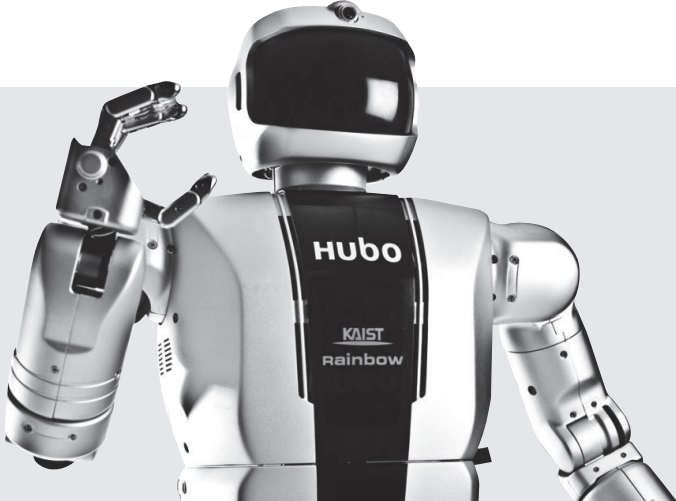




RAINBOW ROBOTICS  
Company Introduction  
English

WE  
TOUCH  
THE  
CORE

# Table of Contents





## Chapter1. Introduction of Rainbow Robotics

---

01.	Company Introduction	05
02.	Key Milestones	06
03.	Certification	08
04.	Patents & Awards	10

## Chapter2. Business Domain and Main Products

---

01.	Core Technology	12
02.	Business Domain	13
03.	Main Products	14
	- RB series of collaborative robots	14
	- RB-N series of collaborative robots	15
	- Dual-Arm Mobile Manipulator, RB-Y1	16
	- Precision pointing mount	17
	- RBQ series of quadruped robots	18
	- Serving robot	19
	- AMR	20

## Chapter3. Fields of application

---

---

# Chapter

# 1

---

## Introduction of Rainbow Robotics

---

- 01. Company Introduction
- 02. History
- 03. Certification
- 04. Patents & Awards

# Company Introduction

Rainbow Robotics, founded by researchers from KAIST Humanoid Robot Research Center (HUBO Lab), is a leader in robotic platforms. Our mission is to commercialize advanced robots through continuous research and development. We deliver cutting-edge technology at competitive prices.

## 'We touch the core'

Rainbow Robotics strives relentlessly to become a leader in the robot industry through preminent technologies.

CEO	Lee Jung-ho
Established date	02.10.2011
Publicly listed date	02.03.2021
Employees	80 (as of March 31, 2024)
Address	10-19, Expo-ro 339beon-gil, Yuseong-gu, Daejeon, Republic of Korea
Website	<a href="http://www.rainbow-robotics.com">www.rainbow-robotics.com</a>



# Key Milestones

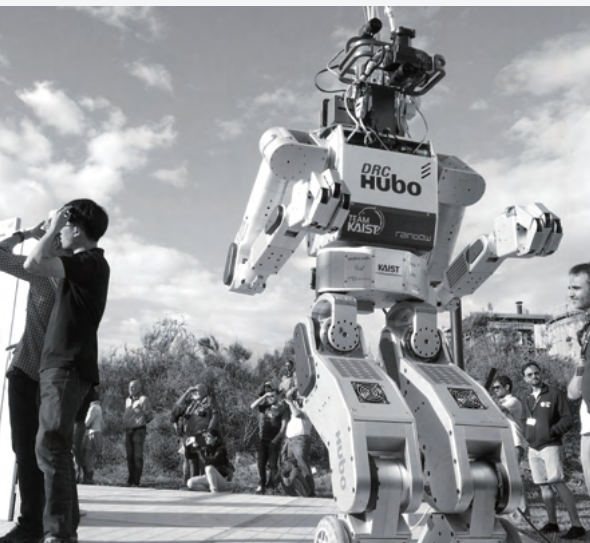
- Aug 2024** | Delivered quadruped prototype robot for counter-terrorism to the South Korean Army  
Developed South Korea's first Dual-Arm Mobile Manipulator, RB-Y1
- Jun 2024** | Launched autonomous mobile robot RBM Series
- Apr 2023** | Established a branch company in Schaumburg, Illinois, U.S.A
- Mar 2023** | Samsung Electronics acquired 4.77 percent of Rainbow Robotics
- Jan 2023** | Samsung Electronics acquired 10.22 percent of Rainbow Robotics
- Sep 2022** | Launched quadruped robot RBQ-10
- Mar 2021** | RB-N Series "NSF/ANSI 169" Certification
- Feb 2021** | Rainbow Robotics Inc. listed on KOSDAQ\* (277810)
- Aug 2020** | Delivered the LIG Nex1 internal gimbal driving assembly, and 1 other product
- Jul 2020** | Signed a service contract to design a satellite monitoring telescope system for the KASI
- Apr 2020** | "ISO 9001:2015" Certification
- Jul 2019** | Launched RB Series (collaborative robot)
- Feb 2018** | Operated of humanoid robot experience service during 2018 Pyeongchang Winter Olympic Games



- Jul 2017** | Secured 10 billion KRW in investment (venture capital)
- Feb 2016** | Supplied 'Space Observation Mount System' to LIG Nex1
- Dec 2015** | Exported four units of DRC-HUBO+ to the Naval Research Laboratory, USA
- Sep 2015** | Operated MOUNT, the electronic and optical space object monitoring system of the KASI
- Jun 2015** | "DRC-Hubo" wins 2015 DARPA Robotics Challenge
- Jan 2014** | "Venture Company" Certification

- Sep 2013** | Exported two HUBO II units to Google Inc., USA
- Dec 2011** | Exported six HUBO (humanoid robot) units to the MIT with support from the US National Science Foundation
- Jul 2011** | Mount technical service agreement signed with the Korea Astronomy and Space Science Institute (KASI)
- May 2011** | Established an affiliated research institute
- Feb 2011** | Established Rainbow Robotics Inc. (Original company name: Rainbow Co., Ltd.)

\*KOSDAQ: Trading board of Korea Exchange (KRX) in South Korea established in 1996.



# Certification

## 1. RB Series

- Ensured robot stability by obtaining CE, NRTL, and KCs Safety Certifications through TÜV SÜD, a well-known overseas certification body (ISO 13849-1, PL d, Cat.3, & ISO 10218-1, ISO/ TS 15066)
- Systematization and procedure for quality assurance of corporate operations through Quality Management System Certification (ISO 9001)



Types of certifications	Subject	Application standard-certifying body	Proof of conformity
NRTL/CSA	Motor, drive-	UL 61800-5-1:2012/R:2021-02 CSA C22.2 No. 274:2017	TÜV SÜD
	Industrial Robot	CSA Z434:2014 UL 1740:2018/R:2020-11 NFPA 79:2021	
CE AOC (Autonomy Safety)	Motor, drive-	EN 61800-5-1:2007/A1:2017	
	Industrial Robot EMCD	EN 61000-3-2:2014 EN 61000-3-3:2013 EN 61000-3-3:2013/A1:2019 EN 61000-6-2:2005 EN 61000-6-4:2007/A1:2011 EN IEC 61000-3-2:2019	
		EN 61000-3-2:2014 EN 61000-3-3:2013 EN 61000-3-3:2013/A2:2021 EN 61000-6-2:2005 EN 61000-6-4:2007/A1:2011 EN IEC 61000-3-2:2019/A1:2021	
Industrial Robot MD	EN 60204-1:2018 EN ISO 10218-1:2011 EN ISO 12100:2010 Machinery Directive 2006/42/EC		
Functional Safety	Robot Safety Unit	IEC 61508-1:2010 (SIL 2) IEC 61508-2:2010 (SIL 2) IEC 61508-3:2010 (SIL 2) EN 62061:2005/A2:2015 (SILCL 2) EN ISO 13849-1:2015 (Cat. 3, PL d) EN ISO 10218-1:2011 ISO TS 15066:2016 IEC 61800-5-2:2016	
CE AOC (Autonomy Safety)	Motor, drive- Low voltage	EN 61800-5-1:2007/A1:2017	
NRTL	Motor, drive-	UL 61800-5-1:2021	
CE AOC (Autonomy Safety)	Industrial Robot EMCD	EN 61000-3-2:2014 EN 61000-3-3:2013 EN 61000-6-2:2005 EN 61000-6-4:2007/A1:2011	
	Industrial Robot MD	EN 60204-1:2018 EN ISO 10218-1:2011 EN ISO 12100:2010 Machinery Directive 2006/42/EC	
	Motor, drive- Low voltage	EN 60034-1:2010 EN 61800-5-1:2007	



Types of certifications	Subject	Application standard-certifying body	Proof of conformity
CE AOC (Autonomy Safety)	Industrial Robot EMCD	EN 61000-3-2:2014 EN 61000-3-3:2013 EN 61000-6-2:2005 EN 61000-6-4:2007/A1:2011	TÜV SÜD
	Industrial Robot MD	EN 60204-1:2006/A1:2009 EN ISO 10218-1:2011 EN ISO 12100:2010 Machinery Directive 2006/42/EC	
KCs (Confirmation Report)	Industrial robots	-	KOSHA

## 2. RB-N Series

- The RB-N Series robot is certified by the National Sanitation Foundation (NSF) for safe and hygienic use in the F&B market, and is designed for use as a single product without installing a jacket or supplementary devices on it.



Types of certifications	Subject	Application standard-certifying body	Proof of conformity
NSF	Collaborative Robot Arm	NSF/ANSI 169: Special purpose food equipment and devices	NSF International



RB Series



RB-N Series

# Patents

- An intellectual property management company that differentiates itself in performing intellectual property management activities
- 17 domestic patents and 12 pending patents, 36 foreign patents, 12 pending trademarks, 11 domestic trademark registrations, and 7 foreign trademark registrations

## Major patents in S. Korea and other countries

Name	Registration no.
REAL-TIME CONTROL SYSTEM, REAL-TIME CONTROL DEVICE AND SYSTEM CONTROL METHOD	US 11,135,719 B2
REAL-TIME DEVICE CONTROL SYSTEM HAVING HIERARCHICAL ARCHITECTURE AND REALTIME ROBOT CONTROL SYSTEM USING SAME	US 10,857,672 B2
GPOS-CONNECTED REAL-TIME ROBOT CONTROL SYSTEM AND REAL-TIME DEVICE CONTROL SYSTEM USING SAME	US 10,864,635 B2
STATOR COIL WINDING MACHINE	US 11,368,075 B2
SERIES ELASTIC ACTUATOR, METHOD FOR CONTROLLING SERIES ELASTIC ACTUATOR AND SYSTEM THEREOF	US 11,431,222 B2
DEVICE FOR BRAKING DRIVE SHAFT	EP 3756837 B1
リアルタイム制御 システム、リアルタイム制御装置及びシステムの制御方法	JP 6836585
GPOS連動型リアルタイムロボット制御システム及びこれを用いたリアルタイムデバイス制御システム	JP 6771027
階層的なアーキテクチャを有するリアルタイムデバイス制御システム及びこれを用いたリアルタイムロボット制御システム	JP 6938473
实时控制系统、实时控制装置及统控制方法	CN 108025436 B
具有分层架构的实时设备控制系统及利用其的实时机器人控制系统	CN 108136578 B
스테이터 코일 권선 장치	KR 10-2235169, 10-2256187, 10-2280446, 10-2280447, 10-2280448
구동축 브레이킹 장치	KR 10-2235169
계층적 아키텍처를 갖는 실시간 디바이스 제어 시스템 및 이를 이용한 실시간 로봇 제어 시스템	KR 10-2235168
스텝 기반 실시간 디바이스 시스템 제어 방법, 디바이스 시스템 제어 장치 및 스텝 기반 디바이스 제어 시스템	KR 10-2235167
실시간 로봇 시스템, 로봇 시스템 제어 장치 및 로봇 시스템 제어방법	KR 10-2235166

# Awards

- The following cases represent public recognition of Rainbow Robotics' R&D outcomes.

Year	Awards	Awarding Organizations
2023	USD-Two Million Export Tower	Ministry of Industry, Trade and Energy
2022	USD-One Million Export Tower 2022 Korea Engineering Prize (Director Oh Jun-ho) 17th Korea Robot Award (CEO Lee Jeong-ho) 29th Korea Impact Award (World's first NSF-certified collaborative robots, RB-N Series)	Ministry of Industry, Trade and Energy Korean Academy of Science and Technology Ministry of Industry, Trade and Energy Ministry of Science and ICT
2018	Selected as Top 100 Future Technology Stars to lead S. Korea (CEO Lee Jeong-ho)	Korean Academy of Science and Technology
2016	Ho-Am Prize (Director Oh Jun-ho) Changjo Medal of Order of Science and Technology Merit (Director Oh Jun-ho)	The Ho-Am Foundation Ministry of Science, ICT and Future Planning
2015	DARPA Robotics Challenge Finals 1st	DARPA

---

## Chapter

# 2


---

### Business Domain and Main Products

---


<b>01. Core Technology</b>	<b>12</b>
<b>02. Business Domain</b>	<b>13</b>
<b>03. Main Products</b>	<b>14</b>
- RB series of collaborative robots	14
- RB-N series of collaborative robots	15
- Dual-Arm Mobile Manipulator, RB-Y1	16
- Precision pointing mount	17
- RBQ series of quadruped robots	18
- Serving robot	19
- AMR	20

# Core Technology

- 
- 


**Real-time operating system**  
Controlling all of the robot's movements to achieve the objective

---

  - 


**Imaging sensors to detect the external environment visually**  
Sensors in autonomous vehicles

---

  - 


**Inertial sensors to measure the inclination of the ground and robot**  
Measuring and detecting motion

---

  - 


**Redundant robot arms to perform various tasks**  
Able to be operated even in an undefined environment with more than 6 degrees of freedom

---

  - 


**Adaptive robot hands capable of gripping various objects**  
Gripping any object shape

---

  - 


**Transformable robot legs capable of biped walking / wheel driving transformation**  
A ground vehicle capable of achieving multiple purposes

---

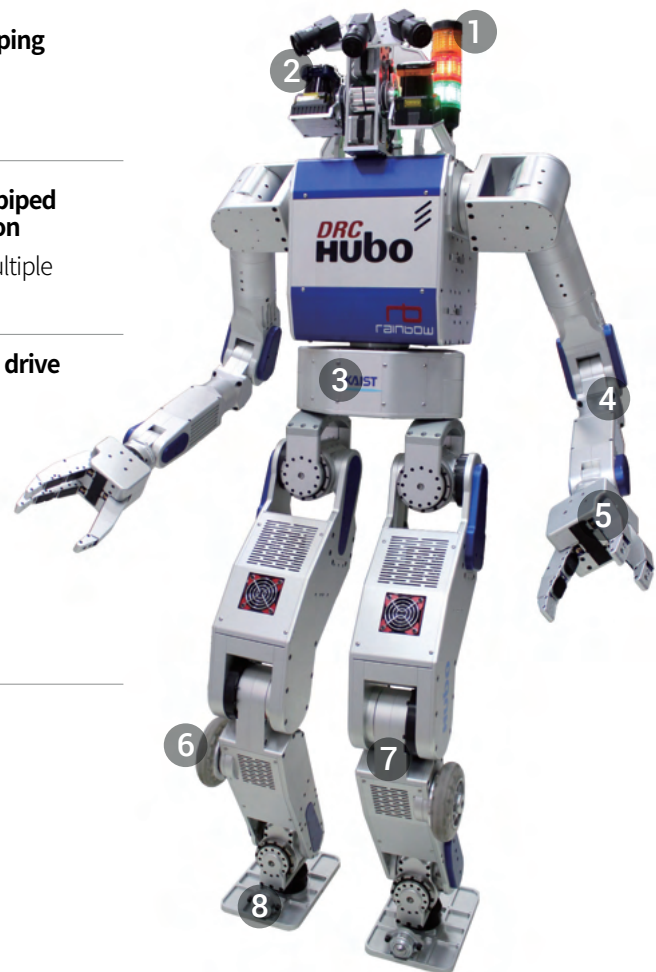
  - 

**Drive controller and speed reducer to drive each joint**  
Internalization of motor and decelerator technology, which are the main driving components

---

  - 

**Real-time operating system**  
Controlling all of the robot's movements to achieve the goal
- 



# Business Domain

As a company specializing in robot platforms with preminent technology, Rainbow Robotics devotes steadfast efforts to commercialize robots by securing innovative technology with continuous R&D and selling cost-effective excellent robots.



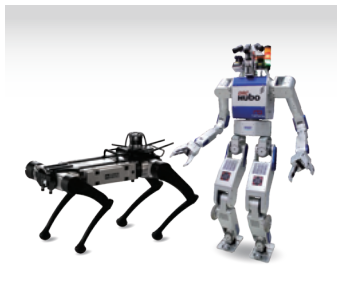
Dual-Arm Mobile Manipulator



Collaborative robots



Precision pointing mount



Legged robots



Mobile robots

# Collaborative Robots

## RB Series

Rainbow Robotics' RB series cobots feature 6-axis robotic arms, developed using our exclusive technology. With multiple options available (RB3-730, RB3-1200, RB5-850, RB6-920, RB10-1300, RB16-900 and RB20-1900), these cobots cater to diverse needs in various work environments. Our RB cobots undergo thorough testing and inspection by TÜV SÜD, a globally renowned certification body. They are certified with NRTL, CSA, CE and KCs, meeting the following standards.

- ISO 13849-1, Cat.3, PL d
- ISO 10218-1
- ISO/TS 15066



### RB Series lineup

- RB3-730
- RB3-1200
- RB5-850
- RB6-920
- RB10-1300
- RB16-900
- RB20-1900

### Range of Applications

- Packaging
- Welding
- Assembly
- Quality inspection
- Adhesion spreading
- Picking and placing
- Laser marking
- UT welding
- Injection molding
- Photography and video shooting
- CNC machine tending
- 3D scanning

### Main features

- Securing a high performance and price competitiveness by internalization of core components
- Collaborative robots with built-in humanoid robot technology
- User-friendly software

### Options with built-in pneumatics (A1, A2, A3)

Model Name	Pneumatics lines	Signal lines
RB5-850A1	4EA(4Ø tube)	N
RB5-850A2	5EA(4Ø tube)	12Pin(AWG28)
RB3-1200A1	4EA(4Ø tube)	N
RB3-1200A2	5EA(4Ø tube)	12Pin(AWG28)
RB10-1300A1	1EA(8Ø tube)	N
RB10-1300A2	1EA(8Ø tube)	12Pin(AWG28)
RB10-1300A3	4EA(4Ø tube)	N

※ Some specifications may be changed to improve performance.

※ When applying the option, it is necessary to check the operating scope and environment.

# The world's first NSF-certified collaborative robots, **RB-N Series**

The RB-N Series robot is certified by the National Sanitation Foundation (NSF) for safe and hygienic use in the F&B market and is designed for use as a single product without installing a jacket or supplemental devices on it. The RB-N Series consist of 3 types: RB5-850N, RB3-1200N, and RB10-1300N Series and can be applied in various food and beverage industries, such as deep fryers using high-temperature oil and espresso machines that extract high-pressure steam.



## RB-N Series lineup

- RB5-850N
- RB3-1200N
- RB10-1300N

## Range of Applications

- Unmanned cafe platform (Coffee, aid, milk tea and cocktails)
- Soft cone ice cream robot
- Waffle-making robot
- Chicken cooking robot
- Kitchen utensil washing robots, etc.

## Key Features

- NSF Food Sanitation Safety Certification
  - Safety certification for food processing equipment and related parts for particular purposes (NSF/ANSI169)
  - Qualification by NSF for production facilities
- Cooking robots that are harmless to the human body
  - Using special paint that does not emit harmful substances
  - Ensuring a safety level to cook the food twice, even if it comes into contact with the robot
  - Passed a crash test (proof that foreign matter such as paint materials occurring in the event of a collision is non-hazardous to human health)
- Use of durable fasteners
  - Using special SUS fasteners that do not cause rust
  - Using coupling rings with proven high temperature, high strength, high rigidity, low moisture absorption rate, fatigue resistance, creep resistance, and hygiene
- Increased user convenience
  - 6-axis robot arms with IP66 waterproof and dustproof rating
  - A single robot product that can reduce the hassle of switching jackets and be cost-effective

## Robot AI research dual-arm robot platform

# RB-Y1

Rainbow Robotics' newly released Dual-Arm Mobile Manipulator RB-Y1 is equipped with both arms with 7 degrees of freedom per arm and a single leg with 6 degrees of freedom. This humanoid-shaped robot is mounted on a wheel-type high-speed mobile platform. By solving the limitations of one-armed collaborative robots and fixed industrial robots at once, repetitive and precise work is possible in various industrial sites.

Rainbow Robotics has core robot technology accumulated while developing humanoid robots. Based on this technology, we developed RB-Y1, a dual-arm mobile manipulator that is in line with the generative AI era.

We also plan to provide a development environment or sensors for various AI solutions.



---

### Size (mm)

- 600(W) x 690(D) x 1,400(H)

### Battery capacity

- 50V, 25Ah (1,270Wh)

### Mobile operation velocity

- 1.5m/s

### Arm payload

- 3kg (per arm)

### Arm Reach

- 600 (to wrist) + hand [mm]

### Power supply voltage and frequency

- 48VDC

### Arm repeatability

- <math>\pm 0.05\text{mm}</math>

### Exterior Material

- Aluminum

### Ambient operating temperature

- 40°C

### Weight

- Total 131kg
- Upper body: 38kg (Arm 11kg x 2, Torso 16kg)
- Lower body: 42kg
- Mobile: 51kg

### Degrees of freedom

- Total: 24 DOF
- Arm: 7 DOF x 2
- Leg: 6 DOF
- Gripper: 1 DOF x 2
- Wheel: 1 DOF x 2

---

### Robot AI research dual-arm robot platform

- Optimal for imitation learning data collection through teleoperation using a master arm
  - Ensuring high safety, precision, and durability through the application of collaborative robot technology.
  - Wrist F/T sensors, gripper, LiDAR included as standard
  - Provides ROS, Python, C++ libraries, and robot models (URDF, MCJF)
-



Astronomical observation equipment with precision robot control technology

# Astronomical observation mount

An astronomical observation mount is an ultra-precision pointing device for observing outer space objects, i.e. planets, stars, and satellites, from the ground. Rainbow Robotics has developed an astronomical mount based on humanoid robot technology, and unlike conventional mounts, it does not use weights, offering excellent portability.



## A lineup of mounts for astronomical observation

- RST-135
- RST-135E
- RST-300

## Range of Applications

- Mobile observation
- Remote observatory
- Educational observatory
- For defense industry
- satellite tracking, etc.

## Main Features

- No need to add weights
- Ultra-light and compact
- Wave gear reducer (harmonic drive)
- CNC machining
- Wi-Fi
- GPS receiver
- Built-in home sensor

	RST-135	RST-135E	RST-300
Body weight	3.3 kg (7.3 lb)	3.4 kg (7.5 lb)	8.5 kg (18.7 lb)
Size	14.4x13.1x19.5 cm	14.4x13.1x20.5 cm	18.3x17.5x27.9 cm
Mount weight (with no weight)	13.5 kg (30 lb)		30 kg (66 lb)
Mount weight (with weight)	18 kg (40 lb)		50 kg (110 lb)
Maximum speed	1,800x (7.5 deg/sec)		1,200x (5deg/sec)
Output stage encoder	X	Built into the rightsension axis Product by UK-based Renishaw	X
Cycle error	-	±2.5 arcsec	-
Input power	DC 12V ~ 16V		
Recommended telescope	Up to 8-inch or 5-inch reflector		Up to 14-inch or 7-inch refractor

# Quadruped robot

## RBQ Series

The RBQ series is a quadruped robot that can perform various tasks in an atypical complex environment. It is a platform that can walk rough and field areas and which can be equipped with various sensors such as lidar and cameras. It can also be used for crime prevention patrols, detection of dangerous objects, transport of goods, safety inspection, etc



### Scope of Applications

- **Military sector**
  - Surveillance, reconnaissance, dangerous object detection, etc.
- **Fire-fighting safety**
  - Detecting survivors and dangerous goods, transporting goods through narrow passages, etc.
- **Safety inspections**
  - Safety inspection of piping, narrow passages, etc.
- **Security patrols**
  - Constant patrol, risk detection, and alarms
- **Convenience functions**
  - Convenience functions such as serving and guidance
- **Logistics functions**
  - In-plant parts transfer, last-mile logistics within an apartment complex, etc.

### Product specifications

	RBQ-3	RBQ-10
Size (W x L x H)	350 x 550 x 400 mm	550 x 1000 x 600 mm
Weight	25 kg	40 kg
Payload	5 kg	10 kg
Operating hours	150 min of continuous walking	150 min of continuous walking
IP ratings	-	IP54
Maximum speed	Walking 3.6 km/h Running 10 km/h	Walking 4 km/h Running 12 km/h
Step difference (w/o visual recognition)	8 cm	12 cm
Max climbing ability	±20°	Longitudinal slope 45% Transverse slope 20%
Step walking ability	-	Steps up to 20 cm
RGB Camera	Front x 1	Front x 1, Rear x 1, Side x 2
Depth(stereo) Camera	-	Front x 1, Rear x 1, Bottom x 4
Communication method	WiFi	WiFi and additional communication modules
External equipment interfacing	UPD channel for walk commands	ROS2 Support CAN Communication/ USB(Vision PC)/ LAN(Vision PC)

# AI Autonomous-Driving Serving Robot

## RBM-SRV

Rainbow Robotics' Serving Robotics boasts of high location accuracy and stable driving performance compared to other companies with domestic production of core parts and self-developed software. In addition, the interactive UI makes it easy for beginners to set up and operate.



### Product Specifications

- Size : 510 x 510 x 1250 mm
- Loading capacity : Up to 30 kg (about 10 kg per shelf)
- Shelf Size : 510 x 380 mm
- Display : 10.1 Inches
- Weight : Approximately 50 kg
- Number of shelves : 2 + 1 (expandable)
- Sensor : 1 unit of 2D Lidar, 2 units of 3D cameras
- Network : Wi-Fi

### Battery

- Battery Capacity : 15,000 mAh (48V)
- Continuous driving time : 12 hours
- Battery charging time : 3 hours and 30 minutes
- Charge type : Wired AC adaptor included

### Driving

- Driving mode : Serving mode/Clearing table mode
- Width for driving : Minimum of 700 mm
- Driving speed : Maximum of 1.0 m/s (adjustable)
- Emergency stop : EMO switch

### Features

- **High positioning accuracy**
  - Higher positioning accuracy compared to other companies using Grid-Free SLAM
- **Tray opening structure on three sides**
  - Horizontal arrangement with three sides open makes it easy to attach and detach the tray, increasing work speed
- **AI Autonomous Driving**
  - Accurate determination of location without attaching a marker
- **Customizable**
  - Tray position can be adjusted to suit workability, up to 5 layers can be added
- **Serving point management**
  - Intuitive and easy serving management by designating serving locations and groups, such as main halls, group seats, nicknames, etc.
- **Easy linkage with call bells**
  - Easy to clear tables by linking call bell

### Fields of application

- Food and beverage stores (cafes, restaurants, etc.)
- Cultural facilities (art museums, museums, etc.)
- Medical facilities (hospitals, nursing homes, etc.)
- Accommodation facilities (hotels, resorts, etc.)
- Transportation facilities (airport, terminal, etc.)

## Specialized in the Logistics Automation Industry

# RBM Series

The Autonomous Mobile Robot (AMR) developed by Rainbow Robotics consists of a lineup of RBM-D400, RBM-D1000. Our AMR products operate 24/7 to reduce labor costs and address staffing shortages. Additionally, they provide high accuracy and consistency, reducing operational expenses and enhancing safety.



### RBM Series lineup

- RBM-D400
- RBM-D1000
- RBM-AC450

### Fields of application

- Fulfillment
- Load / Pallet handling
- Manufacturing automation
- Autonomous security
- Customer service

	RBM-D400	RBM-D1000	RBM-AC450
<b>Size</b> W x D x H	600 x 800 x 240 mm	800 x 1100 x 300 mm	320 x 180 x 375 mm
<b>Self-weight</b>	70 kg	150 kg	-
<b>Payload</b>	400 kg	1,000 kg	-
<b>Maximum speed</b>	1.2 m/s	1.2 m/s	-
<b>Drive</b>	Differential drive (Active Wheel x 2, Caster (double wheel) x 4)		-
<b>Wheel size</b>	Drive (150 mm) x 2, Caster (75 mm) x 4	Drive (200 mm) x 2, Caster (125 mm) x 4	-
<b>Sensors</b>	2D Lidar x 2, 3D Depth Camera x 1, Floor QR (Option)		-
<b>Battery</b>	50V 25Ah - 14S5P	50V 50Ah - 14S10P	-
<b>Charger</b>	Charging station or separate adapter jack		Built-in 450W charger
<b>Separate functions</b>	-	-	-

※ Some specifications may be changed to improve performance.

---

# 3

**Chapter**

---

**Fields of application**

22

---

# Fields of application

## Collaborative Robots



### CNC machine tending

- CNC operation
- Input and discharge of processed products, etc.



### Welding

- Arc welding
- Pulse welding
- Weaving welding
- Specimen welding, etc.



### Packaging

- Automated packaging process
- Product / box packaging, etc.



### Injection molding

- Automated injection process
- Collection of injection products, etc.



### Assembly

- Plastic, wood, metal, furniture assembly, etc.



### Picking and placing

- Manufacturing automation process
- Loading / unloading, etc.



### Quality inspection

- 3D scanning
- Machine vision inspection
- Defect inspection, etc.



### Logistics

- Logistics automation
- Transport and loading
- Palletizing



### Adhesive / application

- Application of adhesives, finishes, adhesives, chemicals, etc.
- Quarantine system



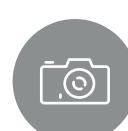
### F&B

- Unmanned cafe platform
- Soft ice cream
- Kitchen cooking
- Waffle making
- Cleaning kitchen utensils



### For research / Education

- R&D
- Training at educational institutions, etc.



### Photography

- 3D facial scanning
- Video and photo shooting

## Dual-Arm Mobile Manipulator



### Assembly



### Pick and Place



### AI Research

## Precision Pointing Mount



### For military purposes

- Satellite observation and tracking
- Close-range defense system
- High-resolution image acquisition
- Radar for collecting information



### For astronomical observation

- Unmanned stargazing
- Astronomical photography

## Biped robot



### For research and education

- R&D, educational institutions, etc.



### For exhibitions and entertainment

- Science museum exhibition / demonstration, etc.



### For disaster rescue

- Surveillance, reconnaissance, dangerous object detection, etc.

## Quadruped robot



### Military sector

- Surveillance, reconnaissance, dangerous object detection, etc.



### Fire-fighting safety

- Detecting survivors and dangerous goods, transporting goods through narrow passages, etc.



### Safety inspections

- Safety inspection of piping, narrow passages, etc.



### Security patrols

- Constant patrol, risk detection, and alarms



### Convenience functions

- Convenience functions such as serving and guidance



### Logistics functions

- In-plant parts transfer, last-mile logistics within an apartment complex, etc.

## Serving robot



### Café

- Serving coffee and beverages  
- Guidance to a table, etc.



### Restaurant

- Guidance to a table, etc.  
- Food Serving  
- Clearing table function



### Internet cafe

- Guidance to a desk  
- Food serving and clearing table functions



### Mart

- Promotional function  
- Transport of goods



### Hospital

- Guidance to a patient room  
- Convenience functions such as various kinds of guidance



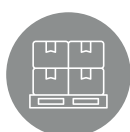
### Hotel

- Serving function  
- Various guidance functions

## AMR



### Fulfillment



### Load / Pallet Handling



### Manufacturing automation



### Autonomous security



### Customer service



---

**Head office**

10-19, Expo-ro 339beon-gil,  
Yuseong-gu, Daejeon, Republic of Korea

---

**USA branch**

125 Commerce Drive, Ste B,  
Schaumburg, IL, United States

---

**Contact Email**

[rainbow@rainbow-robotics.com](mailto:rainbow@rainbow-robotics.com)

**Purchase Inquiry**

[sales@rainbow-robotics.com](mailto:sales@rainbow-robotics.com)

**Website**

[www.rainbow-robotics.com](http://www.rainbow-robotics.com)