



# *SwiftBot*

Versatile Delivery Robot  
Redefining human-robot relationship





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## About PUDU SwiftBot

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# SwiftBot

Powered by industry-leading collision sensing technology and Pudu-developed advanced algorithm, SwiftBot aims at being the most intelligent and secure commercial delivery robot. SwiftBot can recognize passer-by and initiatively give way to pedestrian in a timely manner. Even in a highly dynamic and complex environment, SwiftBot can conduct and complete its tasks with ease, while at the same time surprises you with its multifunctionality, high-reliability and fashionable technology.





Dimension	Machine: 488*593*1281mm Carton size: 675x595x1360mm Wooden case size: 703x621x1496mm
Machine Weight	59kg/49kg
Maximum Loads	35kg
Trays	size: 433*502mm Default 3*trays Maximum 5*trays per machine
Battery Life	10H~24H
Charging Time	4.5H
Path Clearance	Min 80cm
Cruise Speed	0.5-1.2m/s
Climbing Angle	5°
Door-opening Method	Automatic
Positioning Method	Marker, Laser and Fusion
Dispatching	Max 20 Robots
Charging	Wire or Automatic
Obstacle Detection Angle	Front 260° Back 180°





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## Omnidirectional Perception Capability

Comprehensive utilization of sensing technology to secure safe deliveries

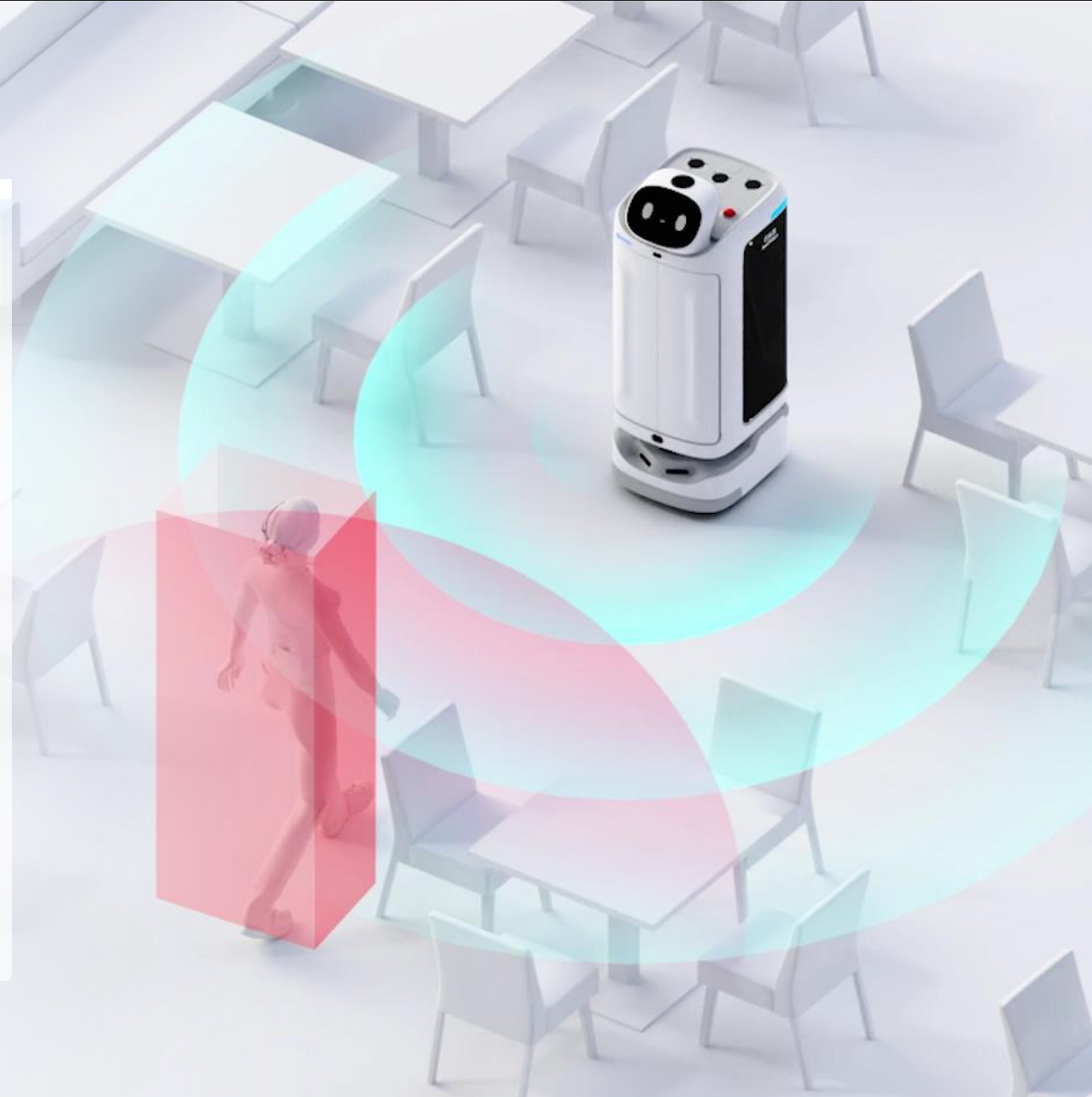
- 3 \* RGBD camera + 2\*RGB camera + 2\*Lidar
- 260° extra-wide front detection scope and 180 ° at the back
- Accurately detect obstacles and stop within 1.5s seconds in case of obstacles
- Effective human detection distance over 3 meters in front and 1.5 meters at back



## Initiative Make-way for Pedestrian

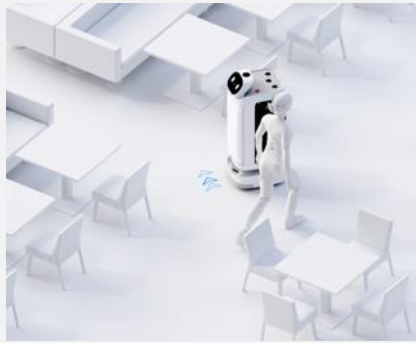
Improving efficiency and performance in rush hour

- SwiftBot is designed to work in busy and dynamic environment with courtesy and efficiency.
- Supported by rear sensors, accurate human detection and environmental perception algorithm, SwiftBot is capable of giving way to people initiatively. When human is detected, it will decide to move sideways or backwards, then continue its job.
- It can:
  - Lateral make-way for facing pedestrian
  - Lateral make-way for parallel pedestrian
  - Backward make-way for facing pedestrian
  - Safe-following of parallel pedestrian





## Accurate recognition of pedestrians in dynamic environment, proactive route anticipation of passers-by and initiative avoidance in advance



Lateral make-way for facing pedestrian

- The passage is wide enough for SwiftBot and pedestrians to pass at the same time
- SwiftBot takes the initiative to pass on the other side



Backward make-way for facing pedestrian

- The width of passage is not enough for SwiftBot and pedestrians to pass at the same time
- SwiftBot initiatively moves backward and makes ways if there is a suitable stopping point behind



Lateral make-way for parallel pedestrian

- The passage is wide enough for SwiftBot and pedestrians to pass at the same time
- SwiftBot actively leans to the other side



Safe-following of parallel pedestrian

- The width of passage is not enough for Swift and pedestrians to pass at the same time
- SwiftBot slows down and keeps an appropriate distance with the pedestrian ahead

## Realtime Visualized Status

Every step of SwiftBot is visible and understandable

SwiftBot can laser-project its path on the ground as a real-time caution for the pedestrians. The route of SwiftBot in coming 1-2 seconds can be displayed on the ground. The faster it moves, the longer route is shown. With the visualized marching route, SwiftBot's intention can be fully aware of and it can cooperate better with people.



## Innovative Projection Interaction Enhancing Experiences and Efficiency

The projection interaction of SwiftBot fulfills below functions:

- One step door control
- Realtime path projection
- Machine status indicators
- Pattern interaction in special modes



## Innovative Projection Interaction



With laser projection, SwiftBot can create a more intimate ambience and provide an intelligent experience for the customers.

## Advanced Protection Mechanism for Special Population



SwiftBot is designed with the advanced protection algorithms to project the safety of elderly and children in the same environment.

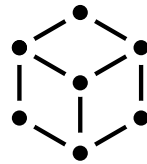
SwiftBot will

- Proactively detect if any special groups people around
- In advance slow down after recognizing the elderly and children

## Multiple Serving Modes



Food Delivery Mode



Delivery Mode



Cruise Mode



Guiding Mode



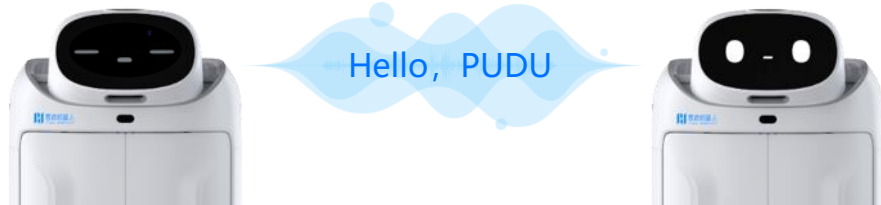
Birthday Mode



Interaction Mode

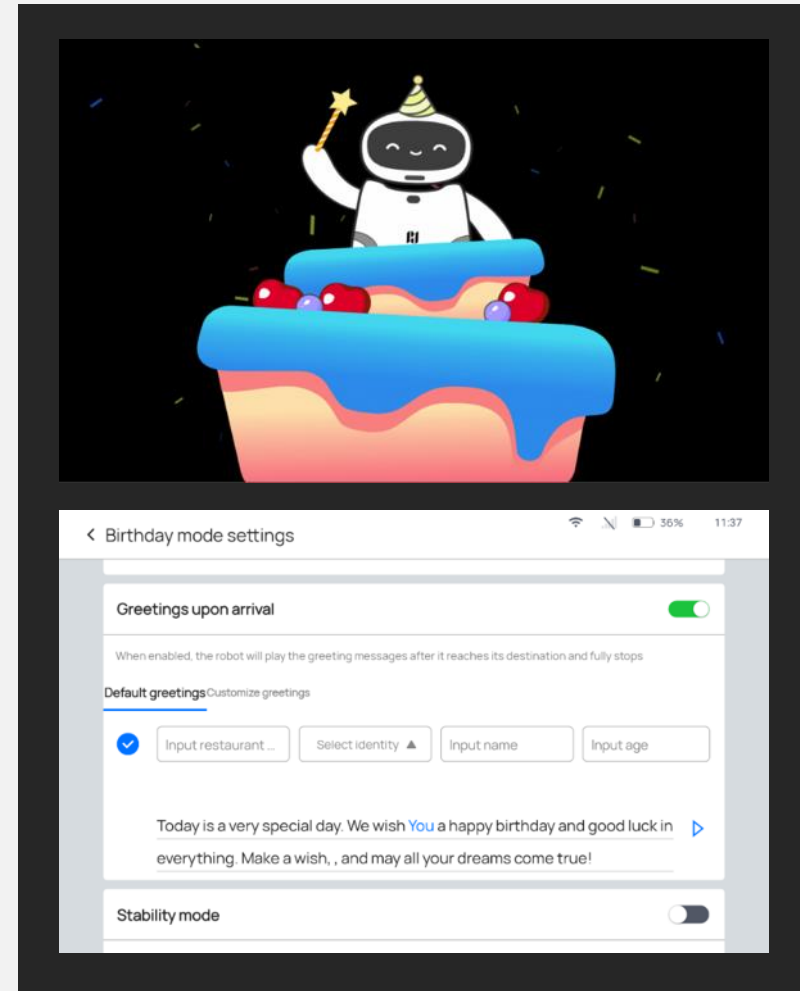
## Intelligent Guiding

SwiftBot supports voice control to activate the guiding mode and powered by advanced autonomous path-planning algorithm, it will select the optimal path and lead the customers to their table.



## Birthday Mode

SwiftBot offers a wide range of functions in Birthday Mode such as birthday notes customization, music customization, laser projection interaction etc, giving customers a better experience and happy ambience.





## Mission at-1-call



Pudu Watch



Pudu Pager



Pudu Link

SwiftBot supports Pudu Pager and Pudu Link calling function. Simply with one click, SwiftBot can receive and conduct the missions, making it incredibly convenient for the user to assign and manage tasks.

## Automatic Charging

SwiftBot automatically provides a voice alert and UI notification when the battery is low. Without manual intervention, SwiftBot can go to the charging pile to refuel itself when the battery level is lower than the set threshold.





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## Efficient

- Omni-directional Perception
- Intelligent Waiting
- Multi-table Delivery
- Initiative Make-way
- Autonomous Path-planning
- Mission at-1-call
- Automatic Charging



## Safe and Secure

- Automatic Electric Door
- Stabilized Delivery Mode
- Special Group Detection Algorithm
- Real-time Path Projection
- Initiative Make-way for Pedestrian



## Great Applicability

- Multiple Serving Modes
- Function-extendable
- 3rd Party Integration
- Pudu Cloud Platform

## 5-S Delivery Expert

50%



### Swift

Reduce 50% human-robot road congestion and increase 30% machine running speed in restaurant environment

20%



### Stable

Enhance 20% delivery stability powered by hybrid technology, combining Auto-level adaptive variable suspension and stabilization algorithm



### Safe

Human detection technology of securing safety for special group such as elders and children



### Smart

Multimodal interaction provides more intelligent and better experience for customers

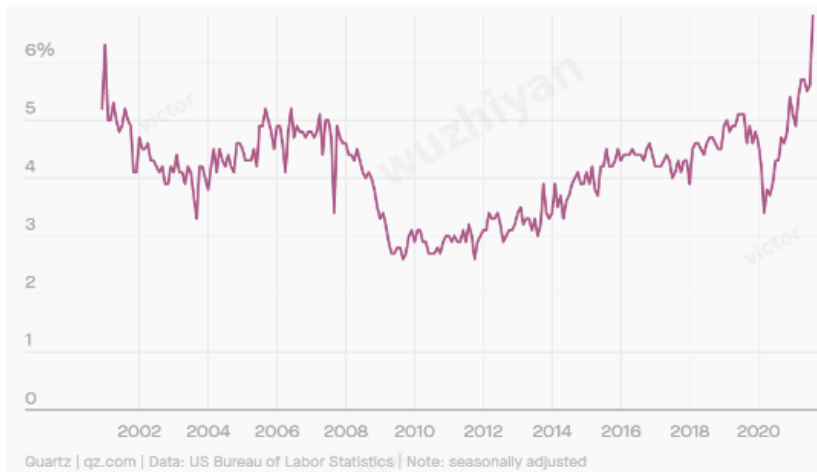


### Sociable

Being courteous and friendly, SwiftBot redefines the relationship between people & robots

## Enhance Work Experience and Staff Satisfaction

### Mitigate the recruitment pressure



In 2021, the shortage rate of the global food services is 14.39% meanwhile the quit rate is up to 7% .

The pandemic has been hugely devastating to the labor market and fundamentally altered the industries and locations where would-be employees want to work. Employers are struggling in looking for and retaining qualified staffs.

Deploying robots to replace the 4-D jobs (Dull, Duplicate, Dirty and Dangerous) is trendy and will become ubiquitous in future. With the help of robots, employees may focus more on the high-value work and have a better work environment, which results in better work experience and satisfaction.

## Contactless Delivery, Safety Means Everything

SwiftBot supports pager function, traces the target following the voice directions, and receives remote operation commands. In different use scenarios, SwiftBot can receive demands from the pagers and collects the dishes or items automatically, requiring no manual operation or intervention, reducing contagion risk between people and boosting work efficiency.



## Greater Brand Exposure

By creating your one-of-a-kind SwiftBot

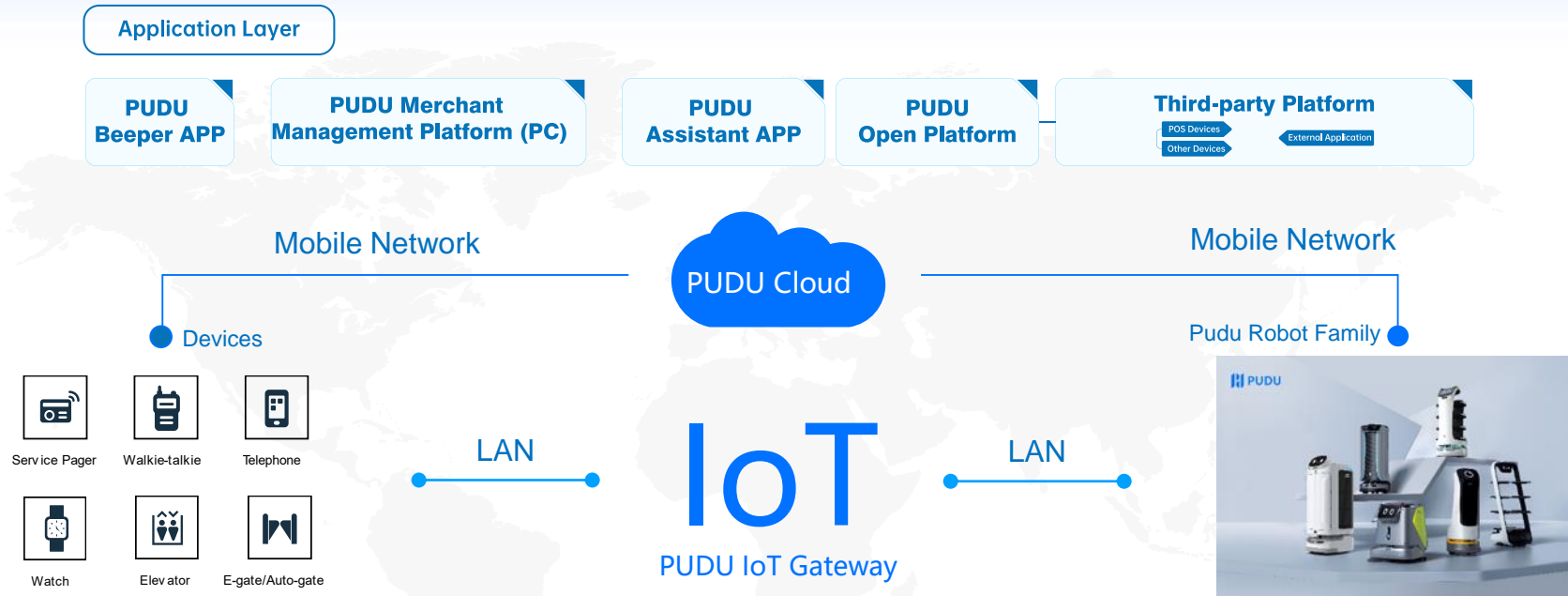
Pudu offers customized appearance services to make your robots unique and eye-catching by combining brand logo or culture elements.





## IoT Functionality

Remotely manage different models of Pudu robots simultaneously and analyze the operation of the robots through Pudu management platform.



- Advanced Intelligent Robots**
- Gesture Control, Voice Control and Interaction
  - 3D Obstacles Avoidance
  - Autonomous Elevator Operation
  - E-gate and Automatic Door Passing Capability

- Advanced IoT Solution**
- Robots & Devices Cooperate in Different Scenarios
  - Remote Control and Unified Management
  - Accelerating Multiple Scenarios Digitalization
  - 3rd Party Integration and Development Supportive

## Multiple Scenarios Coverage



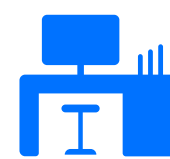
Restaurant



Hospital



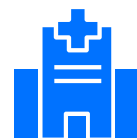
Hotel



Office



School



Nursing Center



Entertainment



Shopping Mall

With the fusion of positioning, navigating and sensing technology, SwiftBot can be widely used in different commercial scenarios, such as restaurants, café, hospitals, hotels, office buildings etc.



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**Product Advantages**

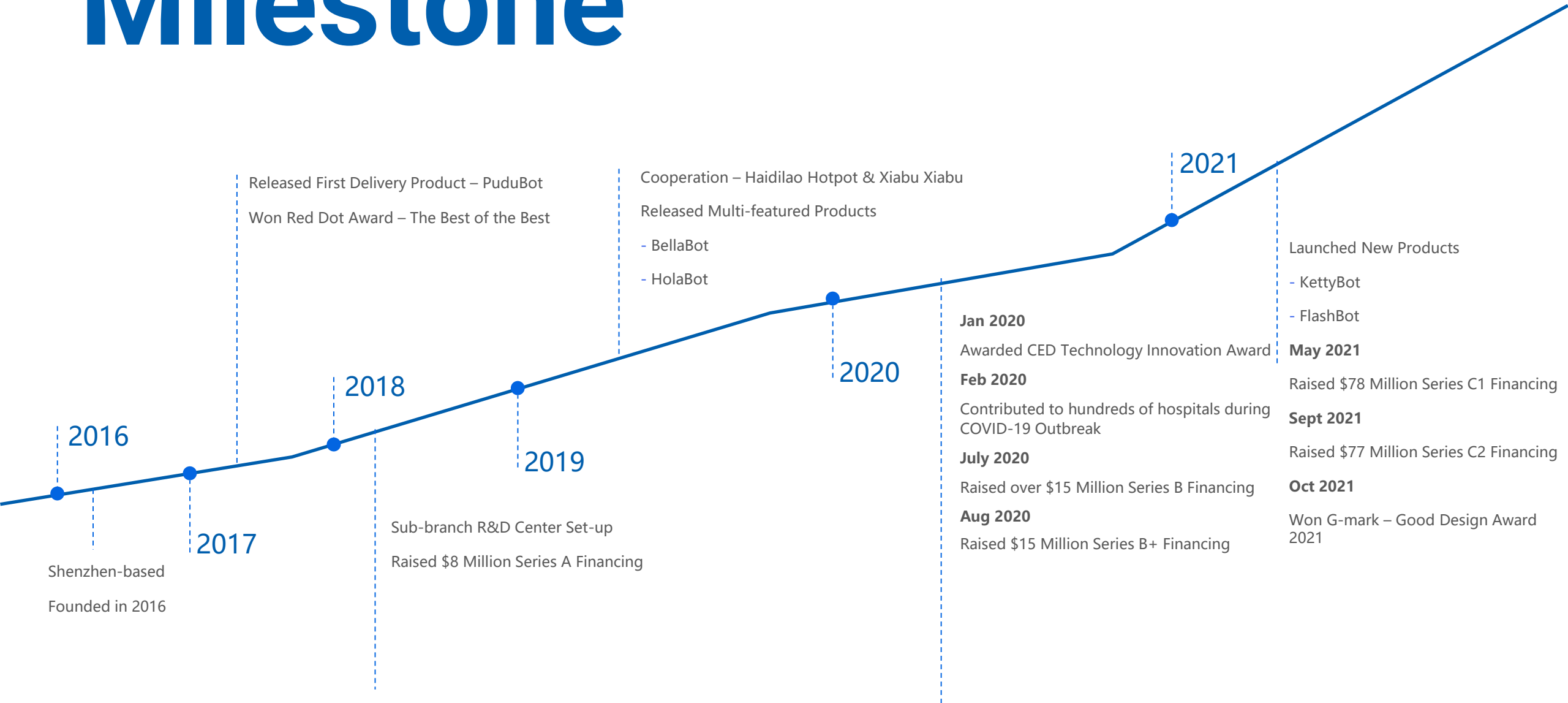
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# Milestone



# Sales Network

Pudu Robotics is exploring the global markets rapidly and currently with the coverage of over 60 countries and 600 cities worldwide. We are on the way to explore and deliver more to the future!





# Certificate

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



# Patent

Pudu Robotics has applied for hundreds of 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.

# Honor



# Cooperation



A dark blue world map is centered in the background of the slide. The map shows the outlines of continents and countries in a lighter shade of blue.

# After Sales Service

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- **Offline Service: 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.

# T H A N K S

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**Connect with Us:**

Pudu Robotics



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