



Sanbot

## Cloud-Enabled Service Robot

Powered by Qihan

# Press Kit

# About Sanbot

**Sanbot** is an **intelligent service robot developed by QIHAN Technology**, a company focused on innovations in robotics, artificial intelligence, and video analysis. Resulting from years of research and development, the new Sanbot platform will unleash the power of cloud-enabled robotics and AI for retail, hospitality, healthcare, education, security and many other customer-oriented industries to deliver smarter, more personalized services.

As a catalyst in service innovations and business productivity, Sanbot is taking robotics technology mainstream. With an **open API that enables developers to build Android applications** that harness **Sanbot's powerful AI** and machine-learning capabilities, businesses will deliver richer, smarter and more interactive services that increase customer satisfaction and loyalty.

Sanbot is the result of QIHAN's deep collaboration with technology partners, featuring class-leading solutions **including rechargeable batteries from Panasonic and image sensors by Sony**. QIHAN's capabilities in cloud-enabled robotics and AI are built from years of research and collaboration with institutions including the Harbin Institute of Technology and China University of Geosciences.

## CLIENTS

Sanbot is currently a best-selling product in the business service robot industry. From 2015-2016, sales volume reached 70,000 pieces. Sanbot has been successfully serving China Customs, Shenzhen International Airport, Guangzhou Baiyun International Airport, and industries including healthcare centers, medical care, security, children education and retail.

Clients include: **Audi** (*Guangzhou*), **Mercedes Benz 4S** shop (*Guangzhou*), **Macalline** (*Guangzhou*, China's largest furniture retail chain), **Audi 4S** shop (*Guangzhou*), **Buick 4S** shop (*Guangzhou*), **Rainbow** department store (*Guangdong province*), **China Customs**, **Shenzhen International Airport**, **Guangzhou Baiyun International Airport**, **Nongxintong Group** and **3W Coffice** (*Guangzhou*).

## Key Features

Sanbot is an intelligent service robot developed by QIHAN Technology, a company focused on innovations in robotics, artificial intelligence, and video analysis. Resulting from years of research and development, the new Sanbot platform will unleash the power of cloud-enabled robotics and AI for retail, hospitality, healthcare, education, security and many other operators in many other customer-oriented industries to deliver smarter and more personalized services.

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## SPECIFICATIONS

<b>SIZE</b>	92cm(Height)x 30cm(Depth)x 40cm(Width)		
<b>WEIGHT</b>	19kg		
<b>BATTERY</b>	Lithium battery Capacity: 20Ah/300W Running time: about 10 Hours, standby for over 20 hours		
<b>SENSOR</b>	Head	Mic x 7, RGB Camera x 2, 3D sensor x 1, Touch sensor x 7	
	Body	Gyroscope sensor x 1, Human body induction sensor x 2, IR evading obstacle sensor x 1, IR message receiving sensor x 6, Touch sensor x 4, electronic compass sensor x 1	
	Hand	IR evading obstacle sensor x 4, Touch sensor x 2	
	Leg	IR evading obstacle sensor x 10, Omni Wheel x 3	
<b>MOVING PARTS</b>	Head	2 x DOF	180 degree at horizontal direction, 30 degree at vertical direction
	Hand	1x2(L/R) DOF	270 degree swing back and forth
	Leg	3 x DOF	Free angle
<b>VIDEO</b>	8.0MP HD camera 1.0MP HD color camera with 140 degree aspheric surface angle		
<b>DISPLAY</b>	10.1 inch 1080P HD capacitance 10-point touch display		
<b>PROJECTION</b>	Laser 1920 x 720 HD wide gamut output, 60Hz, aspect-ratio: 16:9		
<b>PLATFORM</b>	ROS1.1		
<b>SOUND</b>	Voice control, 360 degree sound localization 4t x tweeter, 1 x woofer		

<b>WIFI NETWORK</b>	IEEE 802.11 a/b/g/n(2.4GHz/5GHz)
<b>WIRELESS NETWORK</b>	Bluetooth4.0, ZigBee
<b>ATMOSPHERE LAMP</b>	250 kinds customized colors, 2 cycles for ears , 2 pcs for hands, and 1 cycle for chassis
<b>MOVING SPEED</b>	0.8m/s max
<b>GRADE</b>	1.5cm max

## HIGHLIGHTS

### Robotics-as-a-Service

Based on QIHAN's "Robotics-as-a-Service" model, Sanbot will help drive the mainstream adoption of robotics technology by empowering a wide range of business services and creating new smart home possibilities for households.

With an open API, developers will be able to build Android applications that harness Sanbot's powerful AI and machine-learning capabilities. Sanbot is designed to provide interactive applications in retail, hospitality, healthcare, education, and security that needs to deliver high-quality services to customers and users.

Sanbot is powered by QIHAN's proprietary cloud-based AI innovations designed for seamless and natural interactions with humans, incorporating semantic comprehension, face recognition, 3D image sensing, gesture interaction, and more. The user-friendly Sanbot features the highest-quality components including a lithium battery unit from Panasonic and image sensor technology by Sony.

The powerful robotics capabilities of Sanbot can be seen through its seamless integration of hardware and software, with a cloud-based platform powered by advanced AI algorithms, enabling facial and voice recognition, user management, communications support, remote



### Managed Service Model

QIHAN plans to offer Sanbot in a managed service and subscription-based model in Europe, North America, including countries in the APAC and UAE, to enable customers to deploy the new robotics platform based on their business needs. Designed for different customer-oriented industries including shopping malls, retail stores, restaurants, hotels, nursing homes and schools, Sanbot can be deployed in a flexible and cost-efficient way to generate value and returns on investment, with excellent business and technical support provided by QIHAN in collaboration with local distributors, developers, and cloud solution providers.

To enable customers to fully harness Sanbot's powerful integrated capabilities, QIHAN will work closely with cloud service providers to offer seamless end-to-end solutions that are easy to deploy across different service industries including retail, hospitality, and education, to deliver strong value proposition. QIHAN is currently partnering with cloud service vendors including AliCloud.

QIHAN will make Sanbot available in Europe, North America, and also countries in the APAC and UAE through key partners and intends to commit research and development, sales, training and marketing support to new branches in Europe and North America. This expansion will help Sanbot achieve its goal of revolutionizing the service industry experience around the globe.

### Q-Link Application

Sanbot is designed to integrate seamlessly with Q-Link, a proprietary mobile application that enables real-time communications, and also serves as a powerful console that enables users to control and access Sanbot's data and functionalities. Q-Link offers an open development platform through which users can control Sanbot and add functionality. Additionally, users can take direct control of Sanbot, guiding the robot using manual controls or using Sanbot's built-in audio-visual features and HD cameras. From customizing user preferences to storing media files to adding retailer-specific data, the Q-Link Cloud System allows each user to customize and personalize their interactions with Sanbot.



## A Versatile, Full-Featured Robotic Assistant

Sanbot is equipped with advanced input sensors that allow it to understand and communicate with the world. The body is designed to detect obstacles, human beings, and other objects, making it a nimble and unobtrusive addition to any commercial space. Sanbot's head can sense human beings, read gestures and facial expressions, and respond to complex voice commands.

Sanbot's chassis sports a 10.1 inch 1080P touch screen display which can be used to enter commands or view high-definition content. It also includes a built-in projector that projects a bright 1920 x 720 HD picture in a 16:9 aspect ratio. It also includes two cameras, including an 8 MP HD camera, which can capture footage and give users a look at what Sanbot sees.

Sanbot is connected – featuring 802.11 a/b/g/n Wi-Fi standards on both 2GHz and 5GHz wavelengths. It also features Bluetooth 4.0 and ZigBee connectivity, enabling Sanbot to truly be the hub of your connected ecosystem.

Additionally, Sanbot is powered by a 20Ah/300W lithium battery that can keep it running at full load for four hours and in standby mode for ten. When Sanbot needs to charge, it's able to find its charging station on its own, making power management concerns an afterthought.

## Smart Robotics for Smarter Business

For businesses looking to stand out from their competition, Sanbot provides a unique way to engage customers and deliver better service. Sanbot offers a versatile, intelligent, and fun experience that elevates simple activities such as going to dinner, visiting a tourist destination, going shopping and more. And for industries like healthcare and education, Sanbot can be a helpful assistant due to its intuitive, smart voice recognition technologies and mobility.

Sanbot's cloud-enabled connected ecosystem—managed through the robust Q-Link mobile app—can help commercial and service industries learn about customer behavior and preferences. This allows for better, more personalized service. Sanbot's servers are built with advanced encryption features designed to protect user information. Since Sanbot is mobile, it can be a guide for new visitors at large retail spaces. It's able to communicate via video and audio, and can be an attention-getting marketing platform. And because it's smart, it can provide customer service experiences that satisfy and entertain.

Sanbot is an excellent addition to a workforce and can help increase efficiency and cost-savings in a way that complements human workers. For example, in a healthcare setting, Sanbot can be a friendly, reassuring presence available at any hour of the day. In a retail setting, Sanbot can be an always-on marketing ambassador that helps drive traffic and presents a unique way to share information on sales, deals and more.

Additionally, Sanbot can help keep your business safe, with high-definition cameras, motion sensors and the ability to maintain patrol routes, Sanbot can be a vigilant observer that protects your business and your customers.

## Leadership Team

- Lv De Lin, **CEO**
- Gray Zhuang, **CTO**
- Matt Zhou, **CFO**
- Ryan Wu, **CMO**

## Partners

QIHAN is committed to building a broad industry ecosystem to drive the ongoing development of artificial intelligence and robotics technologies globally. **QIHAN has 10 years of overseas market channels** and service experience with business partners distributed over 150 countries. QIHAN partners directly with distributors and vertical integrators/operators/developers to serve industries including healthcare, retail, education and hospitality.



### CHINA CUSTOMS

A set of customized APPs has been developed by QIHAN, which were tailored specifically to customs-related scenarios to provide travel agencies with a humanoid assistant to engage with future travelers and to capture relevant information which will help travel assistants to sell the right product to the right customer.



### CHARTACLOUD USA

The agency helps QIHAN with Sanbot's hardware sales and other applicable software.



### HOOMANO FRANCE

QIHAN works with Hoomano France, a retail software developer, to apply retail APPs within Sanbot and sell premium retail service solutions to retail businesses.



### INTELLI CHINA

QIHAN works with Intelli China, a high-end medical management platform to incorporate the platform's current available medical APPs within Sanbot to sell premium healthcare solutions to families.



## Mission

Sanbot's platform will unleash the power of cloud-enabled robotics and AI for various fields, including retail, education, healthcare, hospitality, security and many other customer-oriented industries to deliver smarter and more personalized service experiences to help businesses increase their revenues.

Now, QIHAN sets its sights on the US, European and APAC market. QIHAN is looking to work with developers and integrators from various industries to develop new applications, software, and functionalities that tap into Sanbot's full potential. With potential partnerships, QIHAN plans to co-develop customized robotics applications and software to maximize Sanbot, while advancing the robot's functionalities, knowledge, and skills for each individual business sector or scenario.

## Business Sectors



### EDUCATION

**Kindergarten & schools**  
Play games with children,  
tells stories and present  
education content



### HOSPITALITY

**Hotels & Serviced  
Apartments**  
Provide interactive maps  
and location guides



### RETAIL

**Supermarket &  
Shopping Mall**  
Display pricing information  
and promotional offers



### SECURITY

Intrusion detection and sur-  
veillance



### HEALTHCARE

Companion to elderly in  
nursing homes



