



# 國立科學工藝博物館 96 年報

National Science and Technology Museum  
Annual Report 2007



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NATIONAL SCIENCE AND TECHNOLOGY MUSEUM



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NATIONAL SCIENCE AND TECHNOLOGY MUSEUM

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## Preface

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The museum has been in operation for over 10 years. It has always played a key role in promoting popular science education in southern Taiwan. We have led the development of popular science in the nation. The museum has always responded positively to the needs for native Taiwanese characteristics and demands from local communities, especially through promoting many educational activities and exhibitions with distinctive native characteristics.

For the past year, the museum has successfully promoted several high caliber exhibitions. “Diversity of Taiwan” displayed the multiplicity of terrain, the biodiversity, and the human diversity in Taiwan. “Chat Online: Telecom History in Taiwan” systematically presented the development and the history of Taiwanese telecommunication industry. “Formosan Toys Festival” vividly recorded the development of Taiwanese toys. Besides, related educational activities had been arranged along with the exhibitions to enhance the knowledge for the public. Moreover, activities at the “Application of Science and Technology by the Taiwanese Aboriginal People” have also been held to help the public understand more about the aboriginal culture and their ways of life.

In order to enhance international exchanges, the museum has been actively inviting expert scholars from overseas as guest speakers to give speeches and presentations which helped us obtain valuable expert knowledge and lessons from the overseas museums. These exchanges helped better improve our managerial visions in operation. Besides, the museum diligently seeks opportunities for international media coverage and exposure, especially after the recent winning of the bid to host the ASPAC 2009. This successful bidding serves as a giant step forward to our goal of building an internationalized museum.

“Tradition, Introspection and Innovation” are the museum service targets. How to interpret, convert and innovate the available resources in proper way in order to be a modern and internationalized museum with unique local Taiwanese characteristics is the main goal for all museum staff. We hope the museum can be a bridge for the people to expand their global vision and for the other countries to know the development of science and technology in Taiwan.

National Science and Technology Museum  
Director-general

*Hsieh, Chung Wu*



## 編輯要旨

「國立科學工藝博物館96年年報」為本館於民國96年1月至12月之全年度工作內容概況報導（當年度之相關統計數據以96年12月31日為採計日期）。本書內容可分為簡介、業務發展目標、研究及活動成果、業務績效、經費運用及大事紀6大項。簡介內容包含歷史沿革、本館組織與員額（含志工）情形介紹；業務發展目標揭示本館當年度之9大發展目標；研究及活動成果係以數據方式呈現本館研究成果及館內外活動辦理次數及參與人次；業務績效則依蒐藏研究、展示企劃與劇場營運、科技教育推廣、公共事務與導覽解說做深入介紹；在經費運用上則敘明本館經費自公務預算改制為作業基金的執行狀況；最後本書再以大事紀形式，將本館96年度所發生值得記錄的事件，依時間發生順序予以條列整理，以利各界了解本館96年度之業務營運狀況。

## Brief Description

The 2007 Annual Report of National Science and Technology Museum is the work report of museum operations of which the related statistics was based on December 31, 2007. There are 6 chapters in this report: Introduction, Development Objectives, Research and Activity Achievement, Performance, Budget Management and Museum Chronology. The history and staffing of the museum are included in the Introduction, while 9 major goals of the museum are stated in the Development Objectives. Besides, the Research and Activity Achievement chapter reports various activities and number of participants in those activities held by the museum. In addition, the Performance chapter explains museum operations in depth according to the themes of collections and research, exhibition planning and theater management, promotion of science and technology education and public services. Within the Budget Management chapter the change from official business budget to operation funds is explained. Finally, the Museum Chronology records the memorable events in 2007 to let people know the operation situations of the museum more efficiently.

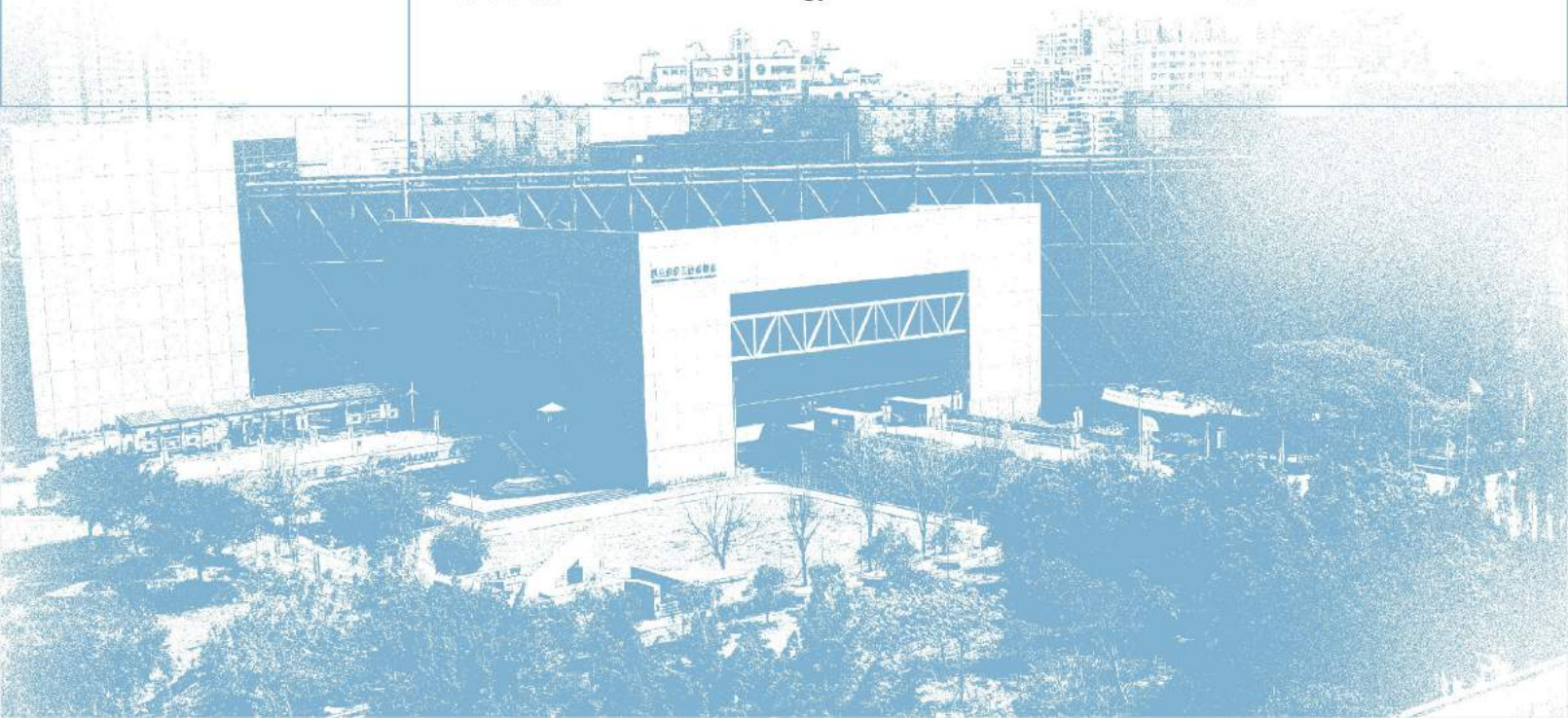


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# INTRODUCTION

## 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 m<sup>2</sup> and the floor area is 114,355 m<sup>2</sup> with 36.89 meters of structural height.

- (1) North building: 15,313 m<sup>2</sup> of building area is used for the administration center, permanent exhibition halls, temporary exhibition halls, IMAX<sup>®</sup> 3D Theater, Multimedia World and maintenance and repair facilities as well as for gift shops.
- (2) South complex: 5,443 m<sup>2</sup> 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.

#### ■ Organizational Structure ■

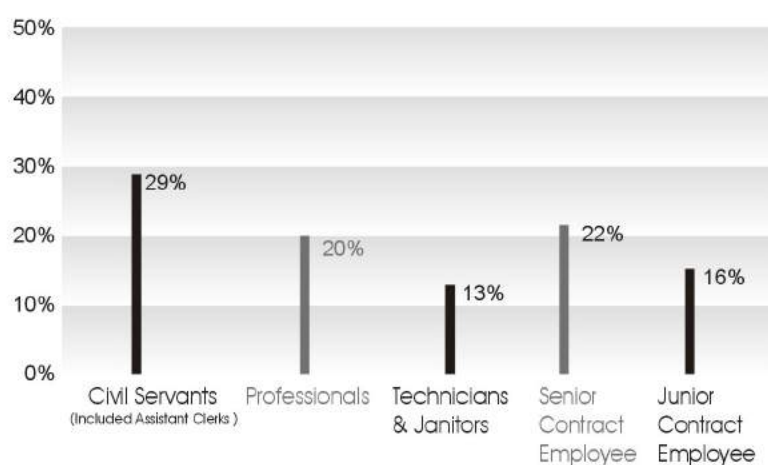


## ( 2 ) Number of Staff

### ① Statutory Staff

In accordance with the law, the museum is allowed to employ 42 civil servants (included assistant clerks), 28 professionals, 18 technicians and janitors and 53 contract personnel. The museum is allowed to employ a total of 141 staff members.

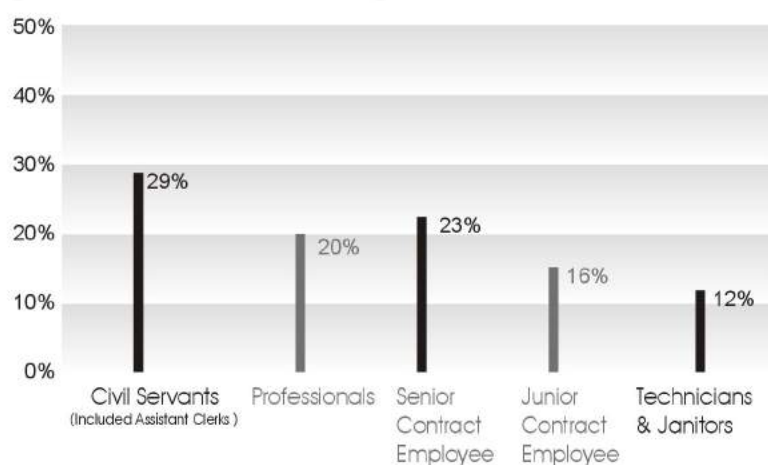
【 Statutory Staff 】



### 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 (included assistant clerks), 28 professionals, 53 contract personnel and 17 technicians and janitors.

【 Current Number of Staff 】



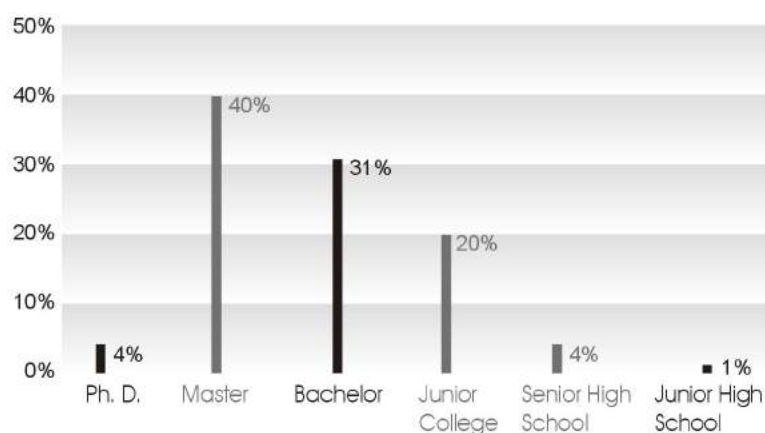


### ( 3 ) Educational Backgrounds of Staff

#### ① Educational Backgrounds

In 2007, the museum employs a total of 137 people. Out of these, 6 staff members have Ph.D. degrees, 54 have master's degrees and 42 have bachelor's degrees (including those who graduated from police or military academy). 28 graduated from junior colleges, 6 from senior high schools and 1 from junior high schools.

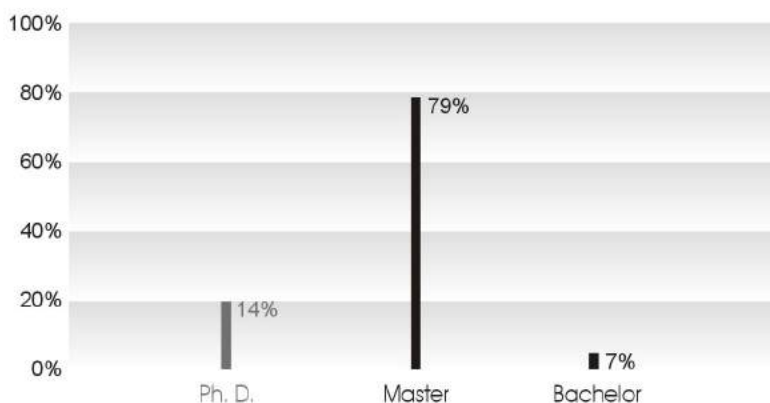
【 Educational Backgrounds of Staff 】



#### ② Educational Backgrounds of the Professionals

In 2007, the museum employs a total of 28 professionals, including 4 with Ph.D. degrees, 22 with master's degrees and 2 with bachelor's degrees.

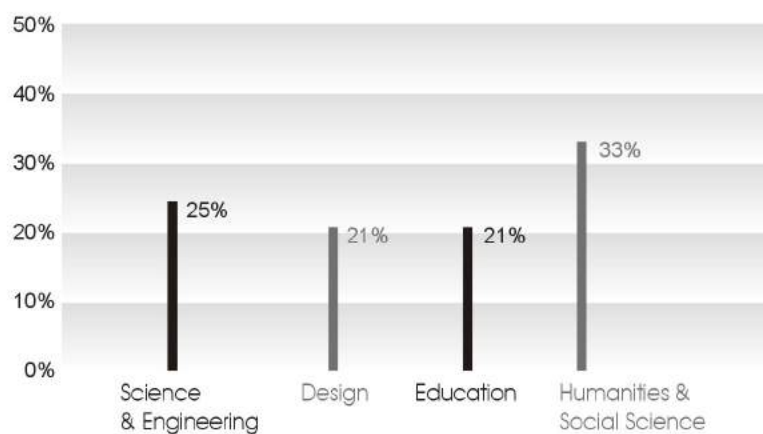
【 Educational Backgrounds of the Researchers 】



### ③ Professionals' Specialties

In 2007, there are a total of 28 Professionals, 7 specializing in science and engineering, 6 in education, 6 in design and 9 in humanities and social science.

【 Professionals' Specialties 】

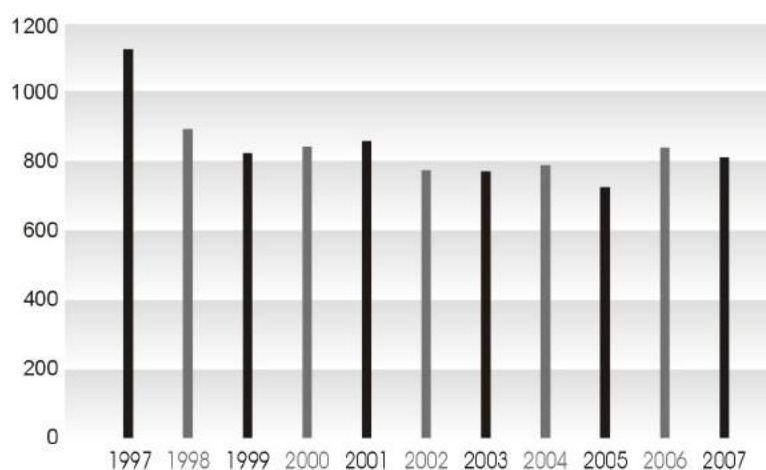


### ( 4 ) Participation of Volunteers

① The museum had a total of 815 volunteers in 2007.

【 Number of Volunteers 】

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Number	1136	913	837	846	864	774	772	784	750	856	815





## ② Services Provided by Volunteers

In 2007, there are 815 volunteers providing 18 types of services; approximately 352 of whom are in the Exhibition Division, 156 in the Technology Education Division, 276 in the Visitor Services Division, 22 in the Secretariat and 9 in the Collections and Research Division.

### 【 Services Provided by Volunteers 】

Exhibition Division 352	Technology Education Division 156	Visitor Services Division 276	Secretariat 22	Collections and Research Division 9
1. On-site Maintenance 227	4. Activities 98	6. Promotion 10	13. Administration 20	15. Administration 2
2. Maintenance & Repair 10	5. Library Services 58	7. Visitors Services 64	14. Gardening 2	16. Management 3
3. Theater Services 115		8. Docents 90		17. Research 2
		9. Nursing 12		18. Maintenance 2
		10. Administration 24		
		11. Information Desk 8		
		12. Children's Science Center 68		

## 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 6th phase of recruitment and recommendation in October 2007, 75 students applied to participate in the program. After training, practicing and testing, qualified students became official intelligent museum guides to serve NSTM visitors. In 2007, these intelligent museum guides provided 757 museum tours and serve 14,949 visitors which helped improve both the quality and quantity of the NSTM's interpretive services.



## Development Objectives

- 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.

## Research and Activity Achievement

### 1 Research Achievement

This year, the museum produced 33 journal papers, 22 conference papers and 29 research projects, among which museum staff was in charge of 17 and participated in 12 others. The museum also participated in 2 academic symposiums, 15 academic lectures, and issued 34 publications.

#### 【 Statistics of Research Achievement 】

Year		1999	2000	2001	2002	2003	2004	2005	2006	2007
Types	Number of Papers									
Journal Papers		31	38	31	42	27	20	30	31	33
Conference Papers		3	2	5	5	11	22	21	10	22
Research Projects	Hosting	2	3	8	13	26	26	21	12	17
	Assisting	3	8	11	12	14	13	19	9	12
Publications	Books	7	11	26	8	13	14	10	8	13
	CDs	0	2	1	3	0	3	2	1	2
	Brochures	3	4	2	2	8	1	1	6	6
	Flyers	5	5	8	5	6	18	21	25	10
	Journals	6	6	7	7	1	2	2	4	3
Academic Symposiums		4	3	1	4	4	9	3	6	2
Academic Lectures (Educational Training Included)		42	50	30	49	58	59	43	32	15



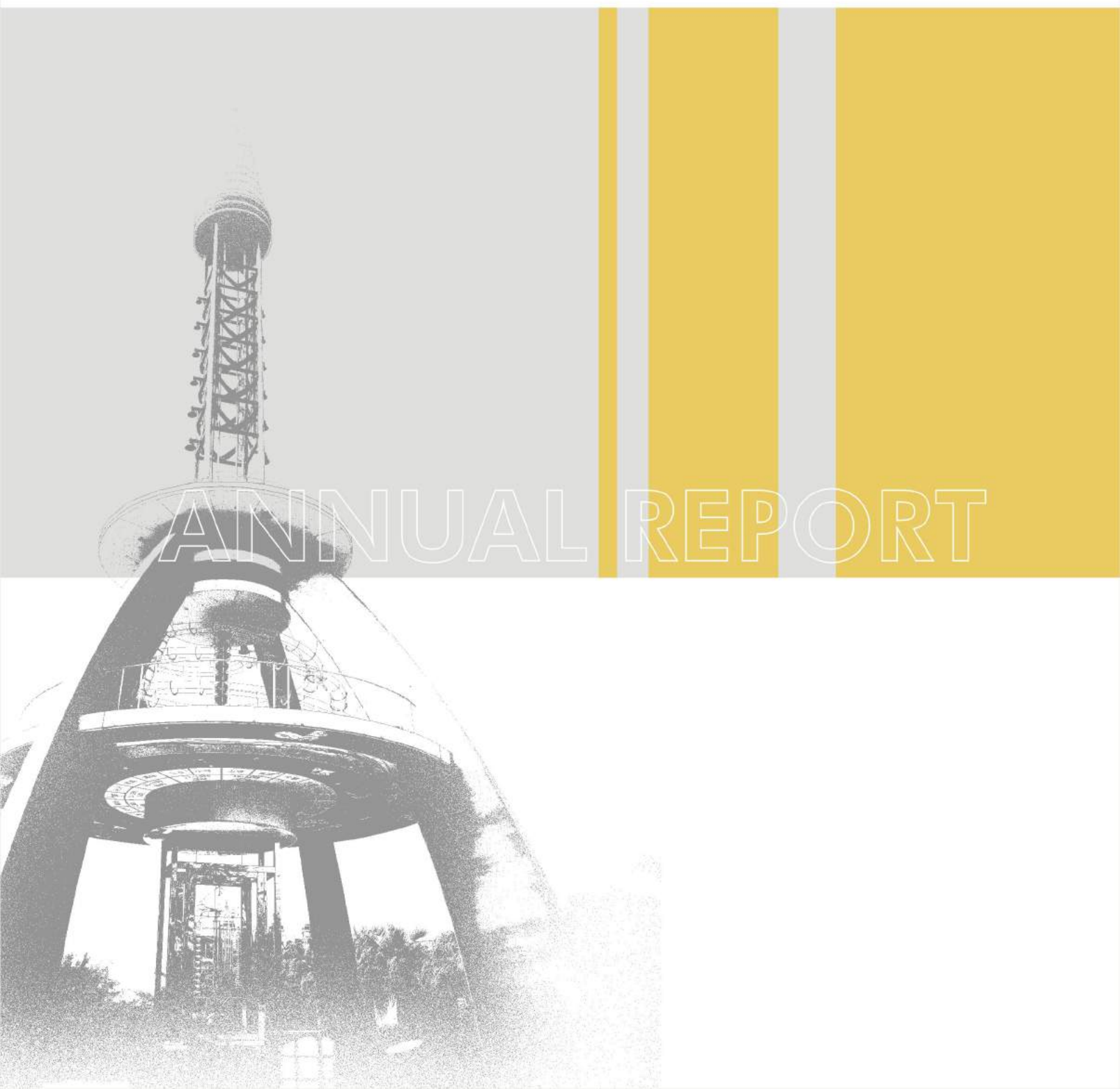
## 2 Activities Held Outside the Museum

In 2007, a total of 89 activities were held outside the museum. These activities attracted 276,580 people.

### [ Statistics of Activities Held Outside the Museum over the Years ]

Year \ Item		Lectures	Educational Activities	Exhibition Tours	Presentations / Demonstrations	Other Activities
1999	Number	16	0	0	10	2
	Participants	7,390	0	0	16,000	90,000
2000	Number	3	0	0	0	1
	Participants	1,386	0	0	0	40,000
2001	Number	9	9	1	3	3
	Participants	4,158	16,291	15,000	360	80,000
2002	Number	44	7	2	29	5
	Participants	21,035	14,144	360	11,140	130,000
2003	Number	41	6	3	19	2
	Participants	18,970	16,578	196,040	16,578	30
2004	Number	57	13	4	3	27
	Participants	4,572	7,853	87,400	870	303,268
2005	Number	62	28	4	11	11
	Participants	2,755	23,023	184,000	14,920	4,976
2006	Number	57	146	7	1	0
	Participants	2,125	74,809	195,116	62	0
2007	Number	27	47	11	4	0
	Participants	5,055	72,357	198,910	258	0

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



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The image features a minimalist abstract design. A thick, wavy line in a light grey color flows from the top right towards the center. A thinner, brown line follows a similar path, starting from the top left and curving around the grey line. Several circles are scattered throughout: a large grey circle at the top, a small brown circle on the brown line, a small grey circle on the left, a large yellow circle with a white border on the brown line, and a small white circle on the right. The background is split horizontally, with a white top half and a mustard yellow bottom half. The text '業務績效' and 'Performance' is centered in the yellow section. Faint, large numbers '926' are visible in the background.

# 業務績效 Performance



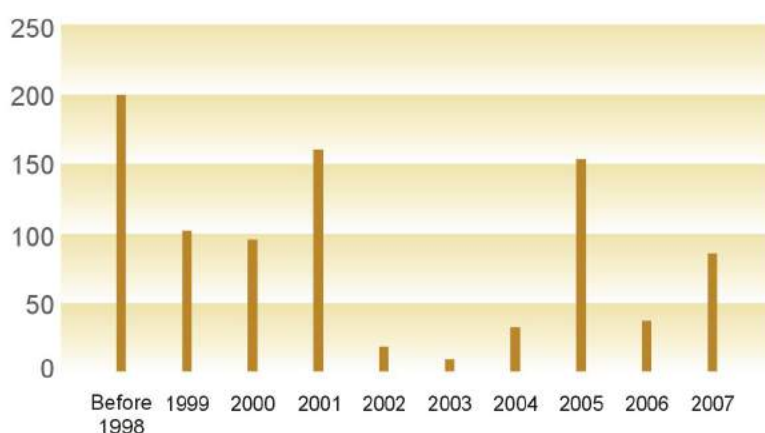
## Collections and Research

### 1 Carrying on Acquiring, Applying and Researching Collections

For the year 2007, a total of 80 acquisitions had been registered, including 1 through purchase, 15 through fieldwork, 59 through donations, and the NSTM was loaned with 380 piece of telecom relics from Chunghwa Telecom Co., the oldest and biggest telecommunication company in Taiwan. A total of 1,491 telecom relics from Chunghwa Telecom are temporarily managed by the museum.

#### [ Number of Acquisitions over the Years ]


Year	Before 1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Total
Number	199	104	93	163	18	5	29	153	33	80	875



### 2 Major Achievement

#### ( 1 ) Organizing Visits, Seminars and Symposiums Related to Collection Research and Cultural Heritage Preservation

- ① Director-general of the Museum together with all Division Chiefs and other colleagues, a total of 8 persons visited National Taiwan Craft Research Institute on February 2, 2007. Mr. Lin Zheng Yi, Director of the National Taiwan Craft Research Institute paid a return visit to the Museum together with 7 executives and colleagues on February 27 to exchange views and have discussions on collaboration issues.
- ② Wang Yuhfong, Chief of Collections and Research Division, made a trip to the United Kingdom on official business during the period of March 29 to April 7, 2007 to pay visits to the Department for Culture, Media and Sport and several Executive Non-departmental Public Bodies such as The Heritage Lottery Fund, English Heritage (officially known as Historic Buildings and Monuments Commission for England), ICON - The Institute of Conservation and National Trust. A visit to Taiwan by Mr. Stuart B. Smith, Secretary of the International Committee for the Conservation of the Industrial Heritage and international collaboration projects between Taiwan and UK were also discussed.

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- ③ To facilitate execution of the project "NSTM Entrusted Loan of National Archives on Public Industries," Su Jin-Min and Lu Xiu-Chin, contracted Research Assistants, and Ma Liu-Jung, Officer of the Division participated training courses in National Archives Administration during January 18 and 19, 2007. Besides, with assistance from volunteers and 4 interns from National Yunlin University of Science and Technology, the filing of 2,292 volumes of archives of Kaohsiung Ammonium Sulfate Factory was completed.
  - ④ Mr. Yu Dun-Ping, an expert of conservation environment for cultural artifacts and former Associate Researcher in Conservation Department of National Palace Museum, was invited to the Museum on January 30, 2007 to conduct training courses "General Investigation of Conservation and Cleaning-up Operation" for novice colleagues with 5 staffers and volunteers participated.
  - ⑤ Mr. Yu Dun-Ping, an expert of conservation environment for cultural artifacts and former Associate Researcher in Conservation Department of National Palace Museum, was invited to the Museum on March 19, 2007 to give a lecture course on "Theory and Practice of Display Environment Management on Museum Collections. " The course was conducted at the meeting room of Exhibition Division and the exhibition Hall of "Chat Online: Telecom History in Taiwan " with 9 staffers participated.
  - ⑥ To echo the theme of "Museums and Universal Heritage" set by The International Council of Museums for the International Museum Day, the Museum invited Dr. Gordon Turner-Walker, Associate Professor in Department of Cultural Heritage Conservation, National Yunlin University of Science and Technology to give a lecture in the lobby of North building on "Relic Identification and Preservation" on May 19, 2007 with an audience of 80 people. Besides, a workshop entitled " The Application of Microscopic Technique of Identifying Cultural Conservation Materials Workshop " was held on May 24 and 25, 2007 at Classroom S203 located on the 2F of South Complex with 80 participants.
  - ⑦ Mr. Zhang Bochun, Deputy Director of Institute for the History of Natural Science, Chinese Academy of Sciences in Beijing, graced the Museum with his presence on June 11, 2007 and delivered a speech on "Evolution of Technology and Industrialization in Modern and Contemporary China." Mr. Zhang also visited exhibitions of "Industrial History of Taiwan" and "A Splendid Century of Telecom in Taiwan" in the Museum.

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- ⑧ Ms. Su Yu-Qing, former conservation specialist of National Taiwan Museum, was invited to the Museum on June 20, 2007 to conduct a training course of "Important Points of Holding Collection Objects" for staff members and volunteers to establish standard operating procedures in holding collection objects. A total of 20 staffers and volunteers participated in the training.
  - ⑨ A training course of "Archive Management" was conducted on April 13, 2007 for seven volunteers that would assist in national archive management.
  - ⑩ Mr. Zhou Neng-Chuan, newly-appointed Head of Industrial Policy Division of Industrial Development Bureau, together with Huang Yu-Ying, Section Chief and Dai Geng-Yuan, Technical Specialist of Industrial Economy Section paid a visit to the Museum. Wang Yuhfong, Chief of Collections and Research Division, together with Yeh Shang-Ching, Research Assistant and Shi Yu-Jing, Contracted Assistant received the guests and had a meeting in the Director-general Office. They also accompanied guests to visit the first stage of the "Industrial History of Taiwan" exhibition after the meeting.
  - ⑪ Jason Huang, Research Assistant, Collections and Research Division of the Museum attended "Preservation of Large Technology Objects International Conference, BigStuff 2007" organized by Deutsches Bergbau-Museum in Bochum during September 10 to 14, 2007 and a poster article was presented at the conference.
  - ⑫ Co-organized with Labor Bureau of Kaohsiung Municipal Government, the Museum held "Past Ostentatious Prosperity : A Symposium on the Inquiry into Kaohsiung Ammonium Sulfate Factory" on October 5, 2007. A visit to factory's historic articles in the storeroom of South Complex was arranged for about 30 retired workpeople of the factory. The application for access to 22 pieces of artifacts was also processed and a model of Ammonium Sulfate Factory was moved out of the storeroom for guided tours by docents.
  - ⑬ Organized jointly with Plastics Industry Development Center (PIDC), "Conservation of Modern Objects Made of Synthetic Materials Workshop" was held in the Museum during October 30 and 31, 2007. Mr. Richard Alder, Conservator of Vitra Design Museum, Professor Chiu Hsien-Tang Department of Polymer Engineering, National Taiwan University of Science and Technology, Dr. Xiao Yao-Gui, Manager of PIDC, Yeh Qian-Jin, Research Assistant, Research and Collection Division of National Museum of Prehistory and Li Kun-Cheng, Director of Preparatory Office to Taiwan Music Museum were invited to the workshop as speakers. There were a total of 133 participants in this workshop.




- ⑭ As an event prior to "2007 International Metals Conservation Conference" organized by Preparatory Office for Head Administration Agency for Cultural Heritage during October 24 and 25, 2007, Ms. Hazel Newey, Head of Conservation at Science Museum in South Kensington, London together with metal restorers Ms. Carol Snow from USA and John Ashton from Australia, all internationally renowned experts, paid a visit to the Museum.
- ⑮ The cleaning, maintenance, check-in and filing of 29 apparatuses from Veteran's Pharmaceutical Factory including tablet machines were completed on July 18, 2007.



## (2) Conducting Studies Related to Collection Research, Conservation and Maintenance and Archival Management

- ① The research project of "Investigation into the History and Functions of G. Prin Paris Meridian Instrument" was contracted to Assistant Professor Chao Shi-Min, Department of Civil Engineering, Ching Yun University from April 15 to November 15, 2007.
- ② The research project of "Oral History and Artifact Collection on Integrated Circuit Industry in Taiwan" was contracted to Professor Wu Chuan-Yuan of Institute of Sociology, National Tsing Hua University from April 1, 2007 to January 31, 2008.
- ③ The research project of "Analysis and Condition Assessment of Contemporary Articles of Multiple Media" was contracted to Professor Gordon Turner-Walker of Department of Cultural Heritage Conservation, National Yunlin University of Science from April 16 to November 15, 2007.
- ④ The research project of "Study on Collection and Exhibition of Printing Artifacts: A Historical Core Thinking Approach" was contracted to Professor Wu Zu-Ming of Department of Graphic Arts Communication, National Taiwan Normal University from August 15 to December 15, 2007.
- ⑤ The research project of "Investigation, Study and Collection of Artifacts and Historical Data in Taiwan's Industries" sponsored jointly by Industrial Development Bureau of Ministry of Economic Affairs and the Museum included five industries (food industry, home appliances, petro-chemistry, semiconductors and steel) was conducted from April 10 to December 31, 2007.

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- ⑥ The project "Operation Manual for Artifact Collection and Assessment of Warehouse Spaces " contracted by Taiwan High Speed Rail Corp. was conducted by the Museum and closed on August 14, 2007.

### ( 3 ) Promote Museum Collection and Exhibition Collaboration

- ① From January 3 to May 5, 2007, five pieces of weights and measures collected by the Museum were loaned by Exhibition Division to be exhibited in the "Precious, Progress, Priceless - Exhibit of Taiwan Industrial Collection III: Life and Metrology " including No. 1 Calibrating Measuring Tape, No. 1 Standard Measuring Tape, Equal Arm Balance, Counterweight, and No. 1 Calibrating Cylindrical Measure. ( Accession Nos. T0200120058, T0200120059, T0200120022, T0200120037 and T0200120038 )
- ② Four pieces of printing artifacts were loaned to Dimension Endowment of Art (DEOA) Foundation to be exhibited in the exhibition of "Dignity and Honor: The Life and Death of Characters" organized jointly by the Foundation and Bureau of Cultural Affairs, Taipei County Government and held in Taipei County Hakka Museum from February 8 to August 1, 2007, including a sample of typesetting, copperplate in Vietnamese, copperplate in regular script No. 1 and copperplate in regular script No. 6. ( Accession Nos. T0200618001, T0200618001, T0200618001 and T0200618001 )
- ③ On July 2, 2007, 18 pieces of artifacts from Chunghwa Telecom Co.,Ltd. temporarily under custody of the Museum were loaned by Exhibition Division to be exhibited in the exhibition of "Precious, Progress, Priceless - Exhibit of Taiwan Industrial Collection IV: Telecom Technology Objects" from July 8 to December 28, 2007.
- ④ Three pieces of printing collections, including a proof press, were loaned to Bureau of Cultural Affairs, Kaohsiung Municipal for the "Kaohsiung Loves Reading: 2007 Book Exhibition" from July 6 to 15, 2007.
- ⑤ On July 6 and 9, 2007, 34 pieces of measuring collections including a duplicate prototype meter bar were loaned by Exhibition Division for the exhibition of "Weights and Measures - Standarising Modern Society" from July 20, 2007 to January 20, 2008.
- ⑥ Return of loaned collections: 15 pieces of artifact collections and 11 image files of old photos of Kaohsiung Ammonium Sulfate Factory were loaned to Preparatory Office for Head Administration Agency for Cultural Heritage on October 17, 2007 for "Exhibition of Cultural Heritage from a Thorough Check" held from October 20 to December 16, 2007.

#### ( 4 ) IT-based Inventory Mangement System

A complete change of labels and signs for 798 pieces of collections through employment of the " IT-based Inventory Management System" which integrated accession numbers, diagrams, Chinese and English titles, bar code and space in storeroom, the new PVC card with color sign features various functions of management and description.

#### ( 5 ) Completing Cleaning and Maintenance of Collections

- ❶ Four artifacts of shoe collections: vulcanized rubber shoes, peasant's shoes, military shoes and straw sandals. ( Accession Nos. T0200603001, T0200604001, T0200606001 and T0200605001 )
- ❷ Fifteen pieces of machines and tools for making mailman's hat: machines for making mailman's hat and steam machines for making mailman's hat. ( Accession Nos. T0200411001 and T0200411002 )
- ❸ Five pieces of collections in land surveying from Land Survey Bureau: NIKON electronic tachymeter (DTM430), SOKKIA electronic tachymeter (SET3B), SOKKIA electronic tachymeter (SET3F), GPS satellite meter w/ antenna ( Accession Nos. 0200701001~T0200701005 )
- ❹ Five pieces of artifacts in weights and measures: No. 1 Calibrating Measuring Tape, No. 1 Standard Measuring Tape, Equal Arm Balance, Counterweight, and No. 1 Calibrating Cylindrical Measure. ( Accession Nos. T0200120058, T0200120059, T0200120022, T0200120037 and T0200120038 )
- ❺ Four pieces printing artifacts: sample of typesetting, copperplate in Vietnamese, copperplate in regular script No. 1 and copperplate in regular script No. 6. ( Accession Nos. T0200618001 , T0200618001, T0200618001 and T0200618001 )
- ❻ Strengthening works for Peddler's Peanut Oil Cart. ( Accession No. T0200211001 )
- ❼ In view of Vermiculation and moth residues found in Wooden Hat Mould (accessory of machines for making mailman's hat) and straw sandals ( Accession No. T0200604001 ) , a two-week freezing was performed for dis-infestation prior to re-warehousing.



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- ⑧ Cleaning and maintenance of BTK1288-1 and BTK1231-3 optical-phonocard-operated payphones, Swiss Landis & Gyr optical-phonocard-operated payphones and coin & card-operated payphones ( Accession Nos. T0200703001 – T0200703004 ) .
  - ⑨ Completion of cleaning and adhesive removal to 130 pieces of light box slices of Taiwan Machinery Company.
  - ⑩ The cleaning, maintenance, check-in and filing of 29 apparatuses from Veteran's Pharmaceutical Factory including tablet machines were completed on July 18, 2007.
  - ⑪ A total of 15 pieces of artifacts donated by Taiwan Machinery Company ( Accession Nos. T0200710001-15 ) were cleaned on November 15 and checked in on November 20.
  - ⑫ One piece of steelyard arm donated by Mr. Xu Rui-Liang was cleaned and checked in on December 10.
  - ⑬ Five pieces of printing artifacts from Taichung Yi Xin Printing House were cleaned, filed and checked in to Storeroom 2 and 5 on December 11.
  - ⑭ The cleaning, maintenance, condition recording and check-in of telephone booth M0200704365 temporarily under custody were completed on December 27.

#### **( 6 ) Signs of Space and Storage Location in South Complex**

The project of "Signs of Space and Storage Location in South Complex" was completed, which would enhance the quality of collection management activities such as check-in, check-out, cleaning-up, access, loaning, inventory and risk management. These category-based signs with explanation can help to give good impression for visitors and researchers and enable multiple purposes of extensive promotion and utilization with on-site discussion and on-site display of collections in the future. With functionality, systematization and esthetic sensibilities, this project delivered tremendous benefits for the Museum collection management.

#### **( 7 ) IT-based Collection Research and Guided Tour Project**

With a total budget of NT\$97,600, the "IT-based Collection Research and Guided Tour Project" was completed with linkage of the database and basic information within the "Collection Inventory Management System" can make the works of collection research more convenient in the future and it also allows to provide guided tours in the storerooms.

#### **( 8 ) The Project of Digitizing Telecom Artifacts**

"The Project of Digitizing Telecom Artifacts" : A total of 400 pieces of telecom artifacts were digitized in this year including cleaning-up operation of "pre-digitization," photographing and file conversion of "images digitization" and labeling and packaging of "post-digitization."

## Exhibition Plannings and Theater Management

1

### Integrating Resources to Administrate Temporary Exhibitions and to Strengthen Maintenance and Theater Environment

For the year 2007, there were 24 temporary exhibitions: 4 of them were hosted by the NSTM and 20 co-organized with other institutions.

#### ( 1 ) Renewal of Permanent Exhibitions

- ❶ Completion of new permanent exhibition halls: "Candy House" in the "Children's Science Center" and "Science Laureates" were open to the public.
- ❷ A new simulator of "Flying House" was added into the "Air Navigation and Aerospace" Hall.
- ❸ New Exhibits were added into the "Open Sesame Science Exploration Center" , including The Missing Basket, Colorful Light House and A Feast on Light.
- ❹ Completion of new exhibits in the "Electronic World," including Plasma Ball, A New Era of Musical Instruments and Electronics Technology Helps Increasing Life Expectancy.
- ❺ In 2007, the first stage exhibits in the Hall of "Industrial History of Taiwan" were reinforced, the second stage exhibits were planned and films of some industries were completed.

#### ( 2 ) Self-organized Temporary Exhibitions

- ❶ Formosan Toys Festival.
- ❷ Pedalling into the Dream: Exhibition of Biking Sport.
- ❸ Die & Mold Expo.
- ❹ Weights and Measures: Standarising Modern Society.

#### ( 3 ) Using Museum Resources to Exchange with Other Institutions by Organizing Travelling Exhibitions

- ❶ The travelling exhibition of "Green Energy" was moved to Taipei and displayed at National Taiwan Science Education Center.
- ❷ With cooperation with Joint Service Center in Southern Taiwan of the Executive Yuan, a travelling exhibition of Science of Sport was held in Solar Exploration Center in Jia Yi and Da Qiao Elementary School at Yong Kang City, Tainan County.
- ❸ The travelling exhibition of "Non Smoking Paradise" was held in Penghu County and Kinmen County.
- ❹ Co-organized with Taipei Songshan Airport to hold "Precious, Progress, Priceless - Exhibit of Taiwan Industrial Collection III: Life and Metrology" and "IV: Telecom Technology Objects".
- ❺ Cooperate with Education Bureau of Hua Lien County to arrange parts of physical fitness exhibits in Science of Sport Exhibition to be displayed in Hua Lien.

#### ( 4 ) Improvement the Professionalism of Staff for the Exhibition Division and Theater Environment

- ① Organized "Symposium on Display Production and Maintenance" and compiled speakers' presentations for reference of display production and maintenance.
- ② Organized Movie Festival with more than 27,208 participants with increased revenue of NT\$2,370,000.
- ③ Conducted the research project of "Stable Functionality and Safety of Exhibits: A Study on Visitors Under Twelve Years Old".
- ④ Continued to restore exhibits and maintained availability up to 90%.
- ⑤ Improved facilities in IMAX® 3D Theater by complete renovation of chairs and carpets, providing a comfortable viewing environment aiming for higher audience's satisfaction and for improvement of competitiveness and Museum's image.

#### 【 Statistics of Temporary Exhibitions 】

	1999	2000	2001	2002	2003	2004	2005	2006	2007
By the Museum	0	4	4	1	9	4	6	5	4
Others	3	10	5	15	12	13	25	17	20

## 2 Major Temporary Exhibitions

### ( 1 ) Formosan Toys Festival

"Formosan Toys Festival" was displayed at the 2nd temporary exhibition hall from June 26, 2007 to September 25, 2007. Main characteristics featured by this exhibition were that it displayed the toys ever existed in Taiwan during the past 50 years and the relationship between these toys and evolvement of Taiwan's cultures, arts, industries, economics and social education. Exhibits were arranged in 9 areas under three categories: "Scientific Viewpoints," "Development of Humanities" and "Historical Context," allowing visitors' accessibility and easier understanding of the exhibition. Exploring the evolution and witnessing the toys ever existed in Taiwan during the past half of a century, the theme-based and chronological way of display led the visitors back to the past, knowing the present, seeing the future and appreciating different styles and features presented in different stages.



## (2) Pedalling into the Dream: Exhibition of Biking Sport

Bicycle industry is one that makes Taiwan distinguished in the world. Riding bicycles is an experience almost common to all. Along with the coming of LOHAS era, the values of health and environmental conservation brought by bicycling have been appreciated again. More and more people have started bicycling and increased the demand of bicycling related products while knowledge of health and safety is much in need. Bringing bicycle technology and concept of the sport, this exhibition was organized to promote safety and health in bicycling. With man as the principal, 6 exhibition areas were mapped out and two themes, "The Way You Ride Your Bicycle Determines Values of Bicycle" and "Knowing Bicycle Technology Makes More Fun in Recreation" were designed to present relationships between the man and the bicycle. The exhibition was arranged from June 26 to September 25, 2007.

## (3) Weights and Measures: Standarising Modern Society

This exhibition displayed in large scale for the very first time about Museum's collection of weights and measures. In view of the importance of weighing and measuring technology, the Museum has set up a permanent exhibition hall for "Measurement and Technology" since its conception. With continual collection of weighing and measuring instruments as well as donations from various organizations such as The Bureau of Standards, Metrology and Inspection under Ministry of Economic Affairs and Taiwan Tobacco and Wine Monopoly Bureau, the Museum has built up a substantial collection which is one of the major collections of the Museum. To explore the history, values and significance of these instruments, the Museum commissioned scholars in Department of Cultural Heritage Conservation, National Yunlin University of Science and Technology in 1997, 2003 and 2004 to conduct studies on these collections and plan for exhibitions. Concrete accomplishments accumulated during past years laid a solid foundation for these weighing and measuring instruments to be put on public display. In addition, Center for Measurement Standards of Industrial Technology Research Institute and National Land Surveying and Mapping Center of Ministry of the Interior also assisted in this exhibition allowing of a richer presentation both in contents and resources.



#### ( 4 ) Diversity of Taiwan

Through interactive ways of display, the special exhibition of "Diversity of Taiwan" presented diverse beauty of Taiwan providing visitors with opportunities to understand the rich and colorful constituent elements of landforms, ecological environment, life forms, genetic heredity, history, languages, arts, cultures, economic activities and international participation of Taiwan as well as a chance to comprehend differences and connections among one another so that different values and life styles could be respected and accepted while vitality and creativity achieved by variations could be appreciated. The Museum filed to National Science Council of the Executive Yuan for moving the theme exhibition of "Diversity of Taiwan" to be exhibited in the Museum and the Council granted the request with a subsidy of NT\$17,260,000. Displayed from January 19 to September 2, 2007, this exhibition attracted about 230,000 visitors and received favorable reviews from all circles and could be considered one of the most successful exhibitions of the Museum in recent years.

#### ( 5 ) The Botanical World of Amis People

Cooperated with Research Center for Aboriginal Education of National Taitung University, the Museum launched the special exhibition of "The Botanical World of Amis People" from May 25 to July 29, 2007. Presenting applications of various plants in Amis traditional lives and analyzing from modern science viewpoints, scientific concepts and principles contained thereof, this exhibition displayed evolvement of scientific research and cultural characteristics of the aborigines, replicated a house built with traditional techniques from the elders of Taiyuan Tribe, and made an introduction of cultural elements unique to Amis such as bark clothes, bamboo firecrackers, and traps, or even toys of bamboo tops and Lubu made by Amis children, reflecting the closeness between Amis cultures and plants and allowing visitors further understanding of Amis, the most populated tribe in Taiwan.



#### **( 6 ) The Travelling Exhibition of "Green Energy" in Taipei**

Integrated resources and joint efforts from Bureau of Energy of Ministry of Economic Affairs, Industrial Technology Research Institute, Delta Electronics Inc., and National Science and Technology Museum, the special exhibition of "Green Energy" was organized to guide people thinking highly of green energy issues, grasping the importance of investing resources in developing renewable energy and changing the concept of energy usage so that the conception of environment protection and energy saving could be implemented in real lives. Due to the lively and interactive way of display, the close connections between exhibits and daily life and its unique visual forms, this exhibition began to enjoy popular support from a great number of visitors starting its inauguration on December 14, 2006. In order for people in northern Taiwan to have access to this exhibition, "Green Energy" made a travelling exhibit and displayed at National Taiwan Science Education Center to allow more visitors to view and admire this beautiful and meaningful exhibition.

#### **( 7 ) "Precious, Progress, Priceless - Exhibit of Taiwan Industrial Collection III: Life and Metrology" and "Series IV: Telecom Technology Objects"**

This series of exhibition started at Taipei Songshan Airport in mid 2006 making an introduction of precious Museum's collections of Taiwan industries to passengers in the airport lounge. In view of positive feedback, two new exhibitions were scheduled in 2007. In Series III: "Life and Metrology," measuring instruments used in Taiwan during Japanese occupation and early restitution period as well as conversion between different standards were briefly introduced. In Series IV: "Telecom Technology Objects," a total of 19 precious objects such as Manual Telegram Station used in early days, obsolete cables and valuable old telephones were exhibited to lead visitors to make retrospect to Taiwan Telecom history and witness the evolvement of Taiwan industries together with passengers in the airport lounge.



### 3 Special Achievement

#### (1) Completion of "Science Laureates" Hall

"Science Laureates" Hall was opened to public on April 26. Prior to the inauguration, Dr. Lee Yuan-Tseh, former President of Academia Sinica and Nobel Prize laureate in Chemistry in 1986, was invited for a visit and left his signature to be kept as a memento. Starting from the introduction of Nobel Prizes, followed by real objects or models of Nobel Prize Medals and Diploma, crossed molecular beam apparatus and charged particle accelerator (courtesy of National Synchronization Radiation Research Center, a State Key Laboratory), this hall guides visitors into the sanctuary of scientific research and forms a complete science education and learning center for primary and secondary schools together with the "Open Sesame Science Exploration Center." Special simulations of "Entering the Vessel" and "Prize Awarding Ceremony" were set up for edutainment.

#### (2) Improved Facilities in IMAX® 3D Theater by Complete Renovation of Chairs and Carpets

As supplement to exhibitions in the Museum, IMAX® 3D Theater provide information of state-of-the-art technologies in a timely manner. The audio and visual stimuli brought about by commercial films caused loss of audience of the IMAX® 3D Theater. In addition to the selection of films suitable for being viewed by parents and kids together, the environment of the theater is also important of which comfort, amusement and safety shall be enhanced. Located in downtown of Kaohsiung Metropolis and with advanced projection facilities, the IMAX® 3D Theater undertook a complete renovation to the chairs and carpets that have been used for 10 years. With new carpets and ample chairs with cup compartments and high backs, the new environment provides audience with safety, tidiness, and comfort that matches the movies shown and allows the theater to regain its competitiveness.

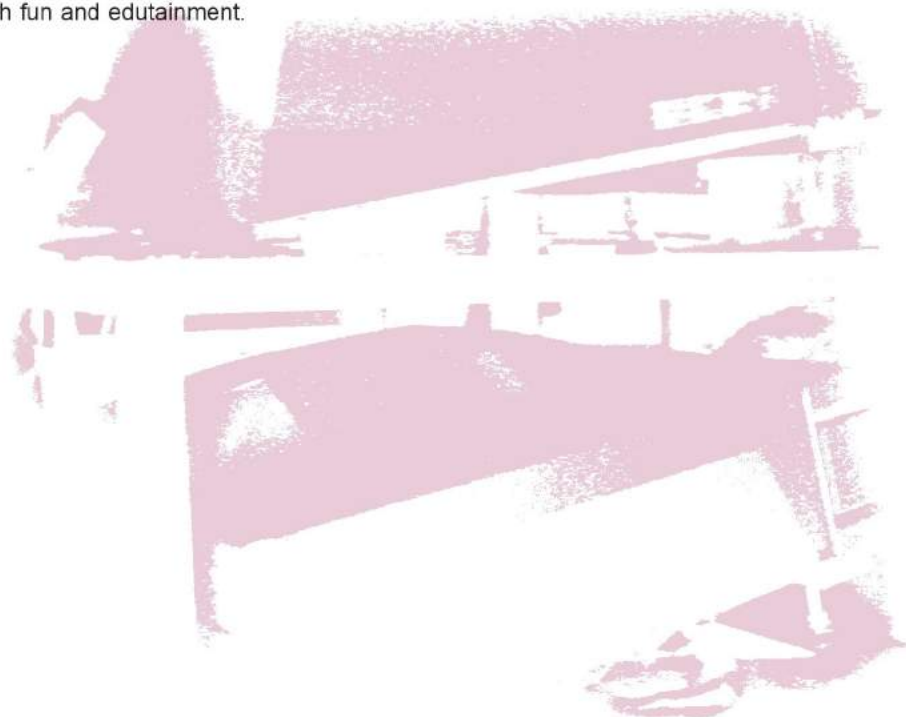


### (3) To Strengthen the Exchange of Restoration and Maintenance Technology for Exhibits: Organized Workshops for Exhibit Maintenance Practice

Aki Chien, Art Director of Lexington Company USA in charge of museum display design and production, Professor Chen Chien-Hsiung, Graduate School of Design, National Taiwan University of Science and Technology, and Professor Chien You-Hong, Chungyu Institute of Technology were invited to a symposium organized for the museum staff of exhibition design, production and maintenance to improve display production and durability of exhibits. Topics in the symposium included: 1. Connections between Detail Design Specification and Display Construction Checklist, 2. Relationships between Requirements in Original Creativity and Presentation in Space, and 3. Relationships between Display Production and Follow-up Maintenance. Speakers made comparisons between design strategies and procedures adopted by Lexington and currently used patterns by the Museum and had in-depth discussion with the museum staff.

### (4) Improved Facilities in IMAX® 3D Theater and Installed a Digital Projecting System

Technologies change with each passing day. In order to provide more diverse and colorful movies, the Museum installed a new digital projecting system, which included a SONY projector with 2K and 4K players. With the digital projecting system of highest quality, the theater would be able to provide audience with fun and edutainment.



## Promotion of Science and Technology Education

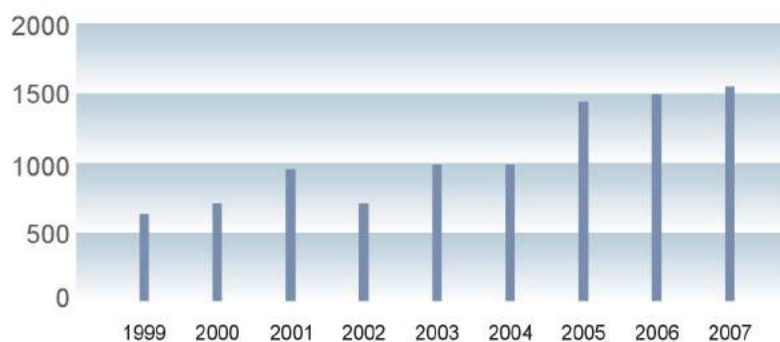
### 1 Various Science and Technology Education Programs

In the year 2007, the museum held 1,571 technology education activities and attracted 215,212 participants.

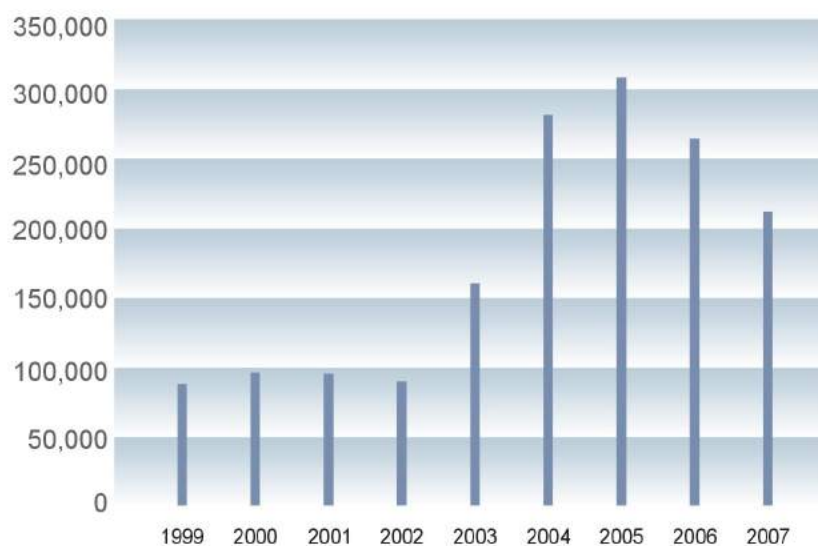
#### 【 Statistics of Science and Technology Education Activities 】

Year Item	1999	2000	2001	2002	2003	2004	2005	2006	2007
Scheduled Programs	636	753	970	741	997	977	1,418	1,500	1,571
Number of Participants	79,431	92,437	94,551	87,070	171,154	277,083	309,189	267,674	215,212

#### 【 Statistics of Science and Technology Education Activities 】



#### 【 Number of Participants 】







## 2 Major Achievement

### (1) Grand Opening of the "Candy House" in the Children's Science Center

"Candy House", a brand new exhibition hall in Children's Science Center, started operation on April 12. Based on the story of Hansel and Gretel from Grimm's Fairy Tales, an exploration tour of multi-senses was configured aiming for expanding children's multisensory experience such as the sense of sight, hearing, touch, vestibular sense and proprioception, providing opportunities of exploration and problem-solving for children.

Stepping on opals, children enter a forest with caves around, big and small, with different material, sounds and senses. Inside the magic forest, witch's gadgets and contraptions were all over the place, monitoring the slightest stir in the woods. Deep in the forest stood the candy house, sweet and alluring, it was too enticing for children to refuse. Watch out! The chair got witchcraft on it. One would never know what would happen once sitting on it. Next to the singing stairway, it was witch's room with all sorts of secrets in it. Breaking out of the candy house at last! But crises of dangers were still around. Our shadows were "kept" on the magic wall. We had to climb on rocks and mount over the lofty ranges. Gasping and palpitating with fear, we finally escaped from witch's chase. The Candy House is an exhibit full of wonders and interactions with children.

During the new inauguration period, 18 sessions of "Treasure Hunt" were held from May 20 to June 10 with 11,047 visitors participated. In addition, 59 sessions of DIY activities (fan painting, rubbing, and acoustic exploration) were organized at site with 4,352 people participated. From April 17 to August 31, a total of 308 group receptions to the Candy House were arranged with 15,236 visitors participated.



## (2) Launch of Changeable Plastic : Creativity with Plastics in Daily Lives

Subsidized by Ministry of Education's Lifelong Learning Project and with assistance from CPM (Children's Potential to be Motivated) Association, the Museum invited Tohgin Minako, a Japanese art master of daily plastics, to exhibit her creativity in recycled plastics. Ms. Tohgin's masterpieces were exhibited at the west wing corridor on the first floor from October 27 to December 30.

Physical properties of thermo plastics such as plasticity and shrinkage together with trimming technique and colorful decoration ingenuity created all by Tohgin's own were fully utilized in her works and transformed the originally cheap and common plastics into artistic jewel masterpieces. It was the first time in Taiwan to exhibit such manifestation of art creation with properties of plastics. The perfect integration of science with arts simply took viewers breath away in astonishment.

Group reservation sessions were arranged on mornings of Tuesdays through Fridays during the exhibition to facilitate group visits to Master Tohgin's delicate and beautiful works. In addition, rich and colorful activities were held during holidays including guided tours, demonstration of "from egg trays to flowers," and plastic arts DIY with thermo plastics, which not only allowed audiences further understanding of physical properties of plastics but made them identified with the value and importance of plastic recycling. A total of 130 group receptions were arranged with 4,000 visitors, and 22 site activities were held with 9,500 participants.

## (3) Promotion of "Water-saving Education"

Water resources has become one of the important issues for all mankind in the 21st century. It was estimated that about 2.7 billion people would suffer from life-threatening lack of fresh water by the year 2025. To arouse people's attention to this issue, the Museum, sponsored by Water Resources Agency of Ministry of Economic Affairs, held a series of water-saving activities, including:



- ❶ Co-organized with various junior high schools in Kaohsiung Municipality to hold "Creativity Contest for Water-saving in Campuses," a project-based event that enhanced water conservation concepts and understanding of water consumption in campuses, guided young students to think of effective strategies of water consumption and water saving.
- ❷ Taking initiative in bringing knowledge to schools, "Education for Water Conservation in Campuses" campaign provided water-saving tips suited for students of primary and secondary schools. A total of 8 schools were visited in 2007 with 3,000 students participated.
- ❸ To strengthen the concept of water saving and attract visitors to undergo experience, two projects, "Water and Toilets" and "Experience Wind and Rain" were mapped out in 2007 and several water conservation activities were promoted in remote areas.

#### **( 4 ) The Operation of Mini Train Powered by Hydrogen Fuel Cells**

To promote the knowledge of hydrogen fuel cell to students of primary and secondary schools, the Museum spent more than NT\$ 4 million in developing and constructing mini railway system powered by hydrogen fuel cell including trains, rails and hydrogen station which was the first application of fuel cells in mini passenger trains to promote environment conservation and sustainable energy. Hydrogen fuel cells are clean and environment-friendly energy sources which are pollution free and emit only pure water and heat as waste.

The Museum held an inauguration ceremony on April 11, 2007 for the operation of mini train powered by hydrogen fuel cells. All distinguished guests in the ceremony including Dr. Lee Yuan-Tseh, Mr. Wu Rong-I, Convener of Taiwan Fuel Cell Partnership, Division Director Chen Jin-De, Bureau of Energy, Ministry of Economic Affairs, and Director Zhang Feng-Teng, Environmental Protection Bureau of Kaohsiung Municipal Government expressed praise to the success of this event as well as to the efforts from the Museum devoted to the popularization of hydrogen fuel cells.

Train rides in the museum park by mini trains powered by hydrogen fuel cells have been operated regularly on Saturdays, Sundays and public holidays. A total of 99 operations took place in 2007 with 18,216 passengers participated.





### ( 5 ) Setting up "Scientific Labs in Tribal Units"

The Museum has been continually engaged in science popularization in southern Taiwan and promoting science education in remote districts over a long period of time aiming for bridging the urban-rural difference in education resources. This year, with the concept of "Deliver Education to You" , "Scientific Labs in Tribal Units" were set up within the classrooms of aboriginal schools in remote districts of southern Taiwan.

The first station of "Scientific Lab" was Chingyeh Elementary School of Ping Tung County and the unveiling ceremony was held on December 20. Six interactive exhibits namely Air Rocket, Irritating Maze, Hand Battery, Windmill, Raceway, and five sets of hands-on materials of light and communication namely Light Labyrinth, A Stroke of Lightning, Morse Code, Peeping Tom (periscope), the Farsighted (Telescope) were included in this lab at Chingyeh Elementary School. Besides, a collection of 200 books also enriched the content of the lab. The lab would stay at Chingyeh for three months serving students of that school and other neighboring schools. Several students of Chingyeh were trained to be docents to provide explanation for visitors.

In the future the lab would be expanded and make travelling tours in southern Taiwan delivering scientific knowledge and bringing education resources as well as pleasant and interesting learning environment to children in tribal units.

### ( 6 ) Holding an Science Popularization Event "Lifting an Elephant with Hairs"

Following the 2006 science popularization event in mechanics "the Mighty Hair", held in spring, the Museum held a temporary exhibition on hair "The Hair Code" at the end of 2006. Co-organized with Wan Pi World in Xue Jia Township, Tainan County, a science popularization event was held in a grand manner, Lifting an Elephant with Hairs, in which the sharp contrast between the minute hair and the giant elephant was designed to arouse people's curiosity to find out the whys and wherefores. Press coverage by electronic and print media further helped to make this event come into notice. Considering elephant's state of mind and wildlife conservation, the elephant was replaced with 7,800 kilograms of stones and logs and uplifted by 320 thousand hairs. On average, a hair takes up to 60 grams and 320 thousand hairs will hold approximately 19,000 kilograms.

### **( 7 ) Holding the 6th High School Innovation Competition Using High-temperature Superconductors for Magnetic Levitation-A Scientific Feast for High School students**

The 6th Senior High School Students' Creativity Contest in Magnetic Levitation Using High-temperature Superconductors was sponsored by National Science Council (NSC) and co-organized by Institute of Physics, Academia Sinica, National Cheng Kung University, National Science and Technology Museum, National Central University, National Kaohsiung Normal University, and National University of Tainan with 36 teams and about 180 students from general and vocational high schools nationwide participated. These teams were winners out of 236 teams (more than 1,000 students) in preliminary contests. After further honing and improving for eight months, they finally completed their creativity works and presented their works in the final contest.

Various kinds of creativity and ingenuity can be found in the venue, such as "Spirits Scorching the Eyes" that participated in the contest of Magnetic Levitation Distance, the prize winner of Creativity Award "Auto Fire Fighting Sprinkler System", and the "Sparks!" favored by Academician Wu Mow-Kuen attracted much attention. A team from a renowned Japanese high school was specially invited to this contest. Dr. Hajime Ozaki, Dean of Honjo Campus, Waseda University, a professor eminent for science education and with special interest in research of high temperature superconductors led 2 physics teachers and 4 high school students to attend this contest.

What are practical applications of high-temperature superconductors? In addition to the Maglev Train that we often heard of, scientists worldwide in this field are very interested in creating new applications and have been devoting considerable efforts in it. New wonders from technologies of superconductivity and magnetic levitation can be expected in the near future.

### **( 8 ) The 2007 Cross-Strait Summer Camp and High School Competition on Mechanics Exchange**

Commissioned by the Society of Theoretical and Applied Mechanics, the Museum has begun to organize the Taiwan High School Students' Mechanics Competition starting 2004. The preliminary written test was held in April and the finals that covered both theories and practice were held in May. About 1,000 students registered for the preliminary test and the top 200 of which were qualified to take part in the finals. The top 15 students in the finals would then be contestants to participate in the Summer Camp on Mechanics Exchange and High School Competition between the two Straits in July. During past years, the competition was organized by Feng Chia University in Taichung in 2004, Hunan University in Changsha, Hunan Province in 2005, National Cheng Kung University in Tainan in 2006, and Xi'an Jiaotong University in Xi'an City, Shaanxi Province in 2007. The organizer in 2008 would be National Tsing Hua University in Hsinchu City. The Museum assists in planning itineraries for this event while funds for activities will be raised by the hosting university.



## ( 9 ) Promotion of Elder Education

As a national social education institute, the Museum, in view that Taiwan is entering an aging society, applied to Ministry of Education for the project of "Falling in Love with the Museum: Family Education, Elder Education, and Women's Education," aiming at four goals of lifelong learning, health and happiness, independence and dignity, and social participation in carrying out the policy of elder education. Though being approved, the project, restricted to the budget, was only performed in part, among which, "Bringing E-era to the Elderly," a computer course for senior citizens were conducted in three turns with a total of 102 participants. Original plan of visiting other museums in the project was implemented under the name "Gray-haired GO! GO! GO!" as part of activities in the "2007 Lifelong Learning Series of National Social Education Institute" with 829 participants in ten turns.

The promotion of science and technology education conducted by the Museum was mainly targeted at students of primary and secondary schools. The endeavour of elder education project to Ministry of Education was the first time for the Museum. With assistance from Senior Citizen's Service Center of Social Affairs Bureau of Kaohsiung Municipal Government, this project attracted and encouraged the elderly to enhance science and technology knowledge, was satisfyingly completed and received favorable reviews.

## ( 10 ) Activities Related to the Exhibitions

- ◎ "Children's Science Center" series : 385 activities served 30,635 people, including Treasure Hunt, DIY activities (fan painting, rubbing, and acoustic exploration) and activities for group receptions.
- ◎ Summer and winter camps : 41 activities served 2,253 people.
- ◎ "Science Theater" series : 66 activities served 5,102 people.
- ◎ "Mini-train Riding: Usage of Hydrogen Fuel Cell" : 99 activities served 18,216 people.
- ◎ "A Unicycle with Two Wheels: Gyroscopes on Segway": A total of 159 sessions were held with 13,120 participants.
- ◎ "Astronomical Activities" : 8 activities served 481 people.
- ◎ "Coordinating Activities to Various Festivals" : 12 activities served 2,524 people, including "Pigs Paying New Year Calls," "Glutinous Rice Tamale and Dragon Boat Festival," "Happy Moon Festival" and "Make Your Own Chocolate House".



- ◎6 competitions attracted 1,841 contestants. Activities included : "The 2007 Mechanics Exchange and High School Competition of Mechanics between the Two Straights", "Creativity Contest for Water-saving in Campuses", "The 6th High School Innovation Competition Using High-temperature Superconductors for Magnetic Levitation", "Contest of Spaghetti House" and "FIRST LEGO® League in Taiwan".
- ◎"Book Reading and Science Education" sponsored by National Science Council : 6 activities served 1,000 people.
- ◎"The Science Skill" series of activities : 14 activities served 631 people.
- ◎"Food Industry - Canned Food Baby" series of activities: 27 activities served 965 people.
- ◎"Visit the NSTM Project" : hands-on science activities, which were by appointment only, 70 activities served 7,328 people.
- ◎"Assisting the Remote Districts Middle and Elementary Schools of the South" to root science and technology education : 16 activities and served 6,282 people.
- ◎"The Science World of  $10^{-9}$  Meter: What is Nanometer?" series of activities : 13 activities served 7,483 people.
- ◎Other science education activities for the temporary exhibitions :
  - \*"Diversity of Taiwan" series of activities : 47 activities served 6,955 people.
  - \*"Green Energy" series of activities : 13 activities served 3,837 people.
  - \*"Formosan Toys Festival" series of activities : 32 activities served 2,038 people.
  - \*"Pedalling into the Dream : Exhibition of Biking Sport" series of activities : 18 activities served 712 people.
- ◎"Services outside the Museum" : 51 events served 72,357 people, including : "Taiwan Nano Tech 2007: Nano Carnival", "Penhu Aviation Fair in Magong Airport", "Publicity Campaign on Aviation Safety in Kaohsiung International Airport", "Parent-Child Activity and Birthday Party for Civil Workers' Families of Kaohsiung County Government", "2007 Jiading Township Office Parent-Child Activity", "The Good-Neighbour Program" and "Information Expo: Dynamic Display of Mini Train Powered by Fuel Cells".
- ◎"Teacher Training Seminar" : 10 seminars served 642 people.
- ◎"Serial Lectures" : 23 lectures served 719 people which included : "Astronomy Series", "Nanometer Technology Series", "Lectures on Biking Sports and Recreation Exhibition", "Jin Ling Health Lectures" and "Lectures on Formosan Toys Festival".
- ◎"Seminars" : 4 seminars served 206 people which included : "2007 School Principals' Symposium on Museum Resources for Primary and Secondary Schools", "Technology and Exhibition Workshop" and an international conference on "Learning Program Development and Project-based Learning in the E-Society".

## Public Services

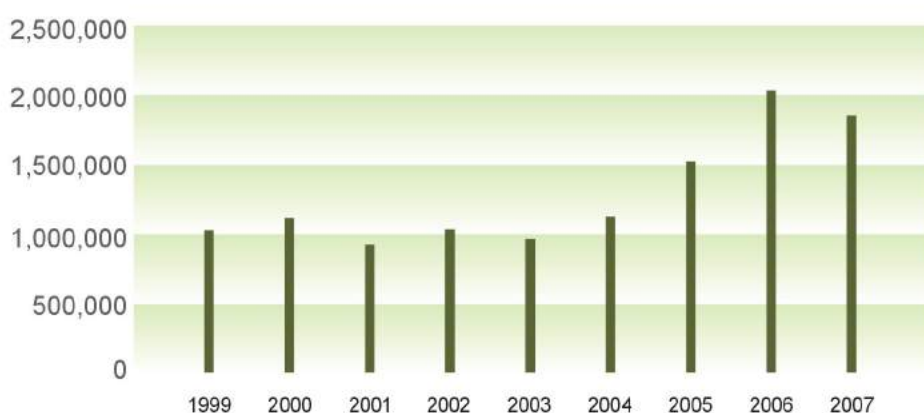
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### Increase the Number of Visitors by Enhancing the Quality of Public Facilities and Services

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 planned to adopt diversified marketing strategy to attract more visitors. This year, a total of 1,729,052 people visited the museum.

#### [ Statistics of Served Visitors ]

Year	Exhibition Halls	IMAX® 3D Theater	Multimedia World	Charged Temporary Exhibitions	Experiential Units	Outside Museum Services	South Complex	Outdoor Activities	Total Number of Visitors
1999	657,833	255,188	0	0	0	0	114,135	15,814	1,042,970
2000	659,409	241,108	8,653	156,480	0	0	107,908	46,433	1,219,991
2001	460,152	168,313	16,610	1,925	0	0	107,653	89,363	846,149
2002	489,756	208,288	1,402	134,278	0	0	131,093	71,420	1,036,237
2003	469,200	160,457	327	0	0	0	74,677	236,919	941,580
2004	720,935	204,811	6,120	142,223	0	0	103,850	78,967	1,256,906
2005	669,391	245,853	10,553	171,928	0	0	121,937	296,811	1,516,473
2006	660,711	214,713	9,205	200,050	131,776	425,828	167,438	249,543	2,059,264
2007	498,892	190,502	6,334	14,391	107,676	430,496	202,269	278,492	1,729,052



## 2 Major Achievement

### ( 1 ) Providing Quality Guided Tour Service and Robot Shows to Enrich the Visits

Following daily robot shows, a hands-on science performance is offered to demonstrate scientific concepts. The Museum also provides daily guided tours and " Open Your Eyes" services to give an in-depth introduction to the exhibitions providing the visitors fruitful and pleasant visiting experience. Additional on-site introduction, scheduled guided tours and theme tours arranged on holidays allow visitors for more accessibility to our guided service.

#### 【 Visitors Served by Guided Tours & Robot Shows Over the Years 】

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007
Guided Tours	107,296	153,469	88,325	80,254	95,254	138,679	136,953	139,284	126,603
Robot Shows	23,603	23,646	26,588	35,946	32,551	63,639	58,122	57,838	49,227
Total	130,899	177,115	114,913	116,200	127,805	202,318	195,075	197,122	175,830

### ( 2 ) Taking Initiative in Conducting Education and Training Programs for Docents and Assessing Competency

12 training courses, 11 lectures and 1 visit were arranged for docents of special exhibitions. Strict assessment scheme was carried out to evaluate competence of staff docents and volunteer docents, in which staff docents were assessed once every month focused on permanent exhibitions of the Museum while volunteer docents were assessed twice a year based on both permanent and temporary exhibitions. In this year, 8 staff docents passed 55 assessments and 80 volunteer docents passed 168 assessments.



### ( 3 ) Marketing and Promotional Events

In cooperation with temporary exhibitions, major festivals and instructional activities of the Ministry of Education, the museum held 82 marketing and promotional events this year.

#### 【 Statistics of Marketing and Promotion Activities 】

Types Year	Temporary 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
2006	30	2	0	37	8	30	107
2007	31	2	1	27	9	22	82

### ( 4 ) Community Activities to Strengthen Community Relationship

22 movie preview activities were held for residents of the 14 neighborhoods near the museum which attracted a total of 4,484 people. From March 3 to March 11, 2007, the two movies " Shacklton's Antarctica Adventure" and "Sharks" attracted 2,938 people; from August 18 to 26, 2007, the two movies " Dinosaurs: Giants of Patagonia" and "Wired to Win" attracted 1,546 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 26,135 people visited the museum throughout 2007. As part of the 10th Anniversary celebration, a community garden party entitled "Living Technology" was held on December 8, 2007 with about 20,800 participants. 8 neighborliness events were organized jointly with several organizations in Kaohsiung including: An Fa Community Development Association, Churches in Sanmin District, Humane Caring Association, Sanmin District Office and Kaohsiung Soka Association. 2 computer classes for neighborhoods were conducted from March 6 to March 15, 2007 with 56 participants.

## ( 5 ) Employment of Mass Media as a Marketing Approach

Through press conferences, news releases and co-production of programs with mass media, information relevant to temporary exhibitions and events of the Museum was communicated to the public, popularity of the Museum was enhanced and good interactions with the media were performed. There was a total of 697 press coverage in this year. Within the Museum studio, a series of 52 dedicated radio programs introducing temporary and permanent exhibitions and educational events of the Museum were produced and broadcasted on Saturdays from 11:05 to 12:00 in National Education Radio Station Kaohsiung Branch.

### 【 Press Coverage Statistics 】

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007
Number	308	515	292	506	546	783	738	762	697

### 【 Press Coverage Statistics for 2007 】

Month Media	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
	48	83	49	51	77	47	67	67	39	54	53	62	697

## ( 6 ) Enhancing Discount Programs and Service toward Disadvantaged Minorities

Under projects co-organized with National Science Council, disadvantaged minority groups were invited to the Museum for visits with a total of 1,818 people in 28 groups participated.



## **( 7 ) Integrating Social Resources to Save Museum Expenses**

The NSTM received social resources from 24 institutions, including Education Bureau, Kaohsiung City Government, Bureau of Cultural Affairs Kaohsiung City Government, Chunghwa Telecom, Taiwan Public Television Service, Shu-Te Home Economics & Commercial High School, Ju Percussion Music School, Far Eastern Géant, Henan Operal Troupe of National Guoguang Opera Company, National Kaohsiung Normal University, Wan-Pi World, Chung Tang Publishing Co., Jin Sheng Radio Station, Liberty Times, Hua Te Vocational High School of Technology & Home Economics, Emmm Travelers' Website, Scientific American Magazine Taiwan Agent, Uni President's Snack Noodle, Ching Hua Wedding Studio, Da Ai Television, Chanel V, Xin Xin Dancing Studio, Chen's Taijiquan Association, China Motor Company and Taiwan Mobile Co., Ltd.. The combined financial resources were equivalent to about NT\$3,950,000.

## **( 8 ) Cooperation with Schools to Fully Utilize Social Resources**

The NSTM sponsors 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. A total of 839 students joined the program and provided 3,357 hours of service during the year.

## **( 9 ) 2007 Lifelong Learning Activities in Social Education Institutes**

Under the project of "2007 Lifelong Learning Activities in Social Education Institutes" coordinated by Ministry of Education, the Museum made an overall marketing plan, in which various exhibitions and events organized by 21 institutions nationwide were connected in the theme of " Learning in a FUN way, Getting MUCH with a family visit." Publicity events and activities of Visitors' Lucky Draw were arranged to encourage people to visit social education institutes nationwide. The Museum launched "Formosan Toys Festival," "Weights and Measures- Standarising Modern Society," "Exhibition of Biking Sport," and "Exhibition of Changeable Plastics" together with marketing events and science and educational activities "Ultimacy of the Brain," "Saving the Next Endangered Animal","The Great Adventure," "Relay Around Taiwan," "Grey-haired GO GO GO, " and "I'm a Science Star " with about 125,080 visitors participated.





#### ( 10 ) **New Venue for Street Performers**

Museum plaza has become a venue for street performers on holidays, attracting audience to watch and enjoy musical and art performance. A total of 152,568 people participated in such events.

#### ( 11 ) **Reinforcing International Marketing**

In execution 2007 Overseas Survey Project, Visitor Services Division participated in "Museums and The Web 2007," an international conference held in San Francisco, USA, to exchange views on issues of digital applications with worldwide participants.

#### ( 12 ) **To Expand the International Communication by Participating in the International Council of Museums**

The Museum participated in 2007 ASPAC annual meeting held in Miraikan Tokyo from June 19 to 22, 2007. Two reports, entitled "Outreach Strategy: Cooperative Experiment for Human Hair Lifting Up an Elephant" and "Having Fun: Science Communication in NSTM" were presented to the exchange of experience in real practice as well as to enhance Museum's publicity in the international community.



## Budget Management

### 1 Official Business Budget

Before the year of 2006, NSTM applied the system of official business budget for the financial revenues and expenditures which were included within the government treasury. After the grand opening of the museum in 1997, the allocation and implementation of annual budget were stated in the following 2 tables :

#### 【 Annual Forecasted and Actual Income 】

Unit: thousand NT dollars

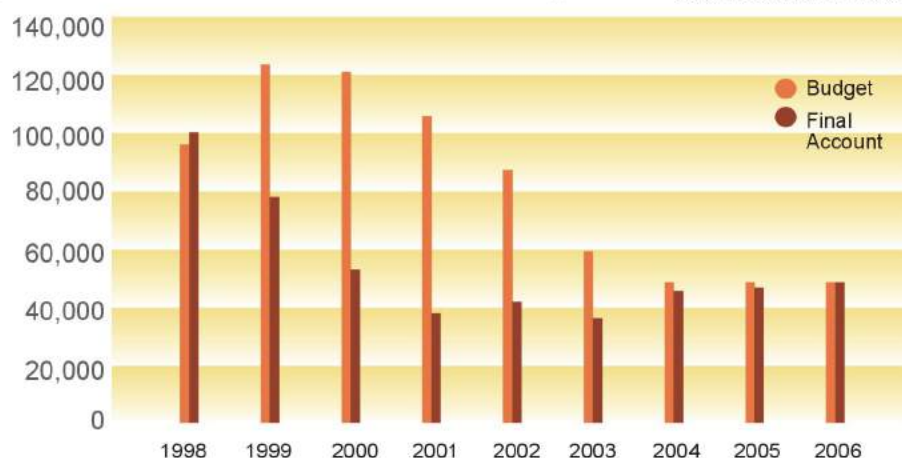
Item Year	Total			Compensation Income		Supply		Ground Lending and Others		Miscellaneous Revenue	
	Budget	Final Account	Implementation Rate	Budget	Final Account	Budget	Final Account	Budget	Final Account	Budget	Final Account
1997	127,954	233	0.2%	49	0	700	221	127,200	7	5	5
1998	93,950	100,588	107%	500	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
2006	52,595	52,213	99%	300	39	80	29	51,915	51,016	300	1,129

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

#### 【 Annual Forecasted and Actual Income 】

Unit: thousand NT dollars



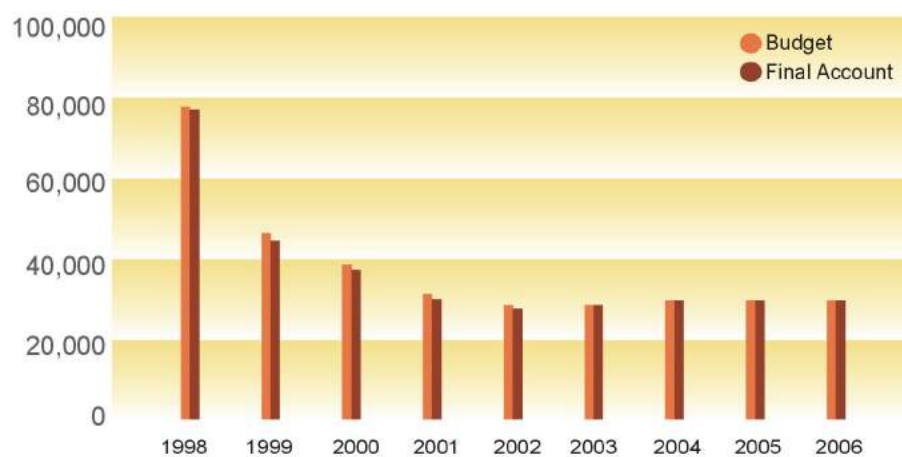
## 【 Annual Expenditure and Implementation 】

Unit: thousand NT dollars

Item Year	Budget			Final account			Implementation Rate (%)
	Total	Current Account	Capital Account	Total	Current Account	Capital Account	
1997	1,689,279	151,651	1,537,628	1,648,126	110,501	1,537,625	98%
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%
2006	290,320	272,811	17,509	285,905	268,526	17,379	98%

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

## 【 Annual Expenditure and Implementation 】





## 2 Operations Fund ( Starts from the Year of 2007 )

### ( 1 ) Overview of Allocations

Since 2007 due to the financial difficulties of the government, the Ministry of Education established "Operations Fund for the National Social Education Institutes" in order to lessen the burden and promote the potential and the will of institutes to search for new revenues. Because the percentage of self-raised fund of the Museum is over 15% and with more capabilities, NSTM was chosen to be included in the implementation of "Operations Fund for the National Social Education Institutes". Within it, the allocation of sub-budget of subordinate unit budget of the "Operations Fund for the National Science and Technology Museum" was established. The budget for the year 2007 was 303,964,000 NT dollars, which included 285,166,000 NT dollars for the budget of business costs and fees and 18,798,000 NT dollars for fixed assets. Within the budget of business costs and fees, there were: 137,278,000 NT dollars for service costs ( which included personnel fee for 78,130,000 NT dollars ) , 7,265,000 NT dollars for collaborative education costs, 7,335,000 NT dollars for education promotion costs and 133,288,000 NT dollars for management and general administration expenses ( which included 42,751,000 NT dollars for personnel fee ) .

### 【 Spreadsheet of Annual Budget and Disbursement 】

Unit: thousand NT dollars

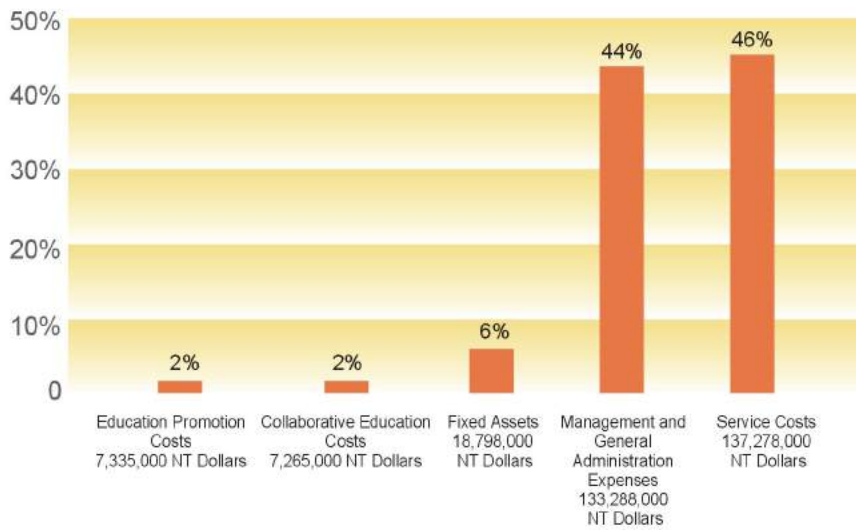
Item Year	General Administration			Exhibition and Operational Costs	General Architecture and Equipments	First Reserve Fund	Total
	Subtotal	Personnel	Business				
1997	101,531	34,245	67,286	80,633	1,507,115	-	1,689,279
1998	99,905	37,050	62,855	86,027	580,171	-	766,103
1999	144,771	102,933	41,838	162,201	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
2006	210,899	119,831	91,068	78,921	-	500	290,320

Item Year	Service Costs	Collaborative Education Costs	Education Promotion Costs	Management and General Administration Expenses	Ordinary Expenditure Total	Fixed Assets
2007	137,278	7,265	7,335	133,288	285,166	18,798

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

2. Source: Annual Budget Statements

【 2007 Legal Budget 303,964,000 NT Dollars 】



( 2 ) The Allocations for 2007 Budget of "Objectives Accounts"

From the analysis for the expenditure of the objectives accounts, the highest one was service fee for 123,117,000 NT dollars which were more than 40.5% of the expenditure, employee fee was 40.1% for 121,781,000 NT dollars, materials and articles fee was 9.5% for 28,934,000 NT dollars, fixed assets were 6.2% for 18,798,000 NT dollars, rent and interest were 3.4% for 10,385,000 NT dollars and others was 0.3% for 949,000 NT dollars.

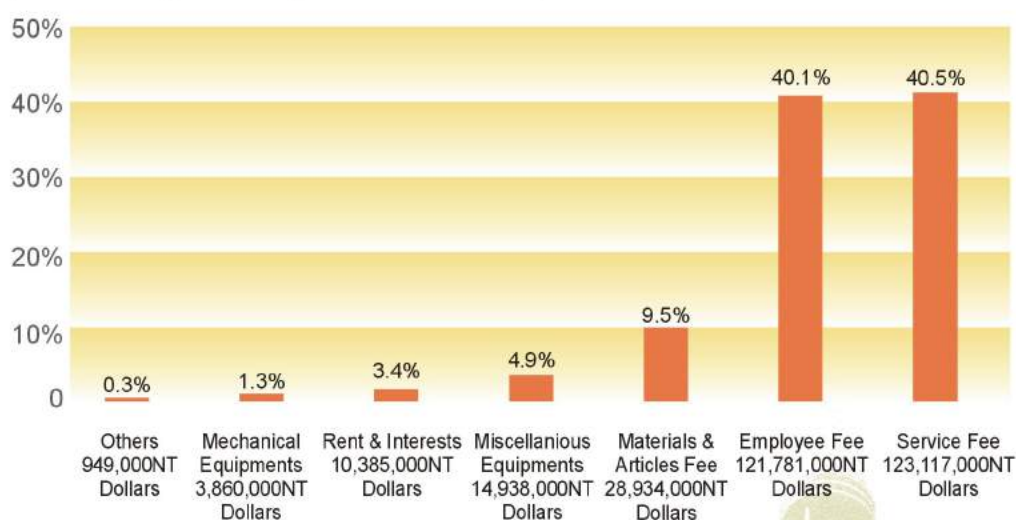
【 2007 Budget of Objectives Accounts 】

Unit: thousand NT dollars

Item	Employee Fee	Service Fee	Materials & Articles Fee	Rent & Interest	Others	Mechanical Equipments	Miscellaneous Equipments	Total
Service Costs	78,130	32,351	16,445	10,265	87	-	-	137,278
Collaborative Education Costs	900	3,035	2,725	120	485	-	-	7,265
Education Promotion Costs	-	5,708	1,582	-	45	-	-	7,335
Management and General Administration Expenses	42,751	82,023	8,182	-	332	-	-	133,288
Fixed Assets	-	-	-	-	-	3,860	14,938	18,798
Total	121,781	123,117	28,934	10,385	949	3,860	14,938	303,964

Source: Annual Budget Statements

### 【 2007 Budget of Objective Accounts 】



### ( 3 ) 2007 Final Accounts for Receipt and Expenditure

The total revenues of 2007 were 321,744,000 NT dollars, which included 219,208,000 NT dollars for subsidies for the development of social educational institutes at 68.13% and 102,536,000 NT dollars for self-raised fund at 31.87%. The highest one of the total revenues was 53,381,000 NT dollars for collaborative education revenues at 16.59%, 27,792,000 NT dollars for service revenues at 8.64%, 12,626,000 NT dollars for assets usage and loyalty at 3.92%, 7,332,000 NT dollars for education promotion at 2.28%, 1,405,000 NT dollars for others at 0.43%. The business costs and fees was 464,479,000 NT dollars at 144.36%. The real shortage of this year was 142,735,000 NT dollars which was caused by the write-off depreciation and amortization according to the rules of operations fund.



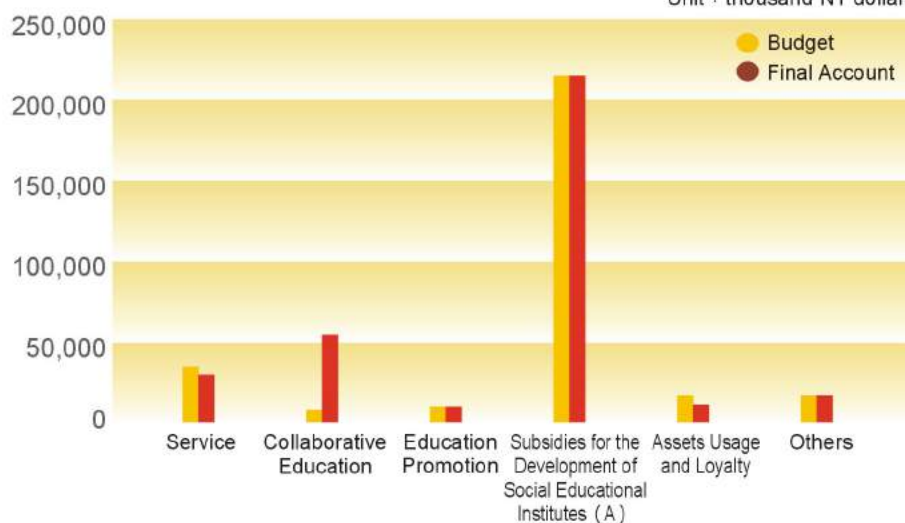
## 【 2007 Final Accounts for Receipt and Expenditure 】

Unit : thousand NT dollars

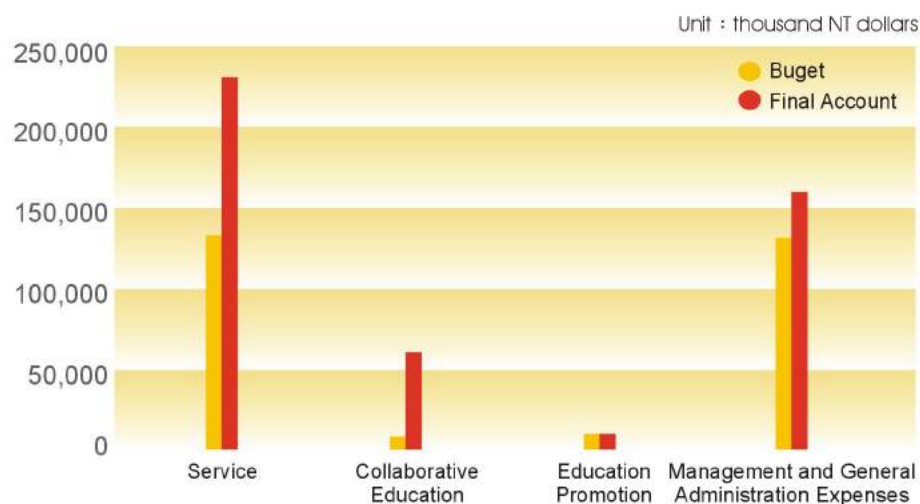
Item	Budget		Final Account	
	Amount	%	Amount	%
Business Revenues	270,283	94.71	307,713	95.64
Service Revenues	36,475	12.78	27,792	8.64
Exhibition Halls	19,800	6.94	14,861	4.62
IMAX® 3D Theater	16,675	5.84	12,931	4.02
Collaborative Education Revenues	7,265	2.54	53,381	16.59
Education Promotion Revenues	7,335	2.57	7,332	2.28
Subsidies for the Development of Social Educational Institutes ( A )	219,208	76.82	219,208	68.13
Other Revenues	15,083	5.29	14,031	4.36
Interest Revenues	100	0.04	717	0.22
Revenues for Assets Usage and Loyalty	14,537	5.09	12,626	3.92
Penalties for Contract Breaking	210	0.07	141	0.04
Miscellaneous Revenues	236	0.08	547	0.17
Total Revenues ( B )	285,366	100.00	321,744	100.00
Business Costs and Fees	285,166	99.93	464,479	144.36
Service Costs	137,278	48.11	243,240	75.60
Collaborative Education Costs	7,265	2.54	51,905	16.13
Education Promotion Costs	7,335	2.57	7,332	2.28
Management and General Administration Expenses	133,288	46.71	162,002	50.35
Total Expenditures	285,166	99.93	464,479	144.36
Surplus(Shortage-)	200	0.07	-142,735	-44.36

## 【 Comparison between Budget & Final Account of Revenues 】

Unit : thousand NT dollars



### 【 Comparison between Budget & Final Account of Expenditure 】



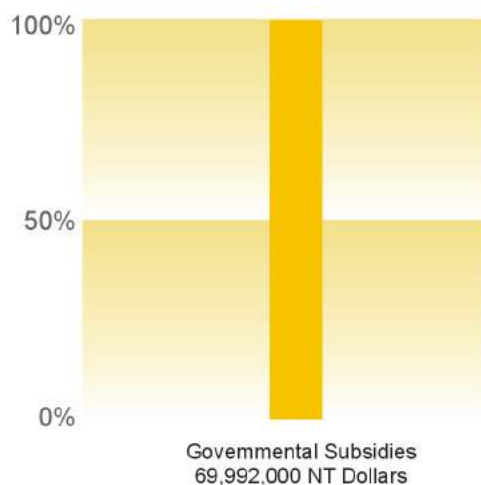
### ( 4 ) 2007 Budget & Final Account of Capital

The final account of capital was 69,992,000 NT dollars, which included 49,228,000 NT dollars for improvement of construction for fixed assets, 1,009,000 NT dollars for immaterial assets ( computer software ) and 19,755,000 NT dollars for pass to postpone debit ( administer on behalf of repairs of assets ) . The expenditures were all from governmental subsidies without any self-raised funds.

### 【 2007 Budget & Final Account of Capital 】 【 Source of Capital Account 】

Unit : thousand NT dollars

Item	Budget	Final Account
Improvement of construction for Fixed Assets	18,798	49,228
Governmental Subsidies	18,398	49,228
Self-raised Funds	400	-
Immaterial Assets	-	1,009
Governmental Subsidies	-	1,009
Self-raised Funds	-	-
Pass to Postpone Debit	-	19,755
Governmental Subsidies	-	19,755
Self-raised Funds	-	-
Total	18,798	69,992





## Museum Chronology for 2007

Date	Summary
2007.01.01	Starting the year of 2007, the type of budgeting of the Museum has been changed from Unit Budget to Sub-budget of Subordinate Unit Budget. "Essentials of the Establishment of Financial Planning Team of National Science & Technology Museum Fund" was promulgated on January 26, 2007 and a dedicated team was formed to map out matters concerned with the utilization and investment of the Museum Fund.
2007.01.06	The "A Rhapsody of Kites" published by the Museum was conferred "the Gold Award of Creativity" and "Special Award of Enterprise" of "2007 Taiwan Visual Design".
2007.01.06 } 2007.04.26	The "Precious, Progress, Priceless- Exhibit of Taiwan Industrial Collection III : Life and Metrology" hosted by the Museum and co-organized by Taipei Songshan Airport exhibited various weighing and measuring apparatus in the metric system used during the Japanese occupation period. The exhibition ended on April 26, 2007.
2007.01.19 } 2007.04.01	The opening ceremony of "Diversity of Taiwan," a temporary exhibition organized by National Science Council, Executive Yuan and undertaken by the Museum was held on January 19, 2007. The exhibit was displayed in the temporary exhibition hall located on the B1F and central gallery of the Museum till April 1, 2007. Starting from January 20, 2007 science and educational activities were also arranged during Saturdays and Sundays.
2007.01.23 } 2007.04.11	The opening ceremony for the exhibit of "Biodiversity and Human Beings" planned by the Ministry of Foreign Affairs, France, hosted by La France à Taiwan, co-organized by the Museum and conducted by Fondation Nicolas Hulot pour la Nature et l'Homme and Noé Conservation was held on January 23, 2007. The exhibit was displayed in the west corridor till April 11, 2007.
2007.01.30 } 2007.02.04	The exhibition of "Prizewinning Works in 2006 Museum Souvenir Product Design Contest" hosted by National Museum of Natural Science and co-organized by the Museum was held on the 4F of the museum exhibition hall from January 30 to February 4, 2007.
2007.01.30 } 2007.05.27	The "Die & Mold Expo" organized jointly by Metal Industries Research & Development Center, National Kaohsiung University of Applied Sciences, National Kaohsiung First University of Science and Technology and Fu Chun Shin Machinery Manufacture Co., Ltd. opened inaugural on January 30, 2007 in the east corridor located on the 1F of the museum and was displayed till May 27, 2007.
2007.01.27 } 2007.02.03	Co-organized with South Korea Delegates of World Council for Gifted & Talented Children, the Museum conducted an all English instruction program, "iSEE Winter Camp for the Gifted," which was the first international activity of its kind held in the Museum with participation of 45 students of primary and secondary schools from Taiwan, Korea and the United States.
2007.02.02	Director-general of the Museum together with all Division Chiefs and other colleagues, a total of 8 persons visited National Taiwan Craft Research Institute on February 2, 2007. Mr. Lin, Zheng Yi, Director of the Institute paid a return visit to the Museum together with 7 executives and colleagues on February 27 to exchange views and have discussions on collaboration issues.
2007.02.07 } 2007.04.22	"Non Smoking Paradise," a travelling exhibition in central Taiwan dedicated to tobacco control was held at National Museum of Natural Science in Taichung from February 7 to April 22, 2007.



Date	Summary
2007.02.09	2006 Year-end Review Meeting was held at The Grand Hotel with 165 participants of Museum employees and volunteers.
2007.02.16	"Lifting an Elephant with Hairs," an event aiming for Guinness World Record application, was held at Wan Pi World in Xue Jia Township, Tainan County. Considering wildlife conservation 7.8 tons of logs were uplifted instead by 320 thousand hairs.
2007.03.24	The 10 <sup>th</sup> birthday party for Robots Technology and Science was held.
2007.03.29	Co-organized with Water Resources Agency of Ministry of Economic Affairs and Education Bureau of Kaohsiung Municipal Government, the Museum held a creativity contest for water-saving in campuses with about 200 students in 39 teams participated.
2007.03.29 } 2007.04.07	Wang Yuhfong, Chief of Collections and Research Division, made a trip to the United Kingdom on official business to pay visits to the Department for Culture, Media and Sport and several Executive Non-departmental Public Bodies such as The Heritage Lottery Fund, English Heritage (officially known as Historic Buildings and Monuments Commission for England), ICON- The Institute of Conservation and National Trust. A visit to Taiwan by Mr. Stuart B. Smith, Secretary of the International Committee for the Conservation of the Industrial Heritage and international collaboration projects between Taiwan and UK were also arranged.
2007.03.31 } 2007.04.29	Co-organized with Kaohsiung Municipal Government for the first time, the Museum held the event of "2007 Kaohsiung Musical Performance Festival for Art Program Students at All Levels" at the plaza in front of the theater during Saturdays and Sundays.
2007.04.01	The IMAX® 3D Theater with brand new style and features after complete renovation of chairs and carpets was opened to the public.
2007.04.11	The Museum held an inauguration ceremony on April 11, 2007 for the operation of little train powered by hydrogen fuel cell. All distinguished guests in the ceremony including Dr. Lee Yuan-Tseh, Mr. Wu Rong-I, Convener of Taiwan Fuel Cell Partnership, Division Director Chen Jin-De, Bureau of Energy, Ministry of Economic Affairs, and Director Zhang Feng-Teng, Environmental Protection Bureau of Kaohsiung Municipal Government expressed praise to the success of this event as well as to the efforts from the Museum devoted to the popularization of hydrogen fuel cells.
2007.04.12	Opening ceremony of "Candy House," the renovated second stage display of Children's Science Center of the Museum, was held on the B1F corridor to inaugurate the exhibit to the public. Decorated with scenes from Grimm's Fairy Tales, this exhibit was aiming for expanding multisensory experience of children in kindergartens.
2007.04.26	Opening ceremony of the "Science Laureates," one of permanent exhibitions, was held on the 4F corridor to inaugurate the exhibit to the public. Radiation Monitoring Center of Atomic Energy Council, the Executive Yuan demonstrated radiation detection during the ceremony.



Date	Summary
2007.04.28 } 2007.05.06	The opening ceremony of the "47 <sup>th</sup> Science Fair of Primary and Secondary Schools in Kaohsiung City" organized jointly by the Museum and Education Bureau of Kaohsiung Municipal Government and undertaken by Min Zu Elementary School was on April 28 at the lobby of the Museum. And it was displayed from April 28, 2007 to May 6, 2007 in the Temporary Exhibition 2 and 3.
2007.04.16 } 2007.04.21	Invited by French government, Wang Jhing-fa, Director-general of the Museum paid a visit to France to make a survey of French science museums and had discussions on cooperation arrangements with French museums.
2007.05.10 } 2007.05.13	The opening ceremony and press conference of the 2nd Joint Exhibition of College Creativity Design Students in Southern Taiwan- "Young & Talented Designers' Exhibition," guided by Council for Cultural Affairs, the Executive Yuan, organized by R.O.C. Designers' Association and co-organized by the Museum was held on May 10, 2007 at the Triangular Lobby. With 12 departments and institutes of 8 schools participated, the exhibition was displayed in the Temporary Exhibition 2 and 3 till May 13.
2007.05.12 } 2007.06.24	The travelling exhibition of "Non Smoking Paradise" was moved to Makung City of Penghu County. The exhibition was arranged at Penghu Welfare and Service Center for the Disabled from May 12 to June 24, 2007.
2007.05.19	To echo with the International Museum Day, a public lecture course "Relic Identification and Preservation" was conducted at the Triangular Lobby with an audience of about 80 persons.
2007.05.24	President Chen Shui-bian arrived at the auditorium of South Complex and graced with his presence an occasion arranged by Ministry of Justice in praise of those individuals and organizations having rendered meritorious service to protecting crime victims in 2007.
2007.05.24 } 2007.05.25	To echo with the International Museum Day, the Museum held a workshop entitled "The Application of Microscopic Technique of Identifying Cultural Conservation Materials Workshop" in South Complex with 80 participants.
2007.05.26 } 2007.07.29	Opening ceremony of the exhibition "The Botanical World of Amis People" organized jointly by the Museum and National Taitung University was held on the 4F corridor on May 26, 2007. The exhibition was displayed through to July 29, 2007.
2007.05.29 } 2007.05.30	The Museum organized two turns of "2007 Symposium on Museum Resources for Principals of Primary and Secondary Schools" with 123 principals or representatives registered, but 90 of them participated, from 115 schools in 7 counties and cities in Southern Taiwan.
2007.06.19 } 2007.06.22	Director-general of the Museum led a team consisted of Researcher Yu Jui-Chen, Lo Szu-yi of Public Service Division and Nelson Chen of Technology Education Division to participate in 2007 ASPAC annual meeting held in Miraikan Tokyo. The Director-general made a report entitled "Outreach Strategy: Cooperative Experiment for Human Hair Lifting Up an Elephant" in the group discussion on Successful Outreach Programs. Lo made a report entitled "Having Fun: Science Communication in NSTM" in the group discussion on Developing Science Communicators and Nelson made a demonstration entitled "Intercept in the Mid Air" in the session of Communicate Science in a Fun Way.



Date	Summary
2007.06.26	16 executives of Education Bureau of Kaohsiung Municipal Government paid a visit to the Museum and had discussions on mutual cooperation.
2007.06.26 { 2007.09.25	With exhibits provided by Taiwan Toy Museum, the exhibition "Formosan Toys Festival" arranged by the Museum and sponsored by Shihlin Electric & Engineering Corp...etc. was inaugurated in the B1F Circular Plaza on June 26, 2007. The exhibition was displayed in the temporary exhibition 2 till September 25, 2007.
2007.06.26 { 2007.09.25	Guided by Sports Affairs Council, the Executive Yuan, organized by the Museum and co-organized by Giant Manufacturing Co., Ltd. and Cycling & Health R & D Center, the "Pedalling into the Dream: Exhibition of Biking Sport" was inaugurated in B1F Circular Plaza on June 26, 2007. The exhibition was displayed in the Temporary Exhibition 3 till September 25, 2007.
2007.06.28	2007 annual meeting of the Museum Directive Committee was held.
2007.06.29	The first meeting in 2007 of Advisory Committee for Exhibition and Technology Education was held.
2007.07.08 { 2007.12.28	The "Precious, Progress, Priceless- Exhibit of Taiwan Industrial Collection IV : Telecom Technology Objects " organized jointly by the Museum and Taipei Songshan Airport exhibited 18 pieces of Chunghwa Telecom items in temporary custody of the Museum. The exhibition was scheduled to end on December 28, 2007.
2007.07.10 { 2007.08.26	The travelling exhibition of "Non Smoking Paradise" was moved to Kinmen and displayed at the auditorium of National Kinmen Senior Vocational School from July 10 to August 26, 2007.
2007.07.16 { 2007.07.23	Director-general Wang Jhing-fa led a team consisted of Huang Jun-Fu, Chief of Technology Education Division, Nelson Chen, Research Assistant, 15 high school students and 14 accompanied teachers to Xi'an Jiaotong University in Xi'an City, Shaanxi Province to attend 2007 Cross-strait Summer Camp and High School Competition on Mechanics Exchange.
2007.07.20 { 2007.11.25	The travelling exhibition of "Green Energy" was moved to Taipei and displayed at National Taiwan Science Education Center from July 20 to November 25, 2007.
2007.07.20 { 2008.01.20	Opening ceremony and press conference for the exhibition of "Weights and Measures-Standardising Modern Society", guided by Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs, organized by the Museum together with Center for Measurement Standards of Industrial Technology Research Institute, National Measurement Laboratory, National Land Surveying & Mapping Center of Ministry of Interior and assisted by Department of Cultural Heritage Conservation, National Yunlin University of Science and Technology, was held on 4F of the Museum on July 20, 2007. The exhibition was displayed at triangular Hall on 4F till January 20, 2008.
2007.07.25	The Museum was granted Distinguished Performance Award in the 9th Service Quality Appraisal by the Ministry of Education. Wang Jhing-fa, Director- general of the Museum received the Award from Minister Tu Cheng-sheng in an administration council held on July 25, 2007.



Date	Summary
2007.07.25	"Children of the Earth," a program of Da Ai Television, introduced the knowledge of hairs and invited Nelson Chen, research assistant of the Museum for an interview describing the event of "Lifting an Elephant with Hairs".
2007.08.05	The Kaohsiung District Semifinal of "2007 Spring Soft Creativity Contest" was held in the Museum with 10 teams participated.
2007.08.08	As the prize winner of "The 8th Service Quality Award-Well Utilization of Social Resources," the Museum was invited to the awarding ceremony of "The 9th Service Quality Award of Executive Yuan" organized by Research, Development and Evaluation Commission, Executive Yuan. The Museum written report for the "2006 Performance Enhancement in Service Quality" was graded by the Executive Yuan as "Qualified to Enter into the Finals of Service Quality Award of Executive Yuan," which was the first extraordinary honor since the inception of Museum ten years ago.
2007.08.10	A "Memorandum of Understanding on Mutual Cooperation" between the Museum and Centers for Disease Control, Department of Health was signed to set up an "Exhibition Area for Disease Control" for a period to be ended on June 2012.
2007.08.18	The museum publications "A Rhapsody of Kites" and "Open Sesame" were conferred with "The Bronze Medal" and "Excellent Award" in "The Art Design Award of Western Stars from mainland China (Professional Category of Book Prints)". The "Ancient Arms and Armor" and "A Rhapsody of Kites" were also nominated for the award within the Professional Category of Posters.
2007.08.18 { 2007.08.19	The preliminary contest in Southern Taiwan for "2007 World Robot Olympiad" was held in the Museum with 51 teams entered for events and 11 teams participated in the creativity contest.
2007.08.28	The "Camera, Image and Photography" published by the Museum was conferred the "2006 Award for Outstanding Government Publications (Category of Books)."
2007.09.01	An administrative decree from the Executive Yuan, Ref. No. Yuan Shou Ren Li Zi 0960028735, dated September 10, 2007 was received that Director-general Wang Jhing-fa returned to his original post in National Cheng Kung University starting September 1, 2007. The deputy director-general Chen Shiunn-shyang became acting director-general of the Museum.
2007.09.08 { 2007.09.21	Jason Huang, Research Assistant of the Museum attended on behalf of the Museum to attend the Preservation of Large Technology Objects International Conference, BigStuff 2007 organized by Deutsches Bergbau-Museum and a poster article was presented at the conference.
2007.09.24 { 2007.10.13	To organize events for the sporting month in Hua Lien, Education Bureau of Hua Lien County consulted with the Museum that some of the exhibits of Science of Sport to be borrowed and displayed in Hua Lien.

Date	Summary
2007.09.26	An administrative decree from the Executive Yuan, Ref. No. Yuan Shou Ren Li Zi 0960028997, dated September 17, 2007 was received that Dr. Hsieh Chung-Wu has been appointed as Director-general of the Museum. Director-general Hsieh assumes the post and begins attending to duties starting September 26, 2007.
2007.09.29 2007.09.30	Organized together with The 921 Earthquake Museum of National Museum of Natural Science, National Taiwan Science Education Center and National Museum of Prehistory, the Museum held the preliminary contest of the "2nd National Contest of Spaghetti House" in the lobby of the 1st floor.
2007.10.01	Lin Jong-i, Technical Specialist of the Secretariat was promoted to Chief of Secretariat of the Museum by order and was sworn in according to the Oath Act.
2007.10.02 2007.10.14	"Exhibition of Publications Banned during the Period of Martial Law" organized by Ministry of Education was held by the Museum together with National Central Library.
2007.10.05	Co-organized with Labor Bureau of Kaohsiung Municipal Government, the Museum held in the lecture room of South Complex "Past Ostentatious Prosperity: A Symposium on the Inquiry into Kaohsiung Ammonium Sulfate Factory" targeted at respected senior citizens involved in this event. The elderly also had a look at historic objects of the factory collected by the Museum.
2007.10.06 2007.10.28	"Robots in Taiwan," an exhibition co-organized with Precision Machinery Research & Development Center, was held on the B1F of the Museum.
2007.10.06 2007.10.21	"Exhibition of Results of U19 Creativity Contest" co-organized with Industrial Technology Research Institute was held in the central corridor on the 4F of the Museum.
2007.10.08 2007.10.09	An International Symposium on Promotion of Marine Education co-organized with Department of Marine Biotechnology and Resources, National Sun Yat-Sen University was held in the auditorium of South Complex.
2007.10.15 2007.12.31	The travelling exhibition "Formosan Toys Festival" was held at Solar Exploration Center in Jia Yi.
2007.10.17 2007.10.20	Four exhibits of Non Smoking Paradise exhibition organized by the Museum were invited to exhibit in the 8th AFACT held in Howard Hotel Taipei.
2007.10.20 2007.10.21	An international symposium entitled " Learning Program Development and Project-based Learning in the E-Society" co-organized with National Kaohsiung Normal University and iEARN Taiwan was held by the Museum with experts and scholars from U.S.A., U.K., Japan, Malaysia and Indonesia.
2007.10.23	Arranged by Preparatory Office for Head Administration Agency for Cultural Heritage, Ms. Hazel Newey, Head of Conservation at Science Museum in South Kensington, London together with metal restorers Ms. Carol Snow from USA and John Ashton from Australia, all internationally renowned experts, paid a visit to the Museum.



Date	Summary
2007.10.30 } 2007.10.31	"Conservation of Modern Objects Made of Synthetic Materials Workshop" was held.
2007.10	The "Ancient Arms and Armor" published by the Museum was nominated for "2007 Excellent Visual Communication Design (Category of Design Application)".
2007.11.01	A strategic alliance between the Museum and National Ping Tung University of Education was accomplished by director-general Hsieh Chung-Wu leading a team of 13 staff members visited the University.
2007.11.01 } 2007.11.03	The Museum cooperated with National Sun Yat-Sen University to hold "Final Competitions of 2007 Chimei Awards for Hands-on Project Competitions in General Topics and Industries - University Cooperation Competitions."
2007.11.07 } 2007.12.11	The Museum held the travelling exhibition of "Liberalization and Democratization in Taiwan" organized by Ministry of Education and planned by National Taiwan Democracy Memorial Hall.
2007.11.08 } 2007.11.09	Guided by National Science Council, the Museum held "2007 International Conference on Museum Audience Research" and invited Jocelyn Dodd, Director of Research Centre for Museums and Galleries, Department of Museum Studies, University of Leicester and Dr. Terence McClafferty, Regional Manager of Western Australian Museum, Kalgoorlie-Boulder for academic exchange.
2007.11.10 } 2007.11.11	Organized 2007 Science Exposition jointly with Tainan County Government, the Museum was awarded a Commendation of Gratitude by Magistrate Su Huan-jhih for arranging activities of Energy Technology Education which attracted about 5,000 visitors during the exhibition.
2007.11.11	For the 10th anniversary of the Museum, the Museum held a grand meeting and invited Weng Ron-Tong, Vice Director-general of Department of Social Education, Ministry of Education, Professor Chou Chao-Ji, Director of Preparatory Office, Professor Wang Jhing-fa, former Director-general of the Museum, representatives of Kaohsiung Municipal Government, Directors of relevant social education institutes, representatives of strategic alliances and partnerships, a total of 61 distinguished guests to the gathering. The web site for children was launched and a special exhibition of NSTM Newsletter from the preparatory office till November 12, 2007 was displayed in the Art Café located on 2F.
2007.11.13 } 2007.11.31	The Museum cooperated with the Southern Taiwan Joint Service Center, Executive Yuan to move the travelling exhibition entitled "Hands on and Explore Science" which integrated with the exhibitions of Science of Sport and Nano Technology to the Solar Exploration Center in Chiayi County.
2007.11.17 } 2007.11.18	The 6 <sup>th</sup> High School Innovation Competition Using High-temperature Superconductors for Magnetic Levitation sponsored by National Science Council (NSC) and co-organized by National Cheng Kung University, National Kaohsiung Normal University, National University of Tainan and National Central University was held in the Triangular Lobby of Museum for final contests with 37 teams and more than 200 participants nationwide. A team from Honjo Campus of Waseda University of 2 science teachers and 4 high school third-graders led by Dean Hajime Ozaki was specially invited. Yang Hung-Duen, Deputy Minister of NSC, Lin Chen-Yung, Director of Science Education and a technology press corps from Taipei were invited in the event.





Date	Summary
2007.11	The museum brochure "Open Sesame" was conferred the "Silver Award of The 3 <sup>rd</sup> Gold Award of China Brand" by mainland China.
2007.12.01 2007.12.06	Organized jointly with Education Bureau of Kaohsiung Municipal Government to hold the "Multicultural Carnival of Participant Countries of 2009 World Games" in B1F Corridor for introduction of various cultures of all countries participating World Games.
2007.12.04	The Museum was awarded "The Best Performance Water-saving Organizaion" in 2007 and the awarding ceremony was held in (GIS) General Innovation Service Convention Center with Mr. Chen Shen-Hsien, Director-general of Water Resources Agency, Ministry of Economic Affairs awarding the prizes.
2007.12.04 2007.12.21	The Museum cooperated with the Southern Taiwan Joint Service Center, Executive Yuan to move the travelling exhibition entitled "Hands on and Explore Science" which integrated with the exhibitions of Science of Sport and Nano Technology to Daciao Elementary School at Yong Kang City, Tainan County.
2007.12.08	The 2007 Community Garden Party was held for good neighborliness.
2007.12.10	Guided by National Science Council, the Museum held "2007 International Conference on Museum Audience Research" in the Museum with 2 foreign and 103 domestic participants.
2007.12.14	Co-organized with Chunghwa Telecom Corp., 1,013 school children from remote districts of Kaohsiung County, Ping Tung County, Tainan City and Tainan County were invited to visit the Museum.
2007.12.20	The unveiling ceremony and press conference of "Scientific Labs in Tribal Units" was held in Chingyeh Elementary School with Mr. Cao Chi-hong, Magistrate of Ping Tung County Government as the host and principals of Sai Jia and San Di Men Elementary Schools attending the ceremony. The labs would be operated till end of February 2008.
2007.12.29 2008.03.30	Art Sword Creation of Taiwan's Contemporary Sword Artists was held in Art Café Located at 2F.

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## ANNUAL REPORT

### 年報

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## Annual Report 2007



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