

What is Miraikan?

Miraikan - The National Museum of Emerging Science and Innovation is a place where we can understand the things happening in our world today from a scientific point of view, and have discussions while considering the future that awaits us.

In addition to permanent displays and exhibitions that provide people with a chance to enjoy hands-on contact with science and technology, Miraikan's colorful line-up of offerings includes experienced based classes, and talks. While exchanging opinions and ideas with Science Communicators, visitors can experience the technological progress of today, from simple day-to-day questions, to the latest technologies, the global environment, and space exploration.

Name	Miraikan - The National Museum of Emerging Science and Innovation
Chief Executive Director	Mohri Mamoru, Ph. D.
Operated by	Japan Science and Technology Agency (JST)
Location	2-3-6, Aomi, Koto-ku, Tokyo 135-0064, Japan
Opened on	July, 2001
URL	http://www.miraikan.jst.go.jp/en/

■ Founding Principle

We believe that science and technology are part of our culture. We provide an open forum for all to ponder and discuss the future roles of science and technology.

■ Symbol mark



The symbol mark is made of a circle inscribed with arcs. This suggests an image of satellites orbiting the globe, cell division, various terrestrial networks (people and people, information) and the motion of electrons.

■ Slogan

"Science Changes People : People Change Worlds"

科学が 世界が
わかる かわる

"Science Changes People" means not only to learn and understand science, but also to consider new ways to engage with "the state-of-the-art knowledge and innovation" presented by cutting-edge science and technology.

"People Change Worlds" means seeing all of life differently through the lens of "the state-of-the-art knowledge and innovation", and, through discussion followed by action, leading the world to a better future.

History

Miraikan is a national science museum which was opened in July 2001 within the Tokyo Academic Park based on the "The Basic Plan for Science and Technology." It was born as a center for deepening an understanding of science and technology, and to fulfill Japan's aim of becoming a scientifically and technologically creative nation.

November 1995	The Basic Law on Science and Technology was enacted. The Basic Law on Science and Technology was enacted with the purpose to become a scientifically and technologically creative nation by promoting the advancement of science and technology.
July 1996	The Basic Plan for Science and Technology was formulated. Based on this, the Basic Plan for Science and Technology was formulated to develop comprehensive and strategic plans.
December 1998	Decided on the construction of the "Tokyo Academic Park." Three ministries and agencies, the Ministry of Education, the Ministry of International Trade and Industry, and the Science and Technology Agency ^{*1} jointly decided on the construction of the "Tokyo Academic Park" at the center of the Metropolitan Waterfront Subcenter. The Japan Science and Technology Corporation affiliated with the Science and Technology Agency ^{*2} then decided to create a facility for providing scientific and technological information through exhibitions of the latest science and technology, development of exhibition techniques, exchanges among researchers and the like. ^{*1} In January 2001, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the Ministry of Economy, Trade and Industry (METI) were established through the Central Government Reform. ^{*2} In April 2015, became the Japan Science and Technology Agency (JST).
December 1999	Construction begins.
March 2000	General Supervising Committee was established. The committee was established by the JST in order to deliberate on the direction of the National Museum of Emerging Science and Innovation. Many discussions concerning details of exhibition plans, direction of activities, etc., were exchanged before December 2000 and, based on the concepts determined, the construction of the museum proceeded.
September 2000	"National Museum of Emerging Science and Innovation (Miraikan)" was selected as the official name since it succinctly captures the motivating concept.
October 2000	Mohri Mamoru assumes the position of the Chief Executive Director.
March 2001	Completion of the building.
	Museum logo selected.
July 9th, 2001	Miraikan opened.
July 2004	Establishment of Honorary Membership of Miraikan
October 2010	Change in Miraikan's management system By taking the result of the Government Revitalization Unit's budget screening which was held in November 2009 into consideration, the museum went under the direct management of JST while further cost reduction strategies were implemented. "Miraikan Forum 2010" was held by the International Advisory Board, and "Miraikan Message" was transmitted.
April 2016	Major renewal of the permanent exhibitions
November 2017	"Science Centre World Summit 2017" was held in Miraikan

The Engagement of Miraikan

Miraikan engages in the following three activities linking people to the cutting-edge science and technology.

1. Science Communication — Creating a place where society and cutting-edge science and technology connect

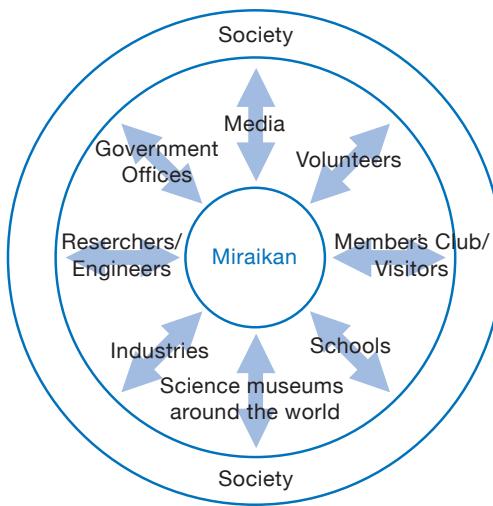
While increasing interest in science and technology through various methods, such as exhibits, videos, panel sessions, experiment classes and online media, we will create dialogue with various people on what science and technology can bring to future society.

2. Fostering personnel — Development of science communicators

Miraikan engages in the fostering of "science communicators" who act as a bridge between the general public and science/engineers.

3. Building connections — Continuing activities by developing networks

We see the countless stakeholders in society as partners to work with, including researchers, technicians, media, volunteers, supporters, visitors, legislators, government, other science museums, and industries, and we strive to build networks that include them.



Organization Outline

■ Executive Board

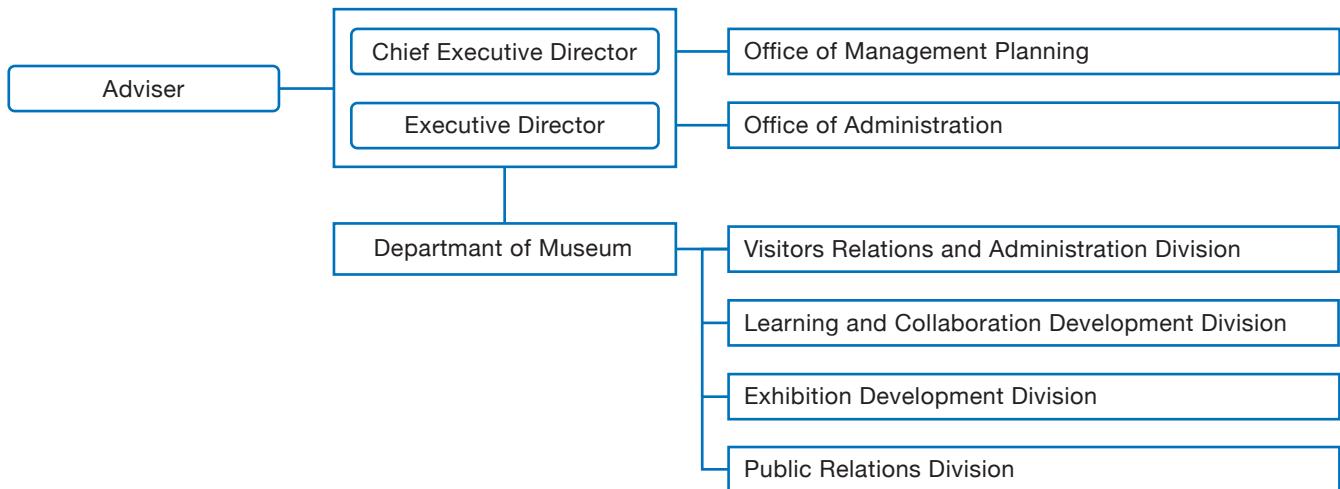
Chief Executive Director: Mohri Mamoru, Ph.D.

Executive Director: Tanaka Masaaki

Executive Director: Nakanishi Shinobu

Adviser: Sakaki Hiroyuki, Ph.D.

■ Organization Outline



Last Update: April 1, 2020

Project Evaluation for Miraikan

The plans and objectives for each fiscal year for Miraikan's operations/activities are formulated based on Japan Science and Technology Agency's mid-term plan. Miraikan's Evaluation Committee for Operations assesses past achievements, and future hopes of the plans for each fiscal year, and concurrently deliberates on proposals for improvement. Those suggested improvements are reflected in the operation of Miraikan's projects.

The results of the evaluation are also reported to the General Supervising Committee who is responsible for the deliberation and supervision of management policies, and conceives future exhibitions and science communication activities. Each committee mentioned is made up of external experts, as described below.

Evaluation Committee for Operations

This Committee assesses the status of achievement of plans for the fiscal year, which are drawn up by Miraikan.

The Committee then deliberates on proposals aimed at improving project operation based on these evaluation results.

Chairman

Kobayashi Tadashi (Professor of Center for the Study of Co-Design, Osaka University)

Committee members (random order, title abbr.)

Emori Seita (Deputy Director, Center for Global Environmental Research, National Institute for Environmental Studies)

Kishi Toshiharu (Director General, Professor, Institute of Industrial Science The University of Tokyo)

Kubono Nagayasu (Executive Producer, Contents Marketing Division, J-WAVE, Inc.)

Somekawa Kasumi (Director, Hands-On Planning)

Motoyoshi Yoichi (Professor, National Institute of Polar Research)

Mori Toshiya (Deputy Managing Partner, KPMG AZSA LLC)

Mori Miki (Senior Director, Business Planning, Contents Center, Japan

General Supervising Committee

This Committee is responsible for the deliberation and supervision of Miraikan direction, such as its activity policies, exhibition plans, development of facilities, and basic operational plans.

Chairman

Sakaki Hiroyuki (President of Toyota Technological Institute)

Committee members (random order, title abbr.)

Umino Tadashi (Chief Executive of The Japanese Institute of Certified Public Accountants)

Sasaki Kaori (Founder & CEO, ewoman, Inc.)

Shibasaki Atsuko (Executive Officer, TV CODE AFFAIR OFFICE, FUJI TELEVISION NETWORK, INC.)

Takananagi Yuichi (Director of Tamarokuto Science Center)

Nakamura Keiko (Director General, JT Biohistory Research Hall)

Hayakawa Shigeru (Vice Chairman of the Board of Directors, Toyota Motor Corporation)

Hayashi Yoshihiro (President / Director General of National Museum of Nature and Science)

Murai Jun (Professor, Faculty of Environment and Information Studies, Keio University)

Murofushi Kimiko (President of Ochanomizu University)

International Advisory Board (IAB)

The International Advisory Board (IAB) conducts an overall evaluation of Mirakan, and assesses the direction of its future activities from an international perspective. The IAB was established in June 2010 with the aim of promoting sound project development. The Board is comprised members of leaders in the fields of science museums, and science and technology. They come from around the world to discuss the direction of science and technology and the role of science museums, with the goal of achieving sustainable development for humankind. They also offer advice about the direction and role of Miraikan.

Last Update: March 31, 2020

Miraikan International Advisory Board (IAB)

“Miraikan Message”

As Miraikan welcomes its 10th year anniversary in 2011, the Miraikan International Advisory Board (IAB) meeting was held in October 2010 with this in mind. As we welcomed the world's leading figures in the field of science and technology/science museums as board members, we transmitted our “Miraikan Message” to the world.

Based on the discussion held at the Miraikan International Advisory Board meeting, the “Miraikan Message” makes suggestions regarding the roles which science museums should play in order to solve the global problems that face humanity.

■ Miraikan Message

1. Addressing global challenges requires all human wisdom

Global problems such as global warming and decrease of biological diversity are threatening the survival of all humans, and these conditions have a daily impact on each individual and therefore, each human's survival. A wise man once said “Be the change you want to see in the world.” Therefore it is vital that each person plays a role in discovering solutions to these global problems.

The human race sustained life through a nurturing society. Consequently, humans have acquired “wisdom” so as to improve and enrich life. All of this wisdom must be nurtured and integrated in order to improve and implement solutions to these global problems.

2. Science and Technology – an integrated part of the culture

Culture is the amalgamation of all human wisdom, including the wisdom from areas such as politics, economy, religion, ethics, art, sports, science and technology.

We believe that science and technology is an integrated part of our culture. We provide an open forum for all to address the current, and future roles of science and technology.

3. Miraikan develops global activities

International collaboration is necessary for discovering solutions to global problems. Each country must place priorities not on its own interests, but rather on efforts that seek solutions that meet global interests. The key is acquiring a global perspective to assure a sustainable global environment for all. The resolution to global challenges demands globally accepted scientific assessments and evaluations, and thus, science and technology, as part of human culture, provides common values and serves the common good.

Miraikan has engaged in activities recognizing that science and technology is an integrated part of culture. Miraikan is ready to share these activities with our communities, with our nation, and with the world.

The Miraikan International Advisory Board (IAB) actively encourages and promotes these activities through world cooperation and collaboration in order to sustain life on our planet.

Board members (random order, title abbr., departments/positions are as of the time this report was made)

Bruce M. Alberts (Editor-in-chief of the journal “Science (AAAS)”) (U.S.A.)

Goéry Delacôte (Chief Executive of At-Bristol) (United Kingdom)

Claudie Haigneré (President of Universcience, Palais de la découverte et de la Cité des sciences) (France)

Svante Lindqvist (President of the Royal Swedish Academy of Sciences) (Sweden)

Rajendra K. Pachauri (Chairman of Intergovernmental Panel on Climate Change (IPCC)) (India)

Shang-Hi Rhee (Director General of Gwacheon National Science Museum) (Korea)

XU Yanhao (Director General of China Science and Technology Museum) (China)

Anzai Yuichiro (Academic Advisor of Keio University/Professor of the Faculty of Science and Technology of the same university) (Japan)

Kanazawa Ichiro (President of the Science Council of Japan) (Japan)

Toyoda Kou (President and COO of Fuji Television Network, Inc.) (Japan)

Nakamura Keiko (Director General of the JT Biohistory Research Hall) (Japan)

Yoshikawa Hiroyuki (Director General, Center for Research and Development Strategy, Japan Science and Technology Agency) (Japan)

Honorary Members of Miraikan

This Honorary Membership was established in July 2004 as it commemorated the museum's 3rd anniversary. It was established to show respect and reward researchers who were awarded with internationally recognized awards such as the Nobel Prize and the Fields Medal through great contributions towards the development of science and technology, while supporting our activities with understanding.

■ Honorary Members (random order, title abbr.)

Harold W. Kroto (The Nobel Prize in Chemistry 1996)

Noyori Ryoji (The Nobel Prize in Chemistry 2001)

Tim Hunt (The Nobel Prize in Physiology or Medicine 2001)

Koshiba Masatoshi (The Nobel Prize in Physics 2002)

Tanaka Koichi (The Nobel Prize in Chemistry 2002)

Alexei A. Abrikosov (The Nobel Prize in Physics 2003)

Esaki Leo (The Nobel Prize for Physics 1973)

Rajendra K. Pachauri

(The Nobel Peace Prize 2007 ※Prize awarded to the IPCC organization during Pachauri's tenure as the IPCC's chairman.)

Peter A. Grünberg (The Nobel Prize in Physics 2007)

Rudolph A. Marcus (The Nobel Prize in Chemistry 1992)

Kobayashi Makoto (The Nobel Prize in Physics 2008)

Masukawa Toshihide (The Nobel Prize in Physics 2008)

Suzuki Akira (The Nobel Prize in Chemistry 2010)

Yamanaka Shinya (The Nobel Prize in Physiology or Medicine 2012)

Negishi Eiichi (The Nobel Prize in Chemistry 2010)

Barack Obama (The Nobel Peace Prize 2009)

Brian Schmidt (The Nobel Prize in Physics 2011)

Dan Shechtman (The Nobel Prize in Chemistry 2011)

Shirakawa Hideki (The Nobel Prize in Chemistry 2000)

Akasaki Isamu (The Nobel Prize in Physics 2014)

Sir John B. Gurdon (The Nobel Prize in Physiology or Medicine 2012)

Kajita Takaaki (The Nobel Prize in Physics 2015)

Omura Satoshi (The Nobel Prize in Physiology or Medicine 2015)

Muhammad Yunus (The Nobel Peace Prize 2006)

Yoshino Akira (The Nobel Prize in Chemistry 2019)

Honjo Tasuku (The Nobel Prize in Physiology or Medicine 2018)

Amano Hiroshi (The Nobel Prize in Physics 2014)

Ohsumi Yoshinori (The Nobel Prize in Physiology or Medicine 2016)

As of November 2020

Permanent Exhibition Supervisors (1)

■ List of the supervisors (random order, title abbr.)

● Explore the frontiers

■ Understanding the Universe through
Neutrinos
Kajita Takaaki

■ Study of Elementary Particles and the
Universe with a Particle Accelerator
Yamauchi Masanori

■ Promoting Medicine Together
Kohsaka Shinichi
Sasazuki Takehiko

■ This is ISS, go ahead
Mohri Mamoru

■ Earth Environment and Me
Funaoka Masamitsu
Iida Tetsunari
Kudoh Akihiko
Taguchi Seiichi
Tajika Eiichi
Taniguchi Masatsugu
Tsunematsu Toshihide
Fujino Jun'ichi
Matsumoto Ken'ichiro
Motojima Osamu
Yasui Itaru

■ Stories of One, Everyone, and You
Matsuzawa Tetsuro
Hironaka Naoyuki

■ CELLS in Progress
Asashima Makoto
Yamanaka Shinya
CiRA
Okano Hideyuki
Saitou Mitinori
Sakurai Hidetoshi
Nakauchi Hiromitsu
Nakagawa Masato
Yamada Shigehito

■ Mission Survival: 10 Billion
Mohri Mamoru
Oshitani Hitoshi
Kishimoto Atsuo
Tajika Eiichi

● Create your future

■ A Hands-On Model of the Internet
Murai Jun
Sato Masaaki

■ Robots in Your Life
Honda Motor Co., Ltd.
Shibata Takanori

■ Songs of ANAGURA
Shibasaki Ryosuke
Kobayashi Isao
Nakashima Naoki
Horiguchi Ryota
Maenaka Kazusuke

■ Android: What is Human?
Ishiguro Hiroshi

■ Backward from the Future
Ohgaki Shinichiro
Katsukawa Toshio
Kibe Nobuko
Hanaki Keisuke
Hiroi Yoshinori
Matsuhashi Ryuji
Miyasako Masaaki
Yamamoto Yuji

■ Visionaries Lab Visionaries Camp
Watanabe Junji (Step2)

■ Digitally Natural - Naturally Digital
Ochiai Yoichi
Ito Asa
Kato Shinpei
Goto Masataka
Sugiyama Masashi
Nobori Daiyuu

■ The tearoom going from zero to one GANGU
Ito Junji

As of April 2020

Permanent Exhibition Supervisors (2)

■ List of the supervisors (random order, title abbr.)

- Discover your Earth

■ Digging the Future

Sakura Osamu

Motoyoshi Yoichi

- Science Workshop

Isa Tadashi

Kanai Norikane

Shirakawa Hideki

Nomura Tairo

Matsuo Yutaka

Yokobayashi Shihori

- Curiosity Field

Shiose Takayuki

Nishida Yoshifumi

Kurata Arata

- Dome Theater

■ The Man from the 9 Dimensions

Ooguri Hirosi

■ BIRTHDAY - What Links the Universe and Me -

Taniguchi Yoshiaki

As of April 2020

List of Facilities

Exhibition Facilities

			Floor Space
Symbol Zone	1F	Six story open zone where the Geo-Cosmos floats.	600 m ²
Permanent Exhibition	3, 5F	Permanent Exhibition space for two themes: "Create your future" on 3F, and "Explore the frontiers" on 5F.	3F: 2874 m ² 5F: 2213 m ²
Dome Theater	6-7F	Hemisphere dome theater where All Sky images and planetariums can be enjoyed.	234 m ²
Special Exhibition Zone a, b	1F	It is a space where large-scale events and Special Exhibitions can be held. It is possible to hold two events simultaneously by dividing the space in half.	1,510 m ² [a: 720 m ² , b: 790 m ²]
Curiosity Field	3F	"Curiosity Field" is made of five activity areas for children to enjoy experiments and creating, as well as a space for parents.	600 m ²
Communication Lobby	1F	This is a multi-purpose space where we show a variety of videos. Events are also held here on some days. It is a perfect meeting spot.	300 m ²

Facility Rentals

Miraikan Hall	7F	It is a space that can hold 292 people and it is suitable for symposiums, etc.	400m ²
Conference Rooms	7F	In addition to conference rooms that can flexibly change from a classroom format to a theater format, there is the Jupiter room where you can overlook the Ferris wheel in Palette Town, and the Neptune room where you can see Tokyo Bay through wide glass windows.	Jupiter: 180m ² Uranus: 110m ² Saturn: 160m ² Mercury: 55m ² Mars: 60m ² Venus: 80m ² Neptune: 105m ²
Innovation Hall	7F	It is a space that can hold up to 103 people with retractable seats and 240-inch screen.	195m ²
Waiting Rooms Moon Europa Phobos Ganymede Deimos Titan Io Triton	7F	It can be used as a waiting space when using the facility rentals.	

Other Facilities

Multipurpose Room a·b	1F	The space can be divided and used for multiple purposes.	[a:64m ² , b:64m ²]
Viewing Lounge (Restaurant)	7F	Resting space where you can enjoy the view of Odaiba and the Tokyo Tower.	480m ²
Café	5F	You can enjoy snacks.	
Museum Shop	1F	Sells scientific goods and Miraikan original goods.	

Permanent Exhibition “Explore the frontiers” 5F

Why are we here now? This zone explores, on a variety of scales, the construction of the world around us, the Earth's environment and all the life nurtured within, as well as our solar system, and the universe. Looking back on the universe's history that spans 13.8 billion years, how did humans begin, and how are we living and interacting with the world around us? By taking a scientific viewpoint, we can think from a broad perspective on which path we should follow to the future.



This is ISS, go ahead



Understanding the Universe through Neutrinos



Mission Survival: 10 Billion



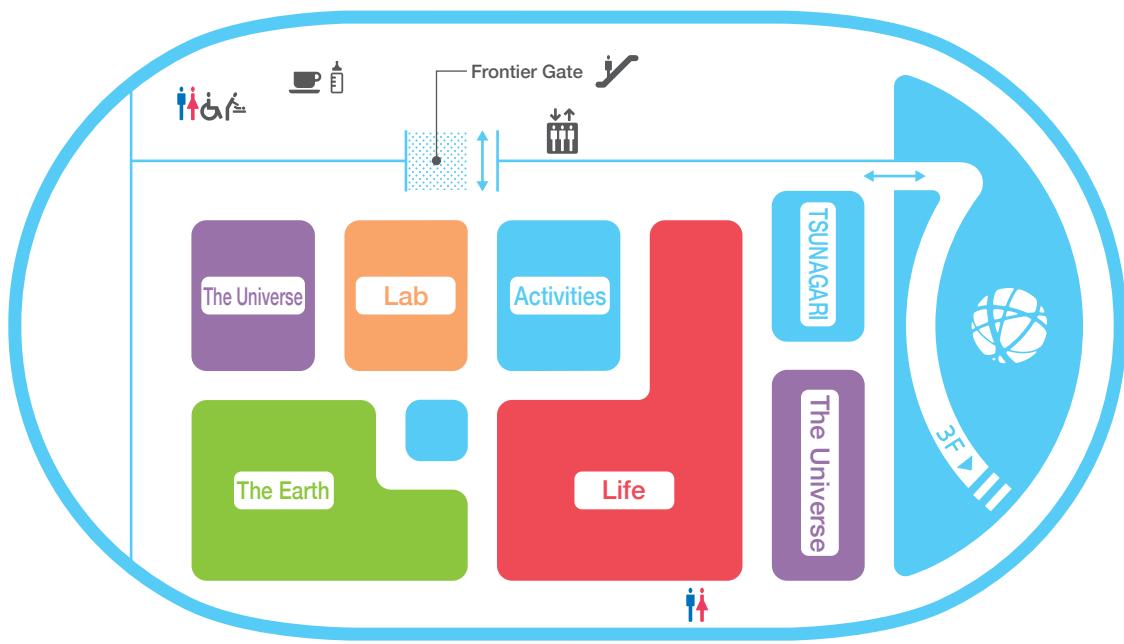
Laboratory to Explore the Frontiers



Stories of One, Everyone, and You



CELLS in Progress



Permanent Exhibition “Create your future” 3F

How should humans apply and evolve sustainable prosperity? This zone illustrates desirable societies and lifestyles, and considers ideas we can use to achieve them. What science and technology is needed, and how should we use it to develop a society that can sustain a world population in excess of seven billion? This space provides a projection of a future society as we search for knowledge that will enable us to continue our prosperous lives.



Nobel Q
— Questions from Nobel Laureates



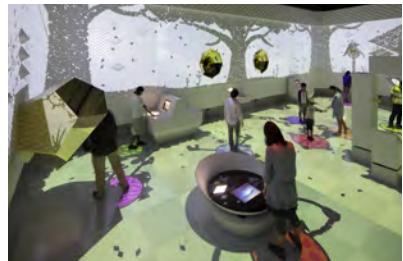
Backward from the Future



Android: What is Human?



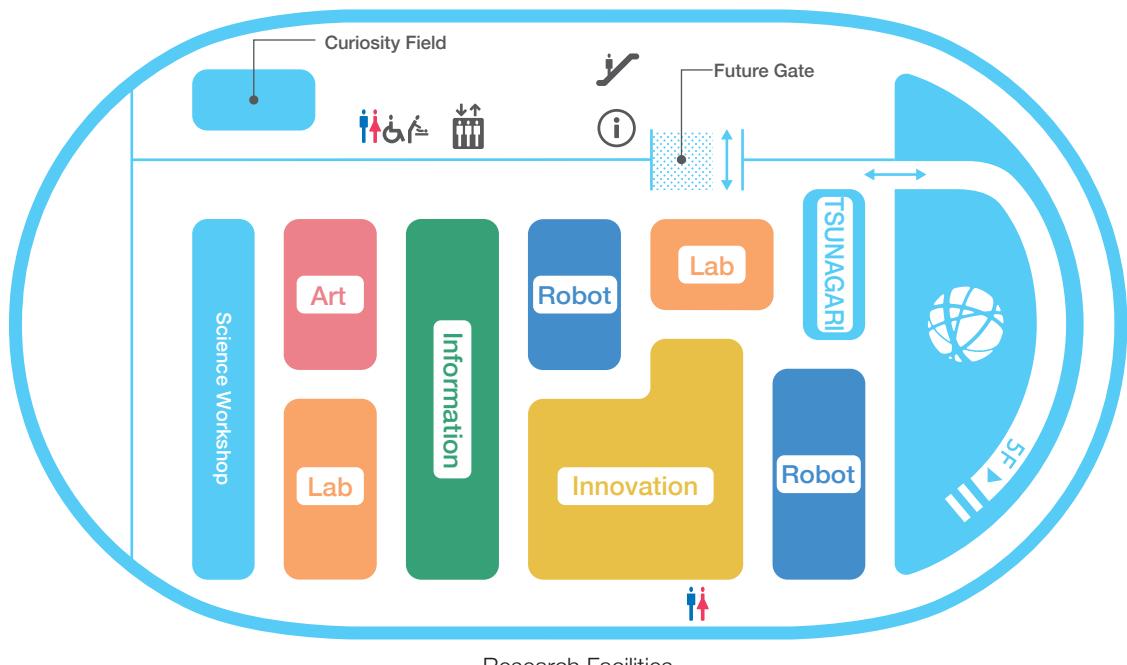
A Hands-on Models of the Internet



Songs of ANAGURA



Visionaries Lab



3F Exhibition Zone: Total floor space: 2,874.80 m²

Permanent Exhibition “Discover your Earth” (1, 3, 5F)

How much do we know about the Earth? This exhibition offers experience, understanding and sharing the links between life and the Earth environment, through cutting edge technology. Geo-Cosmos which is the symbol exhibit of Miraikan, as well as Geo-Scope, Geo-Prism, and Geo-Palette, offer visitors the opportunity to view a diverse range of scientific information related to the Earth. By examining the “tsunagari” (connections) among the various lifeforms in the Earth’s ecosystem, as well as the “tsunagari” that has developed between human beings and the Earth through the Earth’s 4.6 billion years of history, attempt to position the existence of human beings, and of ourselves, within the framework of the Earth’s large-scale “tsunagari.” This concept encompasses all the permanent exhibitions of Miraikan.

■ Symbol Exhibit Geo-Cosmos

Geo-Cosmos is a symbol exhibit of Miraikan that realistically projects the figure of Earth shining in space with a high resolution that exceeds 10 million pixels. It is the world's first "Earth display" which employs organic EL panels. It comes from the Chief Executive Director Mohri Mamoru's idea of "wanting to share with people the sight of our beautiful Earth as seen from space."

—Main Specifications

Size: Diameter 6 meters(Approx. 1/2 millionth the size of the Earth)

Weight: Approx. 13 tons

Inner structure: Geodesic octahedral model

Number of pixels: 10 million pixels and over

Luminescence device: Organic EL (10,362 panels (96 mm x 96 mm))

—Example of Contents

“Digging the Future”



■ Geo-Scope

This interactive board allows you to access various Earth observation data collected from domestic and international scientists and research institutes. Thirteen boards in different sizes will be aligned on the exhibition floor.



■ Geo-Prism

This system uses AR (augmented reality) technology to display data and simulations overlaid on the Geo-Cosmos. Touchscreen terminals in the 1F Symbol Zone and on the Oval Bridge offer a 360°view of visualized data displayed on Earth via dynamically interwoven CG and video images from multiple cameras.



■ Geo-Palette

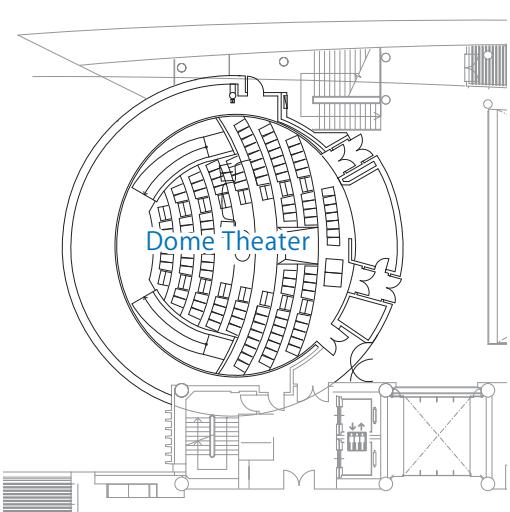
This online service allows you to draw your own world map based on a host of information related to the countries and regions of the world. You can uncover many aspects of the Earth's environment and human activities.



Dome Theater

The Dome Theater on the 6F is a hemispherical theater for image projection.

The theater presents various programs, including large scale images, by utilizing the immense screen made up of the entire hemisphere, and planetarium presentations using Japan's first All Sky super high precision 3D image system.



Dome diameter: 15.24 m

Inclined angle of the dome: 23.5 degrees
Number of seats: 121 (all reclining seats)
Sound: 7.1 channel surround system



Exterior



Interior

■ Major programs [As of April 2020]

"The Man from the 9 Dimensions"



©Miraikan

"BIRTHDAY – What Links the Universe and Me –"



©4D2U Project, NAOJ

■ Image system

• Image system 1: All Sky super high precision 3D image system

A visual experience that allows you to feel the presence of the vibrant atmosphere is made possible by projecting bright and super high definition images with 2 high intensity, 4K RGB laser projectors onto a dome-shaped screen. Enjoy natural and breathtaking imagery in full-dome 3D, with this active shutter 3D system.

• Image system 2: Planetarium Projector "MEGASTAR-II cosmos"

It is a projector that projects 10 million fixed stars. Feel a sense of the scale of space through this realistic starry sky.

■ How to view

Ticket fees

Adult: 310 yen

18 years old or under: 100 yen

※Online reservation available

Archive of Special Exhibitions (1)

We hold Special Exhibitions which utilize diverse methods for expression and communication in collaboration with a number of external organizations. We do so while focusing on changes and new perspectives of the world which are brought about by cutting-edge science and technology.



"Robot Meme"
2001/12/1~2002/2/11



"Sound Bum Project"
2002/10/2~10/21



"Exploration of Time"
2003/3/19~6/30



"Beyond Fibers"
2004/6/30~8/31



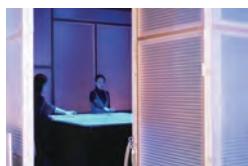
"F.C.R.B. Stadium Project"
2005/4/23~8/15



"LOVE STORIES"
2005/4/23~8/15



"SCIENCE TUNNEL"
2005/9/16~11/17



"science + fiction"
2005/12/10~2006/2/27



"Brain!"
2006/3/18~5/31



"Warnings from Mammoth"
2006/7/1~9/3



"6.5 billions' Survival"
2006/10/29~2007/2/5



"Science News! from Asia"
2007/6/2~9/2



"UNDERGROUND"
2007/9/22~2008/1/28



"The Science of Aliens"
2008/3/20~6/16



"Pterosaurs"
2008/6/28~8/31



Science in "Haunted House"
2009/4/22~6/22



"It's a Tasty World"
2009/11/21~2010/3/22



"Your Future, Your Future Self"
2010/3/20~5/10



Science in "Haunted House" 2
2010/3/10~5/31



"DORAEMON's Scientific Future"
2010/6/12~9/27



"Theo Jansen"
2010/12/9~2011/2/14



"Making of Tokyo Sky Tree®"
2011/6/11~2011/10/2



"UMESAO Tadao"
2011/12/21~2012/2/20



"The End of the World"
2012/3/10~2012/6/11



"The World of Manga Experienced
Through Science"
2012/7/7~2012/10/15

As of April 2020

Archive of Special Exhibitions (2)

We hold Special Exhibitions which utilize diverse methods for expression and communication in collaboration with a number of external organizations. We do so while focusing on changes and new perspectives of the world which are brought about by cutting-edge science and technology.



"It's All about Money!"
2013/3/9~2013/6/24



"Thunderbirds Expo"
2013/7/10~2013/9/23



"The SEKAI-ICHI"
2013/12/7~2013/5/6



"Toilet!? —Human Waste
& Earth's Future"
2014/7/2~2014/10/5



"Dance! Art Exhibition! and Learn
and Play! teamLab Future Park"
2014/11/29~2015/5/10



"Pokémon Lab"
2015/7/8~2015/10/12



"GAME ON"
2016/3/2~2016/5/30



"The NINJA
- who were they?"
2016/6/2~2016/10/10



"The Art of Disney -
The Magic of Animation"
2017/4/8~2017/9/24



"MOVE! into the wildlife"
2017/11/29~2018/4/8



"Detective Conan:
Scientific Investigation"
2018/4/18~2018/7/8



"Design Ah! Exhibition in
TOKYO"
2018/7/19~2018/10/18



"The 'Under Construction'
- Is It Safe to Enter!? Heavy
Machinery in Use!"
2019/2/8~2019/5/19



"The Mammoth"
2019/6/7~2019/11/4

As of April 2020

Special Exhibitions held in the past ten years

Exhibition Title	Management Body	Term	Number of days	Number of visitors
Theo Jansen - Creation of Life	Organizer: Miraikan, Fuji Television	2010/12/ 9 – 2011/2/14	56	46,546
Making of Tokyo Sky Tree® -Welcome to a Construction Site in the sky	Organizer: Miraikan, NHK Enterprises, Inc.	2011/6/11 – 2011/10/2	104	83,554
UMESAO Tadao: an explorer for the future	Organizer: Miraikan, The National Museum of Ethnology	2011/12/21 – 2012/2/20	51	20,311
The End of the World -73 Questions We Must Answer	Organizer: Miraikan	2012/3/10 – 2012/6/11	84	74,777
The World of Manga Experienced Through Science -Meet the Dream Heros of All Times	Organizer: Miraikan, "The World of Manga Experienced Through Science" Exhibition Production Committee	2012/7/7 – 2012/10/15	93	96,547
It's All about Money! - Confront Yourself through 10 Experiences	Organizer: Miraikan	2013/3/9 – 2013/6/24	96	91,586
Thunderbirds Expo -Our Future Portrayed Through Special Effects of the Century	Organizer: Fuji Television Network, Ink., TOEI COMPANY, LTD., TOHOKUSHINSHA FILM CORPORATION, HAKUHODO Inc., HAKUHODO DY MEDIA PARTNERS INCORPORATED, Miraikan	2013/7/10 – 2013/9/23	72	128,308
The SEKAI-ICHI -Unique Inspirations "Made in Japan"	Organizer: Miraikan	2013/12/7 – 2014/5/6	129	130,121
Toilet!? - Human Waste & Earth's Future	Organizer: Miraikan, Fuji Television Network, Inc.	2014/7/2 – 2014/10/5	91	235,063
Dance! Art Exhibition and Learn and Play! teamLab Future Park	Organizer: Miraikan, teamLab, Nippon Television Network Corporation, and BS Nippon Corporation	2014/11/29 – 2015/5/10	137	465,995
Pokémon Lab: You do it! You discover!	Organizer: Miraikan, The Yomiuri Shimbun	2015/7/8 – 2015/10/12	91	197,007
GAME ON: Why are videogames so interesting?	Organizer: Miraikan, FUJI TELEVISION NETWORK, INC., KADOKAWA ASCII Research Laboratories, Inc.	2016/3/2 – 2016/5/30	81	167,744
The NINJA - who were they?	Organizer: Miraikan, The Asahi Shimbun, Fuji Television Network, Inc.	2016/6/2~2016/10/10	94	159,365
The Art of Disney - The Magic of Animation	Organizer: Miraikan, Nippon Television Network Corporation, The Yomiuri Shimbun, WOWOW INC	2017/4/8~2017/9/24	153	473,903
MOVE! into the wildlife	Organizer: Miraikan, KODANSHA, DENTSU, The Yomiuri Shimbun, NHK ENTERPRISES, DENTSU LIVE, VECTOR	2017/11/29~2018/4/8	113	198,309
Detective Conan: Scientific Investigation	Organizer: Miraikan, The Production Committee of "Detective Conan: Scientific Investigation"	2018/4/18~2018/7/8	72	187,804
Design Ah! Exhibition in TOKYO	Organizer: Miraikan, NHK, NHK Educational Corporation, NHK Promotions	2018/7/19~2018/10/18	85	456,981
The "Under Construction" Is It Safe to Enter!? Heavy Machinery in Use!	Organizer: Miraikan, The Yomiuri Shimbun, Fuji Television Network, Inc. BS Nippon Corporation	2019/2/8~2019/5/19	90	148,223
The Mammoth	Organizer: Miraikan, Fuji Television Network, Inc. and The Yomiuri Shimbun	2019/6/7~2019/11/4	136	272,254

As of April 2020

Lending of exhibits

■ Traveling exhibitions/exhibits

Our original Special Exhibitions that have been held up to this point are rented to various facilities such as domestic and international science museums.



"Exploration of TIME! -TIME! TIME! TIME!"

It is an exhibition based on the concept of "traveling" the world of multi-faceted "time" as viewed from a scientific perspective.

Target age: Children in lower elementary school - adults

Area of event site: ~600m² (* Open to discussion)



"Beautiful Rice - For a Sustainable Future"

This exhibit explains rice cultivation, a form of agriculture that has been carried on for several thousand years, from a scientific standpoint, while considering ideas to help us to continue enjoying delicious rice for the next thousand years.

Target age: Children in lower elementary school - adults

Area of event site: 100-200 m² (* Open to discussion)

Lending of large-scale images

■ Distribution/production of large scale images

With the cooperation of external organizations such as research institutes and image production companies, Miraikan has originally created many large-scale images which are being shown in domestic and international science museums.

● "FURUSATO

- World Heritage Sites Viewed From Space -" (2010)

Distribution: TBS SPARKLE, Inc.

@Miraikan/TBS-VISION, Inc.



● "The Man from the 9Dimensions"

(2016)

Distribution: GOTO INC
Konica Minolta Planetarium Co.,Ltd.

@Miraikan



For further details please contact the following.
Traveling Exhibition, Miraikan +81-3-3570-9206

Official Partners

Official partners are organizations that endorse the philosophy and activities of Miraikan, and that promote and support, together with Miraikan, the revitalization of communication between society and science and technology through collaborative activities and sponsorship.

■ Official Partners



Ricoh Company, Ltd.



Asahi Kasei Corporation

Kao Corporation

As of April 2020

Membership

■ Club Miraikan

This is a membership program that aims to deepen visitors' understanding of cutting-edge science and technology. Members receive privileges such as an Annual Passports to Miraikan, as well as opportunities to participate in a host of events and experimental classes.

Annual Fee

- Individual: 5,240 yen
- Family: 10,480 yen (Maximum of four persons. The fifth person and above will be charged an additional 2,100 yen per person.)

■ Annual Passports

A free pass plan gives members unlimited free admission to the permanent exhibitions for one year from the date of joining.

Annual Fee: 1,250 yen (Renewal Fee: 1,050yen)

Aged 18 or under: 410 yen (Renewal Fee: 310yen)

Volunteers

Volunteers at Miraikan have various background who are active in various ways such as from the explanation of exhibits to the support in science workshops, etc.

■ Contents of Activities

As mentioned below, there are various sites of activities for volunteering. Activities are possible whether you have or do not have knowledge on science and technology.

1. Giving explanations on the exhibits
2. Experiment support at the Science Workshop
3. Holding of original planned events by volunteers
4. Support for Events, etc.
5. Playing an active role in other various activities

User Guide

■ Opening Hours:	10:00 - 17:00 (Admission ticket sales end 30 minutes before the closing time of the museum.)
■ Closed:	Every Tuesday (Open on national holidays), December 28 to January 1. *Miraikan may be temporarily closed due to facility maintenance. *Miraikan may be open on Tuesdays during spring, summer and winter vacation seasons.
■ Admission Fees:	Adults: 630 yen, 18 years old and under: 210 yen Groups (8 or more people) Adults: 500 yen, 18 years old and under: 160 yen * Free admission for children age 6 and under * Free admission for those 18 years old and under on Saturdays. * Free admission for those in possession of a Disability Book and one accompanying person * Special fees may apply for Special Exhibitions.
■ Facilities:	<ul style="list-style-type: none"> ● Parking area Standard-sized: 175 cars (440 yen per hour/1,650 yen maximum per day) Full-sized: 20 buses (During visit 3,150 yen, advanced reservation not available) ● Restrooms for visitors 1F: 2 areas / 3F: 2 areas / 5F: 2 areas / 6F: 1 area / 7F: 1 area * There are restrooms for the disabled on each floor and a multipurpose restroom available for ostomate. * There are changing tables in the restrooms on the 1, 3, 5 and 7Fs. ● Stroller, nursing room We lend out strollers. There is a nursing room(for female visitors use only) at the back of the 5F Café. ● Accessibility · Wheelchair rental service: four wheelchairs available. · Parking spaces for wheelchair users: two spaces in parking lot B1. · Written instruction devices are prepared at the ticket booth, the information desk on the 3F, and the museum shop. · We lend out "Welcome! Navi" tablets to support exhibition tours for students with mental challenges. · Visitors can enter the facility with their guide dogs, service dogs and hearing assistance dogs. · AED (automated external defibrillator): entrance and emergency exits on the 1, 3, 5 and 7Fs. ● First-aid office · A registered nurse is permanently positioned in Miraikan. ● Lockers 1F Coin lockers 128 lockers (100 yen: Money will be returned.) ● Eating spaces Eating is possible on the 5F Café, 7F Viewing Lounge. 7F Beverage section (Food is not allowed.) There is a water fountain next to the 1F Multipurpose room 1 and the 7F Beverage section. 1F Multipurpose room can be used as a dining place for visitors in groups (advanced reservation necessary).
■ Others:	<ul style="list-style-type: none"> ● Camera Shooting Taking photographs and images only for individual purposes is allowed with the exception of certain exhibits.(* Prior permission is required for photography/filming for the purpose of commercial use/duplication/broadcasting.) ● Group reservation desk For information on group reservation, preliminary inspection, information materials, please contact the following. Tel: 81-3-3570-9188 (reservation desk is open 10:00 - 17:00 during museum hours)

App/E-book

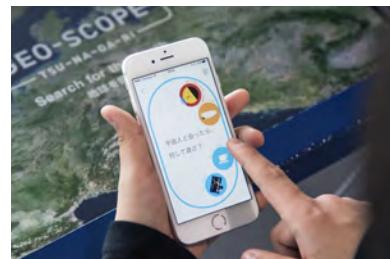
We provide applications that enhance your experiences of the exhibitions in the museum and help you take these experiences back into your everyday life, as well as free e-books that provide access to the scientific data provided by research institutes.

■ Miraikan Notebook

Find "Why", think about it, and do it. Smartphone App to enjoy Miraikan even more. App with 3 features to help you make the most of the exhibits in Miraikan. Visitors can tour the exhibitions through the "Quest," which comprises eight routes that have been designed based on the concept of "inquiry." They can also take commemorative photos using AR technology, and make use of the audio guide (in four languages) that introduces the highlights of all the exhibitions. There is also a notebook function that allows visitors to take down notes for different categories of questions and ideas that arise in their everyday lives.

*Audio guide: Japanese, English, Chinese, Korean

Date of launch: 19 April 2016, Price: Free of charge, Available on: App Store and Google Play, Compatible devices: iOS 8 or above, Android 4.4.0 or above, Creative direction: PARTY, Produced by: Miraikan



■ GEO-SCOPE Search for the Earth

Access various data and simulations concerning the Earth's environment. This is the e-book version of the Geo-Scope permanent exhibition in Miraikan. Enjoy the new user-friendly functions that allow you to explore the Earth through intuitive operations on an iPad. Contains 36 sets of contents, including seasonal changes in amount of solar radiation, movement of tern, and world map of honey bees.

Date of launch: 29 February 2016, Price: Free of charge, Available on: iBooks Store, Recommended devices: iPad Pro,iPad Air or above, iPad mini3 or above, Produced by: Miraikan



■ Scientific Dialogues

Miraikan has launched its first e-book, produced based on the dialogues between scientists and designers. Based on the contents of the "Earth: Materials for Design – Design x Science Dialogue" project held at Miraikan in 2010, this book is a multi-faceted and comprehensive summary of data and visual information from the project, scientific commentaries, design proposals, and records of the dialogues. It introduces the three materials – metal, plastic, and wood, and at the same time offers proposals for global manufacturing within a "grand scale of time." The BCCKS version that can be accessed online or as a hard-copy book.

Planning and Production: Miraikan, Department of Design, Tokyo University of the Arts, Produced by: Miraikan



Research Facilities

Research Facilities have been established in Miraikan. Multiple research projects are permanently stationed at the far end of the hallway of the Permanent Exhibitions on floors three to five, and daily research activities take place. With the goal of widely exhibiting the fields of cutting-edge science and technology, the wall of each laboratory is made of glass, so that visitors can see the activities of the researchers from the exhibition floors.

The introduction of ongoing projects	Research Director
Communicative Intelligent Project This project is creating a new field of study composed of dialogue engagement and rapport research, communication understanding and generation research, behavioral decision model estimation research, and human-machine social norms research. It will become a new research topic that is needed to realize a society where humans, intelligent robots and information media coexist.	Ishiguro Hiroshi Graduate School of Engineering Science, Osaka University
Photo-Energy Conversion Project The project is conducting research on next generation solar batteries, from designs at the molecular level.	Matsuo Yutaka Department of Chemical System Engineering, Graduate School of Engineering Nagoya University
xDiversity Project This project intends to overcome physical and mental disabilities through the combination of man and machine, using AI technology to integrate personal optimized technology and technologies relating to space, sight, sound, and tactile feedback.	Ochiai Yoichi Faculty of Library, Information and Media Science, University of Tsukuba
2D Materials Project The project aims to create a Coordination Nanosheet, a two-dimensional material made from metal atoms and organic chemical components, and to evaluate its unique properties. Furthermore, the project is developing electrical devices and energy devices that use Coordination Nanosheet.	Nishihara Hiroshi Tokyo University of Science, Research institute for Science and Technology
Implicit Processes of Mind and Brain Project This project is conducting research on coordination between people and machines, and people and people, while using technology and techniques to measure unconscious body motion and nerve responses, or cognitive processes, among other responses.	Watanabe Katsumi Waseda University Faculty of Science and Engineering
Cyber Living Lab – Embodied Media Project This project is developing small/integrated tactile transmission modules, and promoting the early creation of products and services based on recording, transmitting and reproducing tactile physical experiences.	Minamizawa Kouta Keio University Graduate School of Media Design
SFC Lab Science Communicator Project This project aims to redesign the methods of science communication and the role of science communicators that are central to those methods.	Murai Jun Faculty of Environment and Information Studies, Keio University
Project toward Smart Soft-Manufacturing Revolution This project is advancing "material and process innovation" research to realize the concept of a Convenience Factory where materials and processing are directly connected to digital manufacturing.	Furukawa Hidemitsu Soft and Wet matter Engineering Laboratory (SWEL), Yamagata University
Intelligent Systems Project The project is researching automatic learning functions in robots, and intends to realize a robot that can autonomously decide its behavior depending on the situation, based on the knowledge of a memorized environment.	Mochimaru Masaaki Information Technology and Human Factors, National Institute of Advanced Industrial Science and Technology
Multisensory Communication Project This project is advancing research on the emotional and mental mechanisms that support "communication."	Tanaka Akihiro Department of Psychology, Tokyo Woman's Christian University Masanori Morise School of Interdisciplinary Mathematical Sciences, Meiji University
From Mimicry to Personogenesis of The Android ALTER Project This project is conducting research on the methodology needed for humanoids to generate a sense of self, through communication between humans and humanoids, or imitations of fellow humanoids.	Ikegami Takashi Graduate School of Arts and Sciences, the University of Tokyo
Mitochondrial Biogenesis Project This project aims to reveal the entire picture and regulation mechanisms of the structure and functional networks of dynamically working mitochondria, by making use of various techniques of structural biology.	Endo Toshiya Faculty of Life Sciences, Kyoto Sangyo University

As of April 2020

*Please visit our website (<https://www.miraikan.jst.go.jp/en/research/facilities/>) for more details.

Shop/Café/Viewing Lounge

At Miraikan, there is the Meseum Shop on the 1F and the Café on the 5F and the Viewing Lounge on the 7F.

■ Museum Shop (1F)

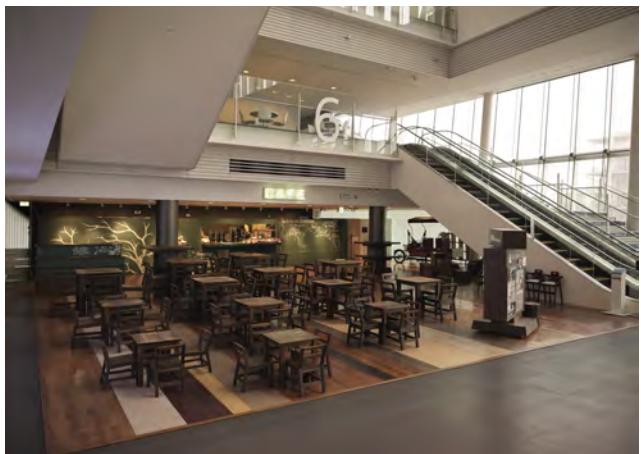


In addition to Miraikan's original goods, experiment kits, there are numerous goods related to science that can be enjoyed by all ages.

Opening hours: 10:00-18:00

Closed: Every Tuesday *Same as Miraikan's closed days

■ Café (5F)



It is a cafe which allows visitors to enjoy snacks in a unique interior designed to stimulate curiosity.

Opening hours: 10:00-17:00

Closed: Every Tuesday * Same as Miraikan's closed days

■ Viewing Lounge / Kitchen (7F)



This is a resting space, where you can see all the way from Odaiba's surroundings to Tokyo Tower. It also includes a self-service cafeteria.

Opening hours: 10:00-17:00

Closed: Every Tuesday *Same as Miraikan's closed days

*Business hours are subject to change depending on the season.

Design and Characteristics

Miraikan is designed based on the concept of creating a place for exchanges between people, and also between people and science and technology. To enhance this exchange, various measures were implemented in terms of technique and design.



Sleek glass that symbolizes a facility opened to everyone

A transparent exterior is created as transparent reinforced glass is used for the east to north side which is less influenced by direct sunlight. Heat resistant semi-transparent glass is used for the west side which faces the sunset. (Photo depicts the front.)



Dynamic space

The entrance and Symbol Zone bathed in natural light is a vaulted open zone. Escalators and successive flights of stairs naturally join the floors from the entrance to the 6th floor.



Flexible exhibition space

The exhibition space is wide while columns are situated at 30 m intervals. The front on the east side is an atrium from the 1st to the 6th floor while the areas from the 3F to the 5F are connected by a gently sloping ramp.



Through-holes

Ten towers have been inserted as if they were vertically piercing the building. There are “Light Towers” that receive light from rooftop sunlight autoguider and “Wind Towers” that supply fresh air and provide ventilation.

Architecture/equipment Specification

■ Architectural Specification

Facility Name:	Miraikan
Address:	2-3-6, Aomi, Koto-ku, Tokyo 135-0064
Designer's supervision:	Nikken Sekkei/Kume Sekkei design joint-venture group
Design cooperation:	Landscape: George Hargreaves (only basic plan), Sign: Hiromura design office, Lighting: LPA
Term of construction:	December 1999 - March 2001
District:	Fireproof district, light-industrial district
Building-to-land ratio:	46.51% (Standard 60%)
Floor-area ratio:	177.71% (Standard 200%)
Road width:	West 40m, North 20 m
Area:	Site area: 19,636.65 m ² Building area: 9,133.59 m ² Floor space: approx. 40,744.03 m ² (including parking area)
Parking Area:	Area: 5,737.84 m ² / Number of cars that can be parked: 175 cars (2 car spaces for the disabled)
Height:	Eave Height: 42 m, Height at highest point: 45 m, Standard floor height: 4.5 m, Ceiling height: 8.0 m (standard exhibition room), 3.0 m (Research room), Entrance vaulted space: 25 m (partial 39 m), Exhibition space standard ceiling height: 8 m (subcallosal area 6 m)
Measurement:	Major span 30 m x 6 m
Number of floors:	2 underground, 8 above ground, 1 penthouse
Structure:	Steel construction partially steel concrete
Pile/foundation:	Rotation steel-pipe pile/non-land removal press-in method

■ Facility/equipment Specification

Air conditioning:	Air-conditioning system: single duct system, single duct + FCU system, air cooled package method Heat source: District heating and cooling
Sanitary installation:	Water supply: pressure water service system (Clean water/gray water) Hot-water supply: Central method (District heating and cooling), individual method combined Water discharge: General sewage water/gray water, experiment-related water discharge
Electric installation:	Power receiving system: 22 kV 50 Hz 3 lines SNW method Installed capacity: 2,000 kVA x 3 Contract electric power: 1,700 kW Standby power supply: Gas turbine generator 6.6 kV 50 Hz 1,250 kVA
Fire-prevention equipment:	Direct-current power-supply system, alarm system for fire/smoke/gas leak, emergency broadcasting system, lightning protection system, space lighting system for emergency/rescue use, fire extinguishing sprinkler system (closed type/discharge type/pre-action type), foam extinguishing system, nitrogen gas extinguishing system/smoke exhaust: natural smoke exhaust, mechanical smoke exhaust
Others:	Waste treatment system, district heating and cooling receiving system
Elevators:	Passenger elevator (exhibition zone): can hold 24 people 105 m/min x 2 Passenger elevator (backyard/emergency use) can hold 17 people 105 m/min x 2 Passenger/loading elevator (backyard/emergency use) can hold 17 people 105 m/min x 2 Loading elevator (backyard): Load capacity 6,000 kg 30 m/min x 1 Passenger elevator (parking area): Can hold 11 people 45 m/min x 1 Escalator (introduction zone): Width 1,200 mm 9,000 people/hour 30 m/min 10 escalators
Disposal of goods:	Equipment hatch valid open space: W 5,250 mm x H 4,000 mm or W 3,750 mm x H 4,000 mm
Room temperature/humidity:	Temperature: Constantly 17°C - 28°C, Humidity: Constantly 40% - 70%
Security precaution:	TV monitor: Situated everywhere (including the parking area, etc.) Monitoring place: 1F Disaster control center Security guards: Stationed 24 hours

Location & Directions

■ From the Airport

- From the Tokyo International Airport(Haneda Airport)

By train | about 50min.

By car | about 20min.

- From Narita Airport

By train | about 100min.

By car | about 60min.

■ Train

- Tokyo Waterfront New Transit YURIKAMOME:

5 minute walk from "Tokyo International Cruise Terminal station" / 4 minute walk from "Telecom Center station"

- Tokyo Waterfront Area Rapid Transit RINKAI LINE:

15 minute walk from "Tokyo Teleport station"

■ Tokyo Bay Shuttle (free shuttle bus)

There is free shuttle bus service for the local Odaiba area. Shuttle buses stop at Miraikan, train stations and other Tokyo Waterfront City facilities.

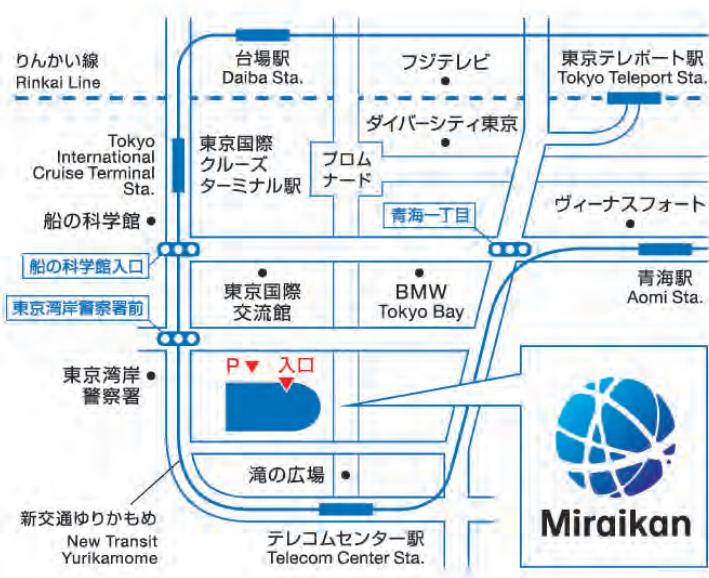
■ Car

By Metropolitan Expressway

- 5 minutes to Miraikan from the Daiba Ramp exit on the Route No. 11 of the Metropolitan Expressway

- 4 minutes to Miraikan from the Rinkai-fukutoshin Ramp exit on the Bay Shore Route of the Metropolitan Expressway

- 7 minutes to Miraikan from the Ariake Ramp exit on the Bay Shore Route of the Metropolitan Expressway

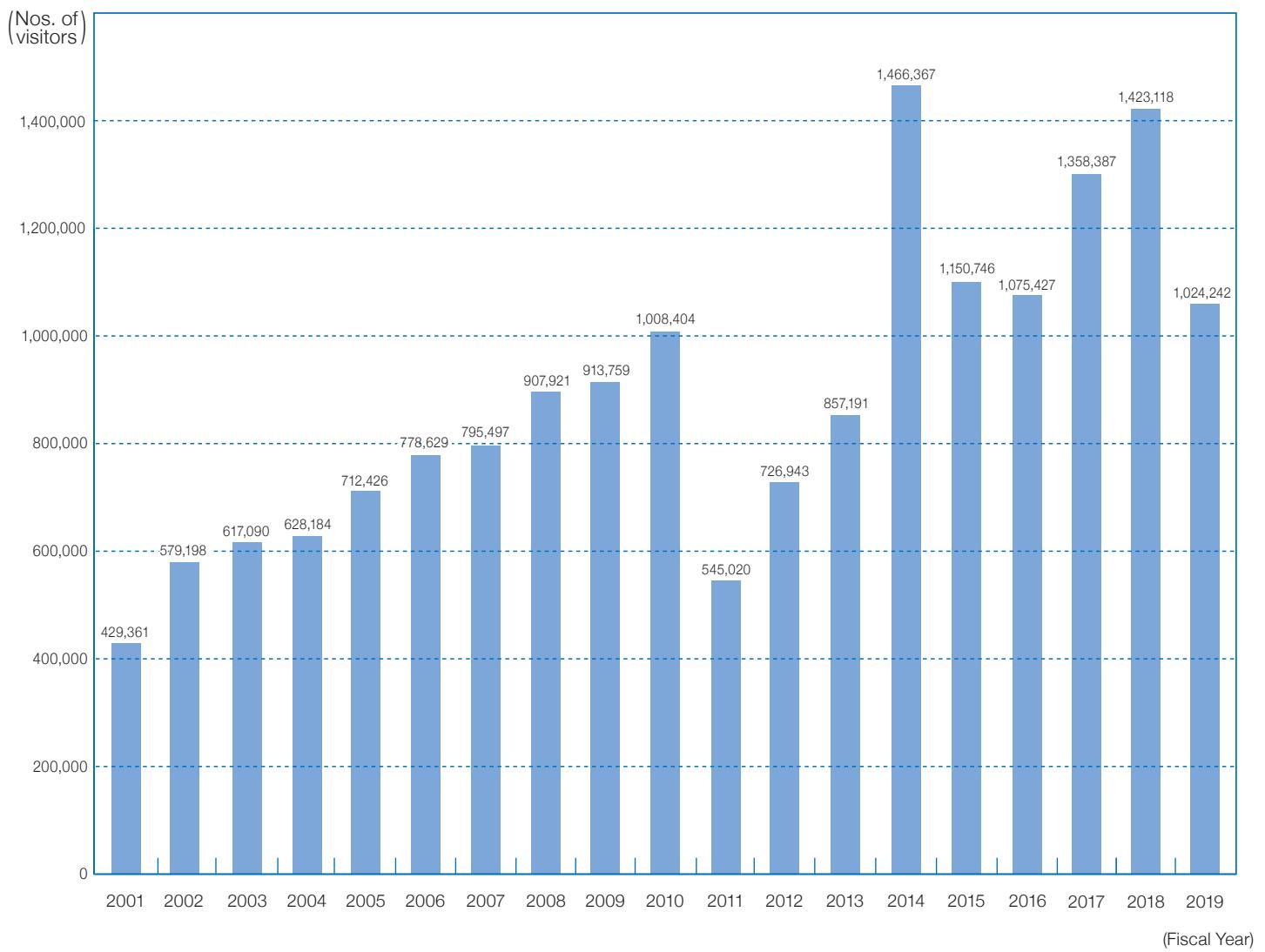


Miraikan - The National Museum of Emerging Science and Innovation

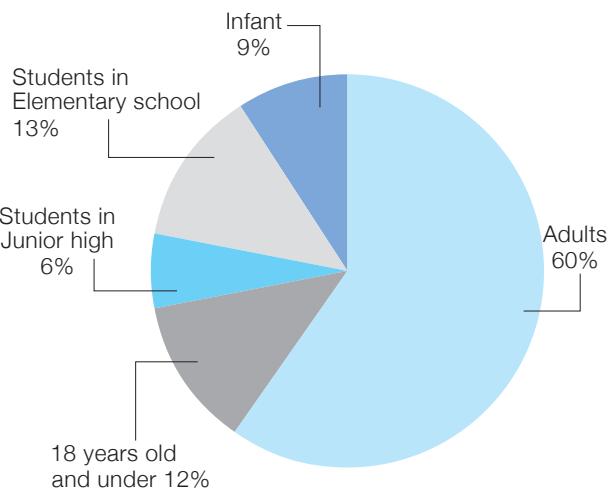
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Data of Visitors

■ Transition in the numbers of visitors



■ Breakdown by age (FY2019)



■ Visitors in groups by region (FY2019)

