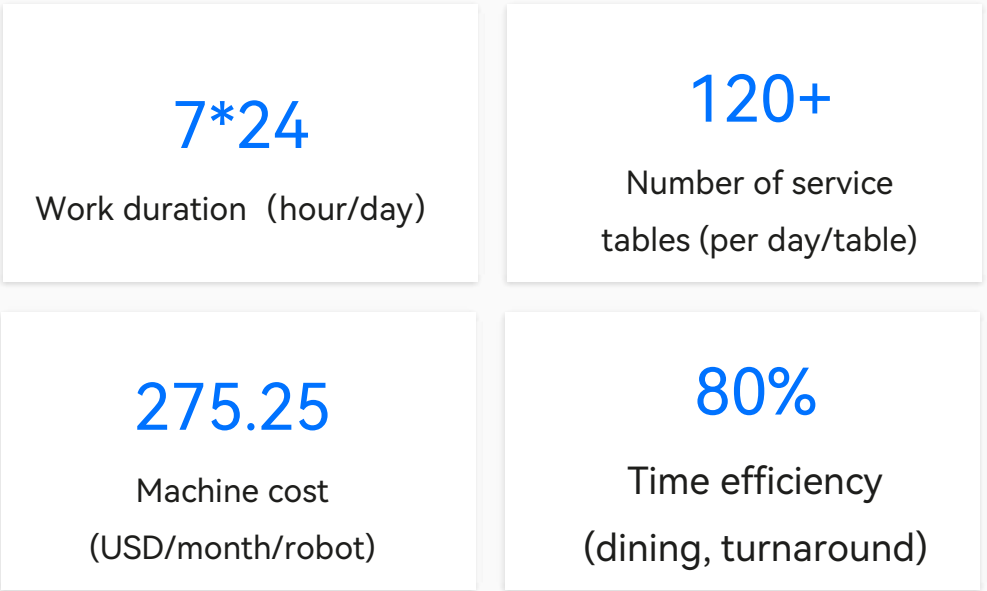
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Successful Cases - O3 Restaurant & Bar

Traditional manual form



Human-robot collaboration form



VS

* This data is given for reference only, statistics as of May 2023

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.



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

* This data is given for reference only, statistics as of May 2023



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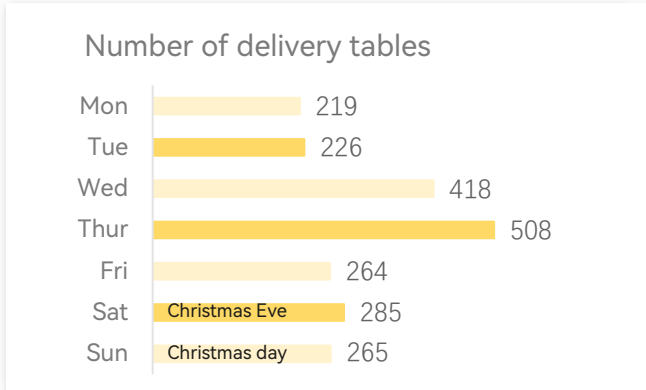
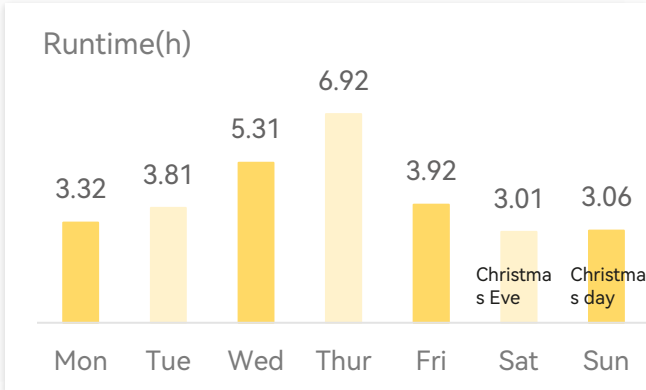
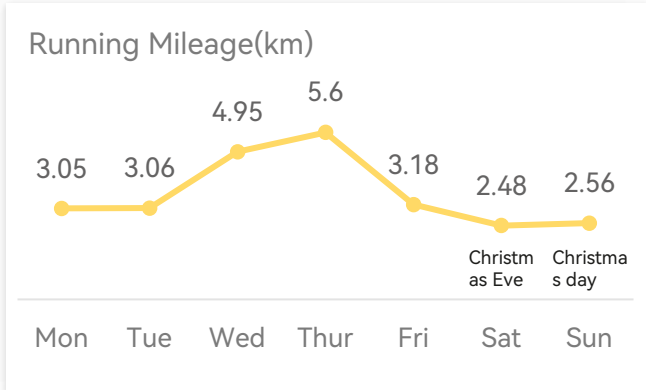


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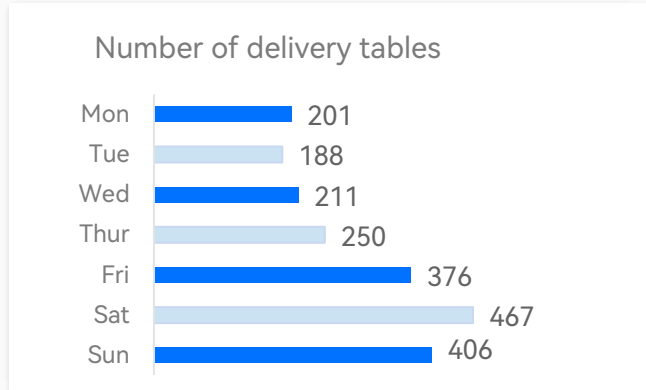
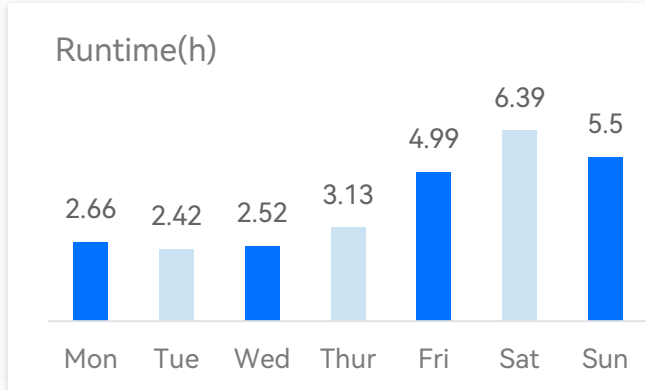
Successful Cases – Kura SuShi

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 data for the past 7 days during the normal period



* This data is given for reference only, statistics as of May 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

ATV (RMB)

5.6

Turnover rate per day

42

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

* This data is given for reference only, statistics as of May 2023



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

Delivery Cost

Save **11000** RMB

Operation Cost

Increase **1.2** times

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 Human
Human+Robot	1200RMB/robot/month	120 dishes /workday 220dishes/holiday	10 – 24 Hours	1 waiter+2 robot

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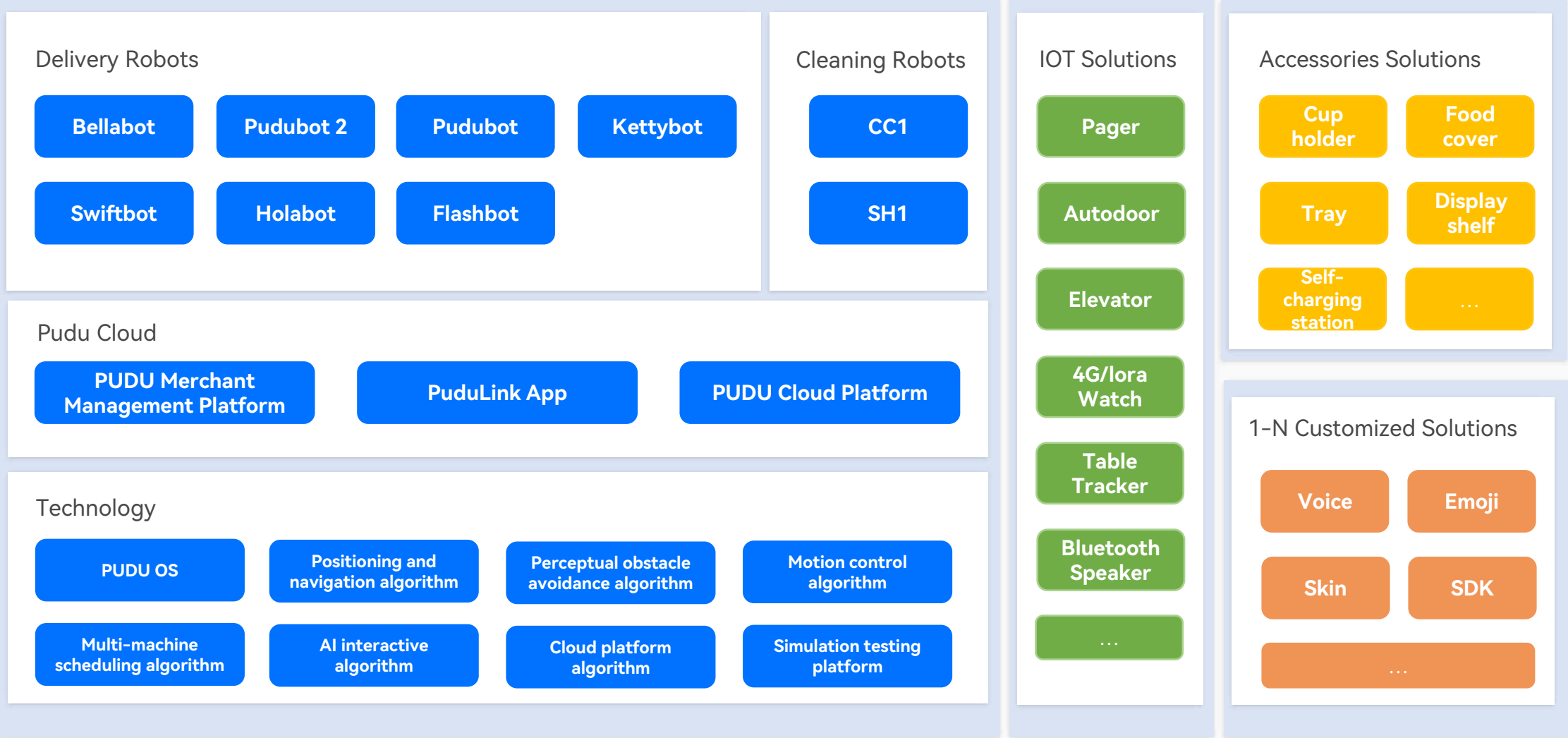
04

Product Family Matrix

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



Product Family



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 (18.5")
- Reception
- Navigation
- Voice interaction
- Work plan
- Delivery
- Self-charging
- Feature settings

Delivery Robots

SwiftBot




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


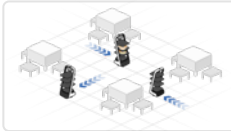









Avoidance Reminder Operating Status Projection Atmosphere Projection Foot-activated Door Projection




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

Cleaning Robots



reddot winner 2023

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://business.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



Bearing tray (Bella)



Enclosed Protective Cover



Cup holder (Bella)



1-N Customized Solutions

android 

PUDU OS



Robot SDK



Skin



Customized Emoji



Customized Voice



Customized Software



Combined with 3rd party hardware

More options to come soon



05

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 60,000 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 May 2023

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



THINKING IN THE LIGHT OF FIRST PRINCIPLES



BE ENTERPRISING & ACCOUNTABLE



PURSUING FOR THE ULTIMATE



MOVING FAST



BE OPEN-UP



EMBRACING CHANGE

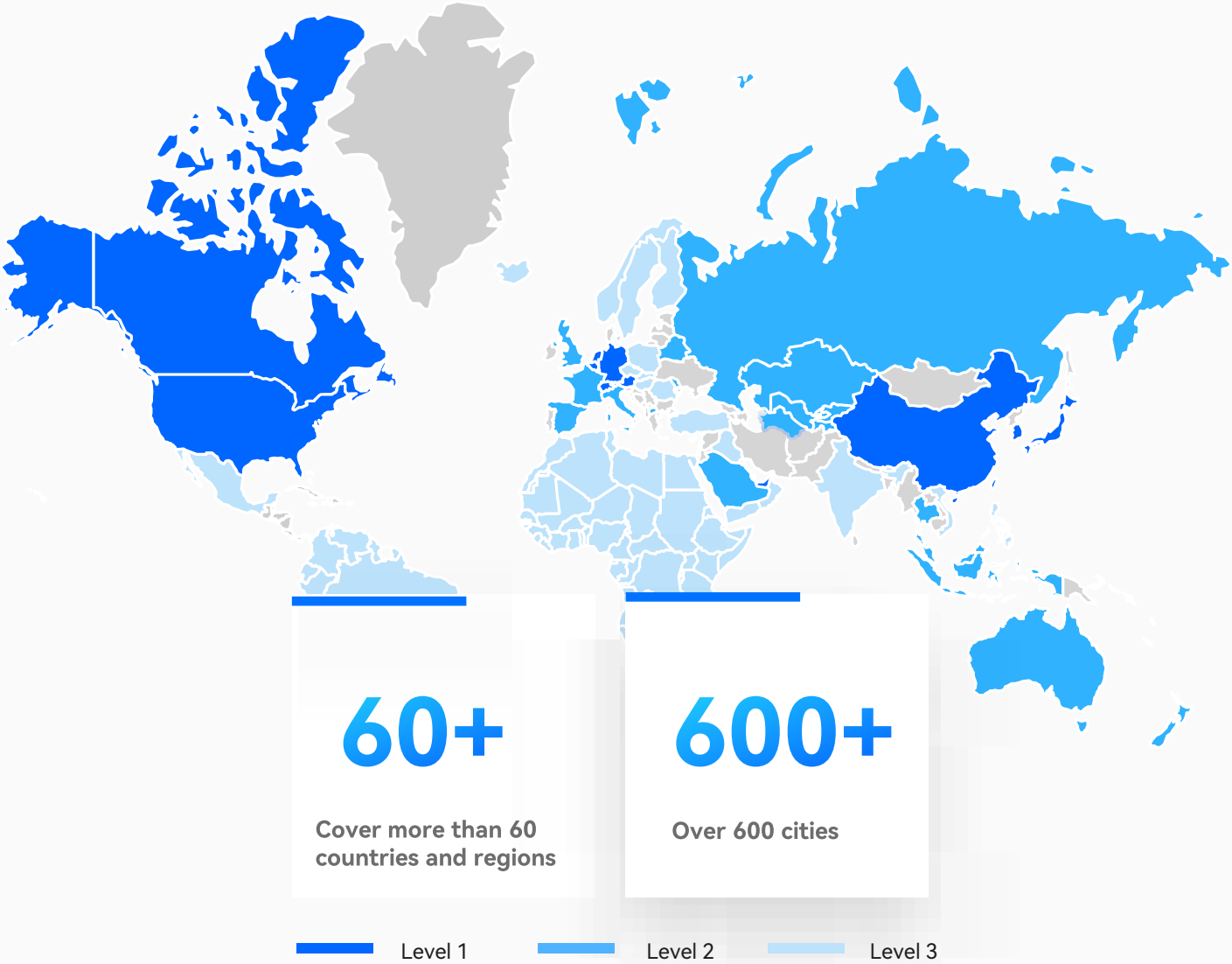
Scale Advantage

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 May 2023



Scale Advantage

Total Sales Quantity

60,000+

60,000+ * 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

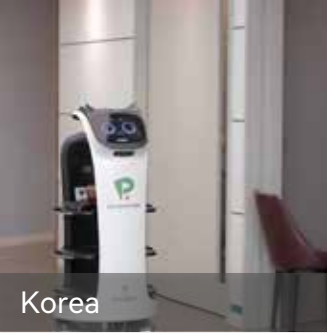
Market Share of the Overseas Catering Industry

>80%

Overseas catering industry's market share > 80%

* Relevant statistics as of May 2023

The world largest commercial service robot manufacturer



Korea



Australia



USA



Jordan



Switzerland



Poland



China-Shenzhen



China-Xiamen



Malaysia



Japan



China-Hongkong



China-Taiwan

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 May 2023



Operation Advantage

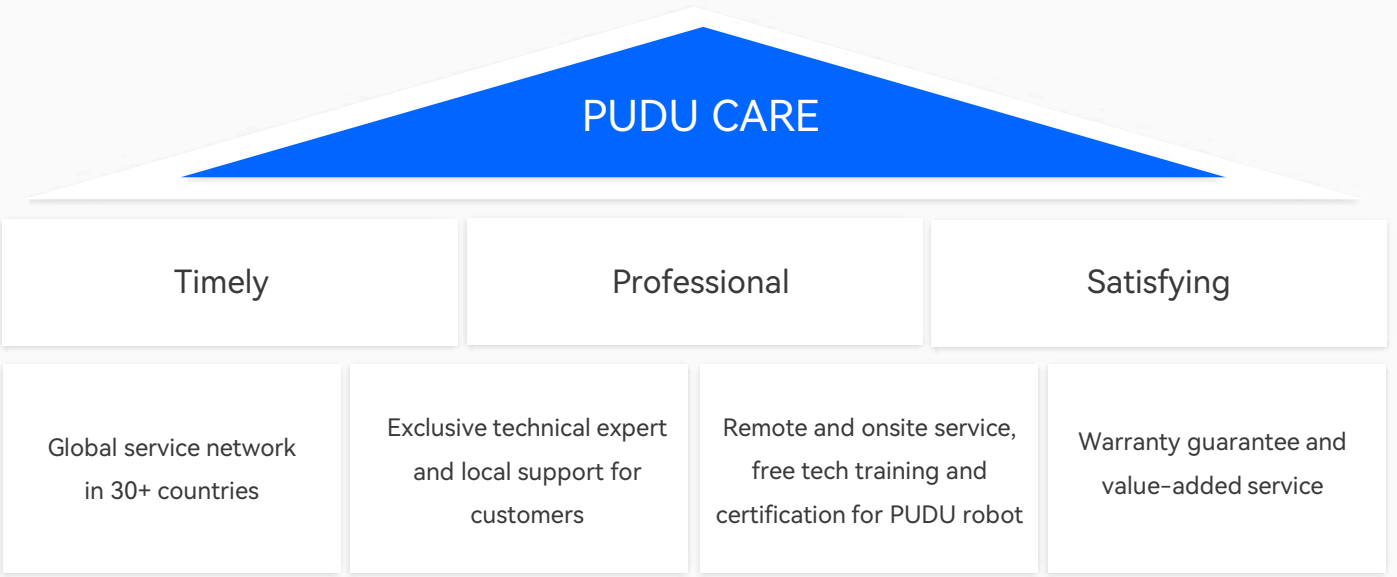
Global Multi-level Sales System



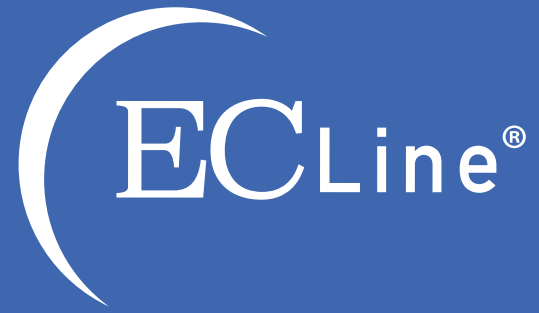
Operation Advantage

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.



Thank you!

www.eclinepos.com