



2005

94 年報 Annual Report

國立科學工藝博物館
NATIONAL SCIENCE AND TECHNOLOGY MUSEUM



94 年報

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NATIONAL SCIENCE AND TECHNOLOGY MUSEUM

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Preface

The dedication and hard work of previous directors of the National Science & Technology Museum (NSTM) has laid a solid foundation for the development of the museum and achieved laudable accomplishments. Since taking office in January 2005, I have proposed three directions for the present development of the NSTM: digitalization, internationalization, and the focus on humanitarian concerns. In pursuing digitalization, the NSTM has sought to build an interactive, creative and advanced digital museum in correspondence with government policies and programs to enhance the educational, cultural and leisure functions of the NSTM. Concerning internationalization, the NSTM has strengthened inter-museum collaboration and exchanges to expand the international visions of the museum staffs and increase the international reputation of the museum. In terms of humanitarian concerns, the NSTM has sought to collaborate with industries, businesses and academic institutions to integrate educational resources for the underprivileged communities in the remote areas of Taiwan.

Annual reports are a useful tool for reviewing the past and looking into the future. The 2005 annual report provides an account of the efforts and accomplishments of the NSTM in line with its three development directions over the past year. To enhance digitalization, the NSTM developed an online collection management information system to simplify the process of related procedures and facilitate the management and searches of the museum's collections. Besides, the NSTM also collaborated with Chunghwa Telecom Co. to create a museum website to increase its visibility.

Regarding the internationalization of the museum's development, the NSTM co-organized a special exhibition on Japanese KARAKURI mechanized puppets of the Edo period, with the Interchange Association of Japan in Kaohsiung and extended its global reach and collaborated with Taiwan's National Science Council to hold the exhibition of "Taiwan Cultural Festival: Digital Treasures of the Island" in Vancouver, Canada. The NSTM also co-organized a "Future Face" special exhibition with Taiwan's National Museum of Natural Science and Britain's Royal College of Art and sought to actively participate in the international community of science museums by collaborating on an international survey of science



centers and museums conducted by the Asia Pacific Network of Science & Technology Centers (ASPAC).

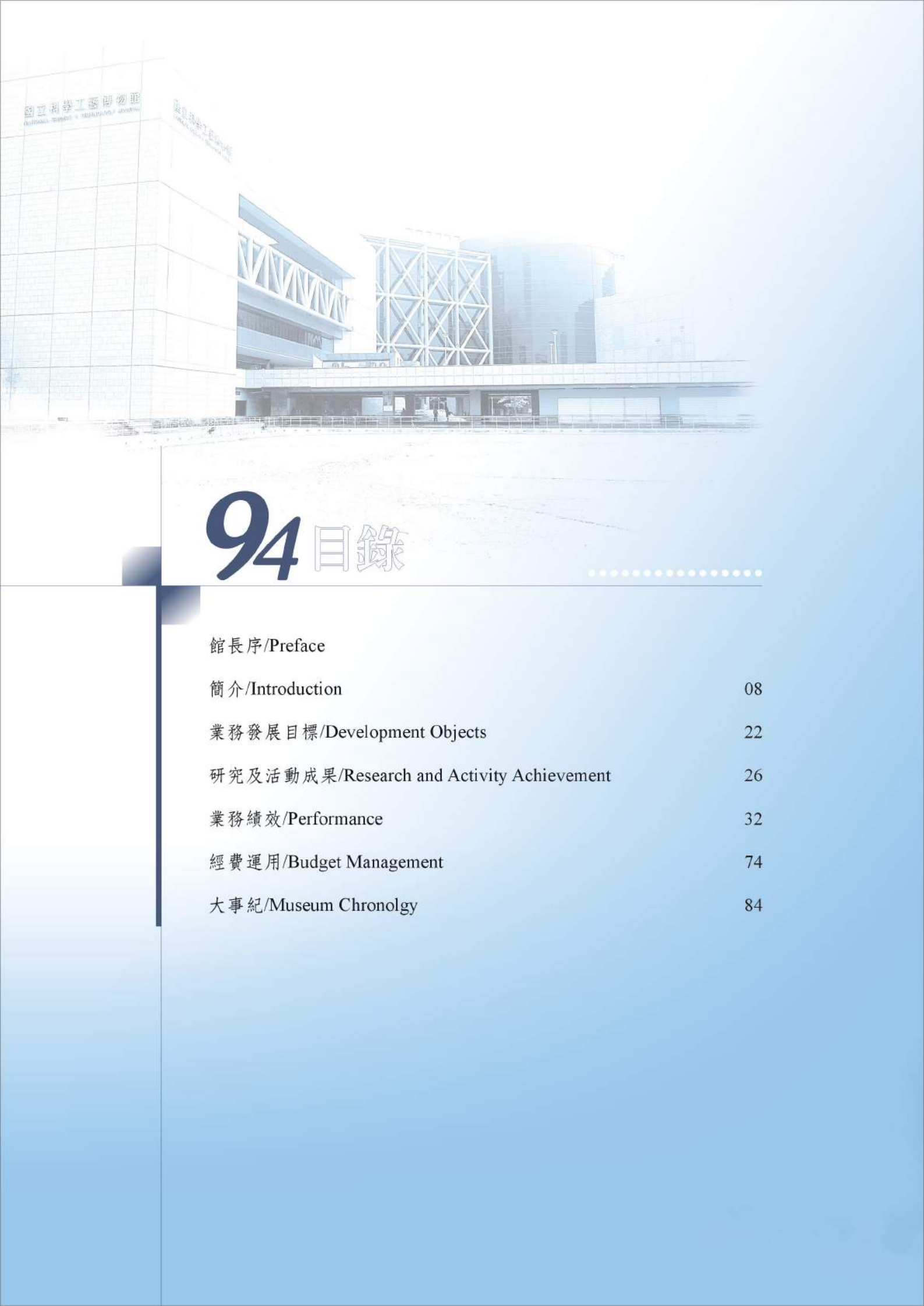
With the museum's earnest focus on humanitarian concerns, the NSTM conducted several studies on industrial and cultural heritage preservation, as well as on the management and care of collections. The NSTM collaborated with the Cabinet's Council for Cultural Affairs and a local cultural organization to investigate windmills and waterwheels used in salt pans and integrated external resources and university programs in related areas for the conservation and maintenance of the museum's collections and archives. In addition to provide services to the underprivileged communities in remote areas, the NSTM extended its science education and outreach programs to elementary and middle schools in aboriginal communities. For providing the most updated information to the general public, the NSTM integrated with social resources to hold a number of special exhibitions on such varied topics as avian flu, imported fire ants and nanotechnology to enable the public to cope with new matters in this ever-changing world.

With its ideal location in the metropolitan Kaohsiung and its resources of the large museum districts, majestic architecture, diverse exhibitions and programs, as well as the devotion of all the museum staffs, the NSTM has made significant progress in recent years in terms of the number of museum visitors, operating revenues, image and visibility. Hence, I sincerely expect that all the museum staffs can work together to build the NSTM not only as a multifunctional museum with promotion of the visiting rate and quality, but also a world-renown museum which utilizes creative thinking to integrate exhibition contents with the local development to shape its own features in the future.

Jhing-Fa Wang

Director-general

National Science and Technology Museum



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簡介

1 History

The National Science and Technology Museum (NSTM) was one of the central cultural facilities constructed in the “Project of County/City Cultural Center Construction” in The Twelve Construction Projects announced by the Executive Yuan in 1979. As the first museum of applied science on the island as well as the first national institute of public education in Southern Taiwan, the focus of the museum is to collect and study scientific and technological objects, hold exhibitions related to science and technology and promote education as well as provide the public with a place for leisure and lifelong learning.

Located on Jiouru 1st Road, Kaohsiung City (originally City Park No. 6), the museum covers 19.16 hectares of land. The buildings contain a total building area of 20,756 m² and the floor area is 114,355 m² with 36.89 meters of structural height.

- (1) North building: 15,313 m² of building area is used for the administration center, permanent exhibition halls, temporary exhibition halls, IMAX[®] 3D Theater, Multimedia World and maintenance and repair facilities as well as for gift shops.
- (2) South complex: 5,443 m² of building area is used for the library and audio-visual center, research center, auditorium, lecture theater and storage room.

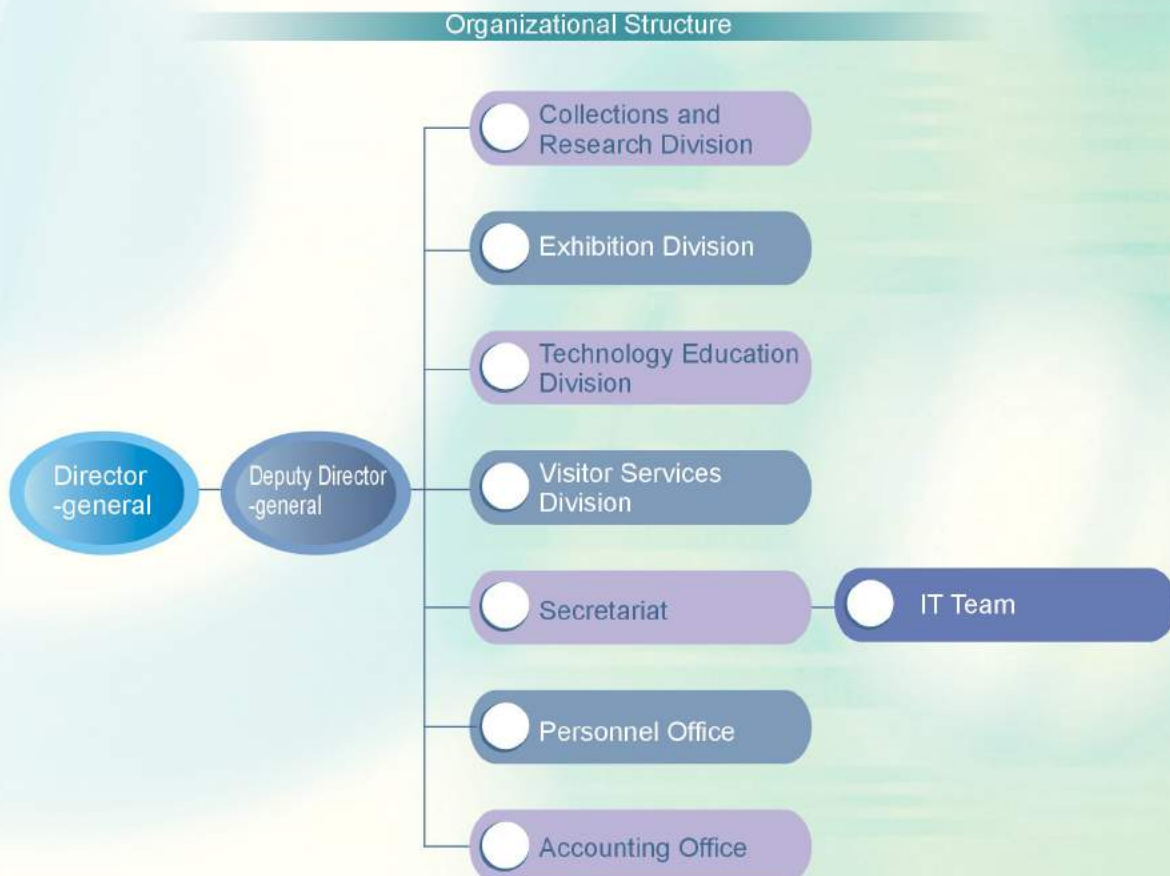
Brief Description of the Preparatory Process:

- | | |
|-----------------------|--|
| 1. July 1986 | The Planning Council for NSTM was established. |
| 2. November 1988 | The Executive Yuan approved the construction plan. |
| 3. October 2, 1989 | Construction of the museum commenced. |
| 4. January 1, 1997 | The museum was officially established with the approval of the Executive Yuan and the Ministry of Education. |
| 5. July 26, 1997 | The south complex was opened. |
| 6. September 21, 1997 | The museum park was opened. |
| 7. November 9, 1997 | The museum was opened to the public. |

2 Organization and Staffing

(1) Organization

In compliance with the temporary organizational rules of the NSTM and the organization chart stipulated and issued by the Ministry of Education on December 30, 1996, a director-general and a deputy director-general were placed over the Exhibition Division, the Technology Education Division, the Visitor Services Division, the Secretariat, the Personnel Office and the Accounting Office. To meet the development requirement of the museum, an IT team and a Collections and Research Team was established on July 16, 1998 and February 1, 2001, respectively. On August 5, 2003 the Ministry of Education approved the temporary organizational regulations which allowed the museum to officially establish the Collections and Research Division on September 1, 2003. This establishment was later agreed by the Examination Yuan on September 22, 2003.



(2) Number of Staff

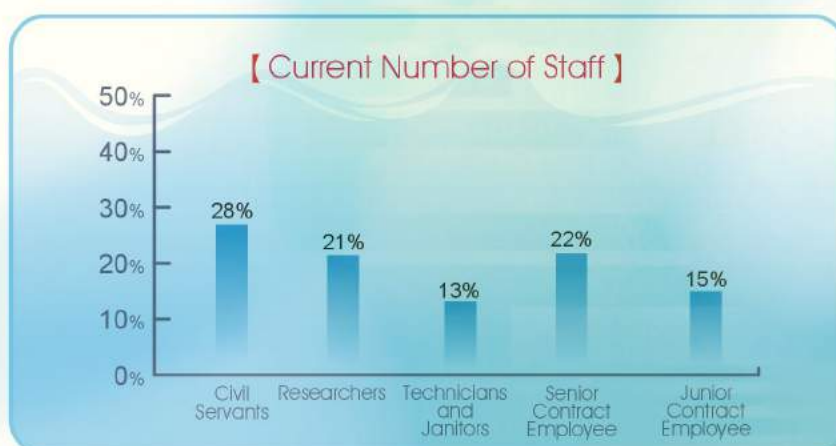
1. Statutory Staff

In accordance with the law, the museum is allowed to employ 40 civil servants, 31 researchers, 21 technicians and janitors and 52 contract personnel. The museum is allowed to employ a total of 144 staff members.



2. Current Number of Staff

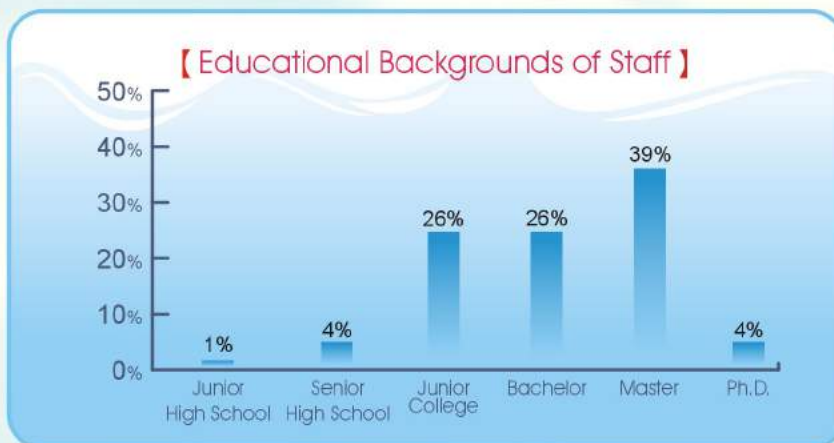
In compliance with the government's downsizing policy, the museum has stopped hiring contract personnel, technicians, and janitors. Currently, the museum employs a total of 137 people, including 39 civil servants, 29 researchers, 51 contract personnel and 18 technicians and janitors.



(3) Educational Backgrounds of Staff

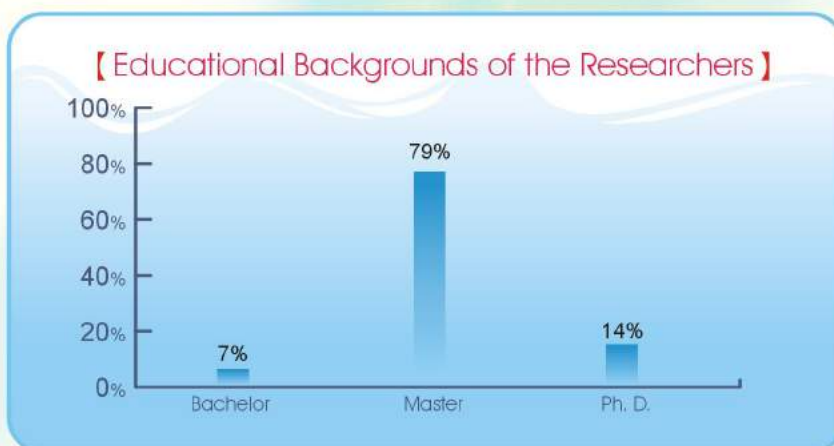
1. Educational Backgrounds

Currently, the museum employs a total of 137 people. Out of these, 6 staff members have Ph.D. degrees, 52 have master's degrees and 35 have bachelor's degrees (including those who graduated from police or military academy). 36 graduated from junior colleges, 6 from senior high schools and 2 from junior high schools.



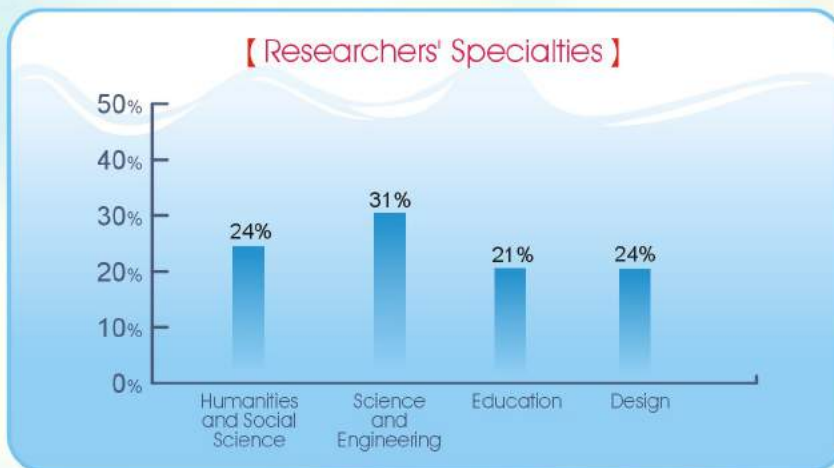
2. Educational Backgrounds of the Researchers

The museum currently employs a total of 29 researchers, including 4 with Ph.D. degrees, 23 with master's degrees and 2 with bachelor's degrees.



3. Researchers' Specialties

There are a total of 29 researchers, 9 specializing in science and engineering, 6 in education, 7 in design and 7 in humanities and social science.

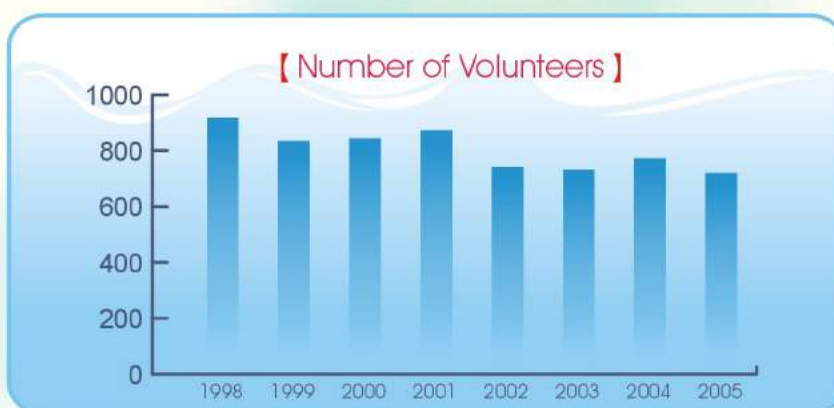


(4) Participation of Volunteers

1. The museum had a total of 750 volunteers in 2005.

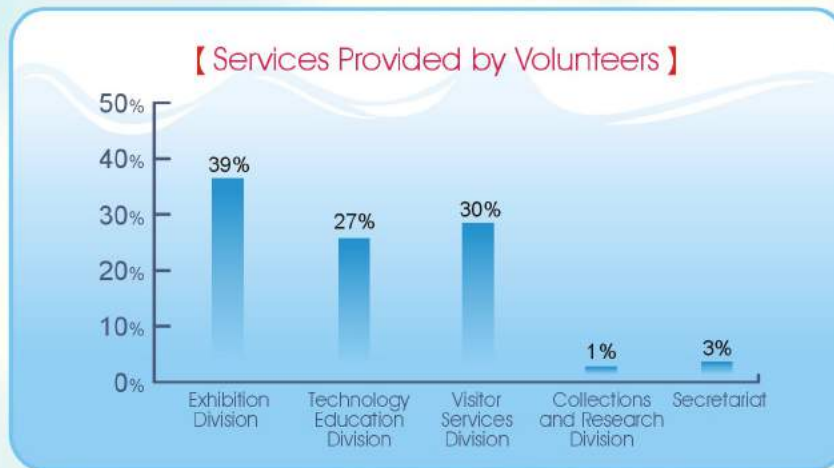
●●●●● Number of Volunteers ●●●●●

Year	1998	1999	2000	2001	2002	2003	2004	2005
Number	913	837	846	864	774	772	784	750



2. Services Provided by Volunteers

There are currently 750 volunteers providing 15 types of services; approximately 290 of whom are in the Exhibition Division, 202 in the Technology Education Division, 231 in the Visitor Services Division, 23 in the Secretariat and 4 in the Collections and Research Division.



3. Intelligent Museum Guides

Starting in January 2003, the National Science and Technology Museum (NSTM) initiated an innovative program called Intelligent Museum Guides in support of the Museum's interpretive exhibitions. Students from various graduate schools joined the program with recommendations from their professors. During the fourth phase of recruitment and recommendation in October 2005, 64 students applied to participate in the program. After training, practicing and testing, qualified students became official intelligent museum guides to serve NSTM visitors. In 2005, these intelligent museum guides provided 1,901 museum tours to the public and helped improve both the quality and quantity of the NSTM's interpretive services.





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業務發展目標

- 1 To reinforce technological collections management and research: continuation of holding conservation and maintenance seminars and improving the conservation environment, as well as strengthening research and applications for technological collections.
- 2 To establish an exhibition renewal mechanism and gradually alter exhibitions, so as to vitalize the exhibiting functions of the NSTM and make the NSTM a venue for displaying the industrial achievement of Taiwan as well as permanent establishment to record important industrial achievement.
- 3 To develop new teaching aids and combine resources from businesses, schools and society to organize more activities for technology education.
- 4 To enhance public services, utilize the power of the media as well as community resources and establish a diversified marketing strategy to increase the number of visitors.
- 5 To strengthen public safety around the museum and create quality visiting environment for better service.
- 6 To promote automation of administration affairs of the museum and provide life-long learning access on the Internet.
- 7 To enhance and increase Internet software and hardware in the museum for better efficiency.
- 8 To plan a digitalized library to provide the public with information from Internet databases and to create a specialized book repository for different research topics in the museum.
- 9 To strengthen cooperation among museums by holding various seminars and inviting guest speakers to improve research quality.





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研究及活動成果

1 Research Achievement

This year, the museum produced 30 journal papers, 21 conference papers and 40 research projects, among which museum staff was in charge of 21 and participated in 19 others. The museum also participated in 3 academic symposiums, 43 academic lectures, and issued 36 publications.

●●●●● Statistics of Research Achievement ●●●●●

Year		1998	1999	2000	2001	2002	2003	2004	2005
Types	Number of Papers								
Journal Papers		28	31	38	31	42	27	20	30
Conference Papers		1	3	2	5	5	11	22	21
Research Projects	Hosting	1	2	3	8	13	26	26	21
	Assisting	3	3	8	11	12	14	13	19
Publications	Books	3	7	11	26	8	13	14	10
	CDs	1	0	2	1	3	0	3	2
	Brochures	0	3	4	2	2	8	1	1
	Flyers	2	5	5	8	5	6	18	21
	Journals	6	6	6	7	7	1	2	2
Academic Symposiums		2	4	3	1	4	4	9	3
Academic Lectures (Educational Training Included)		51	42	50	30	49	58	59	43

2 Activities Held Outside the Museum

In 2005, a total of 116 activities were held outside the museum. These activities attracted 229,674 people.

Statistics of Activities Held Outside the Museum over the Years

Year \ Item	Lectures	Educational Activities	Exhibition Tours	Presentations / Demonstrations	Other Activities
1998	Number	1	0	0	0
	Participants	310	0	0	0
1999	Number	16	0	10	2
	Participants	7,390	0	16,000	90,000
2000	Number	3	0	0	1
	Participants	1,386	0	0	40,000
2001	Number	9	9	3	3
	Participants	4,158	16,291	360	80,000
2002	Number	44	7	29	5
	Participants	21,035	14,144	11,140	130,000
2003	Number	41	6	19	2
	Participants	18,970	16,578	16,578	30
2004	Number	57	13	3	27
	Participants	4,572	7,853	870	303,268
2005	Number	62	28	11	11
	Participants	2,755	23,023	14,920	4,976

Note: "Other activities" included radio interview and tour guides support





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業務績效

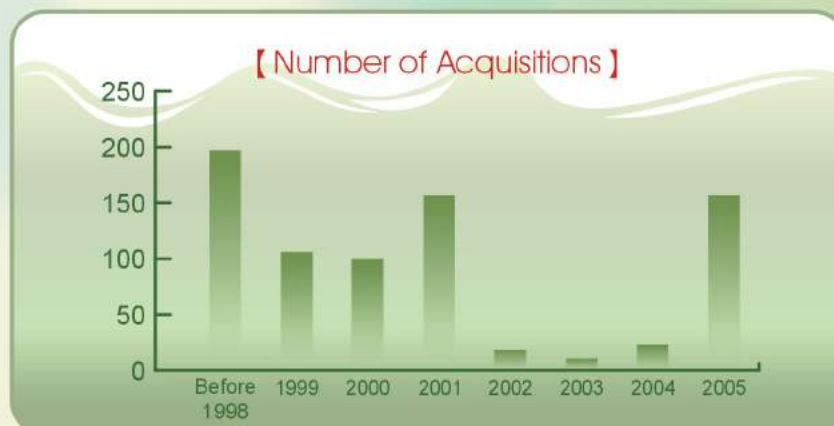
1 Collections and Research

(1) Carrying on Acquiring, Applying and Researching Collections

- 1 Four NSTM collection council meetings were held throughout 2005 to evaluate and assess collections, which approved 83 acquisitions, including 24 ones acquired through donations, 21 through fieldwork, 30 through purchase, and 8 through transfer or exchange.
- 2 For the year 2005, a total of 153 acquisitions had been registered, including 65 through fieldwork, 46 through purchase, 38 through donations, and 4 through transfer or exchange. In addition, the NSTM was loaned with 834 pieces of telecom relics from Chunghwa Telecom Co, the oldest and biggest telecommunication company in Taiwan.

Number of Acquisitions over the Years

Year	Before 1998	1999	2000	2001	2002	2003	2004	2005	Total
Number	199	104	93	163	18	5	29	153	764



(2) Major Achievement

1. Organizing Academic Events Related to the Issues of Collection Research and Cultural Heritage Preservation

- 1 Special Lecture: "Historic Site Conservation in Retrospect and Prospect: 50th Anniversary of the Death of Professor Phyllis Lin"

Co-organized by Shu-Te University of Technology, the special lecture was held on June 3, 2005. 5 scholars each from People's Republic of China and ROC(Taiwan) were invited to present their professional views on Lin's achievement, and 170 people attended this lecture.

2 Seminar on Industrial Relics Conservation and Maintenance

Co-organized by the Department of Cultural Heritage Conservation at National Yunlin University of Science & Technology (NYUST), the seminar was held from June 9-10, 2005. 7 domestic scholars and experts, including Dr. Gordon Turner-Walker, associate professor from the Department, were invited to present their views on the conservation of historic industrial machinery and equipment relics, and give a hands-on demonstration using the NSTM's collections. 136 technicians and professional staff from museums and related institutions in Taiwan attended the seminar.



Hands-on Demonstration

3 Storage in Progress : The Conference for Planning and Management of Museum Storage

Co-organized by the College of Letters and Cultural Heritage at Tainan National University of the Arts with support from the Chinese Association of Museums, the conference was held from October 27-28, 2005. 10 domestic scholars and experts, and Mr. Edward McManus, chief conservator of National Air and Space Museum, the Smithsonian Institution USA, were invited to give presentations at the conference. In total, 206 technicians and professional staffs form museums and related institutions in Taiwan attended the conference. A storage equipment fair was held in conjunction with the conference.



The Storage Equipment Fair



A Corner of the Exhibition

4 “Commemorating the 50th Anniversary of the Death of Professor Phyllis Lin” Special Exhibition

Co-organized by Shu-Te University of Technology, the special exhibition was held from June 3 through September 18, 2005, and was greatly appreciated by the public. The exhibition has toured to the National Taiwan Science Education Center since September 19, 2005 until the summer 2006.

5 Special Exhibition: “Industrial Heritage: An Approach to Map Taiwanese Industrial Past”

The special exhibition was toured to TADA at Taichung on June 25, 2005 and the Art Center of National Yunlin University of Science & Technology on September 15, 2005. It was the first time that the NSTM organized an exhibition in a higher education institute, and this provided students and the public in central Taiwan with an opportunity to gain an in-depth understanding of Taiwan's devotion to industrial and cultural heritage conservation.

6 The NSTM collaborated with the Council for Cultural Affairs and the National Archives Administration in publishing a book titled “Acquisition of, and Access to Scientific and Technical Archives”

7 The NSTM sponsored the Department of Physics at National Taiwan University to produce a documentary titled “The Physical World of an Old Glass Master” . A seminar was held in conjunction with the film premier to discuss the roles of masters and technologies in scientific development at NTU.

8 Co-sponsored with the Council for Cultural Affairs, Budaizui Cultural Society was entrusted to conduct a study on windmills and waterwheels used in salt pans. Budaizui was also commissioned to make a documentary and re-produce a salt pan windmill and waterwheel, which were on display at TADA at Taichung.



Windmill Displayed at the TADA

2. Conducting Studies Related to Collection Research, Conservation and Maintenance, and Archival Management

1 The NSTM entrusted Professor Hsu Tung, from the Department of Material Science and Engineering at National Tsing Hua University, to conduct an analysis on the materials deterioration of the NSTM's metalwork collections.

2 The NSTM entrusted Associate Professor Chen Jie-ying, from the Center for the Study of Popular Culture at Feng Chia University, to carry out a plan of acquisition and collection of relics showcasing the history of Taiwan's textile industry.

3 The NSTM entrusted Professor Lin Chung-hsi, from the Department of Cultural Heritage Conservation at National Yunlin University of Science & Technology, to conduct a research project titled “Establishing Research Methodology for Scientific Objects: Using Metrology Collections as Examples” . In addition to the project host, 8 staff from the NSTM also participated in the project, intensively interacted with professor Lin to carry out an workable result and progress each member's ability in research.

- 4 The NSTM entrusted Associate Professor Lian Wan-fu, from the Department of Cultural Heritage Conservation at National Yunlin University of Science & Technology, to carry out a project on the restoration of Tompkins Knitting Machine, one of the most important collections in the NSTM.

3. Organizing Exhibitions to Showcase the NSTM's Collections

Organizing exhibitions to showcase the NSTM's collections, such as printing and textile machinery, relics from Kaohsiung Ammonium Sulfate Co., salt pan windmills and waterwheels in the “Industrial Heritage: An Approach to Map Taiwanese Industrial Past” special exhibition, the loan collections from Chunghwa Telecom Co., laboratory facilities given by Dr. Samuel C.C. Ting, the winner of the 1976 Nobel prize in Physics, the academican of Academia Sinica, and use them to renew other permanent exhibitions.



No. 4 “Post-pay” Public Coin Telephone, made in 1960

4. Developing "Collection Management Information System"

Developing “Collection Management Information System” through which the public could have online access to the NSTM's collections and loan collections on telecom objects and integrating collection guidelines and online forms for better, simpler management.

5. Developing a Website for "Chat Online : Telecom History of Taiwan " Exhibition

According to the “NSTM's Rules of Governing Temporary Custody of Artifacts” , the Museum accepted 834 pieces of important objects in temporary custody from Chunghwa Telecom Co. A special exhibition, titled “Chat Online: Telecom History of Taiwan” , was co-organized to showcase those objects both at the Museum and online. It was the first time that the NSTM worked with a telecom company to develop a special website devoted to an exhibit and its clients.

6. Setting the "NSTM Resident Experts and Scholars Guidelines"

Setting the “NSTM Resident Experts and Scholars Guidelines” to recruit experts and scholars with special expertise and research interests in order to enhance the Museum's development and promote community outreach.

7. Integrating External Resources, Implementing Collection Conservation and Maintenance

- 1 The NSTM completed a draft plan for maintaining a knitting machine donated by Chung Shing Textile Co., and entrusted Associate Professor Lian Wan-fu, from the Department of Cultural Heritage Conservation at National Yunlin University of Science & Technology, to carry out a project on the restoration of the Tompkins Knitting Machine.
- 2 The NSTM entrusted Professor Hsu Tung, from the Department of Material Science and Engineering at National Tsing Hua University (NTHU), to conduct an analysis on the materials deterioration of the NSTM's metalwork collections. Professor Hsu used equipment and instruments from the NTHU Instrument Center under the National Science Council and the Preparatory Office for the National Center for Research and Preservation of Cultural Properties to complete the materials identification and deterioration analysis.
- 3 Co-organized by the Preparatory Office for the National Center for Research and Preservation of Cultural Properties, a seminar on metalwork conservation and maintenance was held from June 4 to 5, 2005. 30 people attended the seminar.
- 4 With professional and resource support from Tainan National University of the Arts and National Yunlin University of Science & Technology, the NSTM completed the cleaning and maintenance of 16 Chunghwa Telecom loan before being mounted up at the exhibition "Chat Online : Telecom History of Taiwan".
- 5 The NSTM drafted an agreement with the Department of Cultural Heritage Conservation at National Yunlin University of Science & Technology for training in scientific relics conservation and restoration techniques, and proposed a three year (2007-2009) training project to the Ministry of Education.

8. Visiting the Canadian Conservation Institute (CCI) for an Internship Program in the Theory and Practice of Scientific Relics Conservation Techniques

Two NSTM staff, Jason Huang and Li Tzung-da, visited the CCI and Canada Science & Technology Museum (CSTM) during August 22 to 26, 2005 to undertake training and internship in scientific relics conservation and restoration.

2 Exhibition Planning and Theater Management

(1) Integrating Resources in Order to Hold Temporary Exhibitions and Create Diverse and Substantial Museum Tours

- 1 For the year 2005, there were 31 temporary exhibitions; 6 of them were hosted by the NSTM and 25 co-organized with other institutions. The NSTM aims to maximize its resources by turning temporary exhibitions into permanent ones and vice versa, as required.
- 2 The NSTM commissioned two research projects: “Acquisition and Collection of Artifacts Highlighting the History of Taiwan's Tennis Racket Industry” , and “ Design and Planning of Oceanic Taiwan Special Exhibition” .
- 3 The NSTM held a seminar on exhibition planning and practice and printed the seminar proceedings. 80 people enrolled in the seminar.
- 4 The NSTM completed the update of a permanent exhibition hall – Children's Science Center. Partial updates were done in four other exhibition halls, including: Utilization of Water Resources, Transportation & Civilization, Air Navigation & Aerospace, and Power & Machines.
- 5 The NSTM completed the design and planning of two new exhibition halls: History of Industrial Development in Taiwan and Science Laureates.
- 6 The NSTM completed its first outdoor exhibition: Renewable Energy.
- 7 The NSTM completed the English translation of the descriptions of two exhibition halls: Air Navigation & Aerospace and Clothing & Textiles.

(2) Reinforcing Professionalism and Knowledge of Technical Staff and Improving Exhibition Quality

- 1 The NSTM continued the restoration of collections, with the accuracy of maintenance reaching 86%.
- 2 The NSTM implemented a new table quantifying its exhibition maintenance work in order to improve administrative efficiency.
- 3 The NSTM's maintenance personnel, for the first time, worked with curators from other countries to co-organize a special exhibition.

- 4 The NSTM held IMAX festival that attracted 26,316 people, an attendance rate reaching 218%. There were 8 movies in 2005 :
 3D : Bugs, L5 : The First City in Space, Wild Safari and Misadventure in 3D.
 2D : Taiwan : The Call of Life, The Young Black Stallion, Everest and Force of Nature.
- 5 The NSTM trained volunteers and student helpers to play back films in the IMAX[®] 3D theater in case of insufficient manpower. And there were less than 7 shows caused refund and machine breakdown.
- 6 A ninth show was added in the Museum's theater during weekends and holidays and the number of viewers increased by 23,145 for the year 2005.

●●●●● Statistics of Temporary Exhibitions ●●●●●

	1998	1999	2000	2001	2002	2003	2004	2005
By the Museum	1	0	4	4	1	9	4	6
Others	2	3	10	5	15	12	13	25

(3)Major Temporary Exhibitions

1. KARAKURI of Etogawa Japan

This special exhibition featured Japanese KARAKURI mechanized puppets during the Edo or the Tokugawa period (1600-1867). The Japanese KARAKURI puppets utilize subtle, abstract and diverse movements to evoke feelings and emotions. Visitors were able to appreciate representative KARAKURI dolls and toys from various regions of Japan. Co-sponsored by the Interchange Association Japan in Kaohsiung, the 8-day special exhibition was held from January 15 to 23, attracting some 24,000 visitors.

2. Formosa Satellite

The NSTM collaborated with Taiwan's National Space Organization to showcase the country's efforts and achievement in the development of aerospace technologies, in a special exhibition titled "Formosa Satellite" . It was a touring exhibition that offered the general public an opportunity to learn about Taiwan's space programs, as well as the accumulated experience and academic research in the fields of aerospace and satellite technologies. The "Formosa Satellite" was held from January 27 through June 12, 2005 and attracted a total of 35,035 visitors. It then toured to the Little Ding-Dong Science Park in Hsinchu, the very first time that a NSTM exhibition toured to a private organization.

3. Exploring the 90% Unknown: Samuel C.C. Ting and the Particle

In celebration of “The World Year of Physics 2005” , as a tribute, the NSTM organized a special exhibition titled “Exploring the 90% Unknown: Samuel C.C. Ting and the Particle” . This exhibit explored the perpetual human quest into the unknown, as well as the observations and interpretations of nature by humanity from ancient to modern times. The exhibition introduced visitors to instruments and technologies used in physics studies, using the research of Dr. Samuel C.C. Ting, an academician of Academia Sinica. On Dr. Ting's recommendation, the exhibition showcased several cutting-edge experimental devices and models, including a CERN accelerator made of copper, a model of the L3 detector, an entrance lobby model, and a BGO calorimeter. The exhibition was held from April 30 through October 23, 2005 attracting some 96,000 visitors.

4. Magic Forest

“Magic Forest” was a summer exhibition co-sponsored by the Commercial Times, which created a “Magic Tale Forest” as its main scenario. Visitors passed through five zones in the forest that were guarded by ferocious beasts and poisonous plants, and they needed to learn all the tricks in order to become a qualified “magic raider” . While exploring the magic forests, participants were also able to gain basic knowledge related to nature, biology, math, physics and chemistry. The “Magic Forest” exhibition was held from June 18 to August 28, 2005 and had a total of 74,381 visitors.

5. Taiwanese Cultural Festival: Digital Treasures of the Island

Taiwanese Cultural Festival is an annual, 3-day event held in Vancouver, Canada that introduces diverse Taiwanese cultures to the Canadian public. Co-sponsored by Taiwan's National Science Council (NSC), the 2005 Taiwanese Cultural Festival included a Taiwan Pavilion that showcased key high-tech industries and important technological developments of the island, such as semiconductors, motorcycles, biotechnologies and digital creations. To ensure professionalism and excellent quality of the exhibition, the NSC entrusted the NSTM with the planning and designing work. The 2005 Taiwanese Cultural Festival was held from September 3 to 5 and some 50,000 people visited the exhibition.



6. Tobacco Control Exhibition

Co-organized by the Bureau of Health Promotion under the Department of Health, Executive Yuan, the “Tobacco Control Exhibition” displayed the accomplishments of the bureau's anti-smoking campaigns in recent years. It also served as a warm-up to a special exhibition promoting the awareness of tobacco hazards among youth; it would tour island-wide starting from June 2006. The “Tobacco Control Exhibition” was held from October 6, 2005 through January 8, 2006, attracting 47,685 visitors in total.

7. Taiwan Agricultural Biotechnology: New Type of Rice Brings Happiness



Subsidized by the Council of Agriculture, Executive Yuan, this small-scale exhibition was held in the hallway of the Biological Technology Hall on the fourth floor of the NSTM, and it included two parts. “Rice Paddies at Sunrise” showcased the varieties and brands of rice in Taiwan, illustrating the importance of crop production resumes, and introducing rice genome sequencing and Taiwan's rice culture. “Beauty at Night” introduced transgenic fluorescent applications. The exhibit was held from October 25, 2005 through March 31, 2006.

8. Grand Exhibition of Ancient Arms and Armor

This exhibit showcased major cold arms and armor and presented weapons production techniques in chronological order, from antique wooden and stone arms to modern, artistic swords. On loan from museums and private collectors, some 800 pieces of arms and weapons, worth NT\$200 million in total, were displayed. Visitors were able to appreciate the beauty of antique weapons and experience traditional cultures. The exhibition was held from November 12, 2005 through March 12, 2006.



9. New Crisis of Avian and Human: Exhibition of Avian Flu

Avian flu was a global health issue throughout 2005, and it was expected that it would reach a new peak in the spring of 2006. To educate the public about avian flu prevention and health advice, the NSTM organized a special exhibition on avian flu, with support from the Bureau of Animal and Plant Health Inspection and Quarantine under the Council of Agriculture and the Center for Disease Control under the Department of Health. The exhibition was held from December 8, 2005 through April 30, 2006.

10. Future Face

The “Future Face” exhibition curated by Professor Sandra Kemp, Director of Research at the Royal College of Art was co-organized by the NSTM, Royal College of Art, National Museum of Natural Science and the British Council, Taipei. Set in a fluorescent reddish pink and modern atmosphere, this exhibition juxtaposed more than 200 historical and contemporary photographs, paintings, multimedia installations and objects from the arts, science and technologies from six countries (Britain, the U.S., Japan, Germany, Mainland China and Taiwan), and introduced the philosophy, history and future development of faces. The exhibition was held from December 14, 2005 to March 12, 2006.



11. Chat Online: Telecom History of Taiwan

Co-sponsored by Chunghwa Telecom, Co., Ltd., this exhibition highlighted the development of Taiwan's telecom industry over the past century and showcased several hundred pieces of telecom objects and historical pictures that could be traced back to the early 1900s. The exhibition was held on December 28, 2005 and will continue for three years.



12. Renewable Energy

With special funding from the Ministry of Education, the Renewable Energy Exhibition was completed and has been open to the public since November 2005. This permanent outdoor exhibition highlights Taiwan's applications of renewable energy and creates an educational and recreational exhibition environment for the visitors to experience the use of renewable energy at any time. Landscape and garden design are incorporated into the outdoor exhibition, with special illuminating effects at night. The Renewable Energy Exhibition is a unique achievement of the NSTM that is not only educational but also fun for all age groups.

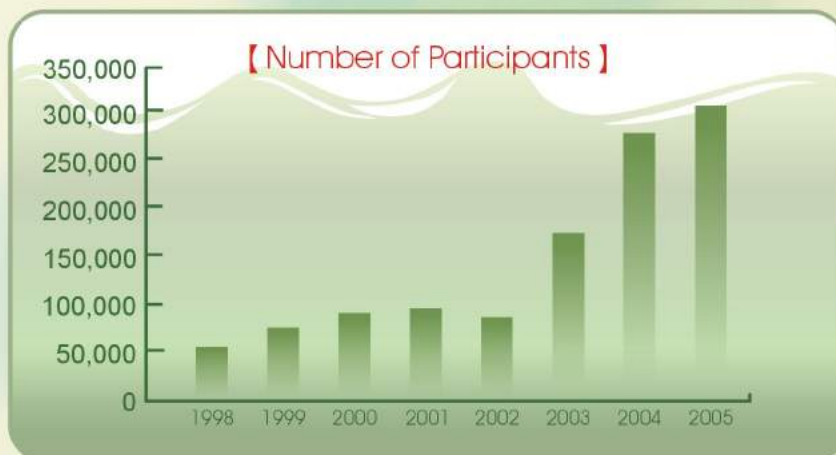
3 Promotion of Science and Technology Education

(1) Various Science and Technology Education Programs

In the year 2005, the museum held 1,418 technology education activities and attracted 309,189 participants.

Statistics of Science and Technology Education Activities

Year Item	1998	1999	2000	2001	2002	2003	2004	2005
Scheduled Programs	564	636	753	970	741	997	977	1,418
Number of Participants	54,196	79,431	92,437	94,551	87,070	171,154	277,083	309,189



(2)Major Achievement

1. Educational Activities for “Bicycle-riding on a High-wire”

Have you ever seen a circus performer riding a bicycle on a high wire? In conjunction with the worldwide celebration of the 100th anniversary of Einstein's publication of the theory of relativity, the NSTM organized a series of physics-related activities throughout 2005. Among them, the NSTM designed and created a high-wire bicycle riding activity using the principle of tumbler toys, which immediately became an attention grabber within the Museum. Any visitor under 90 kg in weight and over 135 cm in height could try the activity as the bicycle was very safe and risk-free of falling or even swinging from side to side. From the opening to the public in May 2005 till the end of the year, more than 9,000 visitors have tried the high-wire bicycle riding activity.

2. 2005 Pingtung Aviation Fair

The NSTM was invited by the Civil Aeronautics Administration under the Ministry of Transportation and Communications to participate in the 2005 Pingtung Aviation Fair. The Museum designed a series of adventure games and hands-on activities to increase youth's interest in aviation and aerospace technologies and provided publicity for the NSTM. The fair was held from December 17 to 18, 2005, attracting some 10,000 participants.



3. Educational Activities for “Segway-riding”

Wooden spinning tops and throwing tops are toys often played during Chinese folk festivals and celebrations. Gyroscopes are an advanced version of tops used to navigate aircrafts and submarines. Segway® is a two-wheel vehicle that uses a gyroscope for stabilization. To provide the public with a chance to experience the unique Segway “human transporter” riding, the NSTM purchased a Segway scooter and organized a series of hands-on activities. The Segway scooter responded when the rider moved forward, backward, or stood still. Hands-on activities allowed participants to explore physical phenomenon, such as moments of inertia and conservation of angular momentum. In total, there were 47 events and activities throughout 2005, attracting 11,295 visitors.

4. Chatting with Robot Pinocchio

Robot Pinocchio is a figure that can make facial, emotive expressions. Since its launch at the Children's Science Center in January 2005, it has quickly become an attention getter, particularly among young visitors. Robot Pinocchio can raise its eyebrows and wink its eyes. When its nose grew longer, children often laughed and shouted, "Oh, Pinocchio is telling a lie!" The establishment of Robot Pinocchio enabled children to learn in a natural, enjoyable environment. For the year 2005, there were 454 related activities, and a total of 29,764 people attended.



5. Science Education Activities for the Elementary and Junior High Schools Located in Aboriginal Communities

In line with the Ministry of Education's policy of strengthening social support for aboriginal peoples, the NSTM held a series of events to encourage elementary and junior high schools in aboriginal communities and remote areas to make full use of social and educational resources. 2 seminars were held in May 2005, and 36 principals attended to discuss improvements in science education for elementary and junior high schools in aboriginal communities. 6 events were held in 13 elementary schools in Pingtung County and Kaohsiung County in May, October and November respectively and a total of 2,381 people attended. In addition, a 5-day summer science camp was held in central Taiwan, and 40 children from the Bunun Tribe and the Atayal Tribe in Nantou County participated. In December, the NSTM organized a "Science, Art and Creativity Experience Activity" with Teco Technology Foundation in Nantou County, and some 600 teachers and students of aboriginal tribes attended.



6. Fire Ants

This exhibition presented the risks attending the spreading of red imported fire ants, through diverse demonstrations and interesting hands-on science education activities that aimed to raise the public's awareness about the prevention and control of fire ants. The exhibition focused on red imported fire ants and extended to other types of ants and insects. The exhibition was held from November 2, 2004 through September 30, 2005, attracting some 110,000 visitors.



7. The Science World of 10⁻⁹ Meter

The concept of nanotechnology was first introduced to the market about two decades ago. Since then, nanotechnology has been applied in a wide range of fields, and many consumer products claim to provide the benefits of nanotechnology. However, a majority of the general public and students do not know what a nanometer is and what the implications of nanotechnology are. As the first museum of applied science in Taiwan, the NSTM took on the responsibility to design an exhibition introducing the concept and development of nanotechnology, by exploring its impacts on human society and the environment. The exhibit used multimedia applications and hands-on activities to explain complex nanotechnology of the 21st century in simple terms. Co-organized by the NSTM and the Center for Nano-Human Resource Incubation under the Ministry of Education, the exhibition was held from March 1 through August 31, 2005, and a total of 26,090 people visited the exhibition.



8. Activities Related to the Exhibitions

- ◎ “2005 Physics Series” : 18 high-wire bicycle riding activities served 9,004 people; 91 Physics Carnival activities attracted 31,021 people and 2 lectures served 155 people.
- ◎ “Exploring Physics Expo” : 14 science education activities attracted 110,179 people; 7 lectures served 767 people and 6 teacher training seminars served 152 people.
- ◎ Summer and winter camps: 47 camps attracted 2,270 people.
- ◎ “Children's Science Center” series: 602 activities served 38,011 people, including “Optics Activities” , “Amazing Electricity” , “Chatting with Pinocchio” , and “Science in Stories” .
- ◎ “2005 International Symposium on Sustainable Development of Air Quality “ served 300 people and 8 “ Discussions on Education Seminar” attracted 302 people.
- ◎ “Science Exploration Center” : 34 educational activities served 1,932 people.
- ◎ “ Teacher Training Seminar” : 31 seminars served 1,166 people.
- ◎ “ 24th Elementary and Junior High School Science Fair” : 2 science education activities attracted 1,900 people
- ◎ “Segway Riding” : 47 activities served 11,295 people.
- ◎ “ Mini-train Riding” : 132 holiday activities served 25,821 people.
- ◎ “Serial Lectures” : 45 lectures served 3,888 people.
- ◎ 4 educational seminars for promoting “ The 5th High School Innovation Competition Using High-Temperature Superconductors for Magnetic Levitation” served 471 people.
- ◎ “Visit the NSTM Project” — hands-on science activities, which were by appointment-only, were held 80 activities and served 5,514 people.



- ◎ Introduction to Digital Archive Resources – Experiencing Printing Technology was held 4 activities which served 2,200 people, including “2005 Kaohsiung 3C Fair” , “2005 Fall Tainan 3C Fair” , “2005 Digital Archive Authorization and Achievement Presentation” and “13th Taipei International Book Fair” .
- ◎ “Services Outside the NSTM” : 39 events served 37,746 people, including “2005 Tainan Elementary and Junior High School Science Fair” , “2005 Tainan County Science Creativity Expo” , “2005 Pingtung Aviation Fair” , “Kaohsiung Travel & Tourism Fair” , “Educational Seminars for Promoting the High School Innovation Competition Using High-Temperature Superconductors for Magnetic Levitation” , “Summer Camp for Aboriginal Children” and “2005 Supporting Science Education for Elementary and Junior High Schools in Aboriginal Communities Located in Remote Areas of Southern Taiwan” .
- ◎ Other science education activities for the special exhibitions: A total of 106 programs were provided to 10,795 people
 - * DNA of Paper
 - * 2005 National Environmental Protection Creativity Expo
 - * Renewable Energy
 - * Tobacco Control
 - * Future Face
 - * Formosa Satellite
- ◎ 13 competitions attracted 4,125 contestants.
 - * The 2005 High School Competition of Mechanics
 - * The 2005 World Robot Olympiad Competition
 - * National Contest of Spaghetti Houses
 - * SpringSoft Competition of Creativity Technology for Domino Effect
 - * The 6th National College and University Student Creativity Demonstration Contest
 - * The 4th High School Innovation Competition Using High-temperature Superconductors for Magnetic Levitation
 - * Buzzer Rain Gauge Creativity Contest



4 Public Services

(1) Increase the Number of Visitors by Enhancing the Quality of Public Facilities and Services

With locally contributed resources, the museum held community activities to establish an efficient interaction mechanism. Education and training programs along with tours were provided to raise the professionalism of the staff. The museum also planed to adopt diversified marketing strategy to attract more visitors. This year, a total of 1,516,473 people visited the museum, which was 20.7% increased by comparing with the last year.

●●●●● Statistics of Visitors ●●●●●

Year	Exhibition Halls	IMAX [®] 3D Theater	Multimedia World	Charged Temporary Exhibitions	South Complex	Outdoor Activities	Total Number of Visitors
1998	860,593	332,993	0	50,654	101,584	134,992	1,480,816
1999	657,833	255,188	0	0	114,135	15,814	1,042,970
2000	659,409	241,108	8,653	156,480	107,908	46,433	1,219,991
2001	460,152	168,313	16,610	1,925	107,653	89,363	846,149
2002	489,756	208,288	1,402	134,278	131,093	71,420	1,036,237
2003	469,200	160,457	327	0	74,677	236,919	941,580
2004	720,935	204,811	6,120	142,223	103,850	78,967	1,256,906
2005	669,391	245,853	10,553	171,928	121,937	296,811	1,516,473



(2)Major Achievement

1. Excellent Guided Tours and Robot Shows

Following daily robot shows, a hands-on science performance is offered to demonstrate scientific concepts. The NSTM also creates a monthly topical guided tour “Open Your Eyes” in holidays, to give an in-depth introduction to the Museum's exhibitions and events which provide the visitors plentiful and pleasant visiting experiences.

●●●●● Visitors Served by Guided Tours & Robot Shows Over the Years ●●●●●

Year	1998	1999	2000	2001	2002	2003	2004	2005
Guided tours	146,396	107,296	153,469	88,325	80,254	95,254	138,679	136,953
Robot shows	38,710	23,603	23,646	26,588	35,946	32,551	63,639	58,122
Total	185,106	130,899	177,115	114,913	116,200	127,805	202,318	195,075

2. Outreach Programs

The NSTM takes the initiative in supporting exhibitions and guided tours hosted by other organizations outside the Museum. For the year 2005, the NSTM sent its robot guide and professional interpretive staff to support 3C fairs held in Taipei, Taichung and Tainan, and helped more than 420,000 people. The NSTM supported the 2005 Yilan International Children's Folklore and Folk-Game Festival, attracting a total of 189,718 visitors. The NSTM offered 43 special lectures in conjunction with the “Technology, Humanity and Art Seminar” hosted by Eslitebooks, and served a total of 1,415 participants.

3. Marketing and Promotional Events

In cooperation with special exhibitions, major festivals and instructional activities of the Ministry of Education, the museum held 150 marketing and promotional events this year.

●●●●● Statistics of Marketing and Promotion Activities ●●●●●

Types Year	Special Exhibitions	Festivals	Concerts	Co-organized or Assisted Activities	Community Activities	Community Movie Previews	Total
2001	19	3	54	14	18	18	126
2002	84	1	12	8	5	19	129
2003	19	3	9	60	10	10	111
2004	27	2	11	55	0	30	125
2005	43	3	2	72	1	29	150

4. Community Activities to Strengthen Community Relationship

29 movie preview activities were held for residents of the 14 neighborhoods near the museum which attracted a total of 5,456 people. From February 25 to March 6, 2005, the two movies “L5: The First City in Space” and “Everest” attracted 2,450 people; from September 1 to 11, 2005, the two movies “Bugs!” and “The Young Black Stallion” attracted 1,868 people. From December 15 to 25, 2005, the two movies “Wild Safari 3D: A South African Adventure” and “Misadventure in 3D” attracted 1,138 people. Residents in neighborhoods near the museum may visit the exhibition halls for free with proper proof of identification. This policy allowed a total of 10,842 people visited the museum throughout 2005. A meeting was held on March 8 to invite suggestions from chiefs and representatives of the 14 neighborhoods near the museum and exchange ideas about community outreach and promotional packages.

5. Media Release and Marketing Strategies

Through press conferences, news releases and participation in media events, the museum worked to communicate the information about all of its special exhibitions and activities to the public and established good relationships with the mass media. This year, the press reported news related to the museum 747 times.

●●●●● Press Coverage Statistics ●●●●●

Year	1998	1999	2000	2001	2002	2003	2004	2005
Number	502	308	515	292	506	546	783	747

●●●●● Press Coverage Statistics for 2005 ●●●●●

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Media													
News-paper	110	22	68	83	51	69	72	72	43	36	69	52	747

6. Resources Presentation and Discount Programs for Different Groups

The NSTM offers different promotion packages for various groups and communities, and encourages teachers and students to use the Museum's resources. Promotional tickets are sold at libraries, and the museum's website is hyperlinked to BBS and websites of various schools and colleges. The NSTM's volunteers went through training to promote museum events and activities on campus. For the year 2005, the volunteers did 17 promotions at various campuses and explained the museum's services to more than 2,000 students and teachers.

7. Integrating Resources of Society

This year, the NSTM received social resources from 16 institutions, including National Sun Yat-sen University, Eslitebooks, BAIS Education & Technology Co., Ltd., Chunghwa Telecom, Kiss Radio, National Education Radio, Cyberccn, Ju Percussion Music School, Hong Tau Art Group, EZ-NIGHT Band, Henan Operal Troupe of National Guoguang Opera Company, Kaohsiung Taiwanese Opera Troupe, The Motion Exhibition of Taiwan High Speed Rail, National Kaohsiung Normal University, Yilan County Government and We Hong Lion Dance Troupe. The combined financial resources were equivalent to about NT\$7,726,000.

8. Cooperation with Schools to Fully Utilize Social Resources

The NSTM offered winter and summer internship programs for college students, and students from senior high schools and vocational schools, can also apply to provide services in the NSTM after class. In total, 385 students volunteered throughout 2005.

9. Participating in the International Council of Museums

The NSTM participated in the International Study of the Impact of Science Centers/ Museums on Their Local Communities. The NSTM was one of 199 science centers and related institutions listed in the survey. The findings of the study were published on the websites of major international science organizations such as the Association of Science-Technology Centers (ASTC) and the Asia Pacific Network of Science & Technology Centers (ASPAC).

10. Activities for “The 2005 Lifelong Learning Festival : Science and Life ”

In line with the “ 2005 Festival of Lifelong Learning – Science and Life ” sponsored by the Ministry of Education, the NSTM held 12 science-related events from July 1 to 31, which attracted 434,853 participants in total.

11. New Venue for Street Performers

The plaza outside the NSTM became a popular venue for street performers, musicians and artists. In total, 110,208 people visited and enjoyed a variety of fine performances at the plaza throughout 2005. 12 “Sci-Tech for Fun ” series of activities were held during the summer of 2005, attracting 16,472 visitors.



The background of the cover is a soft, yellowish-green gradient. In the upper right, there is a faint, semi-transparent image of a globe with a grid of latitude and longitude lines. Below the globe, there are soft, white, fluffy clouds. The overall aesthetic is clean and professional.

2005 Annual Report

經費運用

1 Overview of Disbursement

- (1) The budget for the year 2005 was 290,634,000 NT dollars, which included 202,961,000 NT dollars for general administration, 87,173,000 NT dollars for exhibition and operational costs and 500,000 NT dollars as the first reserve fund.

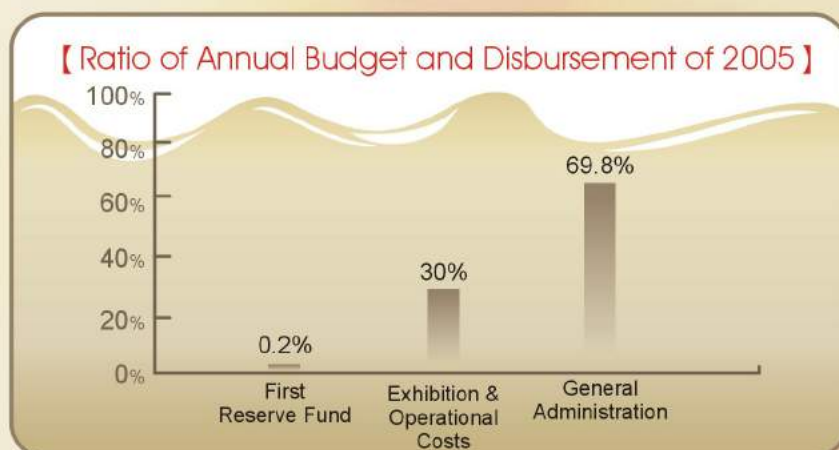
●●●●● Spreadsheet of Annual Budget and Disbursement ●●●●●

Unit: thousand NT dollars

Item Year	General Administration			Exhibition and Operational Costs	General Architecture and Equipments	First Reserve Fund	Total
	Subtotal	Personnel	Business				
1998	99,905	37,050	62,855	86,027	580,171	-	766,103
1999	144,771	102,933	41,838	162,201	148,850	-	455,822
2000	216,492	151,398	65,094	306,895	53,200	500	577,087
(One Year)	(144,328)	(100,932)	(43,396)	(204,597)	(35,467)	(333)	(384,725)
2001	147,120	103,375	43,745	172,384	800	500	320,804
2002	208,742	117,060	91,682	96,461	-	500	305,703
2003	199,413	117,311	82,102	95,113	-	500	295,026
2004	201,164	115,600	85,564	101,722	-	500	303,386
2005	202,961	118,146	84,815	87,173	-	500	290,634

Notes: 1. The year 2000 actually started from July 1, 1999 and ended on December 31, 2000

2. Source: Annual Budget Statements



(2) Budget Allocation of “Exhibition and Operational Costs”

A total of 87,173,000 NT dollars was allocated to this project. 14,736,000 NT dollars of which was allocated to the collections and research of technological objects, 38,062,000 NT dollars for exhibition planning and research, 11,943,000 NT dollars for public affairs and guided tours, 7,750,000 NT dollars for the promotion of books and audio-visual media as well as information presentation and processing, and 14,682,000 NT dollars for the promotion of science and technology education.

●●●●● Budget Allocation of Exhibition and Operational Costs ●●●●●

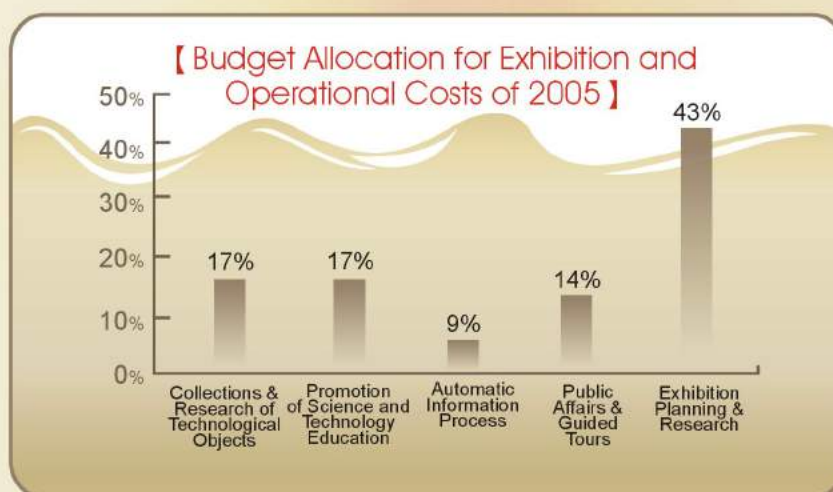
Unit: thousand NT dollars

Item Year	Collections & Research of Technological Objects	Exhibition Planning & Research	Public Affairs & Guided Tours	Promotion of Books & Audio-Visual Media and Information Presentation & Processing	Promotion of Science and Technology Education	Total
1998	2,062	13,011	9,039	16,400	45,515	86,027
1999	2,222	61,244	39,786	14,100	44,849	162,201
2000	19,376	112,859	73,061	29,484	72,115	306,895
(一年)	(12,917)	(75,239)	(48,707)	(19,656)	(48,077)	(204,597)
2001	10,042	62,657	44,754	15,040	39,891	172,384
2002	8,983	36,679	18,415	12,567	19,817	96,461
2003	8,395	40,499	16,515	11,469	18,235	95,113
2004	8,200	37,422	13,000	12,500	30,600	101,722
2005	14,736	38,062	11,943	7,750	14,682	87,173

Note: 1. The year 2000 actually started from July 1, 1999 and ended on December 31, 2000

2. Source: Annual Budget Statements

3. From the year of 2005 the project title “Promotion of Book and Audio-Visual Media and Information Presentation & Processing” has been changed to “Automatic Information Process”



2 Overview of Revenue

The annual revenue of this year reached 153,709,000 NT dollars, including 51,429,000 NT dollars of real income, 7,344,000 NT dollars from payment for science and technology education activities and 94,936,000 from subsidies. Among which, the real income included 317,000 NT dollars from compensation, 36,000 NT dollars from supply revenue, 14,601,000 NT dollars from the admission fees of exhibition halls, 16,961,000 NT dollars from the IMAX®3D Theater, 18,352,000 NT dollars from ground lending and others and 1,162,000 NT dollars from miscellaneous revenue.

Statistics of Annual Revenue

Unit: thousand NT dollars

Item Year	Compensation	Supply	Admission of Ground and Equipments			Miscellaneous Revenue	Total
			Exhibition Halls	IMAX®3D Theater	Ground Lending and Others		
1998	22,142	511	47,275	13,583	16,476	601	100,588
1999	1,049	77	30,250	17,537	24,537	3,993	77,443
2000	268	259	35,518	25,852	15,962	1,162	79,021
2001	481	79	15,169	10,692	11,513	752	38,686
2002	572	49	17,213	12,359	12,874	801	43,868
2003	231	76	13,811	9,198	12,698	326	36,340
2004	245	109	18,201	14,097	13,946	647	47,245
2005	317	36	14,601	16,961	18,352	1,162	51,429

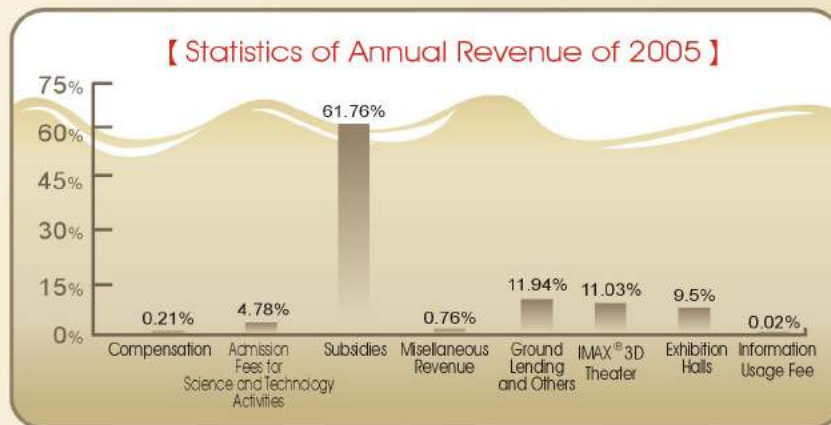
Note: 1. The year 2000 actually started from July 1, 1999 and ended on December 31, 2000
 2. Source: Annual Final Report, Statistics of Revenue of Exhibition Halls and IMAX®3D Theater
 3. From the year of 2005 "Supply" has been changed to the "Information Usage" Fee

Statistics of Annual Revenue

Unit: thousand NT dollars

Item Year	Real Income	Science & Technology Education Activities(A)	Subsidies (B)	Total (C)	Final Accounts (D)	Income/ Expense Ratio (%)
1998	100,588	918	8,769	110,275	760,600	14.32%
1999	77,443	1,300	16,850	95,593	428,109	21.42%
2000	79,021	6,270	16,926	102,217	547,450	17.91%
2001	38,686	6,228	6,762	51,676	305,937	16.20%
2002	43,868	6,544	20,745	71,157	288,824	22.51%
2003	36,340	2,132	28,548	67,020	287,695	21.05%
2004	47,245	1,676	105,078	153,999	301,398	37.73%
2005	51,429	7,344	94,936	153,709	286,869	39.50%

Note: 1. The year 2000 actually started from July 1, 1999 and ended on December 31, 2000
 2. Sources: (1) annual real income: Annual Final Statements (2) fee for science and technology education activities: ledger of collection payments in the accounting book (3) subsidies: ledger of collection payments in the accounting book
 3. Income/Expense Ratio=C/(A+B+D)



3 Budget and Implementation

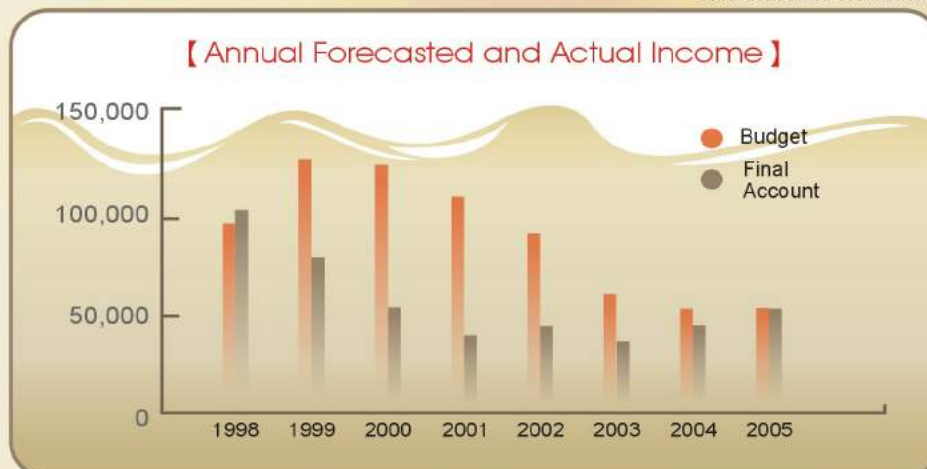
●●●●● Annual Forecasted and Actual Income ●●●●●

Unit: thousand NT dollars

Item Year	Total			Compensation Income		Supply		Ground Lending and Others		Miscellaneous Revenue	
	Budget	Final Account	Implementation Rate	Budget	Final Account	Budget	Final Account	Budget	Final Account	Budget	Final Account
1998	93,950	100,588	107%	500	22,142	600	511	92,800	77,334	50	601
1999	124,656	77,443	62%	500	1,049	500	77	123,106	72,324	550	3,993
2000 (One Year)	183,654 (122,435)	79,021 (52,682)	43%	500 (333)	268 (179)	500 (333)	259 (173)	182,604 (121,736)	77,332 (51,555)	50 (33)	1,162 (775)
2001	106,407	38,686	36%	500	481	500	79	105,357	37,374	50	752
2002	89,080	43,868	49%	500	572	500	49	88,030	42,446	50	801
2003	59,003	36,340	62%	500	231	500	76	57,953	35,707	50	326
2004	51,664	47,245	91%	500	245	100	109	50,564	46,244	500	647
2005	52,025	51,429	99%	300	317	80	36	51,345	49,914	300	1,162

Note: 1. The year 2000 actually started from July 1, 1999 and ended on December 31, 2000
 2. Sources: Annual Budget Statements and Final Statements

Unit: thousand NT dollars



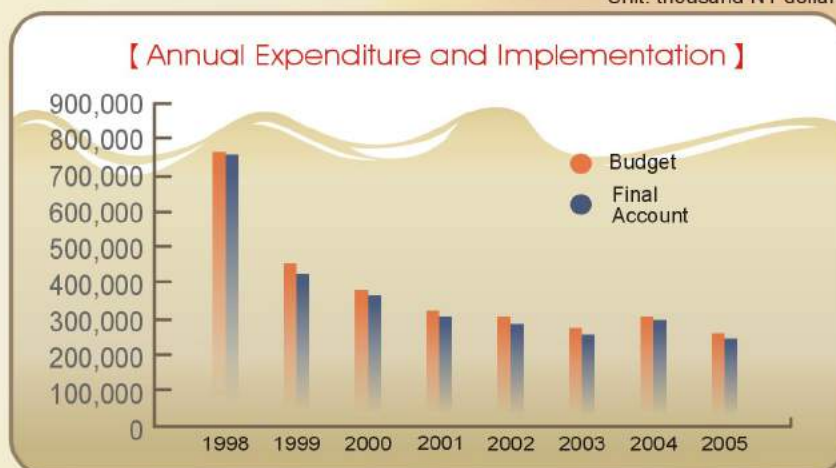
●●●●● Annual Expenditure and Implementation ●●●●●

Unit: thousand NT dollars

Item Year	Budget			Final account			Implementation Rate (%)
	Total	Current Account	Capital Account	Total	Current Account	Capital Account	
1998	766,103	141,932	624,171	760,600	136,637	623,963	99%
1999	455,822	282,482	173,340	428,109	254,373	173,736	94%
2000 (One Year)	577,087 (384,725)	468,747 (312,498)	108,340 (72,227)	547,450 (364,967)	440,218 (293,479)	107,232 (71,488)	95%
2001	320,804	300,831	19,973	305,937	283,338	22,599	95%
2002	305,703	288,971	16,732	288,824	270,885	17,939	94%
2003	295,026	279,218	15,808	287,695	270,331	17,364	98%
2004	303,386	271,226	32,160	301,398	268,206	33,192	99%
2005	290,634	270,060	20,574	286,869	265,163	21,706	99%

Note: 1. The year 2000 actually started from July 1, 1999 and ended on December 31, 2000.
2. Sources: Annual Budget Statements and Final Statements

Unit: thousand NT dollars



Museum Chronology for 2005

Date	Summary
2005.01.01	New Year's Day flag raising ceremony co-hosted by the NSTM and Kaohsiung City Government.
2005.01.15	The temporary exhibition "KARAKURI of Etogawa Japan" was opened.
2005.01.22	"2005 National Education Exposition—Southern Area" was opened.
2005.01.25	Professor Jhing-fa Wang from National Cheng Kung University, was appointed by the Cabinet as the director-general of the NSTM on January 20, 2005; succession was completed under the supervision of Education Minister Tu Cheng-sheng.
2005.01.27	The temporary exhibition "Formosa Satellite Exhibition", co-sponsored by the NSTM and Taiwan's National Space Organization was opened.
2005.02.01	Mamoru Mohri, Executive Director of Japan's National Museum of Emerging Science and Innovation (Miraikan), visited the NSTM.
2005.02.01	Opening and donation ceremony of the updated motorcycle unit in the "Power & Machines" exhibition hall by KYMCO Co. was held.
2005.03.01	The temporary exhibition "The Science World of 10^{-9} Meter" was opened.
2005.03.04	With strategic alliance between the NSTM and National Kaohsiung Normal University (NKNU), a "Museum Exploration" course was offered at the NKNU's Center of General Education in the second term of the academic year 2004-2005.
2005.03.09	NSTM-NKNU strategic alliance signing ceremony and press conference were held.
2005.03.10	An "Earthquake Simulation Room" in the "Mitigation of Natural Hazards" exhibition hall was opened to the public. Visitors can pay to experience earthquake in this simulation room.
2005.03.20	Official launching of a second-generation robot show; a birthday party was held to celebrate the transfer of old and new robots.
2005.03.28	Jeep donation ceremony from National Taiwan Museum and press conference were held in Taipei.
2005.04.06	Memorandum of Understanding for Cooperation between the NSTM and National Educational Radio, for the second year, was signed to co-produce the "Discovering the NSTM" program.
2005.04.08	"24th Kaohsiung Elementary & Junior High School Science Fair" was co-sponsored by the NSTM and the Education Bureau, Kaohsiung City Government.
2005.04.08	The NSTM's outdoor exhibition space was open to street performers.

Museum Chronology for 2005

Date	Summary
2005.04.11	The NSTM hosted the 2005 Commendation of Volunteers in the auditorium of the south complex. 500 outstanding volunteers were commended.
2005.04.19	The NSTM hosted the activity of "2005 Physics Enlightens the World in Kaohsiung" .
2005.04.30	The temporary exhibition "Exploring the 90% Unknown: Samuel C.C. Ting and the Particle" was opened.
2005.04.30	Official launching of "High-wire Bicycle Riding" was as a part of the celebration of "The World Year of Physics 2005" .
2005.05.03	The tempoary exhibition "2005 Mudslide Prevention Education" which was co-organized by the NSTM and the Soil and Water Conservation Bureau, Council of Agriculture was opened.
2005.05.07	First showing of "Discovering the NSTM" , which was co-produced by the NSTM and National Educational Radio, Kaohsiung Substation, was broadcasted.
2005.05.10	"Graduate Exhibition of Product Design Department " which was co-organized by the NSTM and Fortune Institute of Technology was opened.
2005.05.16	In line with the Cabinet's policy of the "corporatization" of public sector agencies, draft regulations governing the establishment of the NSTM Administrative Corp. were submitted on May 16 to the Ministry of Education for approval.
2005.05.26	Mrs. Ruth Kahanoff, representative of Israel Economic and Cultural Office Taipei, and her staff visited the NSTM and discussed a temporary exhibition for next year.
2005.06.02	"Commemorating the 50th Anniversary of the Death of Professor Phyllis Lin" special exhibition was co-organized by the NSTM and Shu-Te University of Technology, with support from Eslite Books.
2005.06.02- 2005.06.05	The NSTM co-organized the "2005 Kaohsiung High School and Vocational School Fair" .
2005.06.04- 2005.06.05	The NSTM co-organized the "Metalwork Conservation and Maintenance Seminar" with the Preparatory Office for the National Center for Research and Preservation of Cultural Properties.
2005.06.04- 2005.06.12	Opening ceremony of the " 45th Kaohsiung Elementary and Junior High School Science Fair" was held on June 4. There were 450 science projects showcased in the 1st Temporary Exhibition Hall and the Star of Universe Plaza.
2005.06.09- 2005.06.10	The NSTM co-organized the "Industrial Relics Conservation and Maintenance Seminar" with the Department of Cultural Heritage Conservation at National Yunlin University of Science & Technology and the Preparatory Office for the National Center for Research and Preservation of Cultural Properties.

Museum Chronology for 2005

Date	Summary
2005.06.09	The "Science of Sport" touring exhibition was opened in Ban Chiau Stadium, Taipei County.
2005.06.13-2005.06.17	Some 800 pieces of objects showcased in "Chat Online : Telecom History of Taiwan" exhibition on loan from Chunghwa Telecom arrived safely at the NSTM.
2005.06.14	Memorandum of Understanding for the NSTM and Little Ding-Dong Science Park Cooperation on "Formosa Satellite Exhibition" was signed; the exhibition has toured to the science park since July 1.
2005.06.18	The NSTM assisted the China Times Group for the "Magic Forest" Exhibition.
2005.06.22	Signing ceremony for the cooperation between the NSTM with National Taiwan University, the Physical Society of the ROC, and Yuan-Liou Publishing Co. on the "NTU Nucleus Lab Restoration Documentary" was held at NTU.
2005.06.24	Opening ceremony and press conference of the launching of a new simulated fighter jet in the NSTM's Air Navigation and Aerospace exhibition hall was held.
2005.06.25-2005.08.14	The NSTM commissioned the Budaizui Cultural Society and invited the local old master Tsai J.S. to produce the windmill and the waterwheel and displayed at TADA.
2005.07.01	The "2005 Physics Expos" , which was hosted by Ministry of Education and National Science Council, was organized by the Physical Society of the Republic of China. "2005 Physics Expos "of the South Area was opened and displayed at the NSTM.
2005.07.01	"Open Your Eyes" guided services were provided for the visitors and helped to build the image of professional and uniform guided services.
2005.07.02-2005.07.17	2005 IMAX Festival was started from July 2 to 17.
2005.07.04-2005.12.18	"Formosa Satellite Exhibition" , with the NSTM as curator, toured to the Little Ding-Dong Science Park in Hsinchu.
2005.07.23-2005.07.24	"2005 International Scouting Assembly" hosted by the General Association of Scouts of the R.O.C. attracted a total of 1,272 members of the scouts visited the NSTM.
2005.07.23	Headed by the Minister of the Central Personnel Administration, Executive Yuan, Chun Yen Chang, 80 students from the national development study program and female leadership seminar visited the NSTM.
2005.07.29	"Science & Technology Tour for Aboriginal Peoples" held by the NSTM which attracted 964 people from 13 schools participated.
2005.08.01	The NSTM's director-general headed a delegation to visit the National Museum of Prehistory in Taitung for a learning experience in service quality improvement.

Museum Chronology for 2005

Date	Summary
2005.08.02	"AMD leads Ferrari" event at the NSTM was opened.
2005.08.06	"Aerospace Technology Exhibition" which was co-organized by the NSTM and Aerospace Industrial Development Corp. was opened.
2005.08.06	The NSTM's IMAX® 3D Theater accepted block booking requests for the first time; an additional showing of "Bugs!" at 7-8 pm was requested by Jhung Sing Kindergarten in Kaohsiung.
2005.08.12	Sanyang Industry Co. approved its financial support for the update of the motorcycle engine exhibit in the NSTM's Power and Machines exhibition hall. The update, costing NT\$1,200,000, was entirely honored by Sanyang.
2005.08.16	Royalty fees of NT\$600,000 for the "Formosa Satellite Exhibition" were wired to the NSTM from Little Ding-Dong Science Park.
2005.08.22	The NSTM signed a text message system contract with Chunghwa Telecom, permitting instant interactions of visitors in future exhibitions and activities.
2005.08.22- 2005.09.26	The NSTM's docent and technician visited Canada for an internship program in scientific relics conservation theory and practice.
2005.08.24	Accompanied by staff of Taiwan's Ministry of Foreign Affairs, Mr. Martinez, the Deputy foreign minister of Guatemala, visited the NSTM with his wife.
2005.08.25	11 members in a museum study seminar, as part of the "2005 Museum Products Design Contest" organized by the Department of Social Education, Ministry of Education, visited the NSTM.
2005.08.26- 2005.09.25	The Motion Exhibition of Taiwan High Speed Rail was displayed in the plaza of south complex.
2005.09.01- 2005.09.30	"Science of Sport" touring exhibition was displayed at Bao Sang Elementary School in Taitung.
2005.09.09	"2005 University General Education Enhancement Project Presentation", organized by National Kaohsiung University of Applied Sciences with support from the NSTM, was received a grant of NT\$40,000 and completed on September 9. More than 500 people attended the presentation.
2005.09.15- 2005.10.17	The temporary exhibition "Industry Heritages : An Approach to Map Taiwan's Industrial Past" co-organized by the Council for Cultural Affairs, toured to the Art Center of National Yunlin University of Science & Technology. It was the first time that an exhibit hosted by the NSTM was shown in a university.

Museum Chronology for 2005

Date	Summary
2005.09.15-2005.10.31	Excellent service staff contest was held at the NSTM.
2005.09.16	The NSTM signed the strategic alliance with National Kaohsiung First University of Science & Technology.
2005.09.16-2005.09.17	"2005 Industrial-Academic Cooperation Forum & Technical College-Industrial Community Cooperation Achievement Fair", organized by National Kaohsiung First University of Science & Technology, with support from the NSTM, was completed. The NSTM received a subsidy of NT \$200,000, and more than 9,000 people visited the fair at the Museum.
2005.09.20	The exhibition "Renewable Energy", co-organized by the NSTM and the Energy and Resources Laboratories at the ITRI, was opened.
2005.09.25	Dr. Samuel C.C. Ting, academician of Academia Sinica and winner of the 1976 Nobel Prize in Physics visited the NSTM, accompanied by Dr. L.C. Lee, President of Taiwan's National Applied Research Laboratories, and Professor Lee Shi-chang from Academia Sinica, visited the NSTM and signed an autograph at the "Exploring the 90% Unknown: Samuel C.C. Ting and the Particle" temporary exhibition.
2005.10.06	The temporary exhibition "Tobacco Control", which was co-organized by the NSTM and the Bureau of Health Promotion under the Department of Health, Executive Yuan, was opened.
2005.10.11	Copy of "Aircraft Design Manual" of Wong Tsu, the first chief engineer of Boeing Company, published during the Sino-Japanese war, was donated to the NSTM by Li Shi-jhang from Aerospace Industrial Development Corp.
2005.10.20	"The Physical World of an Old Glass Master" documentary, produced by the Department of Physics at National Taiwan University and sponsored by the NSTM, premiered at the NTU.
2005.10.21	The NSTM hosted the "2005 Exhibition Planning and Practice Seminar".
2005.10.22	The NSTM was invited to participate in the "2005 Creative Science Expo" hosted by Tainan County Government.
2005.10.24	"10th Canadian Education Fair and 6th American Education Fair" was co-hosted by the NSTM and the Oh! Canada and Oh! America Education Consulting Centers.
2005.10.25	The temporary exhibition "Taiwan Agricultural Biotechnology Exhibition: New Type of Rice Brings Happiness" was opened.
2005.10.27-2005.10.28	"Storage in Progress: The Conference for Planning and Management of Museum Storage" was co-organized by the NSTM and the College of Letters and Cultural Heritage at Tainan National University of the Arts.
2005.11.01-2005.11.02	"2005 International Symposium on Sustainable Development of Air Quality" was co-organized by the NSTM and the Environmental Protection Bureau of Kaohsiung City Government.

Museum Chronology for 2005

Date	Summary
2005.11.02-2005.11.13	"The exhibition of the Animal and Plant Health & Inspection Quarantine in Taiwan " which was co-organized by the NSTM and the Bureau of Animal and Plant Health Inspection and Quarantine, Council of Agriculture, was opened to the public.
2005.11.05	"2005 October Education UK Exhibition" co-hosted by the NSTM and the British Council, Taipei.
2005.11.08	Update of the jeep unit at the Transportation & Civilization exhibition hall completed.
2005.11.08	"Liu Cheng-dan's Painting and Calligraphy Collections" exhibition was opened.
2005.11.08	"E-Taiwan" exhibition was opened.
2005.11.12	8th Anniversary of the NSTM and "Grand Exhibition of Ancient Arms and Armor" was opened.
2005.11.12	The NSTM signed strategic alliance with 5 colleges, including: National Kaohsiung University, Cheng Shiu University, Nan Jeon Institute of Technology, Fortune Institute of Technology, and Kao Fong College.
2005.11.17-2005.11.20	"2005 National Environmental Protection Creativity Expo" was opened.
2005.11.19-2005.11.27	"6th National College and University Creativity Demonstration Contest" was co-hosted by the NSTM and National Cheng Kung University.
2005.12.08	"New Crisis of Avian and Human: Exhibition of Avian Flu" was co-organized by the NSTM, the Bureau of Animal and Plant Health Inspection and Quarantine under the Council of Agriculture, and the Center for Disease Control under the Department of Health.
2005.12.14	Touring photography exhibition, hosted by Taiwan Gender Equity Education Association, was held at the NSTM.
2005.12.14	The "Future Face" , which was curated by the Royal College of Art, and co-organized by the NSTM and National Museum of Natural Science, was opened.
2005.12.17-2005.12.18	The NSTM held science education activities in "2005 Pingtung Aviation Fair" , which was hosted by Civil Aeronautics Administration, attracted more than 15,000 people attended the fair.
2005.12.28	"Chat Online: Telecom History of Taiwan" which was co-organized by the NSTM and Chunghwa Telecom Co., Ltd was opened.
2005.12.30	The NSTM collaborated with the Council for Cultural Affairs and the National Archives Administration to publish a book titled "Acquisition of and Access to Scientific and Technical Archives" .
2005.12.	The "Intelligent Transportation System" exploration zone was established by Institute of Transportation under the MOTC and Kaohsiung City Bus Service Administration at the NSTM's Transportation & Civilization exhibition hall.
2005.12.	Renewal of the strategic alliance with National Kaohsiung University of Applied Sciences, Shu-Te University of Technology, and Tze Chiang Foundation of Science and Technology were accomplished.

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