



Product Catalogue

Walk with MileBot



**Leading
Intelligent
Rehabilitation**

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MileBot Robotics Co., Ltd.

About MileBot

MileBot Robotics Co., Ltd.(MileBot) is one of the world-leading providers of rehabilitation robot products and intelligent health care solutions. It was founded in 2016 by a team of senior experts in Medical robotics.

MileBot is dedicated to enhancing the efficiency and effectiveness of the health care industry through robotics, Internet of Things (IoT), and artificial intelligence.

MileBot has developed a series of assistive robot products based on its core technology-compliant actuator-based human-robot interaction. To date, it has applied internationally and domestically for over two hundred core patents. Its core products have obtained NMPA certification and IEC 60601 certification, and have been launched into market.

MileBot has widely received 5 rounds of capital investments from Lenovo Ventures(which invested four consecutive rounds),Share capital,Sihuan Pharmaceutical, and Wego Group and others.

Vision

Leading Intelligent Rehabilitation

Mission

Empower and lead the innovative development of health care through technology

Value

Innovation, Empowerment, Rigor, Care

Honors and Qualifications

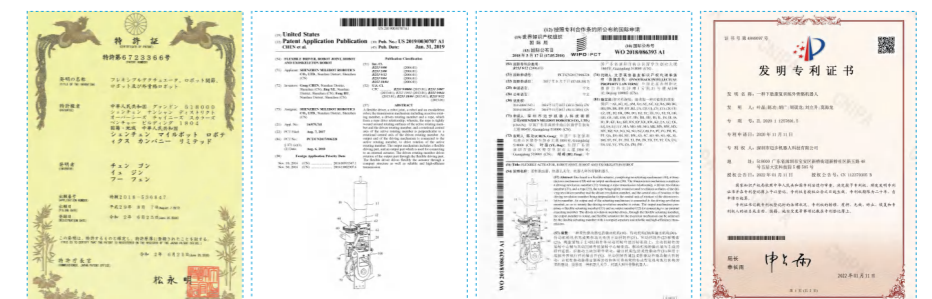
Corporate Honors

- National High-Tech Enterprise
- Guangdong Province Flexible Wearable Rehabilitation Robotics Engineering Technology Research Center
- Second Prize for Science and Technology Progress in the Mechanical Industry Science and Technology Award
- Second Prize of the Chinese Society of Rehabilitation Medicine Science and Technology Award
- German Red Dot Concept Design Award
- Top 100 Enterprises in Artificial Intelligence in the Guangdong-Hong Kong-Macao Greater Bay Area
- Shenzhen Post-Doctoral Innovation Practice Base
- Shenzhen Specialized and Innovative Small and Medium-sized Enterprise
- Shenzhen High-level Talent Team Project

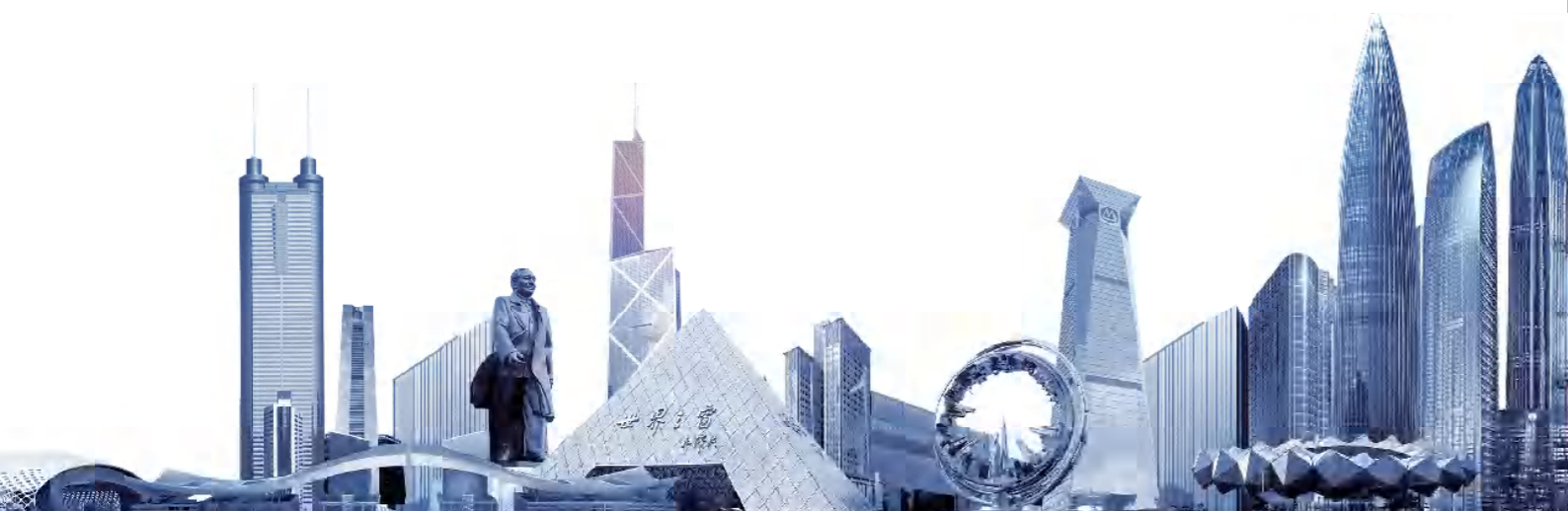


Innovation Achievements

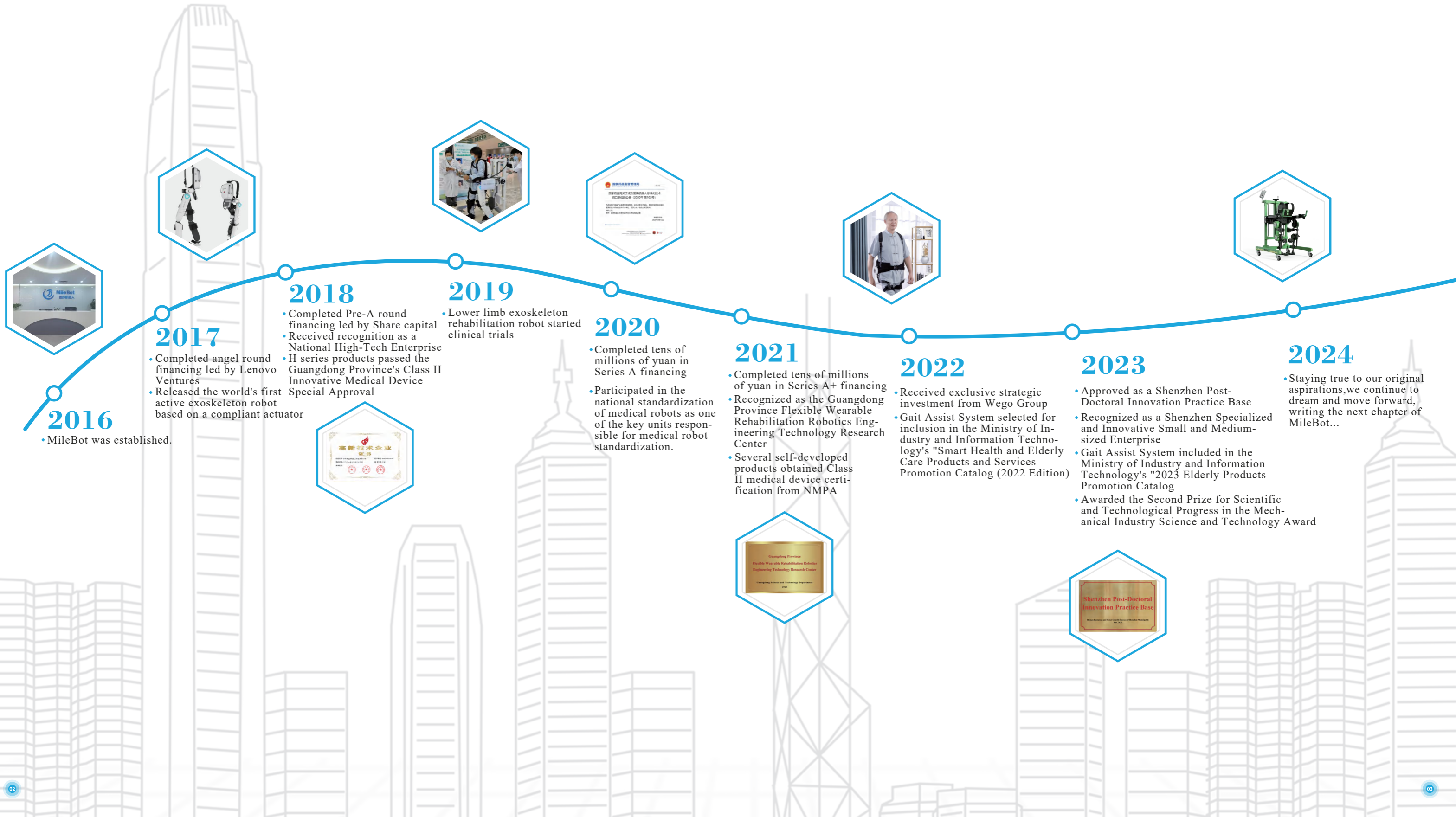
- Applied for/granted over 200 domestic and international patents
- Jointly published more than 50 high-quality SCI papers
- Led/participated in over 40 different levels and types of scientific research and industrialization projects



PATENT No. 6723366 US 2019/0030707 A1 WO 2018/086393 A1 ZL 2020 11257691.5



Development History



BEAR Series

- With IEC 60601 test report for safety and reliability.
- Biomechanical modeling, simulating natural human gait, achieving precise rehabilitation training
- Repetitive high-frequency walking training to improve walking ability and correct abnormal gait
- Continuous output of up to 50Nm torque, training in various functional modes, comprehensively improving lower limb mobility



Functional Mode



Continuous Walking Mode



Single-step Walking Mode



Marking Time Mode

Application Case

BEAR series rehabilitation robots are used in many hospitals and organizations, including Xuanwu Hospital of Capital Medical University, People's Hospital of Jiangsu Province, Xiangya Second Hospital of Central South University, Fifth Affiliated Hospital of Zhengzhou University, Third Affiliated Hospital of Zhongshan University, and Second People's Hospital of Shenzhen City.



Lower Limb Rehabilitation Robot

For different stages of adult rehabilitation treatment

Scope of Application

For rehabilitation training of individuals with lower limb motor dysfunction caused by stroke, applicable in the following places:

- Rehabilitation Department
- Neurology Department
- Neurosurgery Department
- Intensive Care Unit
- Other medical institutions with professional medical staff

Functional Features

Multiple modes, covering the entire rehabilitation cycle

Features continuous walking, single-step walking, marking time multiple functional modes, meeting the lower limb training needs of different stages of rehabilitation treatment.

Biomechanical modeling, achieving precise rehabilitation training

Simulates the movement of lower limb bones and muscles, providing stable support and precise motion assistance through external support and force transmission.

Not limited by space, training can be carried out anywhere

Occupies an area of $\leq 1\text{m}^2$, not limited by space, can perform in-place suspension training and ground walking training.

Dual locking device, leg length adjustment safe and durable

Bead pin combined with mechanical safety buckle device fixes the leg length adjustment position, stable and not shaking, safe and durable.

User-friendly wearable design, comfortable and quick

Based on bionic principles and combined with ergonomics, the robot fits the human body more closely, making it quick to wear and comfortable.

Can connect external devices, provide data support for scientific research

Can integrate brain-computer interfaces, EMG, FES, etc., providing data support for scientific research, meeting the needs of medical education and research development.

Product Specifications

Product Name	BEAR	Drive Joints	Bilateral hip and knee joints
Types	BEAR Series: A1、A2、A3、A4	Applicable Weight	$\leq 100\text{kg}$
Modes	Continuous walking training, Single-step walking training, Marking time training	Applicable Height	155~190cm

- With IEC 60601 test report for safety and reliability.
- Safe and comfortable human-machine interaction design
- Multiple training modes to enhance active motor skills
- Enhances walking ability through repetitive high-frequency walking training



Application Case

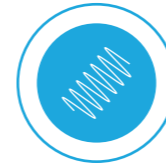
It is suitable for rehabilitation training for individuals with lower limb motor function disorders. It has already been used in schools such as the Hong Kong Christian Service's Pui Yi School, the Hong Kong Red Cross' Margaret Trench School, Haven of Hope Sunnyside School, and the Duchess of Kent Children's Hospital in Tai Hau Wan.



Lower Limb Rehabilitation Robot

For enhancing active motor function of children

Functional Features



Compliant Actuated Joints for high efficiency and stability

Using compliant actuated joints effectively absorbs impact, protecting the joints. It precisely identifies movement intentions, providing external power assistance appropriately and timely.



Bionic design for comfortable wear

The bionic structure conforms to children's body shapes and adjusts according to their movement characteristics, ensuring high comfort and a more natural walking gait.



Ground contact feedback for motor function restoration

Real-world walking training and actual ground contact feedback improve the functions of children's motor and nervous systems, accelerating the restoration of motor functions.



Multiple safety devices for reliability

Equipped with safety locks and emergency stop buttons, the exoskeleton ensures high safety and stability, guaranteeing the child's safety during use.



Various training modes for enhancing active motor skills

Featuring multiple training modes such as leg swing training, continuous training, and single-step training, the exoskeleton enhances children's active mobility, accelerating the recovery of limb motor functions.

Product Specifications

Product Name	RELAX	Drive Joints	Bilateral hip and knee Joints
Types	RELAX Series : C1, C2, C3	Applicable Weight	≤60kg
Modes	Continuous Walking, Single-Step Walking, Continuous Stepping, Single-Step Stepping, Leg Swing Training	Applicable Height	90~150cm

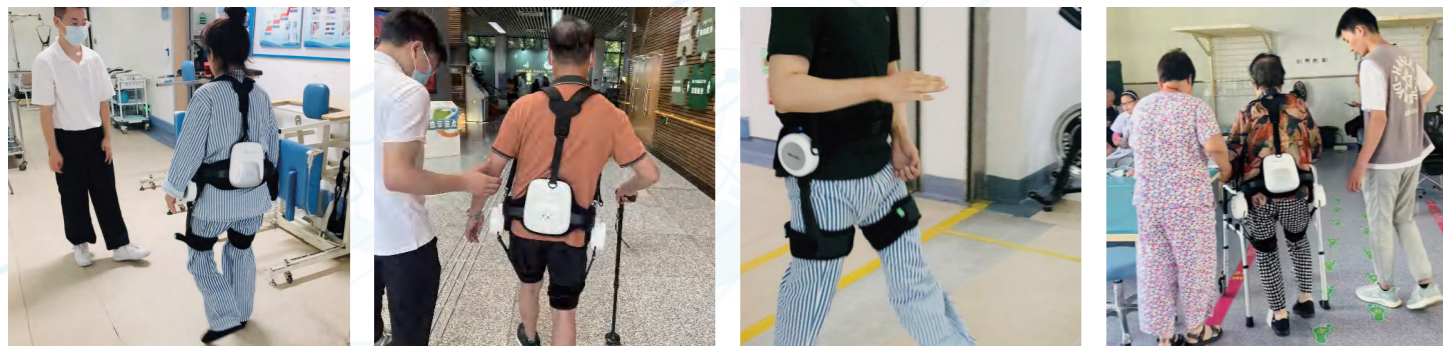
MAX Series

- With IEC 60601 test report for safety and reliability
- It uses multi-sensor fusion to identify movement intentions, providing personalized training and assessment.
- The high-power electric control system delivers strong power output, effectively enhancing walking ability.



Application Case

Gait assist system are widely used in Singapore, Australia, Hong Kong, China (University of Hong Kong, Kowloon Hospital, Community Rehabilitation Center NGO, VTC, Hong Kong Anglican Nursing Home), and various provinces and cities in mainland China.



Gait Assist Robot

For lower extremity rehabilitation and walk aid

Scope of Application

Suitable for rehabilitation training of individuals with lower limb walking dysfunction, it can be used in rehabilitation departments and other facilities with professional medical staff.



Key Features

Motion intention recognition for active walking

Integrated multi-sensor systems monitor and recognize walking intentions, autonomously controlling start and stop functions. This enhances the user's active mobility, making walking more intelligent.

Comfortable human-machine interaction for safety and effectiveness

Ergonomic design ensures stable and comfortable human-machine interaction, reducing impedance and improving the safety and comfort of rehabilitation training.

Personalized parameter adjustment for precise rehabilitation training

Intelligently follows the user's walking speed and stride, automatically adjusting the assist frequency. Five levels of assist power adjustment prevent compensation and overuse, accelerating the recovery of walking ability.

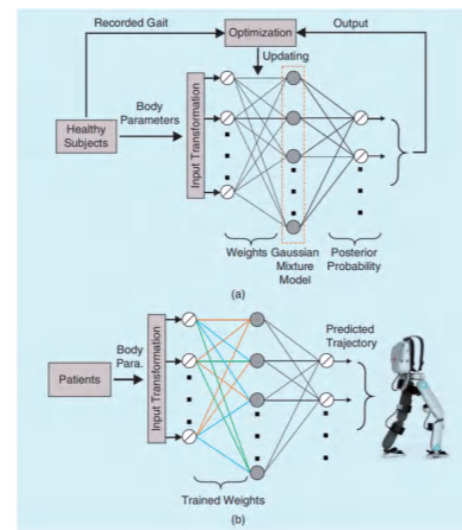
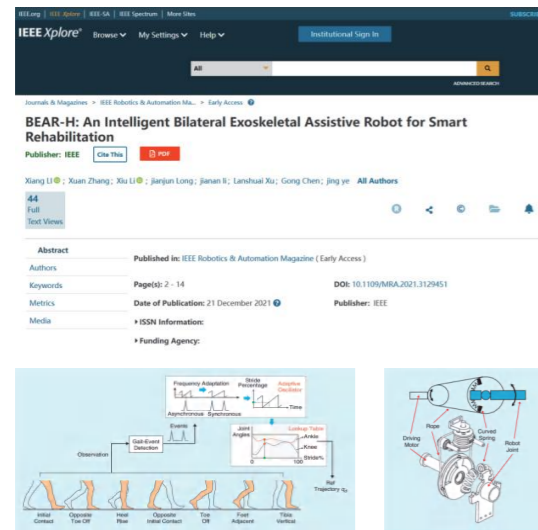
Training data export for medical, educational and research needs

Supports Bluetooth connection, allowing storage, statistics, and analysis of training data. This provides data support for scientific research and meets the development needs of medical, educational, and research fields.

Product Specifications

Product Name	Gait Assist System	Drive Joints	Bilateral hip joints
Types	MAX Series: M1、M2、P1、P2、P3	Assist Levels	Level 1 ~5
Modes	Gait assist mode, Hemiplegia mode, Impedance mode	Battery Life	≥120min

Based on the lower limb rehabilitation robot of MileBot, and with the First Affiliated Hospital of Nanjing Medical University and the Second People's Hospital of Shenzhen City as the test bases, the effectiveness of the new intelligent rehabilitation lower limb exoskeleton robot has been verified through the cooperation between industry, academia and research.



Creating a New Life of Smart Health and Wellness with Warmth

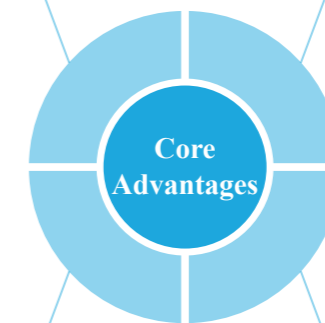
Utilizing exoskeleton robots as a platform and innovative compliant actuator technology as the core, we empower rehabilitation and elderly care. Through a cloud-based intelligent health care system, we achieve comprehensive collaboration to meet the needs of medical rehabilitation, health management, and other scenarios in rehabilitation and elderly care. We provide customers with intelligent and scientific full-spectrum health care solutions.

International Professional R&D Team

Led by a team of returnee PhDs and senior professionals in the robotics industry, with strong R&D capabilities, we have applied for or been granted over 200 domestic and international patents.

Compliant Actuators as Power Output

Pioneering the application of compliant actuators in health care exoskeleton robots, we achieve higher stability and precision in force control, leading to more efficient and effective training outcomes.



Comprehensive Intelligent Health Care Solutions

Our exoskeleton robot series meets the needs of different stages of rehabilitation treatment, covering all scenarios of health and wellness both inside and outside of hospitals, offering more complete health and wellness solutions.

Digital Health Care and Service Extension

Through the Health Care Cloud Platform, we achieve cloud monitoring, cloud assessment, and cloud research. By leveraging big data in health care, we carry out tasks in all stages, accumulating and activating data, and extending services to every user.

In collaboration with Wuhan University, MileBot conducted a study on the impact of gait training for hemiplegic patients using a personalized gait rehabilitation robot at Qilu Hospital of Shandong University and the First Affiliated Hospital of Nanjing Medical University.

In Review | Journal of NeuroEngineering and Rehabilitation | BMC

This preprint is under consideration at *Journal of NeuroEngineering and Rehabilitation*. A preprint is a preliminary version of a manuscript that has not completed peer review at a journal. Research Square does not conduct peer review prior to posting preprints. The posting of a preprint on this server should not be interpreted as an endorsement of its validity or suitability for dissemination as established information or for guiding clinical practice.

Learn more about In Review

RESEARCH

Effects of Individualized Gait Rehabilitation Robotics for Gait Training on Hemiplegic Patients: Before-After Study in The Same Person

Zhao Guo, Jing Ye, Shisheng Zhang, Lanshuai Xu, Gong Chen, Xiao Guan, Yongqiang Li, Zhimian Zhang

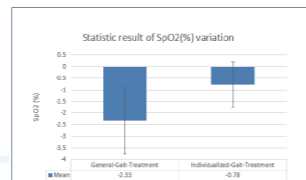


Fig. 7 Histogram of SpO2(%) variation results

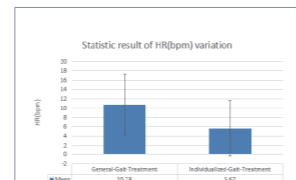
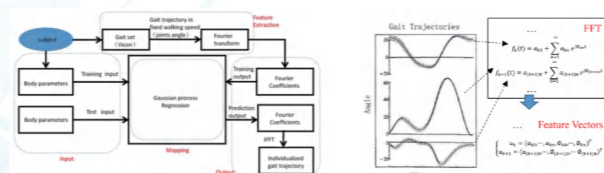


Fig. 8 Histogram of HR(bpm) variation results



Intelligent Enhancing Service Efficiency	Personalized Automatically Adjusting Solutions	Standardized Establishing Service Standards	Digital Achieving Accurate Assessments
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Solution to meet diverse needs

Medical Institutions

Intelligently plan rehabilitation programs based on the specific conditions of different patients to achieve the best results in rehabilitation treatment and improve training efficiency. This not only enhances the service capabilities and brand influence of hospital departments but also promotes the standardization of rehabilitation medicine.

Community Health Centers

Form a rehabilitation link between hospitals and families, alleviating some of the medical and rehabilitation demand pressure on nearby hospitals while integrating medical and rehabilitation functions into the community. This provides users with high-quality integrated medical and wellness services.

Nursing Centers

Provide a pair of 'healthy' legs for the disabled or semi-disabled elderly, assisting them in walking, improving walking function, and enhancing lower limb strength, thus creating an integrated medical and care service system.

Disabled Persons' Federation

Empower institutional rehabilitation services with the highly intelligent exoskeleton rehabilitation robots, further increasing the coverage of rehabilitation services and allowing more people to benefit from robotic services.

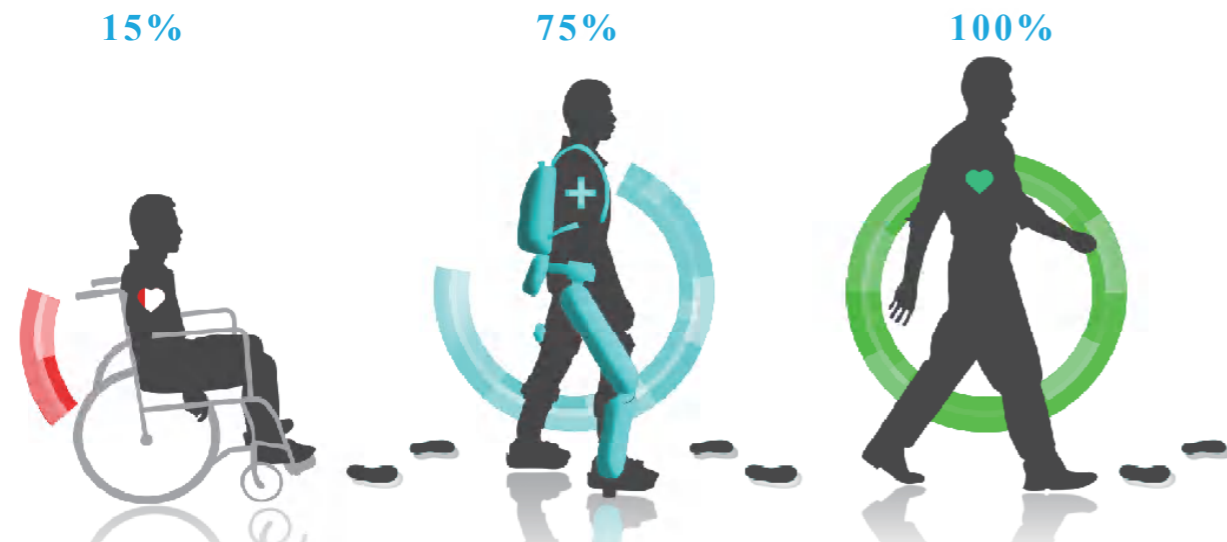
Home Rehabilitation

Enhance the mobility of patients and the elderly, preventing the decline of physical functions due to reduced activity, offering them travel convenience, and improving their quality of life.

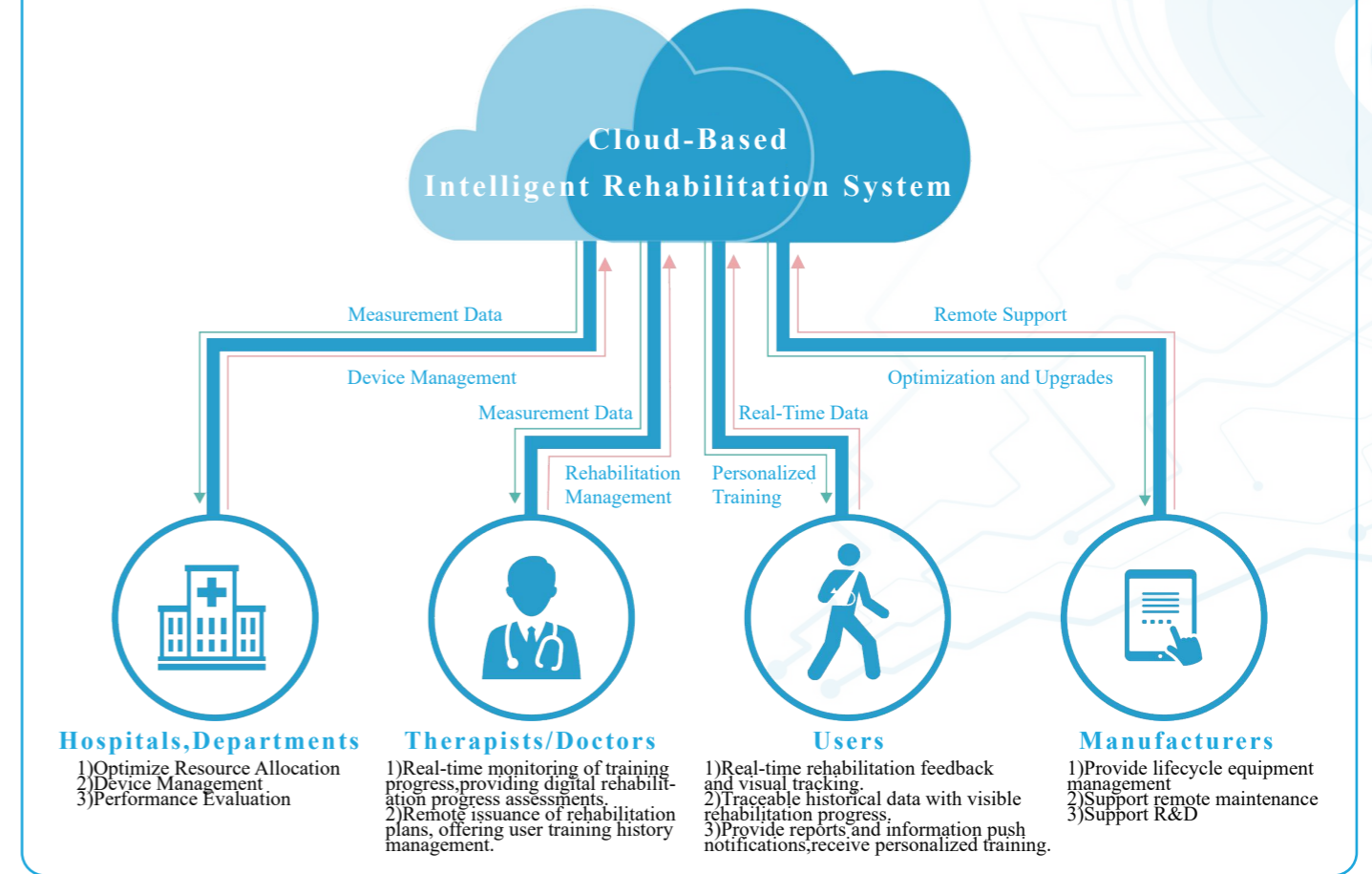
Research Institutions

Offer an open secondary development software and hardware platform that can integrate brain-computer interfaces, EMG, FES, etc., providing stable, reliable, and comfortable technical support for research institutions' R&D needs, meeting the development requirements of medical education and research, and effectively promoting industry development.

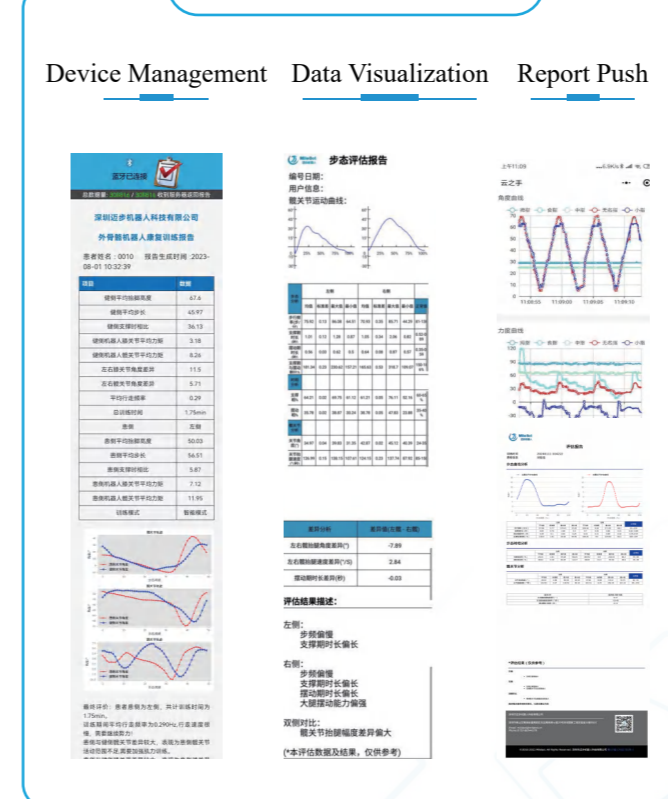
Exoskeleton Rehabilitation Progress



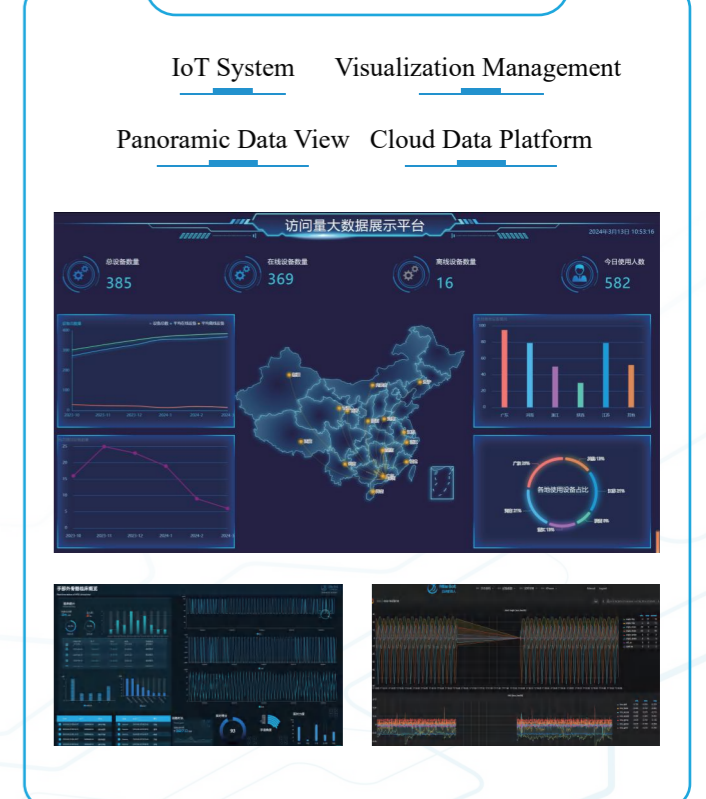
Intelligent Rehabilitation Full-Spectrum Solutions



Mobile user interface



Computer user interface



Collaboration Model



Sales

Through a sales business model, we collaborate with various institutions (including medical institutions, community health centers, and disability federations) to continuously improve service quality and product performance, providing them with efficient and professional solutions.



Lease

On the path to excellence and mutual success, we join hands with numerous partners to explore new business fields, lead industry development, and create a brilliant future together through various business models.



Customization

1. We provide OEM services, tailoring solutions that best meet expectations.
2. We collaborate with leading enterprises and experts in the industry to jointly develop new products, setting industry trends.
3. We actively establish close partnerships with universities and research institutions to offer customized services.

Media Report



Cooperative Partners

Renowned Hospitals				
Partner Enterprises				
Partner Universities				
Investment Institutions				
	Stock Code: 00992.HK	The first domestic professional venture capital institution to sign the UNPRI principles	Stock Code: 00460.HK	Stock Code: 01066.HK, 688161

Global Vision



Coverage Cities
500+

Partners
2000+

Service Institutions
3000+

Number of Service Users
10000+

Applied/Granted Patents
200+

MileBot aims to integrate robotic technology into all aspects of rehabilitation and elderly care, worldwide empowering life with new vitality and shaping a new healthy trend.