

Cardiac and Vascular Company

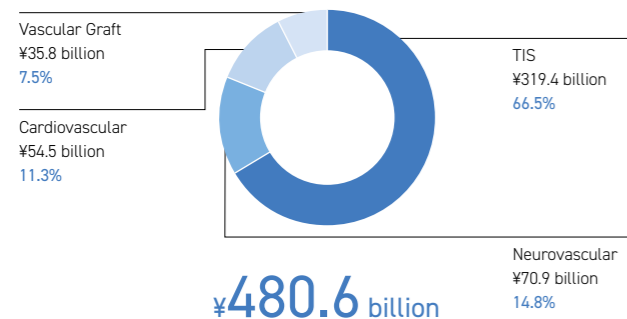


Toshihiko Osada

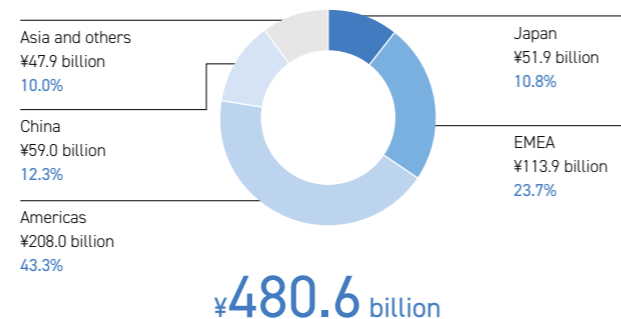
Group Senior Managing Executive Officer
President, Cardiac and Vascular Company
Division President, Interventional Systems Division,
Cardiac and Vascular Company

The Cardiac and Vascular Company has identified “expansion of therapeutic business,” “expansion of access business,” and “evolution of operational capabilities” as its three pillars of growth, and is working to achieve them in each of its businesses. In therapeutic fields, multiple new products were launched as planned in various markets. In the access field, we are expanding our solutions to promote the radial approach, not only in coronary, but also in peripheral, interventional oncology, and neurovascular intervention. We are working further to ensure a stable supply of products by leveraging digital transformation toward streamlining production processes and strengthening operations. Together with our customers, we strive to create the next standard of patient care and drive the evolution of medicine on the front lines.

Revenue by Business (Fiscal 2022)



Revenue by Region (Fiscal 2022)



Fiscal 2022 Performance



| Environment | | Strengths |
|--|---|--|
| Opportunities Vascular intervention*1 • Stronger needs for same-day discharge and shorter hospital stays • Growing trend toward minimally invasive treatments due to aging population • Bullish market growth with the expansion of new vascular intervention markets • Expand with vascular intervention as an option in the treatment guidelines for cerebrovascular diseases • Improve device performance and clinical outcomes with stent graft implantation technology for aortic aneurysm Surgical treatment*2 • Steady growth of the market for percutaneous cardiopulmonary support (PCPS/ECMO) • Growing markets in emerging economies due to healthcare development and increase in lifestyle diseases resulting from more westernized lifestyles • Spread and expand hybrid surgeries*3 | Risks Vascular intervention*1 • Responding to more rigorous European Medical Device Regulations (MDR) • Preferential treatment for domestic manufacturers and distribution network reforms in China • Contraction of existing markets due to the development of new treatment methods • Tougher competition due to treatment evidence established by rival firms Surgical treatment*2 • Responding to more rigorous European Medical Device Regulations (MDR) • Ongoing transition from surgical treatment to vascular intervention due to trend toward minimally invasive treatment (market contraction) | Strengths ■ Training for medical professionals to promote expansion of procedures using products and their appropriate uses ■ Strong partnership with KOL*4 ■ Fusion of our technologies with those acquired through M&As, and the ability to develop unique, high-quality products ■ Global sales and marketing, and structure for clinical development and regulatory affairs ■ Production structure for the stable supply of high-quality products globally Vascular intervention*1 ■ High market share and competitiveness in vascular access products ■ Brand strength as a company promoting minimally invasive treatments and TRI*5 ■ Ability to make proposals to customers due to a wide range of product lineups used for vascular intervention Surgical treatment*2 ■ High market share and competitiveness in oxygenator and surgical graft products ■ Only company in the world to have developed our own fiber*6 for oxygenators, and development and production technology abilities applicable for mass production ■ Ability to develop and deliver products essential to emergency treatments, including ECMO |

*1 Vascular intervention: TIS Division, Neurovascular Division, and Vascular Graft Division (stent grafts)
 *2 Surgical treatment: Cardiovascular Division, Vascular Graft Division (surgical grafts)
 *3 Procedures that involve implanting a combined surgical and endovascular device.

*4 Key opinion leaders
 *5 Solutions that take their approach from the radial artery
 *6 One of the materials used in oxygenator

TIS Division

Terumo Interventional Systems (TIS) Division provides products that are used to treat diseases of the heart, lower limb blood vessels, or cancers in vascular intervention (blood vessel care using a catheter). While pursuing better treatment efficacy, device usability and quality for interventional physicians, TIS also contributes to minimally invasive care that reduces patients’ burdens.

Neurovascular Division

The Neurovascular Division handles products focused on vascular intervention devices to address cerebral aneurysms and strokes. We will utilize optimal materials and design techniques for each case and create innovative devices to expand the possibilities for cerebrovascular treatments that place less of a burden on the patient.

Cardiovascular Division

Terumo Cardiovascular Division develops and manufactures heart-lung machines that function outside the body in place of the heart and lungs during cardiac surgeries in which the heart is temporarily stopped, oxygenators which perform blood oxygen exchange in place of the lungs, and ECMO systems that support heart and lung function for patients in emergency care. Also, the HeartSheet—the world’s first regenerative medicine product developed in collaboration with this business—is expected to be a new treatment option for patients with severe heart failure.

Vascular Graft Division

The Vascular Graft Division (Terumo Aortic) provides products including surgical grafts and stent grafts that are used by clinicians to treat patients with aortic diseases, which include thoracic and abdominal aneurysms and dissection. The Division has a comprehensive product portfolio contributing to helping save the lives of many patients in over 100 countries.

Fiscal 2023 Priorities

TIS Division

Promote the radial approach, grow in therapeutic fields, and strengthen operations

- **Promote Radial-First:** Launched angiographic catheters for visceral intervention inserted from the radial artery in Europe and China, following Japan and the U.S. R2P NaviCross, a support catheter for lower extremity arteries, has received premarket approval from the FDA and is being prepared for launch.
- **Provide a wide range of treatment solutions:** Fully rollout Ultimaster Nagomi sirolimus eluting coronary stent system in Europe. In the peripheral intervention field, introduce the AZUR series of embolization coils in China
- **Operational transformation:** Improve profitability through production automation and inventory optimization at the Ashitaka Factory, where smart factory transformation is now being implemented. Accelerate initiatives to achieve carbon neutrality, including the expansion of photovoltaic expertise from the Vietnam factory to other manufacturing facilities



Ultimaster Nagomi sirolimus eluting coronary stent system

Neurovascular Division

Expand portfolio and share of products and optimize production operations

- **Expand product portfolio:** Add new products and varieties for cerebral infarction and cerebral aneurysm. Launch the ERIC retrieval device for treatment of cerebral infarction in the U.S. Work with the TIS division in efforts to expand the adoption of the radial approach
- **Expand product share:** Focus on mainstay products with strong competitive advantage and aim to increase global market share, including regional expansion
- **Stable supply, optimized production locations:** Continue to stabilize the supply system, including supplier management, and continue to optimize production in North America and Costa Rica



ERIC retrieval device

Cardiovascular Division

Transfer of production to Costa Rica to reduce costs and improve inventory operations

- **Cost reduction:** Steadily transfer production to Costa Rica to improve profitability
- **Streamline operations:** Improve planning for sales, inventory, and production, ensure stable supply
- **Product Development:** Strengthen oxygenator portfolio and work to introduce a new blood gas monitoring system in the U.S.

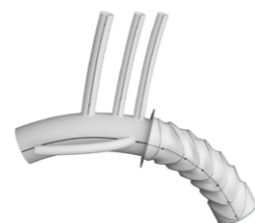


The Costa Rica factory that produces perfusion circuits

Vascular Graft Division

Expand sales in growth markets and build production systems to support this expansion

- **Sales and marketing:** With the expanded application of the RelayPro thoracic stent graft in the U.S., and the introduction of the Thoraflex Hybrid frozen elephant trunk for thoracic use in the Japanese market, expand sales in three markets: the U.S., Europe and Japan
- **Stabilize and streamline operations:** Optimize production in North America, Europe, and Asia while increasing production capacity to support sales growth
- **Expand product lineup and indications:** Continue to invest in new products and solutions



Thoraflex Hybrid thoracic frozen elephant trunk

TOPICS

Helping to Promote Uptake of Ever-evolving Radial Techniques

Terumo is working to promote transradial intervention (TRI, catheterization with access through the arteries of the wrist). Intervention has traditionally been performed through blood vessels at the base of the thigh, requiring patients to stay in the hospital for several days after the procedure. TRI has reduced the burden on patients and enabled outpatient diagnosis and treatment, leading to improved quality of life and better medical cost efficiency. Today, around 70% of coronary interventions performed globally are now performed from the wrist.

Terumo is working to expand the radial approach, which has expanded in application from the treatment of myocardial infarction and angina pectoris, to a wider range of treatments. Radial approach is already being used in the treatment of arteriosclerosis in the lower extremities as well as in the treatment of liver cancer. Use of the radial approach is also rapidly expanding in the diagnosis and treatment of cerebral aneurysm and cerebral infarction. Terumo will continue its efforts to bring transradial intervention, which imposes less burden on the body, to more patients.

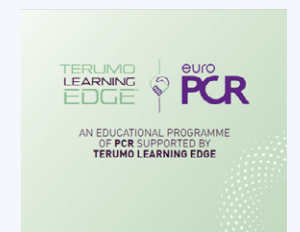
High Quality Training for Healthcare Professionals Worldwide

Terumo not only provides training on the proper use of medical devices, but also simulation training around the world that enables healthcare professionals to learn from mistakes by using training models in situations that resemble real-world clinical situations.

Established in 2002, Terumo Medical Pranex has since been visited by 190,000 people, and is used for training in intervention and cardiac surgery, as well as for exchange of ideas between engineers and medical professionals with new product developments in mind.

The quality of Terumo's training programs is recognized by academia overseas. Terumo conducted joint training programs with EuroPCR, the world's largest intervention conference held in Paris, France, each year since 2018. This year's event was again a success, with nine training courses held over three days, attended by more than 200 physicians.

In order to continuously provide high quality training to healthcare professionals, it is also essential to educate trainers within the company. Terumo provides a wealth of educational opportunities to update knowledge and practical skills, and has established a certification system for each product and area to ensure and improve the quality of trainer talent.



Terumo conducted joint training programs with EuroPCR.

Promoting Personalization of Treatment and Providing Optimal Medical Care for Each Individual Patient

The Cardiac and Vascular Company's concept for personalized medicine is to provide optimal medical care according to the unique characteristics and risks of each patient. For example, microspheres containing radioactive isotope provided by Quirem Medical, acquired by Terumo in 2020, can be delivered via a catheter into the hepatic artery to attack liver cancer cells with radiation. This product employs special microspheres, visible on MRI and other diagnostic imaging devices, allowing surgeons to check each individual's unique blood flow in advance of surgery and select the optimal treatment strategy. We also provide software that allows post-operative monitoring of the condition of the therapeutic microspheres.

Intravascular ultrasound imaging (IVUS) and intravascular optical frequency domain imaging (OFDI) systems are used to diagnose myocardial infarction and angina pectoris prior to treatment. Confirming factors such as the diameter of the vessel, the length and condition of the lesion, facilitates selection of optimal sized stents. Terumo's newest drug-eluting coronary stent, the Ultimaster Nagomi, is available in a wide variety of sizes to choose from according to the patient's lesion.

Medical Care Solutions Company

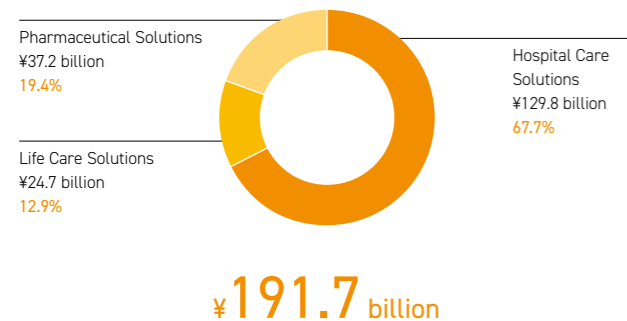


Hikaru Samejima
Group Senior Managing Executive Officer
President, Medical Care Solutions Company

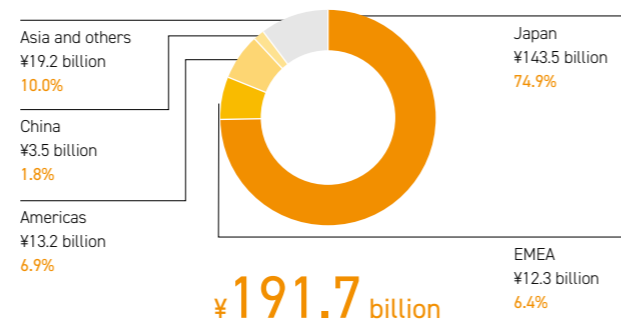
Healthcare today is taking place beyond hospitals, in homes and other settings. The COVID-19 pandemic led to a rise in awareness of healthcare safety and infection prevention, creating new growth markets including remote healthcare and individualized medicine enabled by transformative technology, and revealing a variety of needs. Last year, we established a solution-focused business brand called "Terumo Medical Care Solutions," with a brand promise of "Quality time for better care." We will create high-quality time for every person touched by healthcare by accompanying the patient journey and continually providing new solutions to the needs of medical settings.



Revenue by Business (Fiscal 2022)



Revenue by Region (Fiscal 2022)



Fiscal 2022 Performance



Hospital Care Solutions Division

Solving issues hospitals face by providing solutions to help improve the quality and safety of healthcare

The Hospital Care Solutions Division offers a variety of expertise to address the needs of medical settings, including medical safety, in-facility infection prevention, and cost control. The division develops products that reduce the burden on patients and medical professionals and offer greater usability, provide operational support for medical equipment, and present training programs for medical professionals. By offering solutions to issues that are tough to solve simply by a single product, we contribute to improved treatment safety, workflow efficiency, and better quality of life for patients.

Life Care Solutions Division

Standing together with patients to propose solutions to fit each patient's needs

The Life Care Solutions Division provides healthcare solutions optimized for patients living with diabetes, high blood pressure, and other chronic diseases. We contribute to improving patients' prognoses, preventing serious disease, and enhancing quality of life by creating new value for all patients.

Pharmaceutical Solutions Division

Utilizing unique technologies to add value to pharmaceuticals and contribute to better drug delivery

Using its unique prefilled drug product technology, the Pharmaceutical Solutions Division offers solutions to pharmaceutical companies by proposing new drug delivery devices. The division leverages its material technology optimized for the characteristics of each drug and utilizes advanced manufacturing technology to design and produce drug-device combination products. Through alliances with pharmaceutical companies, we provide a total solution from clinical trial drug manufacture to full commercialization, contributing to safer and more certain delivery of drugs.

Fiscal 2023 Priorities

Hospital Care Solutions Division

- **Perioperative solutions:** We will advance products and services, centered on syringe pumps and infusion pumps, that contribute to digital health and the prevention of medical accidents such as mistaken infusion connections, to help hospital management through raising work efficiency and safety.
- **Infection prevention solutions:** We will expand solutions for hand hygiene and improving healthcare environments to raise the safety of medical professionals, while also accelerating overseas expansion in places starting with Asia.
- **Women's Health solutions:** In addition to the spread of sprayable adhesion barrier gel AdSpray for minimally invasive surgeries, we will launch a fully disposable rigid hysteroscope OperaScope as we expand unique and supportive products and services.
- **Outpatient chemotherapy solutions:** We will deploy in earnest our outpatient chemotherapy system to raise treatment time efficiency for patients receiving outpatient hospital care, while also contributing to hospital management by raising the workflow efficiency and safety of medical professionals.
- **Renal care solutions:** While working toward greater adoption of products that reduce burdens and raise the ease of peritoneal dialysis, we will also launch new products that realize remote monitoring through IoT with the aim of preventing complications.



OperaScope Fully disposable rigid hysteroscope

Life Care Solutions Division

- **Diabetes care solutions:** We will advance product development leveraging digital technology, toward improving the treatment outcomes of people with diabetes both inside and outside Japan. Regarding the MEDISAFE WITH insulin pump, we will launch the product by redesigning the dedicated remote control to a smartphone-style device that allows patients to more freely live how they want.
- **Beside care solutions:** In addition to advancing the digitalization of vital sign records, we will also launch a blood pressure monitor for hospitals based on the new concept of reducing the time burden on medical professionals, allowing them to spend more time talking with patients.
- **Prevention, severe disease field solutions:** We will rebrand our thermometers and launch Terumo's fastest-ever thermometer in a full model change.



MEDISAFE WITH Smart detachable patch insulin pump with the dedicated remote control redesigned to a smartphone-style device

Pharmaceutical Solutions Division

In our contract development and manufacturing (CDMO) services for parenteral drugs that feature unique technologies and solutions, we launched the first-ever on-body injector. Our CDMO business was previously centered on Japanese pharmaceutical companies, but from this fiscal year, we have been promoting the business to drug firms outside Japan. Business opportunities are steadily increasing both inside and outside Japan, and we will continue to expand our CDMO production capacity.



G-LASTA Subcutaneous Injection 3.6mg BodyPod, a drug-device combination product of G-LASTA Subcutaneous Injection 3.6mg sold by Kyowa Kirin and a device (on-body injector) that automatically administers the drug to a patient

Overall Operations

Last fiscal year, we struggled in earnings due to inflation-induced rises in cost of goods and expenses, as well as FX fluctuation impacts. This fiscal year, we will execute earnings improvement plans with the perspective of not only this year, but the mid-term as well. Improvements in overall operations that we will make to realize growth opportunities include changing the production portfolio of the factories in Asia, realigning production in Japan, and utilizing new buildings.

New brand penetration

Since announcing our new brand last fiscal year, most of the communication regarding it has been centered internally. Starting this fiscal year, we will implement a communication strategy to elevate customer expectations and become the "brand of choice."

TOPICS

Pharmaceutical Solutions Division: The Challenge of Providing Contract Development and Manufacturing Services for Prefilled Syringes to the Pharmaceutical Industry

Last year, the General Hospital Company changed its name to the Medical Care Solutions Company and launched the new Terumo Medical Care Solutions brand. With this new brand, the Pharmaceutical Solutions Division has greatly evolved and begun to pursue new challenges. In 1999 Terumo first began to sell prefilled syringes, in which the syringe is filled with drug prior to use. This contributed greatly to the prevention of incidents in medical settings in which the wrong drug was used. In 2001, building on this technology and experience, we began the contract development and manufacturing services for prefilled syringes oriented toward pharmaceutical companies (now the CDMO business). In 2009, Kyowa Hakko Kirin Co., Ltd. (now Kyowa Kirin Co., Ltd.) launched the continuous erythropoiesis stimulating agent whose syringe design was jointly developed with us. Several alliances with drug companies followed as the business grew apace to become the Pharmaceutical Solutions Division of today.

The Terumo CDMO model has unique strengths compared to usual consignment manufacturing arrangements. Although a medical device company, we maximize our expertise in the handling of drugs as well, listen to pharmaceutical companies' needs, and respond to the problems of medical settings to develop devices that bring out the best in drug products. From syringe molding through to filling, assembly, and packaging, we perform the entire production process from start to finish. We also support pharmaceutical companies through regulatory application-related and other perspectives from development planning at the earliest drug development stage. These strengths allow us to provide the total solution that is our greatest feature.

Last year, we completed development and commenced actual production of the first on-body injector device, which automatically administers the drug while attached to the patient's body. By automatically administering injections that would normally be given to a patient the day after chemotherapy at a hospital, this device is expected to reduce the patient's burden of traveling to the hospital the day after treatment. It is an excellent example of offering solutions that accompany the patient journey.



Future challenges

The CDMO market is steadily growing as locations of drug administrations, and the diseases for which they are administered, grow more diverse. These diseases include Alzheimer's disease; for its treatment, we jointly developed a drug-device combination product (autoinjector drug) along with Eisai Co., Ltd. Also, starting in fiscal 2023, we have begun promotion of the CDMO business overseas, in contrast to its previous focus on Japanese pharmaceutical companies. This business proved to be a success within Japan, and we look to launch this business in a global environment. With an eye to this growth, we are expanding our production capacity and preparing to start operations in the new space in fiscal 2025.

The Pharmaceutical Solutions Division will continue to take on new challenges toward providing solutions that maximize the value of drugs. As a partner to pharmaceutical companies from around the world who choose us, we will create quality time for better care for all who are touched by healthcare.

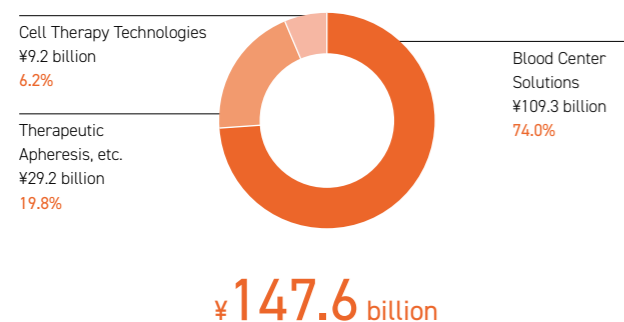
Blood and Cell Technologies Company



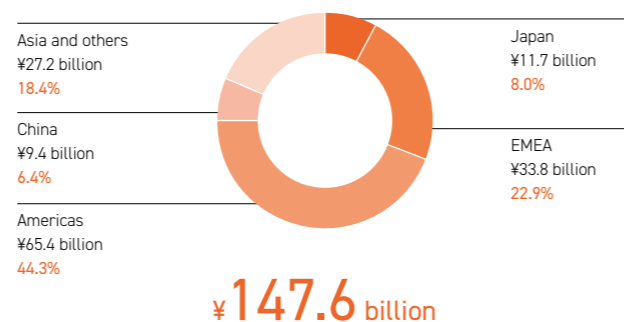
Antoinette Gawin
Group Managing Executive Officer
President, Blood and Cell Technologies Company
President and CEO, Terumo BCT Holding Corp.

Our pride and confidence in the products and solutions we deliver is constant, though access to safe blood and medical treatments differs widely around the world. When we say "Contributing to Society through Healthcare" is our mission, it speaks to our team's technical innovations as well as the work we do to influence standards of care and dismantle barriers that prevent access to it. We cannot take progress for granted, but must instead allow this broader purpose to guide our daily decision-making and long-term vision.

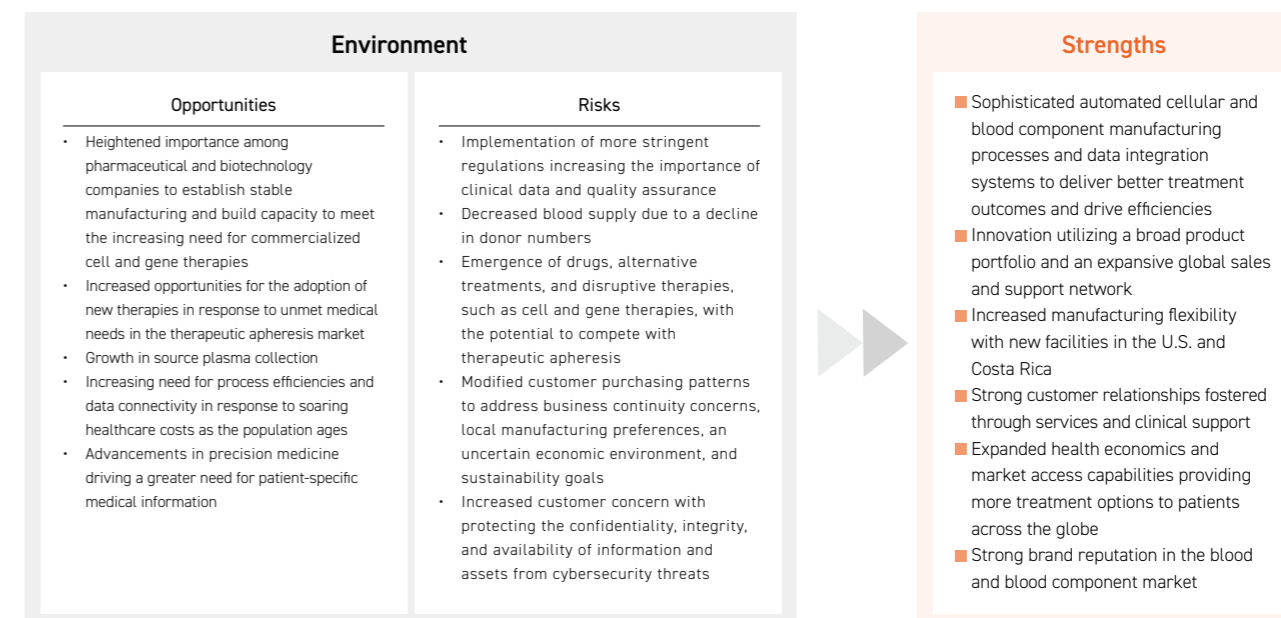
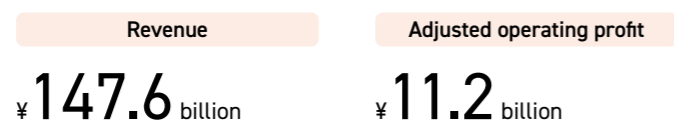
Revenue by Business (Fiscal 2022)



Revenue by Region (Fiscal 2022)



Fiscal 2022 Performance



Plasma Innovations

An ecosystem designed to advance plasma therapies through collection of source plasma, which can be fractionated and used to produce treatments for rare diseases. We are committed to innovative enhancements and process improvements to maintain donor safety and a sufficient plasma supply, as well as to improve efficiency and quality in the field of source plasma collection.

Global Blood Solutions

Our automated solutions bring higher quality and efficiency to blood collection and component preparation processes. Automation enables blood center professionals to select the best possible combination of blood components from each donor, yielding the right products to meet individual patient needs.

Therapeutic Solutions, Cell Collection

Unwanted components that cause illness are separated and removed from patient blood, and components needed for treatment are collected from donors. Utilizing Terumo centrifugation technology, we strive to provide treatment options to patients fighting a variety of illnesses.

Cell Therapy Technologies

Pharmaceutical and biotech companies depend on donor cells to enable their research and drug manufacturing in the rapidly evolving market of cell and gene therapies. We help transform traditionally small-scale, manual cell development into automated processes that meet the needs of commercial manufacturing to advance therapies to more patients.

Fiscal 2023 Priorities

Renew Commitment to Customers

Continuing our aspiration to unlock the power of blood and cells to improve patient outcomes and serve unmet medical needs, we are focused on delighting customers with stable supply, new product enhancements, and high quality of products and solutions.



Rika Plasma Donation System



Quantum Flex Cell Expansion System

Operations Transformation

Continuously improve global delivery systems and commercial capabilities to bring products closer to the customers and patients who need them.



The Costa Rica factory primarily serving customers in the Americas



The Littleton Factory in Colorado producing single-use separation sets used with the Rika system

Intentional Geographic Expansion

Advance our efforts to deploy our full portfolio in markets with high unmet needs.



Trima Accel Automated Blood Collection System



Reveos Automated Blood Processing System



Spectra Optia Apheresis System

TOPICS

Bring Lifesaving Technology to Previously Unreachable Patients

China

In China, we are deploying our industry-leading therapeutic apheresis, cell processing, and collection platform, the Spectra Optia Apheresis System, under a national program called Optia Rising. This program intends to bring the versatility of our system to an addressable market of over four million patients in need of plasma exchange or cell collections.

These patients are spread over multiple therapeutic areas, including but not limited to oncology, neurology, nephrology, and hepatology. As one example, we have invested in a program designed to demonstrate the benefits to efficacy and safety of using therapeutic apheresis to treat patients with acute liver failure.

We also work with payers at the provincial level to ensure sufficient funding for patients to have access to these lifesaving therapies.

Africa

In Africa, we are centered on ensuring there is a safe and adequate blood supply across the continent and focused on countries with the highest unmet clinical needs for sickle cell disease and maternal health issues. These efforts may impact more than half a million patients in the future.

The company's peer-reviewed study in Africa Sanguine¹ shows the expanding investment in a safe blood supply to prevent fatal postpartum hemorrhage (PPH) in Ghana, Kenya, and Ivory Coast is likely to provide social benefits and substantial economic savings in under two years. Since this study was launched, a series of pilot hospitals have reduced maternal deaths to a level on par with Western European standards.

Additionally, we have invested in the Coalition of Blood for Africa (CoBA),² a platform comprising stakeholders from the public and private sectors, research, academia, non-for-profits, civil society, and others committed to strengthening blood and blood supply systems in sub-Saharan Africa (SSA), demonstrating our commitment to patients and to a safe, accessible, and sustainable blood supply.

¹ [https://www.terumobct.com/Pages/News/Press Releases/](https://www.terumobct.com/Pages/News/Press_Releases/)

First-study-published-positive-health-economic-impact-blood-shortages-treat-maternal.aspx

² <https://www.cobafrica.org/workstreams/>

