

# 2024 ANNUAL REPORT

## The Marcus National Blood Services Center



AMERICAN FRIENDS OF

MAGEN  
DAVID  
ADOM



מגן דוד  
ד"א

Israel's Emergency Services System

# TO THE MARCUS FOUNDATION AND MARCUS CENTER DONORS

---

There are moments in a nation's history when the value of foresight and compassion becomes overwhelmingly clear. The Marcus National Blood Services Center is one of those defining achievements — and it is thanks to your extraordinary generosity that this lifesaving institution exists today. You have given the people of Israel a gift beyond measure: the ability to protect and sustain life, even in the darkest hours. From the secure underground blood vaults to the most advanced testing and processing technologies in the world, the Marcus Center is a beacon of security and innovation — and it is already transforming the future of emergency medicine in Israel.

The events of October 7, 2023, laid bare the urgent need for such a facility in Israel. While our country reeled from the shock of the attacks, the Marcus Center stood firm — fully protected and fully equipped to meet the moment.

Because of you, our nation's blood supply is safe — shielded from missiles, chemical threats, and even earthquakes. Because of you, babies born too soon are receiving the nourishment they need to survive. And because of you, our people have a stronger sense of security, knowing that in times of crisis, Magen David Adom will never falter in its mission.

On behalf of the entire MDA team and the countless Israelis whose lives are touched by your generosity, thank you. You have given Israel more than a building. You have given us hope, strength, and an unshakable foundation for the future.

*With heartfelt gratitude,*



A stylized, handwritten signature in blue ink, consisting of a large 'E' and 'B'.

**Eli Bin**  
Director-General,  
MDA



A stylized, handwritten signature in blue ink, consisting of a large 'G' and 'E'.

**Ambassador  
Gilad Erdan**  
MDA Global President

# TO THE MARCUS FOUNDATION AND MARCUS CENTER DONORS

---

It is with profound gratitude and admiration that we present the 2024 annual report for the Marcus National Blood Services Center — a visionary undertaking that, thanks to your generosity, has become one of the most essential and resilient pillars of Israel's emergency response infrastructure. As the world's first underground and shielded national blood bank, the Marcus Center is not only safeguarding Israel's critical blood supply from threats of war and disaster, but also pioneering new frontiers in transfusion medicine, battlefield care, and neonatal health.

In the wake of the devastating October 7 attacks, the Marcus Center proved to be a beacon of hope and a logistical cornerstone for Magen David Adom. Within hours of the attacks, Magen David Adom mobilized blood drives across the country, collecting and processing over 3,400 units of blood on that single day — a response that saved thousands of lives. Throughout the following year, the Marcus Center processed over 280,183 blood units and introduced field-ready whole blood transfusions and freeze-dried plasma, dramatically lowering battlefield mortality. From supporting wounded soldiers to caring for vulnerable infants through the Sussman Family Foundation Human Milk Bank, the existence of the Marcus Center has shown that foresight, generosity, and dedication can change — and save — countless lives.

This achievement belongs to you. Your unwavering commitment has transformed a bold dream into a life-sustaining reality. On behalf of the entire Magen David Adom family and the people of Israel, thank you for your extraordinary partnership. Your support ensures that no matter what challenges arise, Magen David Adom is prepared to meet them.

*With deepest appreciation,*



*Mark Lebow*

**Mark Lebow**  
Chairman of the Board,  
AFMDA



*Catherine Reed*

**Catherine Reed**  
Chief Executive Officer,  
AFMDA

# MAGEN DAVID ADOM AND THE MARCUS NATIONAL BLOOD SERVICES CENTER >



# OVERVIEW

Magen David Adom is Israel's emergency services system and the country's representative to the International Red Cross. A leader in mass-casualty response, blood services, and EMS technology, Magen David Adom saves hundreds of thousands of lives every year, providing critical pre-hospital medical care to everyone from victims of heart attacks to terror attacks. In times of war and conflict escalation, the organization plays a vital role in national security.

Key to MDA's ability to fulfill its mission is the Marcus National Blood Services Center – supported with a leadership gift from Bernie z"l and Billi Marcus and the Marcus Foundation. Thanks to their generous contribution, and the donors inspired by them, Magen David Adom is able to collect, safety test, and distribute virtually all the blood used by Israel's hospitals and the IDF, ensuring a safe supply of blood to all Israelis when it's needed most.



# THE MARCUS NATIONAL BLOOD SERVICES CENTER

The Marcus National Blood Services Center is the world's first underground and shielded blood bank and processing center. Designed to safeguard Israel's critical blood reserves against missile, chemical, and biological attacks, Israel's lifeblood would be in daily jeopardy without it.

Also housed in the Marcus Center is MDA's Sussman Family Foundation Human Milk Bank, which provides breast milk to premature babies with urgent medical needs, thereby dramatically increasing their chances of survival.

Groundbreaking in its concept, design, engineering, and functionality, the Marcus Center was constructed at a cost of \$135 million, funded almost entirely by American Friends of Magen David Adom (AFMDA). Named in honor of Bernie z"l and Billi Marcus, the center stands as a testament to their incredibly generous leadership gift, which made this vital project a reality.



# MAGEN DAVID ADOM AND OCTOBER 7 >



**At 6:29 a.m. on October 7, 2023, the first emergency calls flooded MDA dispatch centers across Israel. The shocking reports were of rocket fire, terrorists rampaging across the border from Gaza, and the assault and slaughter of Israeli civilians.**

MDA immediately informed the IDF and Home Front Command, who, because of the attack on the Nahal Oz Army Base, were unaware of what had transpired. Immediately put on high alert, MDA called up all medics, staffed the entire ambulance fleet and put all vehicles on the road, expanded shifts to 24 hours, and started to strategize for the days ahead. Staff living in the Gaza envelope immediately leapt into action — treating patients in their homes, in the Be’eri Dental Clinic, and outside the immediate conflict zone at field clinics set up to receive the wounded as they were evacuated. Armored ambulances were repositioned to locations in the North and South, in response to the initial attack by Hamas, and in anticipation of a second attack by Hezbollah. Since the start of the war, MDA has lost more than 40 EMTs and paramedics in the line of duty.



At the Marcus Center, all laboratory and blood collection staff were called in to facilitate blood drives in four key locations around the country, and to begin preparations to process thousands of blood units that would be immediately needed to treat the wounded – both civilians and soldiers. On October 7 alone, more than 3,445 blood units were collected and processed by MDA. This incredible volume was possible only because of the Marcus Center, with its advanced technology and expanded capacity.

**In 2024, the Marcus Center collected, processed and distributed to Israel's hospitals more than 280,183 blood units – a truly incredible (and prior to the existence of the Marcus Center, unimaginable) feat.**



# MARCUS CENTER TECHNOLOGY, INNOVATION, AND ENHANCEMENTS >



# THE INTRODUCTION OF THE MEGA LAB AND AUTOMATIC LINE

The Mega Lab functions as the central hub for blood testing and blood typing, encompassing the Nucleic Acid Testing (NAT) Lab, Viral Markers Testing Lab, Blood Typing Lab, and Archiving Lab. These specialized labs are linked by the cutting-edge Automatic Line, an advanced system designed for sample processing and preparation.

With the Automatic Line, Marcus Center staff can perform multiple tests on a single blood sample, rather than having to rely on multiple samples for the up to 13 tests that may be required. The Automatic Line was designed and manufactured by Siemens and it is maintained by a team of specially trained technicians.

**In 2024, the following tests were processed through the Automatic Line:**

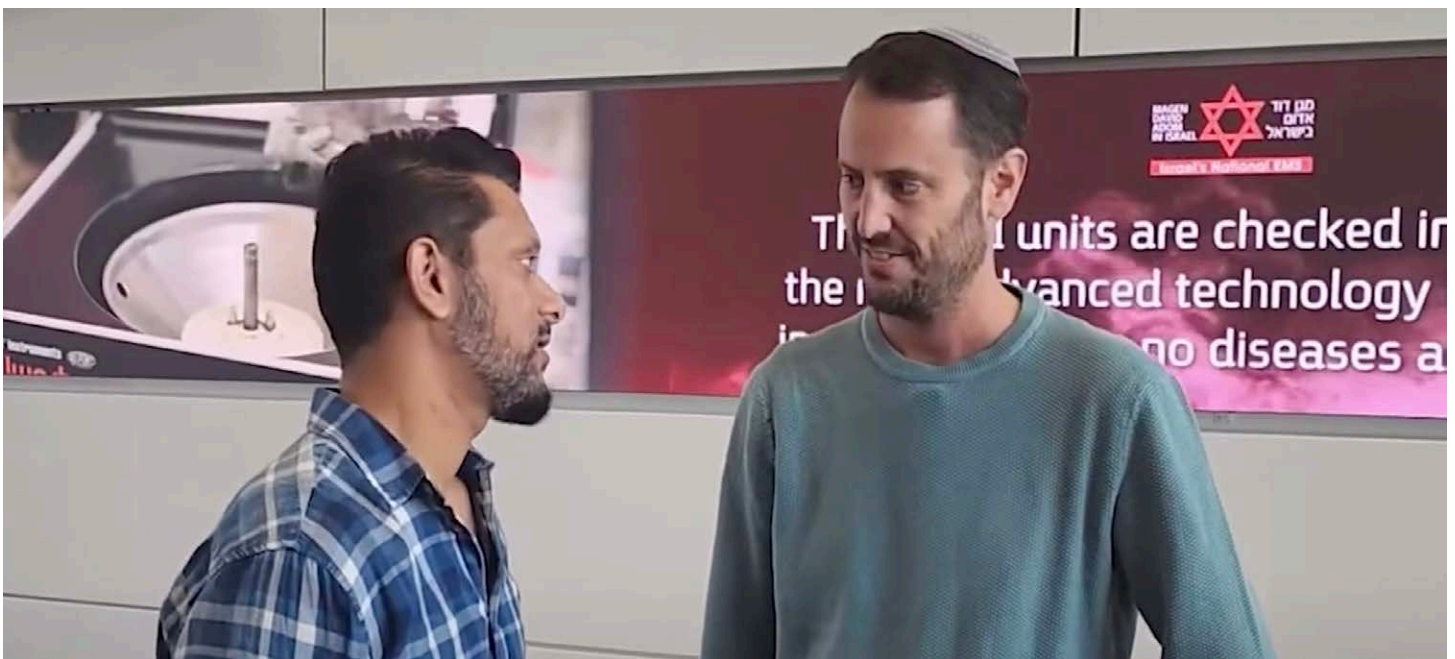
- **640,000 blood donations**
- **45,000 secondary tests**
- **140,000 West Nile Virus tests (first six months of 2024)**
- **TOTAL: 825,000 tests**



# REDUCTION IN MORTALITY RATE OF IDF SOLDIERS

Following the attacks of October 7, preparations for Israel's ground invasion of Gaza were underway. Knowing that in a ground war, one of the most critical issues faced by an army is the loss of life of its soldiers, a team at the Marcus Center pre-emptively partnered with the IDF to explore what steps could be taken to lower the likely soldier mortality rate. The Marcus Center staff, led by Professor Eilat Shinar, proposed a truly innovative solution: providing specially treated whole blood units to every IDF medical team in the battlefield.

The whole blood units could be given to any soldier, regardless of their blood type, enabling blood transfusions directly in the field, often within minutes of the sustained injury. This "game changing" solution, along with faster evacuation times for injured soldiers, reduced the mortality rate from 15% in the Lebanon War of 2006 to just 6.7% in the current Gaza War. This protocol is now being evaluated by the U.S. Army and other militaries around the world.



IDF soldier Eytan Tesler was critically wounded by an RPG missile while fighting in Beit Hanoun, losing a large volume of blood and suffering life-threatening injuries. But thanks to a whole blood transfusion just moments after the injury — supplied by MDA's Marcus Center and administered by an IDF medical team — Eytan survived his grievous injuries.

Only about 10% of Israel's blood donor population is eligible to donate whole blood, a unique compound containing all blood components. Weeks later, Eytan met Gershon Panker, the donor whose blood saved his life. At an emotional meeting at the Marcus Center, both Eytan and Gershon shared heartfelt gratitude, with Gershon expressing pride in contributing to saving lives, and Eytan thanking him for giving him a second chance.

# CREATION OF FREEZE-DRIED PLASMA FOR THE IDF

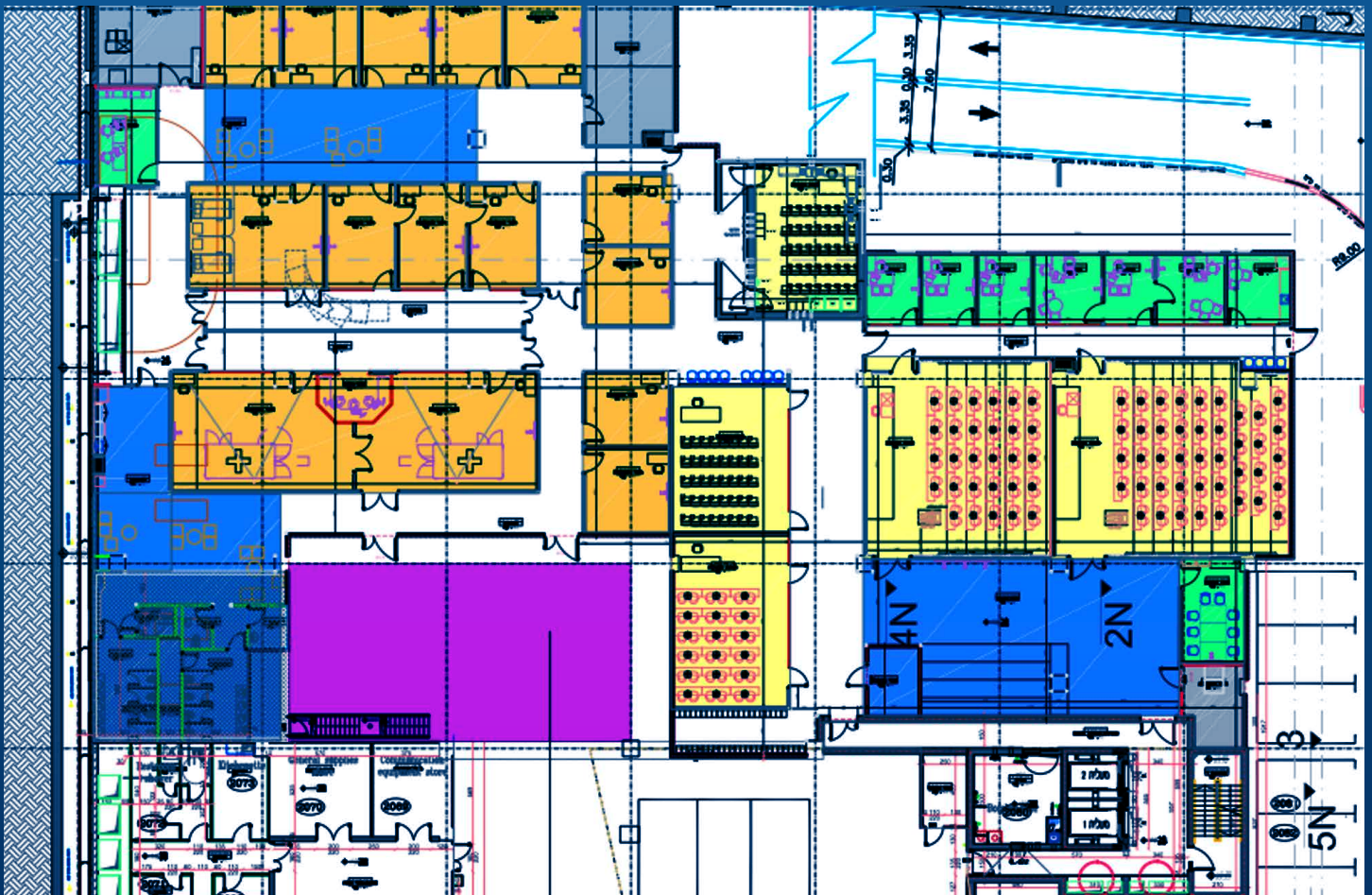
In addition to the new protocol for supplying whole blood to injured IDF soldiers, the Marcus Center also spearheaded the study and production of freeze-dried plasma (FDP) – an additional promising development in the treatment of severe bleeding on the battlefield. FDP is a stable, dry powder created by dehydrating the plasma through a process called lyophilization. FDP is effective in treating severe bleeding, easy to store and transport, and can be quickly reconstituted when needed.



# CENTER FOR ADVANCED EMERGENCY MEDICINE EDUCATION

Recognizing the urgent need to expand the training of paramedics and advanced EMTs, since the entire country is served by MDA's more than 2,000 emergency medical vehicles, a section of Level U1 of the Marcus Center will be the new home of the Center for Advanced Emergency Medicine Education.

At over 21,000 square feet, the new training center includes simulators for home and in-ambulance births, ambulance handling, multi-casualty events, hazmat incidents, dispatch training, and training phlebotomists for MDA's blood services. Additionally, the use of smart classrooms facilitates increasing the number of paramedics certified each year from 350 to 650.



- Training Rooms
- Simulation Rooms
- Offices
- Public Areas
- Technical Rooms
- Multi-Casualty Incident Training Area

# SECURE REGIONAL OPERATIONS CENTER

Following the events of October 7, Magen David Adom recognized that its National Operations Center in Kiryat Ono, while shielded, was still vulnerable to attack. Therefore, the decision was made to build an additional national operations center in the Marcus Center, one of the most highly shielded buildings in the State of Israel.

The new National Emergency Operations Center, located on the underground and shielded level U3 of the Marcus Center, was completed in 2024 and is now fully operational. Located more than 50 feet below ground, the Center provides an additional 30+ workspaces for dispatchers, medical officers and management personnel. Equipped with state-of-the-art technology and communications systems, the Center is able to work either in concert with the National Operations Center or entirely independently, ensuring the MDA will be able to continue to respond to urgent medical calls even if the National Operations Center is inoperable.



# THE SUSSMAN FAMILY FOUNDATION HUMAN MILK BANK >



The Sussman Family Foundation Human Milk Bank, housed in the Marcus Center, plays a critical role in providing essential health benefits to sick and premature infants, who are at 6 to 10 times greater risk of life-threatening complications without access to human milk. As preterm births in Israel continue to rise each year, the survival of these vulnerable infants increasingly depends on access to safe human milk, which mothers are sometimes unable to provide. Currently, only 60% of preemies receive human milk when discharged from the hospital, with a target goal of 90%. The Sussman Family Foundation Human Milk Bank upholds stringent standards to ensure the quality and safety of donated milk for every baby in need.

The Milk Bank is responsible for identifying and recruiting potential and qualified donors, collecting and testing the donated milk, and ensuring optimal processing and pasteurization. The Milk Bank also conducts nutritional analysis and ensures the safety of the processed milk, which is stored and handled under optimal conditions to preserve its quality.

**More than 3,340 liters of breast milk were collected from 460 donors in 2024.**

Additionally, in the aftermath of October 7, 44 babies who would not typically qualify as recipients, as they are not in a NICU or considered failing to thrive, received donated milk. These were infants with mothers in the military reserves or are those whose mothers have been affected by illness, injury, psychological trauma, or death.





When Tal went into labor at only 24 weeks, it was a devastating event for her and her newborn daughter, Ofir. Despite her critical condition, the hospital's neonatal unit was able to keep Ofir alive, though she was in the NICU for several months. One reason for Ofir's survival — and her ultimate ability to thrive — was the donated breast milk she received from Magen David Adom's Sussman Family Foundation Human Milk Bank.

# THE MARCUS CENTER IN STATISTICS >



# BLOOD UNITS COLLECTED AND DISTRIBUTED

In 2024, a total of 280,183 units of blood were collected for processing and storage at the Marcus Center. Since each unit can treat up to three patients, this number effectively triples, with the potential to impact 840,549 individuals.

# BLOOD MOBILES & BLOOD DRIVES

In 2024, Magen David Adom organized 8,591 blood drives by utilizing 51 bloodmobiles traveling across Israel. Each vehicle is equipped with patient beds, all necessary equipment for collecting blood, and refrigerators to transport blood at the required temperature, ensuring optimal safety and preservation.

Blood drives were held at schools, malls, military bases, and other locations, and were open to individuals over the age of 16 who met the donor criteria.

# STAFFING AT THE MARCUS CENTER

As of December 2024, the Marcus Center employed 272 individuals, including 188 phlebotomists and staff dedicated to the operations of the blood and milk banks. The team also consists of 45 logistics professionals, six IT specialists, 29 maintenance and cleaning workers, and four security officers — all of whom work to ensure the smooth functioning and safety of the center.



# CONFERENCES, EVENTS, AND TRAINING AT THE MARCUS CENTER >



The Marcus Center hosted **162** events, conferences, and training sessions with **7,846** visitors in 2024.

## RESUSCITATION CONFERENCE AT THE MARCUS CENTER

More than 300 healthcare professionals gathered at the Marcus Center in November 2024 for a national conference on pre-hospital resuscitation. The event, which was organized in collaboration with the American Heart Association, brought together MDA's medical and training teams with experts from Israel's leading hospitals, HMOs, and other essential emergency services, such as the police, fire, and prison agencies.

The conference featured live demonstrations using advanced CPR techniques as well as a simulated resuscitation using ECMO technology. Participants had the opportunity to explore MDA's state-of-the-art rescue vehicles and take part in guided tours of the Marcus Center. With a focus on new medical technologies, training, and real-life applications, this conference showcased MDA's leadership in pre-hospital care and its ongoing efforts to improve survival rates through collaboration and innovation.



# OCTOBER 7 COMMEMORATION AND MEMORIAL SERVICE AT THE MARCUS CENTER

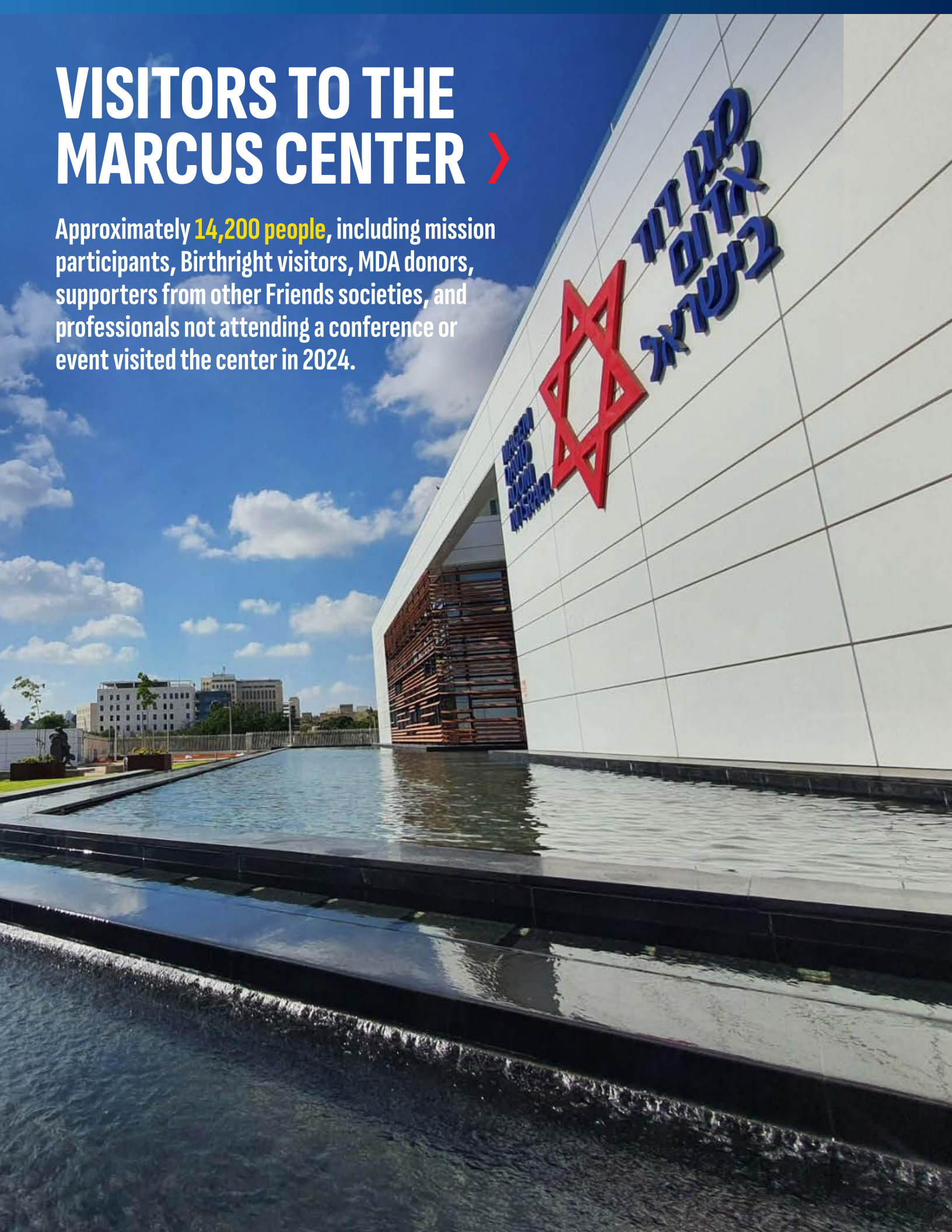
On the first anniversary of the October 7 attacks and the beginning of the Iron Swords War, a special commemoration and memorial service was held at the Marcus Center.

Magen David Adom sustained tremendous losses on October 7 and the months that have followed. In addition to the loss of life of so many EMTs and paramedics — many murdered by terrorists as they were treating patients — MDA stations were targeted, along with the police stations on maps captured by terrorists. Fourteen ambulances were destroyed in just the first two days of the conflict.



# VISITORS TO THE MARCUS CENTER >

Approximately **14,200 people**, including mission participants, Birthright visitors, MDA donors, supporters from other Friends societies, and professionals not attending a conference or event visited the center in 2024.



# SPECIAL DIGNITARY VISITS TO THE MARCUS CENTER

Distinguished visitors to the Marcus Center throughout 2024 included presidents of leading global organizations, ambassadors, and other dignitaries.

A select list of visiting dignitaries include:

- Knesset Health Committee
- Israel Defense Forces Representatives
- State Comptroller, Ministry of Defense
- Israel Home Front Command Representatives
- Major General Ido Nehushtan, CEO of Boeing, Israel
- CEO, Denmark Red Cross
- Delegation, Ukrainian Red Cross
- President, American Heart Association
- Medical Director, US Central Command (CENCOM)
- Delegation, U.S. Embassy
- Mayor Michael Bloomberg
- Doctors Delegation from New Jersey
- Delegation, Canadian Red Cross
- Delegation, Republic of Taiwan
- Management of THOE



# THANK YOU

Magen David Adom is profoundly grateful for the enduring philanthropic legacy of Bernie and Billi Marcus, which continues to support the lifesaving mission of Magen David Adom.







AMERICAN FRIENDS OF  
**MAGEN  
DAVID  
ADOM**  **מגן  
דוד**

Israel's Emergency Services System

[MagenDavidAdom.org](http://MagenDavidAdom.org)

