

Intelligence Enlightens Life for a Shared Future - Haier Biomedical's 2023 Sustainability Report

On March 27, Haier Biomedical released its 2023 Sustainability Report (hereinafter referred to as the "Report"), disclosing the company's practices in the economic, environmental, social, and corporate governance responsibilities. In 2023, based on the sustainable development vision of "Intelligence Enlightens Life for a Shared Future," Haier Biomedical actively engaged with the United Nations Global Compact and developed our "LIFE" sustainability model, focusing on the four fundamental pillars of our approach: Leadership, Integrity, Future, and Ecosystem. By innovation, intelligence, green transformation and advancement, we contribute to society with concrete actions.

Haier Biomedical believes that employees are the cornerstone of stable development. We create more high-quality job opportunities for the industry and society by finding the right people, helping them succeed, and supporting them to achieve their full potential. In 2023, Haier Biomedical hired 573 new employees and recruited 55 new graduates. Embracing the ethos of "maximizing the value of individuals", Haier Biomedical established learning-focused and open structures, and explored the maker mechanism under the "Rendanheyi" model. We also established a reward system emphasizing high-value contributions. This encouraged proactive engagement in identifying, managing, and embracing change, achieving mutual benefits for both the organization and employees.



The Report highlights that in 2023, Haier Biomedical achieved a revenue of RMB 2.281 billion and a net profit exceeding RMB 406 million, with a global tax contribution of RMB 167 million, reflecting high-quality growth. Simultaneously, Haier Biomedical continues to protect life and health with technology. By the end of the reporting period, the digital and smart life science EPS (Equipment, Platform, Service) solutions and related medical equipment had benefited more than 150 countries and regions worldwide, contributing to the construction of a community with a shared future for mankind.

Meanwhile, human health and well-being are our eternal pursuit. Haier Biomedical collaborates with global partners, including government institutions, NGOs and universities, to foster a community with a shared future, and culminate in the creation of a global public health ecosystem aimed at enhancing global well-being. In 2023, we donated 14 vaccination vehicles to various provinces and municipalities, including Xinjiang, Inner Mongolia, Yunnan, and Guizhou, and donated RMB 8.2828 million of cash and items. Overseas, Haier Biomedical's EPS (Equipment, Platform, Service) solutions and medical equipment have served more than 150 countries and regions worldwide. We are committed to making health more accessible around the world.

Commitment to Innovation Leadership with Excellent Products

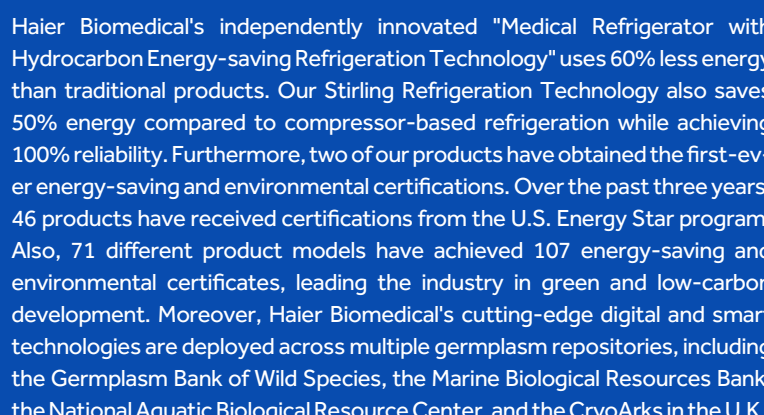
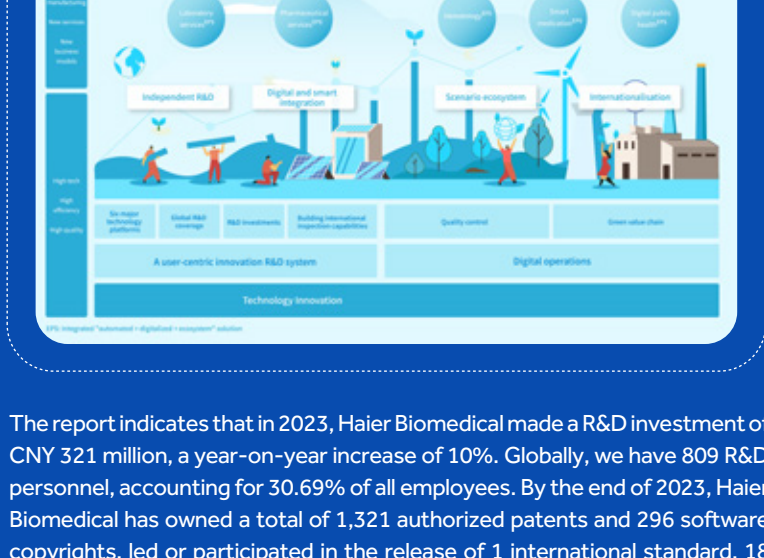
Technological innovation is the core of innovative and top-quality solution development. As a digital service provider in the life sciences and medical innovation sector based on the IoT transformation, Haier Biomedical focuses on national major needs and public health, deepening the deployment of the digital and smart life science EPS (Equipment, Platform, Service) scenario ecosystem. We are committed to serving society and people with high-tech, high-efficiency, and high-quality product solutions.



Supporting Carbon Peak and Neutrality Goals: Building a Green Ecosystem

Green development is the key to high-quality, sustainable development. We proactively promoted green production and led the green and low-carbon transformation in the industry to thoroughly implement national strategy of "carbon peaking and carbon neutrality". We stepped up efforts in eco-friendly technical innovation and established an environmental compliance system based on green development plans. In addition, we build the green value chain with partners abroad and engaged in the construction of a community with a shared future for life on the earth.

Haier Biomedical continually refines its system for green and low-carbon innovation, creating a green value chain covering green products, green manufacturing, green logistics, green office, green procurement, and green collaboration. For products, Haier Biomedical follows the principles of minimal energy and resource consumption, minimal ecological footprint, and maximal use of renewable resources, actively developing high-value-added, low-emission green products. As for manufacturing, we upgraded manufacturing processes, increased the efficiency of our resource and energy usage, and established mechanisms for low-carbon and low-consumption operations. We also advocated for green office and compliant emissions practices. In 2023, we achieved certification under the ISO 14001 environmental management system.

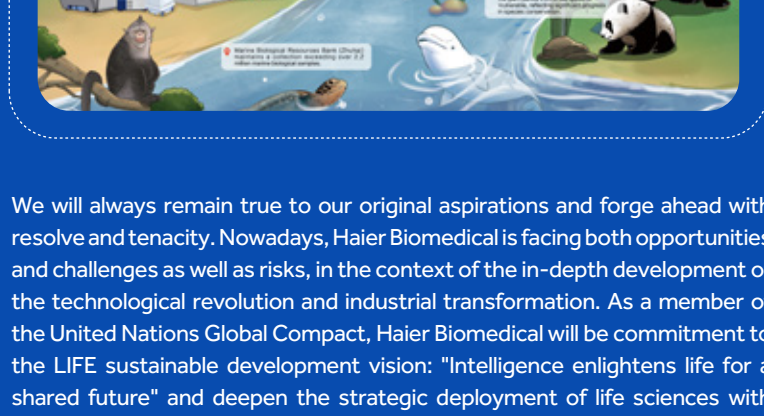


The report indicates that in 2023, Haier Biomedical made a R&D investment of CNY 221 million, a year-on-year increase of 10%. Globally, we have 809 R&D personnel, accounting for 30.69% of all employees. By the end of 2023, Haier Biomedical has owned a total of 1,321 authorized patents and 206 software copyrights, led or participated in the release of 1 international standard, 18 national and industry standards, 2 local standards, 17 group standards, and 2 COC certification technical specifications. In addition, 32 World-leading technological achievements and 35 scientific and technological awards above the provincial level have been obtained.

Haier Biomedical's independently innovated "Medical Refrigerator with Hydrocarbon Energy-saving Refrigeration Technology" uses 60% less energy than traditional products. Our Stirling Refrigeration Technology also saves 50% energy compared to compressor-based refrigeration while achieving 100% reliability. Furthermore, two of our products have obtained the first-ever energy-saving and environmental certifications. Over the past three years, 46 products have received certifications from the U.S. Energy Star program. Also, 71 different product models have achieved 107 energy-saving and environmental certificates, leading the industry in green and low-carbon development. Moreover, Haier Biomedical's cutting-edge digital and smart technologies are deployed across multiple germplasm repositories, including the Germplasm Bank of Wild Species, the Marine Biological Resources Bank, the National Aquatic Biological Resource Center, and the CryoArks in the U.K., contributing to biodiversity conservation, promoting harmonious coexistence between humans and nature, thus protecting our planet.

Integrity: Co-creating a Life Foundation

Integrity is the cornerstone of a company's sustainable development. Haier Biomedical worked together with various stakeholders to establish a mutually beneficial industry ecosystem; based on integrity, collaborating with honesty, transparency and ethical practices, whilst ensuring compliant and stable operations. Internally, we actively implements the diversity policy of the Board of Directors, with a focus on achieving diversity in terms of industry experience, work background, and professional skills of the Board members and the management team. As of the end of the reporting period, 40% of the Board members and 37.5% of senior management were women. We also constantly strengthen our business ethics and risk prevention practices, to promote a culture of integrity and tightly control corruption risks. In 2023, Haier Biomedical organized 24 integrity awareness trainings for all employees.



Externally, Haier Biomedical upholds the business ethics. We adhere to an open and honest procurement model, developing a professional, lean, distinctive, and innovative procurement platform. We operate full-cycle supplier management and information management systems and collaborate with our suppliers to build a sustainable supply chain, generating added value for the world. In addition, we attached great importance to information disclosure and investors' rights protection. We have established a comprehensive information disclosure management system, actively facilitated share repurchases and rewarded our investors through cash dividends. In 2023, Haier Biomedical's cash dividend payout ratio has reached 40%.

We will always remain true to our original aspirations and forge ahead with resolve and tenacity. Nowadays, Haier Biomedical is facing both opportunities and challenges as well as risks, in the context of the in-depth development of the technological revolution and industrial transformation. As a member of the United Nations Global Compact, Haier Biomedical will be committed to the LIFE sustainable development vision: "Intelligence enlightens life for a shared future" and deepen the strategic deployment of life sciences with innovation. By contributing to modernization and the construction of a community with a shared future for mankind, we aim to "make life better".

Centered on People: Creating Unlimited Possibilities with a Borderless Ecosystem

"Making life better" is the original aspiration of Haier Biomedical's innovation and entrepreneurship. In 2023, we created an inclusive and open ecosystem without limitations related to identities, specialized knowledge, or geographical locations. By adopting people-centered principles, we aimed to unlock opportunities and potential to enhance the quality of life for all.

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A Guide to Pharmacy Fridge Temperature Management

Maintaining the proper temperature in pharmacy fridges is crucial to ensure the safety and efficacy of stored medicines. Regular monitoring of temperatures within pharmacy fridges and storage rooms is essential, with the recommended range of 2°C to 8°C for most refrigerated medicines. Ambient storage is permissible for certain medications, but temperatures should not exceed 25°C.

Manual Checks: While manual monitoring involves designated staff members using thermometers with real-time displays, it poses challenges such as time-consuming processes, human errors, and the potential for missed temperature excursions.

Ensuring Patient Safety

The primary goal for manufacturers, wholesalers, distributors, and healthcare professionals is to uphold patient safety and medication efficacy. Achieving this objective is streamlined through the adoption of automated, cloud-based systems for precise, round-the-clock temperature monitoring.

Digital Monitoring: Opting for digital solutions eliminates these challenges by automating temperature logging and providing real-time alerts for deviations. Haier Biomedical offers end-to-end wireless monitoring solutions for hassle-free implementation.

Key Topics Covered

- Typical Storage Practices in Pharmacy Fridges
- Best Practices for Pharmacy Fridge Temperature Monitoring
- Manual and Digital Monitoring Methods
- The Haier Biomedical Solution



Pharmaceutical Refrigerator Features

Pharmaceutical fridges play a pivotal role in storing refrigerated medicinal products. Equipped with fans for uniform temperature distribution and accelerated temperature recovery after door openings, these fridges differ significantly from domestic refrigerators. Lockable doors and glass fronts enhance visibility while minimizing the risk of cross-contamination.

Digital systems streamline temperature monitoring by automating recordings, reducing human intervention, and minimizing the risk of data tampering. Alarm settings provide proactive alerts to address temperature deviations promptly, ensuring compliance and patient safety.

Temperature Monitoring Guidelines

To align with EU Good Distribution Practice (GDP) Guidelines, daily temperature checks are a minimum requirement, with hourly logging recommended to capture fluctuations. Calibrated electronic min/max thermometers or temperature sensors with ±0.5°C accuracy are advised by the MHRA for precise temperature recording.

As a trusted provider of healthcare cold storage solutions, Haier Biomedical offers a range of options for pharmacy fridge temperature monitoring. Whether monitoring a single fridge or an entire facility, our end-to-end wireless solutions cater to the diverse needs of industry leaders in the pharmaceutical and healthcare sectors. To complete the picture, we also offer door status monitoring to allow users to build up a picture of usage patterns for excursions and be able to record information surrounding temperature excursions more accurately. This can be coupled with power monitoring options to ensure total peace of mind for your critical pharmaceutical storage needs.

HB Offers Improved Access to LN₂ Storage

Haier Biomedical, a leader in the development of low-temperature storage equipment, has launched the wide neck CryoBio series, a new generation of liquid nitrogen containers offering easy and convenient access to stored samples. This latest addition to the CryoBio range also features an enhanced, intelligent monitoring system that ensures precious biological samples are kept safe and secure.

The launch of the wide neck CryoBio series is complemented by the availability of the latest YDZ LN₂ supply vessels, available in 100 and 240 litre models, which are the recommended supply vehicle for the CryoBio range. These vessels benefit from an innovative, self-pressurising design that uses the pressure generated by vaporisation to discharge LN₂ into other containers.

Haier Biomedical's new wide neck CryoBio series is designed for the cryogenic storage of plasma, cell tissue and other biological samples in hospitals, laboratories, scientific research institutes, disease control centres, biobanks and other facilities. The wide neck design allows users to access all rocking stacks to remove samples more easily, and the double lock and dual control features ensure samples remain protected. The lid design also contains an integral vent to reduce the formation of frost and ice. Alongside the physical features, the wide neck CryoBio is protected by a touchscreen monitoring system that provides real-time status information. The touch screen also benefits from IoT connectivity, allowing remote access and data download for full auditing and compliance monitoring.

In the future, Haier Biomedical will continue to accelerate the research and development of key core technologies in biomedicine and contribute more to sample safety.

Haier Biomedical's Centrifuges Empowering Scientific Research

Centrifuges are devices that utilize centrifugal force generated by high-speed rotor rotation, to separate, concentrate, and purify particles in liquid samples. With the continuous advancement of science and technology, centrifuges have evolved significantly and are now extensively used across various fields, including academic research, healthcare, pharmaceutical companies, blood centers, and disease control centers. These applications provide essential support for the rapid and high-quality development of these industries.

Centrifuges are used in various testing laboratories for the separation and extraction of samples, including cells, bacteria, viruses, fungi, bodily fluids, and blood.

Applications of Centrifuges: University / Academic Research

Centrifuges are utilized in research laboratories across biology, medicine, environmental science, agriculture, and materials science departments. They enable the separation and extraction of samples including cells, subcellular components, proteins, viruses, organelles, and DNA/RNA in biological and life sciences.

Haier Biomedical offers a comprehensive series of centrifuge products that cater to the needs of various scenarios, including high-tech, healthcare, pharmaceuticals, blood centers, and disease controlling. These products meet diverse requirements for speed, centrifugal force, capacity, and temperature, thereby supporting multifaceted applications.

Hospitals

In hospitals, centrifuges are used in departments such as clinical laboratories, blood banks, pathology labs, and central laboratories. They ensure the separation and extraction of blood, bodily fluids, and pathological samples.

Haier Biomedical, a leading brand focusing on life sciences and medical innovation solutions, aims to enhance user experience by continually improving the performance of the centrifuge products, thereby safeguarding human health through technology. In 2024, five of our new centrifuge products will be launched in international markets. With a comprehensive product series, we ensure there's a perfect fit for your needs.

Pharmaceutical Companies

Centrifuges play a crucial role in the process of biopharmaceutical production. They assist in collecting fermentation broths, and in precipitating and purifying proteins, thereby supporting the preparation of large-volume biological samples.

Additionally, our centrifuges have the following advantages:

- Dual-specification rotors that double efficiency
- Automatic decapper for blood collection tubes, ensuring professional and efficient operation
- Precision, efficiency and large capacity, achieving results in one step
- Simple operation, optimizing labor productivity

Blood Centers

Centrifuges are utilized in both laboratory and component departments. In the laboratory, they are primarily used for blood sample separation and safety index testing, including antigen detection of various viruses. The component department utilizes centrifuges for the separation and preparation of blood components.

Obtaining FDA 21 CFR Part 11 certification means that the electronic records and signatures of LN₂ management system of Haier Biomedical meet the standards of credibility, integrity, confidentiality and traceability, thereby ensuring data quality and security. This will accelerate the adoption of liquid nitrogen storage system solutions in biomedicine such as the U.S. and Europe, supporting the international expansion of Haier Biomedical.

Haier Biomedical has developed a comprehensive one-stop liquid nitrogen storage solution suitable for all scenes and volume segments, focusing on the diversified requirements of sample cryogenic storage management. The solution covers various scenarios, including medical, laboratory, low-temperature storage, biological series, and biological transportation series, and provides users with a full-process experience including engineering design, sample storage, sample retrieval, sample transportation, and sample management.

Obtaining FDA certification HB's liquid nitrogen management system has broken on a new journey of internationalization

TÜV SÜD, a global leader in third-party testing and certification, consistently focuses on providing professional compliance support across industries, helping enterprises stay attuned to evolving regulations. The standard FDA 21 CFR Part 11 issued by the U.S. Food and Drug Administration (FDA), grants electronic records the same legal effect as written records and signatures, ensuring the validity and reliability of electronic data. This standard is applicable to organizations that use electronic records and signatures in biopharmaceuticals, medical devices, and food industries.

By complying with FDA 21 CFR Part 11 standards, Haier Biomedical's CryoBio liquid nitrogen management system has been certified for the validity of our electronic signatures and the integrity of our electronic records. This compliance certification has further enhanced Haier Biomedical's core competitiveness in the field of liquid nitrogen storage solutions, accelerating the brand's expansion in global markets.



Since its promulgation, the standard has been widely adopted worldwide, not only by American biopharmaceutical companies, hospitals, research institutions, and laboratories, but also by Europe and Asia. For companies that rely on electronic records and signatures, compliance with the requirements of FDA 21 CFR Part 11 requirements is essential for stable international expansion, ensuring compliance with FDA regulations and relevant international safety standards.

Haier Biomedical has always adhered to an international strategy, continuously promoting a "network + localization" dual system. At the same time, we continue to strengthen the development of market systems to face users, enhancing our scenario solutions in interaction, customization, and delivery.

Haier Biomedical's CryoBio liquid nitrogen management system is essentially an "intelligent brain" for liquid nitrogen containers. It transforms sample resources into data resources, with multiple data being monitored, recorded, and stored in real-time, alerting to any anomalies. It also features independent dual measurement of temperature and liquid levels, as well as hierarchical management of personnel operations. In addition, it also provides visual management of samples for quick access. Users can switch between manual, gas-phase, and liquid-phase modes with a single click, improving efficiency. Furthermore, the system integrates with IoT and BIMS sample information platform, enabling seamless connection among personnel, equipment, and samples. This provides a scientific, standardized, safe, and efficient ultra-low temperature storage experience.

Focusing on creating the best user experience, Haier Biomedical strengthens localization by establishing local teams and systems to quickly respond to user needs. By the end of 2023, Haier Biomedical has owned an overseas distribution network of over 800 partners, collaborated with more than 500 after-sales service providers. Meanwhile, we have established an experience and training center system, centered on the United Arab Emirates, Nigeria and the United Kingdom, and a warehousing and logistics center system located in the Netherlands and the United States. We have deepened our localization in the UK and gradually replicating this model globally, constantly strengthening our overseas market system.

Looking ahead, Haier Biomedical will continue our user-centric innovation approach, advancing our global strategic deployment across regions, channels, and product categories. By emphasizing local innovation, we aim to explore the international markets by intelligence.

