

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

2015

NATIONAL SCIENCE AND
TECHNOLOGY MUSEUM

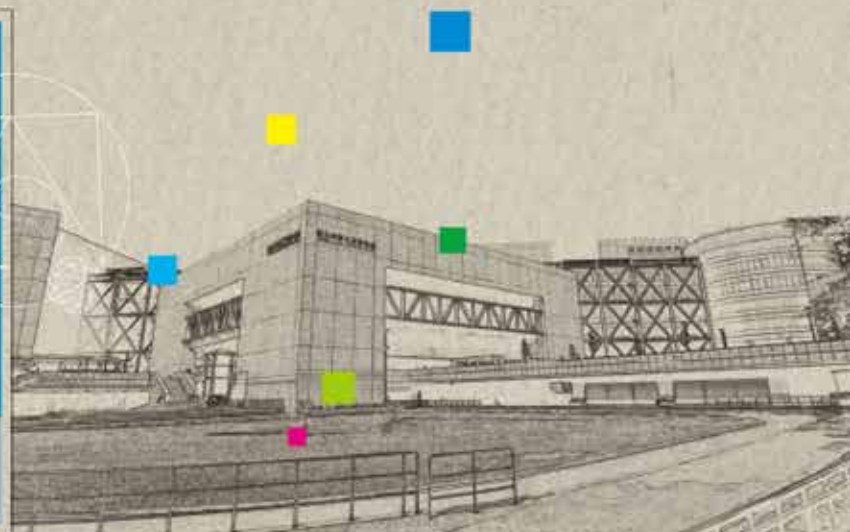
Annual Report











2015

NATIONAL SCIENCE AND
TECHNOLOGY MUSEUM


Annual Report





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Letter from the Director-general



The National Science and Technology Museum (NSTM) was opened in 1997 and is now entering our 18th year in operation in 2015. With joint efforts from our colleagues and associates, we have pro-actively expanded and engaged in international exchanges, as well as forged strategic alliances and collaborations with schools. Internally, we strive to build a professional brand image with the spirit of friendliness, professionalism and innovation in order to create a museum that not only everyone likes to visit but to revisit again and again.

Over the past year, we upheld the work attitude with the value of "Smiling, Enthusiasm, Initiative, Patience, Accountability" , and we strove to inspire the public's interest in science. NSTM has diverse collections and exhibits, as well as wonderful activities and practical cultural and creative applications. Our endeavor in promoting popular science education focuses on the mission of



“making everyone with a science mind” . Moreover, we aspire to build a “green museum” which integrates science into daily lives, and integrating daily lives with science. Thanks to everyone's efforts, we have not only achieved our goals and generated benefits, but also received numerous acknowledgments in the form of external accreditations and awards. These serve to fuel our confidence for forging ahead and inspire our passion to refine our services.

Education is not only the school's responsibility, and the museum is the perfect tool to assist and expand on standard education. At the same time, it is also the ideal venue for lifelong learning. NSTM is driven by the ideal of “Assisting the weak, praying for blessing, technology and low carbon” to look after popular science education for disadvantaged students. In light of this, we launched the “Hand in Hand, Side by Side” welfare program for the disadvantaged, accepting the donations of social welfare enthusiasts for a

price of NT\$10,000 per lantern to financially support over 5,000 economically disadvantaged students in visiting the museum so that they may realize their dream to experience technology.

In addition, we also actively obtained various external resources, funding and cooperative opportunities in order to expand our budget and service strength, thereby generating additional services and values. For the 2015 “Cross-Field Experience, Learning for Life: Project for Cross-Field Value-Adding in National Social Education Institutes Development” , NSTM received a grant from the Ministry of Education to complete the installation of the “E-ticket system” , “Technology Window: The Outdoor Multimedia Interactive Exhibit” , and “Pavilion of Dream Transport Exhibition Hall” , so that the public can effortlessly visit the museum via convenient payment methods to enjoy interesting multimedia interactive experiences.

In recent years, the Maker culture has taken the world by storm, where needs or problems in life are resolved through the hands-on approach. In an effort to enable the public to understand and learn about Maker-related knowledge, NSTM has created “Maker: The True Dreamland” which is a friendly place for Maker, hoping to combine the “hands-on” spirit with modern technology, so that the students or public can engage in the cycle of “think, implement, think and re-implement” via the method of “learning by doing and doing by learning”. In doing so, they can unleash their creativity and innovation through experiencing, in turn generating improvement and transformation to their lives.

In retrospect, we have successfully accomplished various work plans and objectives in 2015. Without the diligent hard work of our colleagues and associates, we could not achieve our goals and receive numerous external acknowledgments and awards. I want to express my sincere thanks to the

dedication and contribution from our work partners, and I also would like to share with you the honors NSTM has garnered through everyone's dedication and diligence.

However, there is nothing best but better! In the future, we will strive to uphold our professionalism as well as the spirit of teamwork and service to offer the public high quality, pleasant education learning and visiting experience. Most importantly, we want to become a museum that not only everyone likes to visit but to revisit again and again.

Shiunn-Shyang Chen

Director-general





Annual Performance and Accolades

Annual Performance

Achieve the function of social education in correspondence with the national education policy

Care about the popular science education of disadvantaged school children

Received a total of NT\$2,904,758 for "2015 NSTM Lanterns of Love" project, offering disadvantaged primary school/high school students nationwide to visit NSTM for free (including offshore islands).

2015 NSTM Lanterns of Love project serviced 5,178 students from 345 schools.



2015 NSTM Lanterns of Love project serviced

345 schools

5,178 students

Obtain resources to organize a variety of science education related activities

In order to accomplish the mission of making everyone with a science mind, unique courses have been designed for different age groups, including: NSTM little Creative Master, winter/summer camps, weekend learning course, NSTM Fun Science, NSTM Creative Life School and Technology Senior Alumni Association.

In 2015, 1,877 internal/external events were held to serve 336,798 people.

NSTM held

1,877 events

served

336,798 people



Establish “Maker The True Dreamland”

Space renovation and software arrangement are conducted to establish the Maker Workshop that offers maker-friendly environment for our patrons to understand and learn about the expertise associated with makers. Moreover, the series of events are combined to let the public understand, recognize and participate in the maker movement.

Hosted the Maker Wisdom Expo'15 in Southern Taiwan

In collaboration with Education Bureau, Kaohsiung City Government and KSMA, we hosted the Maker Wisdom Expo'15 in Southern Taiwan in order to create a base exclusively for makers in southern Taiwan. A total of 120 stalls attended in the expo, which saw participation from approximately 20,000 visitors.

Expand the budget scale to generate more services and values

Implement measures to increase income and decrease expenditure

In 2015, a total income of NT\$157,050,411 was generated and NT\$60,352,834 was conserved, totaling NT\$217,403,245, which was an increase of NT\$44,206,377 compared to 2014.

totaling

217,403,245



Combine social resources to improve exhibit performance

In 2015, social resources from at least 47 partners were combined to organize different exhibitions, which was a 2% increase over 2014. The total value of social resources pooled amounted to NT\$123,599,925.

Obtain budget to upgrade visiting experience and service quality

The Ministry of Education subsidized NSTM to conduct the “Cross-Field Experience, Learning for Life: Project for Cross-Field Value-Adding in National Social Education Institutes Development” over 2014 to 2017. In 2015, NT\$53,001,500 was subsidized to complete “E-ticket system”, “Technology Window: The Outdoor Multimedia Interactive Exhibit” and “Pavilion of Dream Transport Exhibition Hall”, so that the public can effortlessly visit the museum via convenient payment methods to enjoy interesting multimedia interactive experiences.

Develop cultural and creative merchandises inspired by NSTM's collections to increase the museum's income

Cultural and creative merchandises inspired by NSTM's collections are developed to highlight the collection's characteristics and significance as well as increase the museum's income. In 2015, five cultural and creative products inspired by ancient locks, metrology artifacts and typographic printing were developed, generating an income of NT\$1,145,342, more than double that of 2014.

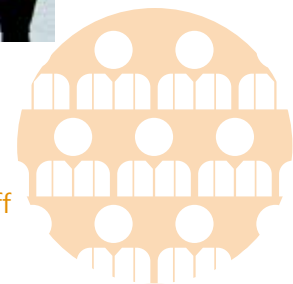
Utilize social human resources to enhance service performance

In order to offer visitors comprehensive service, NSTM has effectively utilized human resources support such as volunteers, social service students and interns to facilitate various museum operation-related affairs. In total, 1,129 volunteers were provided 178,583 hours of service, 3,581 social service students offered 14,322.5 hours of service and 74 interns trained for 23,431 hours.

The social human resources utilized are equivalent to 108 fulltime museum staff.



108 fulltime museum staff



In pursuit of absolute perfection and demonstrate friendly, professional and innovative service quality

The “mystery shopper” system is adopted to materialize the service culture of customer orientation

The external “mystery shopper” system is adopted, where two visits are made to the NSTM together with 30 random telephone etiquette tests every month, and visitor service satisfaction survey is also conducted in-house.

The visitor satisfaction rating reached 91.97%.

visitor satisfaction rating

91.97%



Expand iTaiwan network to provide a high quality Internet environment

iTaiwan wireless network is established in the museum, while the employee, volunteer and public Internet access are separated, and the ADSL bandwidth is also increased to minimize network

congestion and provide the public with improved wireless network environment.



Achieved goals including the number of visitors and steady income growth

Diverse exhibition themes are combined to seek constant innovation; furthermore, the iPASS system is introduced to provide more convenient service. Furthermore, the museum's external services are also actively expanded to realize the philosophy of door to door service.

In 2015, a total of 2,583,732 visitors were serviced, an increase of 326,398 visitors over 2014.

In 2015, the museum generated an income of NT\$132,077,684 an increase of NT\$15,619,562 over 2014 to achieve the goal of steady income growth.

number of visitors served in 2015

2,583,732 people



Honors and Accolades

- Received MOEA's Energy Conservation Excellence Award, making NSTM the only social education institution to receive the award in the country.
- Received EPA's Outstanding Environmental Education Facility/Venue award, making NSTM the only social education institution to receive the award in the country.
- Received MOE's 2015 Social Education Public Service Award, making NSTM the only social education institution to receive the award in the country.
- Received Kaohsiung City Environmental Education Outstanding Award.
- Came 3rd place nationally in National Property Administration's 2014 usage activation benefit assessment in the foundation group.
- Received outstanding volunteer service team award and excellent performance in MOE's 2015 Education Volunteer Service Award.
- Obtained ISO9001:2008 and TAF certification to create a friendly, professional and innovative visiting and learning environment.
- Passed ISO50001 energy management system to receive SGS international certificate, this is the cornerstone of NSTM's endeavor for constant energy improvement.



Kaohsiung City Environmental Education Outstanding Award



MOE's 2015 Social Education Public Service Award



EPA's Outstanding Environmental Education Facility/Venue Award



Two awards for outstanding volunteer service team award and excellent performance in MOE's 2015 Education Volunteer Service Award.



Passed ISO50001 energy management system to receive SGS international certificate



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 in Taiwan 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 life long learning.

Located on Jiouru 1st Road, Kaohsiung City (originally City Park No. 6), the museum covers 18.37 hectares of land. The buildings contain a total building area of 20,682.83 m² and the floor area is 113,557.69 m² (including North building: 97,734.93 m²; South complex: 15,258.88 m²; LOHAS Energy Conservation House: 563.88 m²) with 36.89 meters of structural height.

Brief Description of the Preparatory Process

July 1986



November 1988



October 2, 1989



January 1, 1997



July 26, 1997



September 21, 1997



November 9, 1997

The Planning Council for NSTM was established.

The Executive Yuan approved the construction plan.

Construction of the museum commenced.

The museum was officially established with the approval of the Executive Yuan and the Ministry of Education.

The south complex was opened.

The museum park was opened.

The museum was opened to the public.

NATIONAL SCIENCE & TECHNOLOGY MUSEUM



North building

The building covers 15,007.55m².

It contains the administration center, permanent exhibition galleries, special exhibition galleries, 3D Theater, Open Storage, Maker: the True Dreamland, NSTM Green Shop and Gift Shop.

South complex

The building covers 5,412.61m². It contains the Popular Science Library, auditorium, lecture rooms, meeting rooms and Collections Storage. The LOHAS Energy Conservation House was set up in 2009 and sits on an architectural dimension of 262.67 m².

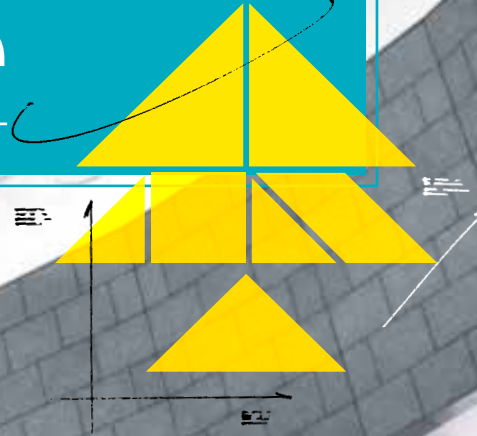
Development Missions



Development Missions

- 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 improve and enrich network hardware and software equipment to enhance work 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.

Organizational Structure



Post Allocation

Pursuant to the temporary regulations and staffing structure of National Science and Technology Museum as promulgated by the Ministry of Education with the Letter Year (1996)Tsan-Zi 85504426 on December 30, 1996, the National Science and Technology Museum has one director-general and one deputy director-general. Under them, the Museum operates through the Exhibition Division & Technology Education Division, Public Services Division, Secretariat, Personnel Office and Accounting & Statistics Office. Further in the light of the need for development of the Museum, the Information (MIS) Task Force was established on July 16, 1998 and Collection Research Task Force was established on February 1, 2001. Subsequently later on, pursuant to the amendment to the temporary regulations as promulgated by the Ministry of Education with the Letter Tai-Tsan-Zi- 0920113739A dated August 5, 2003, the Collections and Research Division was additionally established on September 1, 2003 and the establishment was approved by the Examination Yuan with the Letter Kao-Tai-Er-I-Zi 09200079281 dated September 22, 2003.

Besides, the Organizational Act of the National Science and Technology Museum was duly enacted under Order of the President of the Republic of China, i.e., Hua-Tsung-I-I-Zi 10100022841 dated February 3, 2012 and was put into enforcement starting from January 1, 2013 under Order Yuan-Shou-Yen-Tsung-Zi 1012260345 of the Executive Yuan (the Cabinet) dated March 8, 2012. Pursuant to the Organizational Act of the National Science and Technology Museum, the Accounting Office

was reorganized into the Accounting and Statistics office. In line with the substantial need of the Museum, the Maintenance & Repair Service Task Force was established on January 1, 2012. Cross-departmental cultural & creative merchandize task force was formed on March 26, 2014, and The Technology Cultural Relic Inspection Center was established on April 7, 2015, as Figure 1.

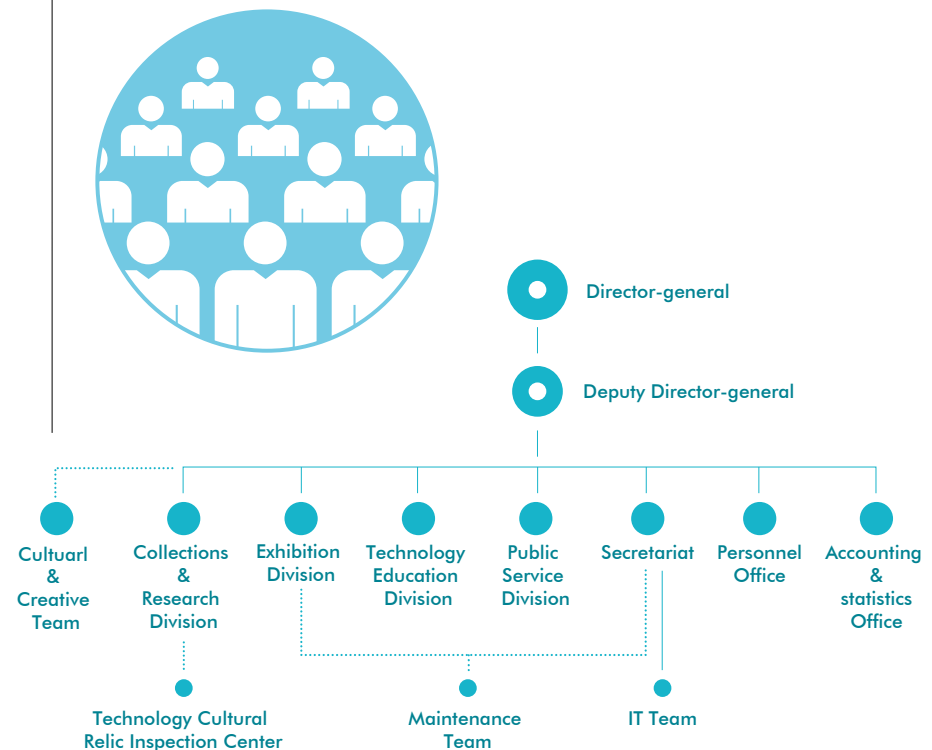


Figure 1 Organization Structure

Posts

1. Budget Headcount

A total of 84 posts were opened as defined by relevant law and regulations. After the assessment of Ministry of Education in 2014, our budget post openings were as follows: 28 Researchers, 45 Civil Servants, 28 Senior Contract Employees, 20 Junior Contract Employees, 8 Technical Workers, 7 Maintenance Workers, with a total of 136 posts budgeted. The budget headcount analysis is as Figure 2.

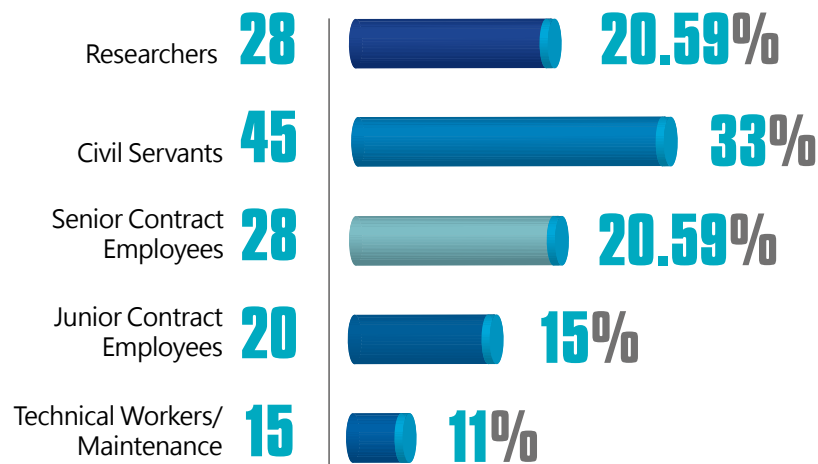


Figure 2 Budget Headcount

2. Existing Headcount

Our existing headcount (excluding volunteers and commissioned service companies) has a total of 132 people. (60 Males, 72 Females). The female ratio is 55%, while the male ratio is 45%. There were 8 managers (including director-general and deputy director-general: 5 males, 4 females). The ratio of female managers is 25%, while the male ratio is 75%. There were 124 non-managers (54 males, 70 females). The ratio of female non-managers is 56%, while the male ratio is 44%. The managers and non-managers gender analysis is as Table 1.

Table 1 NSTM Managers and Non-Managers Gender Analysis

	Existing Number	Males	Male Ratio	Females	Female Ratio
Managers	8	6	75%	2	25%
Non-Managers	124	54	44%	70	56%
Total	132	60	45%	72	55%

Additionally, there were 25 Researchers (10 males, 15 females), 42 Civil Servants (23 males, 19 females), 50 Senior Contract Employees and Junior Contract Employees (18 males, 32 females), 15 Technical Workers and Maintenance Workers (9 males, 6 females). The personnel gender analysis is as Table 2.

Table 2 NSTM Personnel Gender Analysis

	Existing Number	Males	Male Ratio	Females	Female Ratio
Researchers	25	10	40%	15	60%
Civil Servants	42	23	55%	19	45%
Senior/Junior Contract employees	50	18	36%	32	64%
Technical/Maintenance Worker	15	9	60%	6	40%
Total	132	60	45%	72	55%

Educational Statistics

We currently have a total of 132 employees, out of which, there are 11 with PhDs, 61 with master's degrees, 54 college graduates, 6 high school graduates or below. Our personnel educational statistics analysis is as Figure 3.

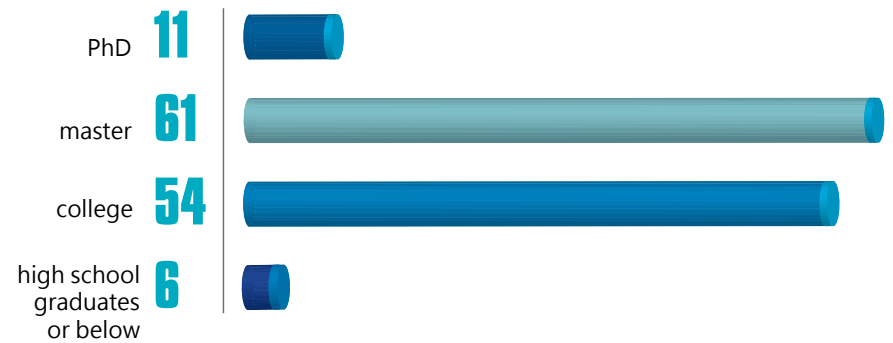


Figure 3 Personnel Educational Statistics

Researcher Backgrounds

1. Researchers Educational Statistics

We currently have 25 researchers, out of which, there are 10 with PhDs, and 15 with master's degrees. Our researchers' educational statistics analysis is as Figure 4.



Figure 4 Researchers Educational Statistics

2. Researchers Academic Background Statistics

We currently have 25 specialized personnel, out of which, 8 are affiliated with Science and Technology, 9 are affiliated with Education, 1 are affiliated with Design, 7 are affiliated with Humanities and Social Sciences. Our researchers' academic background statistics analysis is as Figure 5.

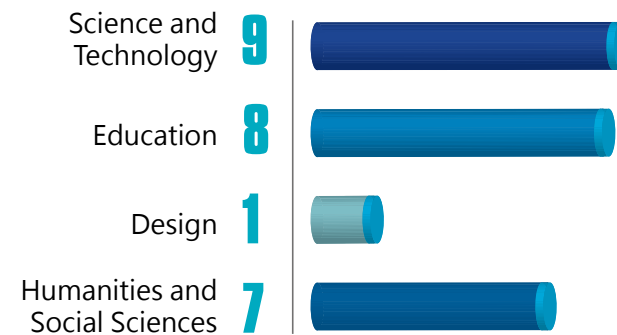
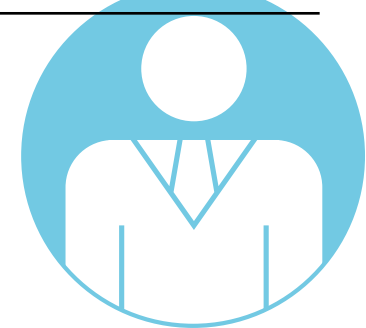


Figure 5 Researchers Academic Background Statistics



A man with glasses and a white shirt is working on a vintage brass microscope. He is holding a small component of the microscope. The background shows a workshop with shelves and various tools. A large yellow graphic element, consisting of several overlapping triangles, is positioned in the lower-left corner of the image.

Collections and Research

Under the principle of sustainable development, the Collections and Research Division combines the concepts of “integrating science into daily lives, and integrating daily lives with science” in actively promoting our key operations. Furthermore, we have applied the scientific spirit of “pragmatism”, “rationalism” and “utilitarianism” to conduct the collection, research of important technological items, and the promotion of related activities. Our goal is to reinforce NSTM's professionalism and elevate operational performance.

The focus of 2015 annual operations on item studies, collection management and applications, artifacts preservation and restoration, Open Storage, Popular Science Library, academic exchanges, cultural and creative developments, research findings and publications statistics are as follows:

Item Studies

In 2015, the studies we carried out included: social education agency digital creative culture and digital education projects, measuring instruments, lock research, ancient machinery research, telecommunication and ancient lock cultural & creative digital added value, printed relics, textile industry, nanotechnology and green energy industry as well as the TV industry.

During the course of the studies, we continued to carry out the search for collectible items, object interpretation, and collection promotions. Other than publishing academic papers, 5 eBooks and APPs including “Xiaoli and Suobao’s Ancient Lock Adventure”, “Metrology Time Travel - A Little Adventure”, “Woodblock Printing”, “Advancing Technology” and “Woodblock Printing – Spot the Difference” were developed for the public to download or view free of charge. The related link is: <http://valueadded.nstm.gov.tw/tour/index.aspx?Parser=13,5,29>



“Woodblock Printing-Spot the Difference” APP



“Advancing Technology” APP



“Woodblock Printing” eBook



“Xiaoli and Suobao's Ancient Lock Adventure” eBook comics



“Metrology Time Travel - A Little Adventure” eBook

Collection Management and Applications

In 2015, there were 341 items registered into the collection, including 243 donated items, 65 collected items, 33 transferred items and 8 items temporarily under NSTM's custody. The stored items were provided adequate storage conditions in accordance to their materials in order to keep them in a sustainable environment for preservation. In 2015, the annual accumulated number of collections has reached 40,474 items. Table 3 illustrates the table of collection statics over the last 5 years.



Metrological artifacts donated by Bureau of Standards, Metrology and Inspection, M.O.E.A. are exhibited in the Open Storage's "Metrology Exhibition" to let the public understand the development history of contemporary metrology in Taiwan.

Table 3 Collection statics over the last 5 years

Item Year	Total	Collected	Purchased	Donated	Transferred	Other	Annual Accumulated Number	Temporary Custody
2011	151	51	14	86	0	0	1,474	241
2012	219	23	7	172	17	0	1,693	4
2013	328	31	0	297	0	28,161	30,182	0
2014	328	25	1	302	0	9,623	40,133	0
2015	341	65	0	243	33	0	40,474	8

In order to increase the visibility and utilization rate of our collections, 28 special column articles related to NSTM's collections were written in 2015 and published on the NSTM e-newsletters. Moreover, 307 exhibits were displayed in the permanent exhibition hall (excluding telecom artifacts under our temporary custody), 93 collection items were displayed in NSTM's special exhibitions, 667 exhibits were loaned to other museums, 302 exhibits were displayed in the Open Storage, and 114 exhibits were used in Open Storage promotional activities. Table 4 illustrates the utilization statistics of technology artifacts over the past 5 years.

Table 4 Utilization statistics of technology artifacts over the past 5 years

Item Year	Total	Research	Teaching	*Exhibition	**Other
2011	1,369	34	3 (Internship)	944	388
2012	1,735	417 (Includes publication of research results)	3 (Internship)	1,001	314
2013	3,372	40	0	2,419	913
2014	4,306	203	0	2,270	1,833
2015	3,893	250	0	2,201	1,442

* Internal/external exhibitions, including Open Storage exhibits and telecom exhibits under NSTM's temporary custody.

**Including digitization, maintenance, inspection, picture loaning, cultural & creative applications.

Artifacts Preservation and Restoration

NSTM has purchased scientific analysis and maintenance technical equipment to carry out the collection, restoration and inspection of technology related artifacts. In addition to the infrared, ultraviolet and endoscope equipment, professional instruments including handheld X-ray scanners and microscopes were also purchased in 2015 to facilitate the health inspection of the collected items and offer storage or preservation suggestions.

Since NSTM has established a professional image in the field of cultural artifact preservation, we accepted 5 paid restoration services in 2015 as well as 25 health inspection services via appointment using high-tech equipment. In addition to demonstrating the museum's professionalism in preserving technology-related cultural artifacts, the concept of cultural preservation and sustainability is also promoted.

Furthermore, 5 preservation workshops and events were held in 2015, inviting conservators to teach and demonstrate the restoration and conservation of artifacts at the scene. By participating in case studies and learning, the students can personally experience the process of restoration to understand the importance of cultural preservation. At the same time, preservation courses and restoration demonstrations are able to improve volunteers' professional knowledge in preservation. The aim is to build a preservation center in southern Taiwan.



Songyunxuan Replica – Ancient Cultural Asset
Preservation Workshop



Inspection services carried outside of NSTM
Inspection and stone rubbing production of the stone tablet at the East
Gate of Fengshan Old Town in Fengshan District., Kaohsiung City



Restoration of Chiang Kai-shek's sofa commissioned by Republic of China Military Academy

Open Storage

Open Storage was established in 2009 and incorporated into NSTM's experience facilities in July 2010 and officially opened to the public. Admission to Open Storage is NT\$30 per person (NT\$25 for groups of 20 persons or more), guided tour is included. Unlike storage in conventional museums that are normally closed to the public, visitors to NSTM Open Storage are led by tour guides to view collections closely and understand related tasks such as museum collection research, management, preservation and restoration, thereby conveying the importance of science, industrial culture and preservation.

In addition, researchers made use of small exhibits in the Open Storage to present the museum's collections, research results and industry development history, as well as to revitalize the application of exhibits. At the same time, visitors are attracted to gain further understanding about the exhibits through promotional activities, and they are able to appreciate the scientific principles or applications of the cultural artifacts via experience or hands-on methods. In 2015, 12 exhibit promotional activities were organized for the Open Storage, servicing 16,755 people. Table 5 illustrates the service performance of Open Storage over the past 5 years.

Table 5 Service performance of Open Storage over the past 5 years.

	Number of visitors	Income generated (NT\$)
2011	12,096	221,170
2012	11,636	128,005
2013	15,575	169,630
2014	13,993	167,575
2015	16,755	187,655



Open Storage adopts a "visible collection" exhibit method, where visitors can view old tools, instruments or collected items closely to evoke memories of the past.



Visitors experience the ancient Chinese crossbow in the Open Storage.

Typographic printing activity held in conjunction with the printing industry collection.

Popular Science Library

Popular Science Library is located on 1F of the South Hall. With a space of 1,350 m², it is divided into general reading area and stack area. Periodicals, videos and general reading materials are available in the reading room. There are also 9 major popular science themes, 5 focus themes and theme exhibits that correspond to the museum exhibitions in the library. Exhibitions of pictures and texts are also held from time to time. The first popular science-themed library in the country also features a children's area, popular science comic area and video area. The lobby outside the reading room has a book and newspaper reading area.

The Popular Science Library is based on the concept of a "green museum", allowing technology to firmly take root via readings on popular sciences, enabling the museum to become the center of life and learning for the public, which can also broaden the scope of educational learning of the visitors. The Library has a collection of 45,951 books, primarily related to science and museology; 96 kinds of periodic journals, primarily related to design and educational information; and



Story-telling activity is organized inside the Popular Science Library for the visiting student group.

the database contains educational databases, newspaper databases, periodic journals, and thesis papers.

In correspondence with the implementation of the 12-year national fundamental education, in 2015, the Popular Science Library conducted reading activities on a diversity of themes. Other than the long-term seminars and learning activities to encourage the parents to read with their children, various themed science-related video sessions were conducted to let families make use of the library's interesting and diverse facilities. In addition, in collaboration with the local community, we organized the "visit to collect points" event to expand the readership through summer vacation education. In 2015, 23 reading promotion events were held by the Popular Science Library, servicing 19,323 people. Table 6 illustrates the number of people serviced by the Popular Science Library over the past 5 years.

Table 6 Number of people served by the Popular Science Library over the past 5 years

	Number of people served
2011(Jun. to Dec.)	3,286
2012	15,986
2013	11,860
2014	15,850
2015	19,323



Library volunteer introduces the Popular Science Library's environment and services to the visiting group



"Leaf Appreciation Exhibition" theme area in the Popular Science Library

Academic Exchanges

Adequate themes were chosen from the field of museology, and invited both domestic and foreign scholars and experts to participate in discussions. During October 1 and 2, 2015, NSTM collaborated with TNNUA's Graduate Institute of Conservation of Cultural Relics and Museology, NCKU Museum, NSYSU's Department of Theater Arts, WZU's Department of Communication Arts & Graduate Institute of Creative Arts Industries and Chinese Association of Museums to host the "2015 Museum and Cultural and Creative Industries International Conference". Three foreign speakers including Prof. Kevin Mulcahy (Louisiana State University), former researcher at Edo-Tokyo Museum Kobayashi Katsu and MSC Education and Exhibits Controller Si-Chong Leong were invited to conduct speeches and seminars with 6 experts from Taiwan. In total, 360 people attended the event.



A cultural & creative market was established at the venue of the conference, inviting museum-related organizations and cultural & creative workers to take up booths and engage in cultural exchanges and promotion



Domestic/foreign museum and cultural & creative experts/scholars attend the speeches and theme conference

Cultural and Creative Developments

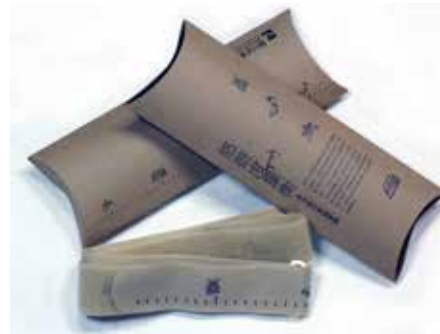
In 2015, the NSTM developed creative merchandise based on the museum collections. Besides emphasizing the features and meanings of the original item, the visibility of our collections was also improved via the power of our creative merchandises gradually. NSTM established the cross-department merchandise team in 2014, it is in charge of cultural and creative merchandise design, collaboration development, consignment, marketing channels, self-selling, and legal operations.



"Roaming Collection Board Game" cultural & creative product

The creative merchandise developed for 2015 include: "Roaming Collection" board game, Ancient Lock Collection I "Abundant Wealth – Pullback Lock", Ancient Lock Collection II "Academic Excellence – Fix-orientation Lock", Ancient Lock Collection III "Timeless Love – Rotary Lock", "Standard Meter" keyring with description, Safe Travels Luggage Tag and Roaming Metrology Multifunctional Luggage Strap.

The products on sale include the "Ranked Top in the National Examinations-Broad Lock Flash Drive", "Monkey Matchbox Color Pencils Set", "Measuring Instrument Tape Set", "IDF 3D Postcard", "Film Reel Bookmark", "Lead-Printed Hand-Made Postcards (two types)", "Collections Poker Cards", "Collections Bookmark", "Ring of Science", "Mammoth DIY Model", "Micro Building Blocks", "Pinhole Camera DIY Kit", "3D Stamp", "Standard Meter Keyring",



"Roaming Metrology Multifunctional Luggage Strap" cultural & creative product



"Safe Travels Luggage Tag" cultural & creative product

“Board Game” , “NSTM Go Luggage Strap”, “Roaming Metrology Multifunctional Luggage Strap”, “Safe Travels Luggage Tag”, “Ancient Lock Collection - Academic Excellence – Fix-orientation Lock”, “Ancient Lock Collection - Abundant Wealth – Pullback Lock” and “Ancient Lock Collection - Timeless Love – Rotary Lock”, totaling 21 items. The sales generated in 2015 was NT\$1,145,342, demonstrating significant growth compared to the sales generated from July to December of 2014, which was NT\$201,993.



Research Findings and Publications Statistics

For the research findings in 2015, a total of 27 journal papers, 41 conference papers, four books, and 3 relevant publications were published. The devotion and effort of the NSTM personnel proved to be beneficial to museology-related fields. Table 7 illustrates the research findings and publications over the past 5 years.

“Ranked Top in the National Examinations-Broad Lock Flash Drive” is very popular among consumers due to its propitious connotations

Table 7 Research findings and publications over the past 5 years.

Item Year	Journal Papers	Conference Papers	Research Projects		Invited to Academic Lectures	Publications					Symposiums	Lectures
			NSTM Personnel as Hosts	NSTM Personnel as Participant		Books	CDs	Text Messages	Folded Leaflets	Journals		
2011	29	27	17	6	24	2	3	1	16	2	2	28
2012	36	28	17	3	6	5	0	1	8	2	2	38
2013	28	26	7	3	3	3	0	2	11	2	1	20
2014	25	50	10	6	17	3	0	1	9	2	2	18
2015	27	41	12	6	12	4	0	1	0	2	9	26



Exhibitions

In 2015 we introduced a total of 33 exhibitions, renovated and reopened 2 permanent exhibition halls, as well as updated partial exhibition units in 5 permanent exhibition halls, achieving a normal exhibit functioning rate of over 93.24%. We also developed the alternative content service project to improve the operational performance of the Giant Screen Theater. The social resources of more than 47 organizations were combined to hold exhibitions, an increase of 2% compared to 2014. The value of total social resources obtained for the entire year is estimated at NT\$123,599,925.

Table 8 Exhibitions organized and exhibit hall renovations over the past 5 years

Item Year	No. of exhibits	Permanent exhibit hall renovation		Exhibit normal functioning rate
		Complete renovation	Partial renovation	
2011	27	1	3	91.94%
2012	31	1	3	91.50%
2013	35	0	4	92.47%
2014	29	3	8	91.85%
2015	33	2	5	93.24%

Permanent Exhibition Updates

1. “Pavilion of Dream Transport” Permanent Exhibition Hall

The “Pavilion of Dream Transport” was officially opened on July 3, 2015 at the Circular Hall on 4F. As the only transportation-themed permanent exhibition hall incorporating roads, railways, marine transport and air transport in a national museum in Taiwan, it is also one of the few knowledge-related exhibition halls presented in the form of a theme park. Inside the pavilion are 14 simulated transport and sightseeing scenarios in Taiwan, exhibiting contents such as Taiwan’s transport history, transport infrastructure and transportation tools, including train, bus, motorcycle, boat and airplane simulations. In addition, there are also 7 extremely rare simulation games including a track dolly and oxcart, as well as a cycling experience theater and 4 interactive models to present all facets of transportation. The games not only challenge the visitors’ skills, they let them experience the work characteristics of drivers

but also endow them with the principles of traffic safety and the science behind transportation tools.



Pavilion of Dream Transport Permanent Exhibition Hall



2. "The Science of Cooking" Permanent Exhibition Hall

The original "Food Industry" permanent exhibition hall was completely updated to become "The Science of Cooking" permanent exhibition hall, and it officially opened its doors to the public on November 8, 2015. The exhibition hall upholds the vision of NSTM to combine popular science with professional knowledge in order to explain, analyze, contemplate and distinguish between various types of "cooking". Besides assisting the audience in everyday cooking, they can also understand the history of cooking, its scientific principles, history and culture, thereby endowing them with deeper understanding about the daily activity.



The Science of Cooking Permanent Exhibition Hall



3. Wind Power Generation Exhibit in Power and Machine Hall

The principle of wind power generation is to utilize the force of wind to rotate the wind turbine blades, which in turn speeds up the generator through the gearbox to generate electricity. In contributing to energy education in Taiwan, TECO has provided a set of 400W horizontal-axis wind turbines, controllers and related wind power generation related information as well as a video on large wind turbine production and installation for NSTM's wind power generation exhibit in the Power and Machine Hall. The main exhibits focus on introducing the technology and equipment of wind power generation.



Wind Power Generation Exhibit in Power and Machine Hall



4. MIT New Energy Window and Sparkling New Stage Exhibit in Textile and Clothing Hall

Since opening on December 9, 2014, the Textile and Clothing Hall has attracted countless fashion aficionados. In order to operate the exhibit hall sustainably and reinvigorate the ambiance, update operations for part of the exhibit windows were conducted from June 2015, hoping to increase the revisit rate and enrich the visitors' experience. This year, discussions were made with the Kaohsiung Second Prison, Agency of Corrections, Ministry of Justice to exhibit natural dye products created by female inmates under the guidance of NTCRI Nibo Dyer Deputy-director Liu Chen-fang, hoping to let the public understand the fun of natural dye. In addition, NSTM



"ALIENS" Fashion Show by STU Fashion Creation



MIT New Energy Window in Textile and Clothing
Permanent Exhibition Hall

collaborated with the Fashion Department of STU to unveil an eco-friendly evening gown collection on the “Sparkling New Stage”; this not only showcases the creative outcome of the school’s teachers and students but also allow more people to recognize and support the endeavors and achievements of fashion teachers and students in Taiwan. In November, collaboration was made with Everest Textile to release mosquito-repellent clothes, cool sensation garments, temperature-sensitive color changing garments and night glowing yarns. Through the display of clothing related science and knowledge, our aim is to materialize NSTM’s objective of promoting popular science education.



“ALIENS” Fashion Show by STU Fashion Creation

5. Tomorrow Never Knows at the Entrance of Climate Change Hall

NSTM collaborated with LUNG X LUNG Design to organize a 3D printing workshop over 4 days (April 11~12 and 17~18, 2015). The students used PLA and 3D printing technology to produce the artwork "Tomorrow Never Knows". The exhibit was introduced to the entrance of the Climate Change Hall on June 16 in order to highlight the educational objective of "resource recycling" and "environmental protection and cherishing the Earth".



Tomorrow Never Knows at the Entrance of Climate Change Hall

6. The Astronomy, Electricity Maze, Racing Balls, RFID Door, and Ultrasound in Open Sesame

Open Sesame focuses on the exhibition goals of science observation and exploration, where the Electricity Maze consists of 9 major mechanical stages, requiring the audience to pass through the metal rails with a handheld probe in a limited amount of time. When the probe makes contact with the rail an alert sound will be emitted, making it a challenging game. "Astronomy" involves projecting celestial images onto the dome ceiling (roughly 2.5m diameter) using the latest celestial simulator at regular intervals (7 sessions per day). At each session, different images are projected, including: starry sky in spring/autumn, astronomical wonders, moon, fixed stars and the Zodiac signs. Visitors may be able to see the starry sky in the day! Other exhibits updated include "RFID door", "Racing Balls" and "Ultrasonic".



RFID Door



Electricity Maze



Racing Balls

7. Vitamin Supermarket, Swat the Germs, Data Mining Era, Accelerator, and A Nobel Prize from the Adhesive Tape in Science Laureates

In the Science Laureates, “Body Guard” is a somatosensory interactive exhibit which was inspired by “Iron Man” with 2 game stages: Antibiotics Combat and Immunity Challenge. The former emphasizes that antibiotics can kill germs but cannot eliminate viruses; furthermore, antibiotics must follow a specific regimen to prevent drug resistance. The latter stresses the importance of boosting the body’s immune system by looking at factors that influence health. The audience stands in front of a 70 inch screen to combat germs with the stance of Iron Man; alternatively they can collect different body armors to become Iron Man. The interesting games apply various sensory learning scenarios that people are familiar with in everyday life. It is believed that the new exhibits will let the audience learn scientific concepts through observation and experience. The hall also features brand new exhibits such as “Vitamin Supermarket”, “Magnets on the Accelerator” and “A Nobel Prize from the Adhesive Tape”.



Body Guard



A Nobel Prize from the Adhesive Tape



Technology Window: The Outdoor Multimedia Interactive Exhibit

8. Technology Window: The Outdoor Multimedia Interactive Exhibit

Technology Window is a large, multimedia interactive Technology Window is a large, multimedia interactive display incorporating contents such as popular science, digital aesthetics, situational art, creative animation and interactive experience. The public is able to download the Apps on their smart phones or smart mobile devices to interact with the technology window. For instance, you can upload your portrait to the “Face Playground”, where your face will appear on the hour to

tell time. For the “Homemade Energy-saving House”, you can choose different green building materials to create your own energy-saving house. Additionally, Solar Art and Magic Move are established on either side of LED screen of Technology Window which allows the public to observe and experience the secret of science. The overall design of the museum encompasses science, art, recreation and education to form a technological interactive platform for the public, in turn drawing them nearer and generating resonance with them, transforming NSTM into a brand new popular landmark in Kaohsiung.

9. Maker: The True Dreamland

Unlike high cost, mass produced designs and manufacturing of traditional industries, Maker is an emerging innovative ecosystem with diverse facets. Whether industry, DIY culture, education, entrepreneurship, environment or fundraising, “Maker” has introduced revolutionary thinking and actions. Currently, the government has begun cultivating the citizens’ awareness towards the spirit of Maker using various approaches. NSTM is the perfect venue for informal education in southern Taiwan. In order to develop “Maker Culture” in southern Taiwan, NSTM has completed the Maker space situated in the Maintenance Office on B1F, featuring a space of approximately 426 m². Inside the space are machine room, woodworking room, classroom, individual workshops and exhibit areas. The aim is to encourage young students to apply their creativity, design capability and hands-on skills to engage in the cycle of “think, implement, think and re-implement” via the method of “learning by doing”, thereby cultivating genuine Maker spirit.



Maker: The True Dreamland



Maker Workshop: 3D Printing Pen Course



Soil and Water Conservation and Disaster Prevention Education Area

10. Soil and Water Conservation & Disaster Prevention

Education Area in Recovery and Reconstruction after Morakot

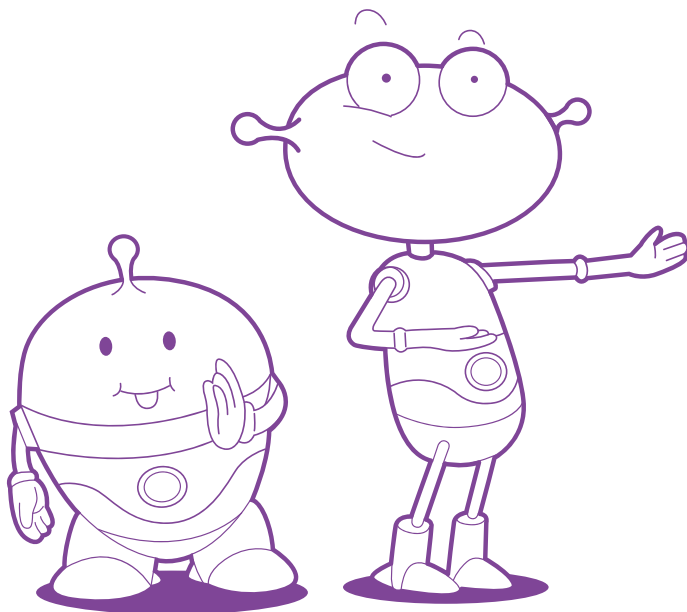
NSTM has signed the “Soil and Water Conservation, Debris Flow and Disaster Prevention Education Program” with SWCB, COA to create the Soil and Water Conservation & Disaster Prevention Education Area at the Recovery and Reconstruction after Morakot permanent exhibition hall in November 2015. The area displays various soil and water conservation, disaster prevention related teaching aids, books, coloring books and videos, while education promotion activities are regularly held over the weekends. In the future, it will become a database for soil and water conservation and disaster prevention education, offering comprehensive, interesting teaching materials that can be loaned to external organizations.

Special Exhibitions

1. Invention

"Invention" exhibition focused on 2 major themes: 40 creative principles of invention and Taiwanese innovative inventions to introduce TRIZ invention thinking facilitating tool and the scientific principles of living inventions, where novel, interesting, easy to understand and valuable methods were applied to present invention related knowledge. Complemented by inventions, photos, videos, animations and hands-on experience, the visitors were able to appreciate the happiness and convenience of "Our daily needs are prepared by hundreds of pairs of hands" and "One profits from the labor of one's forefathers" via their everyday environment. In turn, they would be inspired to observe potential invention opportunities

in life. The exhibit storyline adopted the "Alien's inspection report" theme, where the alien was utterly astonished to observe convenient inventions in Taiwanese people's lives, and the visitors became senior officials conducting a tour of inspection to listen to the little aliens' report about inventions, thereby exploring inventive thinking in life.



Invention



Nanometer: The Invisible Scale

2. The Phase 3 of “Nanometer: The Invisible Scale” Exhibition

In May 2015, the phase 3 of Nanometer: The Invisible Scale exhibition combined with displays and interesting, diverse interactive exhibits from phase 1 and 2 to take everyone into the kingdom of nanotechnology. If you wish to understand the difference between microscopic and macroscopic world, or if you want to know why the smaller the detection tool the sharper the image, come to the nanometer exhibition area to experience for yourself! Nanodiamond is another highlight in this area. Due to its high biological compatibility, nanodiamonds can be used to deliver cancer drugs to kill cancer cells. Nanodiamonds emit steady fluorescence that can be used to track the treatment effect of stem cells. These cutting-edge nanotechnology researches will be materialized in the near future! The “Nanometer: The Invisible Scale” was held from May 1, 2015 to March 27, 2016.



3. Tang Prize Exhibition Area

Tang Prize provided NSTM the necessary funding to establish this area, which exhibits the main achievements of four major prize recipients of the first Tang Prize to showcase the contributions of these trailblazers. Also known as the Oriental Nobel Prize. The "Tang Prize" had 4 major categories, including "Sustainable Development", "Biopharmaceutical Science", "Sinology", and "Rule of Law", which is held biannually. The list of winners of the first Tang Prize was released during the "Founding Day of the Tang Dynasty" on June 18, 2014, and the winners were: Gro Harlem Brundtland for sustainable development; James P. Allison and Tasuku Honjo for biopharmaceutical science; Albie Sachs for rule of law; and Yu Ying-shih for Sinology. "Tang Prize" is regarded as the first major international award in Taiwan and is therefore holds pivotal status and significance in the country. The exhibition was opened in April 2015.

4. "Wow! Bang: Adventure Exhibition"

NSTM co-organized the "Wow! Bang: Adventure Exhibition" with NanE Design Corp. Ltd., including 3 major somatosensory games such as Laser "Maze", "Laser Battlefield" and "Somatosensory Theater", which have proven to be extremely popular since they were launched in summer vacation 2015. Toward the end of 2015, phase 2 of the most popular attractions were launched "Exhilarating Science: 3D Spiral Tube Slide". The 18m tall (equivalent to the height of 5 stories) spiral slide is 46m in length, allowing the rider to reach B1F from 4F within 12 seconds. The scintillating experience of the slide enables the public to experience the secret of science while endowing them with popular science knowledge such as gravity, friction, centrifugal and centripetal force. The exhibition started on July 21, 2015 and will continue through to October 12, 2016.



Wow! Bang : Adventure Exhibition

5. Real-time Air Quality Display

According to the latest research, breathing in particular matter smaller than $2.5\mu\text{m}$ through the human respiratory system will cause cardiovascular related diseases and decrease life expectancy. Consequently, the EPA, Executive Yuan's Taiwan Air Quality Monitoring Network constantly monitors and discloses PM2.5 information throughout Taiwan in real time to remind citizens about their health. Consistent with NSTM's philosophy of "making technology closer to life, and improving life via technology", the museum has created the "Danger of Haze: Air Quality Real Time Display Exhibition" and instant air quality announcement on the outdoor Technology Window to explain the source of PM2.5 and its effect on the human body. Furthermore, an easy to understand real time air quality display system is established to remind people to take precautionary measures within adverse environments.



Real-time Air Quality Display



Wu Chen-hui Exhibition



Paintings, Rocks and Plantation Joint Exhibition



Traditional Culture, Art and Painting Exhibition



Cheng Hui-lien Solo Exhibition

6. Art Exhibitions

In order to fully utilize our venues to serve the general public and enrich the visitor experience through the holistic educational approach combining technology and culture, NSTM has established the Art Exhibition Area on the west wing gallery on 1F and Art Café on 2F. Besides internal exhibitions, the Art Exhibition Area is also open to art workers for holding exhibitions. The exhibited works included: Chinese paintings, calligraphy, oil paintings, sculptures, seal cutting, art design, craft, pottery and photography. Through these art exhibition activities, aesthetics is applied to education to inspire aesthetic experience through beauty and cultivate people's appreciation and taste toward aesthetics as well as enlighten creative thinking to achieve educational goals. In 2015, exhibitions held included: "Heritage of Craft Traditional Cultural Art and Painting Exhibition", "45° Light Up the Sky : Cheng Hui-lien Solo Exhibition", "Nature and Life Sciences : Paintings, Rocks and Plantation Joint Exhibition", "Endless Universe/Painting in the Entire Dharma Realm Wu Chen-Hui 2015", "Time & Nostalgia: Home Sentiments : Su Mingchuan Photography Exhibition" and "Hsieh Ying-te Wire Sculpture Exhibition".

7. Maker Wisdom Expo' 15 in Southern Taiwan

NSTM hosted the First Southern Taiwan Maker Wisdom Expo 2015 in collaboration with the Education Bureau, Kaohsiung City Government and KSMA in order to create a base exclusively for makers in southern Taiwan through our role as a museum education platform and promoter. The aim is to gather multiple resources in an effort to solicit creative thinking and outcome from makers in southern Taiwan as well as creative education development energy from various schools, thereby applying them to the planning of Maker expos on NSTM grounds and the promotion of the makers' local characteristics in southern Taiwan. Via the exhibition approach, people in southern Taiwan are drawn to appreciate and become acquainted with the maker spirit. At the same time, through hands on activities, we will assist the public to explore new knowledge and encourage them to contemplate about solutions to problems, in turn taking them on a journey of knowledge and learning to materialize the project vision of the sustainable development of maker activities in southern Taiwan.



Maker Wisdom Expo'15 in Southern Taiwan

8. "When Makers Meet Museum" Lecture and Workshop

In light of the emergence of Maker Movement in the country and abroad, as the foremost informal education venue in southern Taiwan, NSTM has created the "Maker Workshop" to become the best venue for cultivating "Maker Culture" in southern Taiwan. The lecture and workshop was inspired by the theme of Maker, where experts in Maker community management, hands on and educational aspects were invited to present speeches, included: Goodwork founder Hsieh Kun-lin, Make: Magazine International Chinese edition editor in chief Chou Chun-chien, Lin Shih-yun from MakerLab and ArkLab Open Skyler founder Chang Tung-lin. Moreover, four major promoters of Maker Movement were invited to conduct workshops to let the participants experience Maker Movement first hand, included: MakerLab, e castle, S4A and ArkLab Open Skyler. Through experience sharing and exchange, the public was inspired by the creativity and R&D ability, while various facets between the Maker Movement and museum's science education were explored to build a talent training and exchange platform for museum workers, school teachers, science



"When Makers Meet Museum" Lecture and Workshop



or museum related students, thereby fostering the connection between NSTM and the private industries.



Fantastic Rides in Taroko



In-house repair of exhibit



Decorations were added to the hydrogen powered train to increase novelty for the public.

9. The Maintenance Team Periodically Inspects the Exhibition Halls and All Experience Facilities to Ensure Normal Operations

We established maintenance teams and setup a group working method to efficiently utilize our personnel using their strengths and to facilitate cooperation and mutual trust. The involvement of team members and the coordination of their expertise have generated proactive productivity and performance. In 2015, the maintenance team repaired exhibits such as: water leakage in the Fantasy Hall, poor contact of DNA restructuring game in Biological Technology Hall and damaged internal scraper of snowmaker in Open Sesame Hall. In addition, a new filtration system was introduced for the Water Vortex to improve water quality, improvements are made to the parachute exhibit and driveshaft at the Air Navigation and Aerospace Hall, and malfunctioning robot in the lobby was also repaired in-house. Maintenance work for the museum's experience facilities was also conducted. For instance, decorations were added to the body and station of "hydrogen powered train" to increase novelty and realism for the audience; the moonwalk experience buckle

was replaced and the latch redesigned to reduce noise; reflective films, colors and signs were added to the "large bus" entrance ramp at the Pavilion of Dream Transport to indicate the height difference and prevent visitor injury; door panels were added to the entrance of "Fantastic Rides in Taroko" to prevent danger that may arise from improper use during non-business hours, while the reflective film was removed from the bicycle seats so that they can be adjusted for children under the height of 120cm; the password for printing at the "Magical Fitting Room" was shortened to facilitate volunteer operation; lighting was added to the counter at the "Weatherbound Expedition of Rain and Wind Environment" to facilitate the volunteers' work. Furthermore, users unfamiliar with the equipment were educated by volunteers on the spot to minimize malfunctions caused by improper operations, in turn increasing the utilization rate and income of the experience facilities while minimizing maintenance cost at the same time.

10. Improve Employee's Professional Knowledge and Skills, Enhance Professional Innovative Performance: Self-made Exhibits

In order to enhance the professional quality of our colleagues, foster self-development and reduce government spending, NSTM's exhibit design and maintenance staff collaborated to develop the movable "Self-propelled Vehicle" as well as the interactive "Magic Ring" and "Electromagnetic Exhibit". These are displayed in the exhibition halls to promote popular science education through interaction; besides enriching the content of the exhibits, the public are able to operate and experience them to appreciate the fun of science. Moreover, our Exhibition Division colleagues pooled their wisdom and efforts to uphold the Maker Spirit, in turn reinforcing our employees' professional knowhow and innovativeness. The exhibits can subsequently be provided to high school and elementary schools as teaching aids to generate even greater benefits.



Electromagnetic Exhibit



Magic Ring



Self-propelled vehicle

11. Digital Database of Exhibit Resume

A resume for exhibits throughout the museum has been progressively established, where a scientific management approach is adopted to document and analyze the current condition of the exhibits. This is used as the basis for exhibit maintenance and update in order to improve exhibit maintenance efficiency, normal rate and conserve maintenance expenditure. The conditions of exhibits in various exhibition halls are examined to create a "comprehensive database" that can be used as the basis for progressively updating the exhibits. The purpose is to maintain the normal operation of the exhibits and increase the service quality of NSTM's exhibits.

序號	名稱	地點	狀態	備註	備註
1	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	1
2	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	2
3	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	3
4	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	4
5	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	5
6	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	6
7	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	7
8	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	8
9	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	9
10	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	10
11	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	11
12	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	12
13	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	13
14	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	14
15	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	15
16	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	16
17	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	17
18	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	18
19	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	19
20	萬里晴空平定則	第一展覽廳	正常	萬里晴空平定則	20

Digital database of exhibit "resume" in various exhibition halls



Collaboration Exhibitions

1. "Line Friends Interactive Theme Park"

NSTM and UDN collaborated to organize the "Line Friends Interactive Theme Park". Designed and sponsored by UDN in conjunction with design teams in Japan and Korea, the exhibition combined creativity, technology and entertainment, perfect for visitors of all ages! For this special exhibition, large figures for all 9 major Line characters were created for the visitors to take as many photos as they like. The exhibition was closed on March 1, 2015.



Line Friends Interactive Theme Park

2. Korea's Jeju Teddy Bear Museum Exhibition

The “Jeju Teddy Bear Museum Exhibition” was co-organized by NSTM and Kuang Hong Arts, featuring theme exhibit areas such as: “Teddy Bear Art Lobby and Teddy Bear Sculpture”, “Teddy Bear History”, “Teddy Bear Cross-over Art and Sculpture”, “Teddy Bear Celebrities”, “Teddy Bear Contemporary Art” and “World’s Smallest Teddy Bears”. There were over 2,000 teddy bears of varying sizes and from different eras over the last century, including antique teddy bears and the most spectacular “125K Gold Teddy Bear”, which was crafted with 125 carats of jewelries to present the beauty of extravagant craftsmanship. In addition, there was also the world’s smallest teddy bear (included in the Guinness World Records), at a height of 4.5mm, it can only be seen through a video microscope connected to a TV. Through the fusion of teddy bear, classical art and contemporary art, the exhibits were presented in the form of paintings, sculptures, modern art and 3D stereoscopic illusions. Furthermore, interactive exhibition area was available for the public to touch and take photos with the teddy bears, so that they can enjoy interesting interactive experience. This not only enhanced the nature of science education but also endowed the teddy bears with diverse appearances and creates a teddy bear paradise that promoted education via playing. The exhibit closed on March 1, 2015.



Korea's Jeju Teddy Bear Museum Exhibition

3. Piece of Peace World Heritage Exhibit Built with LEGO Bricks

NSTM and Kuang Hong Arts co-organized the “Piece of Peace World Heritage Exhibit Built with LEGO Bricks” exhibition, featuring 38 World Heritage Sites from 25 countries and globe built with LEGO bricks. Besides the largest exhibit – “Nubian Monuments” from Egypt with a height of 220cm – other exhibits included China’s “Great Wall”, Italy’s “Colosseum”, France’s “Eiffel Tower”, Egypt’s “Pyramid”, Australia’s “Sydney Opera House”, Cambodia’s “Angkor Wat” and Japan’s “Mt. Fuji”, which has recently been named a World Heritage Site. In total, the exquisite World Heritage reproductions were created using over 450,000 LEGO bricks and at least 10,000 man hours. In addition, a gallery of photographs of World Heritage sites taken from space by JAXA (Japan Aerospace Exploration Agency) and a World Heritage documentary were also displayed to allow the public obtain more understanding about World Heritage sites and see them under one roof. Apart from World Heritage site exhibits, in order to infuse local characteristics, the exhibition also featured the first building block exhibition by POCKYLAND, displaying iconic architectures in Taiwan such as National Chiang Kai-shek Memorial Hall, Keelung Station, Longshan Temple and Taipei 101, allowing domestic and foreign tourists to appreciate the aesthetics of buildings in Taiwan. The exhibition was held from March 25 to June 7, 2015.



With a height of 220cm, "Nubian Monuments" from Egypt was the largest exhibit!



Piece of Peace World Heritage Exhibit Built with LEGO Brick

4. Adventure Time with Finn & Jake Exhibition

NSTM co-organized the Adventure Time with Finn & Jake Exhibition with Kuang Hong Arts, including exhibits inspired by the cartoon Adventure Time. The exhibit areas were divided into 6 sections: "Jake's Bus", "Finn & Jake's Tree Fort", "Candy Kingdom", "Frost Kingdom", "Fire Kingdom" and "Marceline's Rock & Roll Room", where classic cartoon character FRP models were combined with the re-creation of adventure scenes to provide the visitors with a realistic and astonishing experience. The exhibition was held from May 30 to August 30, 2015.



Adventure Time with Finn & Jake Exhibition

5. The Reality Magic of Interaction Show

NSTM co-organized the Reality Magic of Interaction Show with FTIG, featuring theme areas such as: “Magic Door”, “Magic School”, “Magic Illusions”, “Magic Tricks”, “Magic Tunnel” and “Magic Performance” to let the audience understand the origin of different magic tricks. Moreover, they can also learn about the science related knowledge of magic, and an interactive magic demonstration was also held, where optical illusion of magic and special effects were applied to let the audience take a variety of interesting photos. They can also get to fly! The exhibition was held from December 19, 2015 to March 6, 2016.



Reality Magic of Interaction Show



“Little Animal Conservation Vanguard: I Love Animals”
Children’s Creative Painting Exhibition

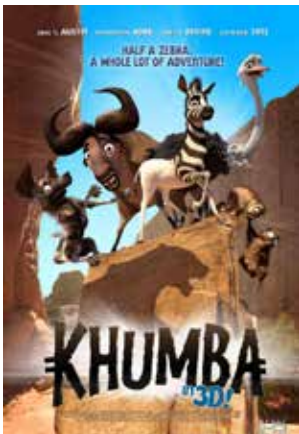
6. “Little Animal Conservation Vanguard: I Love Animals” Children’s Creative Painting Exhibition

NSTM co-organized the “Little Animal Conservation Vanguard : I Love Animals” Children’s Creative Painting Exhibition with the ROC Children’s Education and Care Association to promote the concept of animal conservation, where paintings, family games, costume photo session and DIY activities were held to encourage participation by the whole family. The eco-friendly theme corresponded with NSTM’s goal of developing a sustainable environment. The exhibition was held monthly between January and December 2015.

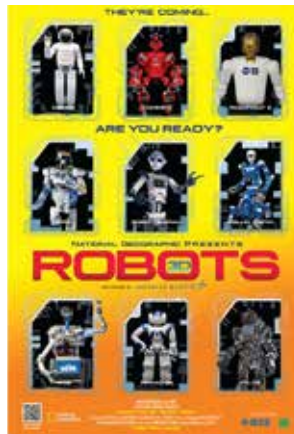
3D Theater

1. Formed the film selection team to choose the most outstanding 3D films of the year

The film selection team consisted of NSTM staff and volunteers to take the opinions of different parties into consideration. Films in 2015 were chosen according to 3 major attributes: animations, environmental education and relevance to NSTM's exhibitions in order to attract family viewers. After screening and discussions, the film selection team chose 2 animation and environmental education oriented films: Robots 3D and Khumba 3D. Overall, theatrical box office earnings during summer vacation achieved a better performance compared to last year. For the 3rd quarter of 2015, 2 films "Journey to Space" and "Tiny Giants" will be screened during the first half of 2016. It is hoped that the films will cater the public's expectations toward the outstanding 3D Theater.



Khumba 3D



Robots 3D



3D digital projection system (including the 3D Theater) equipment upgrade

2. Upgraded the 3D digital projection system (including the 3D Theater) equipment

In order to provide the audience with the best viewing quality, the theater was temporarily closed between April and June of 2015 to undergo 3D digital projection system (including the 3D Theater) equipment upgrade, which significantly improved brightness and 3D effect. The theater was reopened to the public on July 15. The upgrade in theater equipment and 3D projection effect helps us to seek manufacturers willing to collaborate with NSTM's theater outsourcing project, so that both parties can devise cooperative ways to reinvigorate the theater, in turn allowing the museum to offer diversified services, reinvigorate the venue as well as increase income and visitor numbers.

3. Develop 3D Theater's "Alternative Content" Service Program

After completing the 3D digital projection system (including the 3D Theater) equipment upgrade, the Education Bureau of Kaohsiung City Government hosted the screening of documentary "The Walkers" at the 3D Theater on August 14, where NSTM provided the venue and the Education Bureau of Kaohsiung City Government invited dignitaries, parents and students to attend the viewing. Furthermore, we also proactively solicited manufacturers to jointly devise ways to reinvigorate the theater. In addition, NSTM and the Education Bureau of Kaohsiung City Government co-hosted the "Coders and Cities :2015 Smart Campus Information Education Fair" during November 13 ~ 14 and Education Bureau sponsored 400 students from remote townships to view the film for free.



Out-of-the-Museum Service Performance

Self-curated Touring Exhibition

1. Relocation of the invention exhibition to GDSC

GDSC organized Joint Popular Science Exhibition for the 2015 Science and Technology Week of Taiwan, China, Hong Kong and Macau. Since the content of NSTM's "Inventions" exhibition in late 2014 corresponded with the theme "Innovative Entrepreneurship: Benefiting People with Technology", NSTM was invited to attend the joint exhibition by providing invention exhibition and popular science demonstrating activities. According to the agreement signed between NSTM and GDSC, NSTM was responsible for providing, delivering, displaying, installing and testing the exhibits as well as on-site personnel training and popular science demonstrations. The exhibits were well received by the local residents and the visitors offered high praises for the exhibit contents and popular science education. The exhibition was held between May 16 and October 31, 2015.



Director Chen Hsun-hsiang of NSTM was invited to present a speech.



The exhibition was personally hosted by NSTM curator Yang Hsin-l.

2. Printing Collections relocated to MSC

NSTM co-hosted "Impressions Printing: Exhibition on Printing Technology" with MSC. Besides a rich collection of printing related to research and exhibit descriptions, NSTM also provided a rare collection of 54 valuable printing collections to the exhibition in Macau. Through the innovative design of colleagues from MSC, local elements were infused to create an interesting exhibition. The depth and scope of "Impressions Printing: Exhibition on Printing Technology", coupled with the edutainment exhibition approach have endowed the visitors with relationship between printing, technology and life. The exhibition was held from June 20 to November 29, 2015.



Preparation to relocate the exhibit of large printing cultural relic.



Impressions Printing: Exhibition on Printing Technology in the 2nd Exhibition Hall of MSC

3. "Food Packaging Exhibition Unit" relocated to NTSEC

Sponsored by Y-FANG Group, NSTM's "Great Crown of Food Packaging" exhibition came to a conclusion on March 31, 2015. In order to expand the benefit of the exhibition, NSTM obtained permission from Y-FANG Group to relocate the "Food Packaging Exhibition Unit" to NTSEC for the public in northern Taiwan to experience the exhibit's educational significance. Furthermore, related exhibition expenses were sponsored by Y-FANG Group. The exhibition was held between June 10 and October 11, 2015.



"Food Packaging Exhibition Unit" relocated to NTSEC

4. "Force and Energy : Science Magic Train" exhibition was relocated to TAEA

Energy conservation and carbon reduction is an extremely popular topic over the recent years, and how to resolve the problem of energy is also a constant challenge for humanity. In order to promote force and energy related science, TAEA collaborated with NSTM to borrow the "Science Train" exhibit and hold the "Force and Energy: Science Magic Train" exhibition, where multimedia are combined to endow people



"Force and Energy: Science Magic Train" exhibition was relocated to TAEA

with knowledge about force and energy, and how difficult it is to obtain energy. The aim is to inspire their willingness to cherish and conserve energy. At the same time, the interactive games explain the principles of force and energy in an easy to understand manner. The fusion of technology and life enables people to understand different sources of energy and the development of technology. The exhibition was held over 2 periods; the first one was between September 26 and November 29, 2015 at TAEA. The second exhibition is held at Tainan Children's Science Museum from December 20, 2015 to November 5, 2017.

Results of Combining Social Resources

1. Ornamental Shrimp Exhibition

NSTM collaborated with Taiwan Fu Shrimp Enterprise Co., Ltd. to organize the “Ornamental Shrimp Exhibition” at the Biological Technology Hall in order to introduce knowledge related to biological agriculture. Taiwan Fu Shrimp Enterprise Co., Ltd.’s crystal shrimp and Neocaridina shrimp include over 10 species such as: Crystal Red Shrimp, Crystal Black Shrimp, Blue Bolt, Sunkist and Rose. The public can appreciate the shrimps and understand their vibrant growth characteristics. The exhibition was held from January 16 to March 8, 2015.



Ornamental Shrimp Exhibition



Cold Weapon & Art Exhibition

2. Cold Weapon & Art Exhibition

Cold weapons are the culmination of people’s wisdom in metal technology and art, they are said to be freestyle art. For instance, antique cold weapons emanate cultural connotations and modern sword or knife creations exude a sense of design, skill while small knives and swords offer functionality and artistry at the same time. NSTM co-organized a cold weapon exhibition with the Kaohsiung City Ancient Weapon and Art Research Association at the 2F Art Café (free admission), with exhibits including a variety of antique/modern swords and knives. The exhibition is held from February 1, 2015 to April 30, 2016.

3. "David Baran Sees Taiwan : Science Comic Arts Exhibition"

David Baran is a new resident from France, as a cartoonist he has held 10 exhibitions in Taipei, Chiayi, Tainan and Kaohsiung since 2012. His exhibits at NSTM include "Taiwan, c'est pas du chinois" and "Edison and Professor Tom", which was published on the Science Section of Mandarin Daily News from 2012 to 2014. David Baran introduces distinctive trends in Taiwan through his unique perspective as a French new resident in the country. He also especially designed learning sheets for the exhibition by incorporating his professional background in the field of science. The addition of multimedia allowed the audience to engage in more interactions with the exhibits. In addition to the science comic exhibition, the comic summer camp activity was also organized in conjunction with the launch of peripheral cultural & creative products to provide the public with diverse recreational choices in summer. The



exhibition was held from July 1 to August 31, 2015.

David Baran Sees Taiwan : Science Comic Arts Exhibition

4. Exhibition of Cross-campus Strategic Among 5 Technological Universities in Kaohsiung and Pingtung

Education Bureau passed a resolution during the first working circle meeting on February 5, 2015, where various regional strategic alliances were requested to organize project result exhibitions in order



Exhibition of Cross-campus Strategic Alliance Among 5 Technological Universities in Kaohsiung and Pingtung



to demonstrate the accomplishment of the Technological University Development Program. On March 11, 2015, a resolution was reached during the first work meeting of the regional strategic alliance to organize a result demonstration exhibition for 5 technological universities. The aim was to let the partner high school/vocational school students in Kaohsiung and Pingtung understand the project achievements and characteristics of the regional school paradigm alliance. In doing so, the results of the regional school alliance can be promoted nationally, where vocational schools and high schools throughout Taiwan will be invited to gain further understanding about the combination between theme industry strategic alliance and local resources, in turn achieving resource integration and deep rooting education. The exhibition was held from September 21~25, 2015.



Imaginary: Infinity & Beyond

5. Imaginary: Infinity & Beyond

Initiated by The Mathematical Society of the Republic of China, NSTM and mathematics teachers/students from domestic colleges/universities were invited to jointly introduce the Imaginary exhibition. Combining outstanding mathematics teaching accomplishments and resources, the exhibition aims to let the citizens experience the intriguing and interesting secrets of art and mathematics in everyday life. The core spirit of the exhibition was “Through the Eyes of Mathematics”, which intended to let the visitors appreciate the “beauty” and “practicality” of mathematics directly, thereby subverting people’s “abstract” and “useless” impression about the discipline. Furthermore, it is hoped to encourage young students to engage in mathematics research by developing a diversified learning environment. The exhibition was held from December 18, 2015 to February 29, 2016.

6. Coder: 2015 Information Education Fair for Wise Campus

NSTM and Kaohsiung City Government Education Bureau co-organized the “Coder: 2015 Information Education Fair for Wise Campus” exhibition at the first exhibition hall to demonstrate the results of the introduction of information technology to national education. Moreover, the purpose was to spread the successful experience to various schools nationwide, where information technology was applied to achieve teaching innovation, endow students with information skills and use technology to assist teaching. Apart from the curricula, logical thinking ability was also emphasized to improve 3 major aspects such as problem solving skills, team communication and teamwork. The exhibition was held during November 13~14, 2015.



Coder: 2015 Information Education Fair for Wise Campus

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PCA工傷事件是台灣工業發展過程中最醜惡的一頁。從1974-80年間，台灣塑膠工業股份有限公司（PCC）於桃園市竹圍鎮建立塑膠廠，嚴重污染當地土壤與地下水，同時在大量吸收汙染的空氣及使用被汙染的地下水後，造成了數以千計之員工工傷、健康問題及員工交押衛員工權益，1998年成立了「PCA環境汙染受害者自救會」，「救救工傷塑膠協會」，經過了漫長的年輪，苦尋明路，終於在行政院、北地院一審宣判，判決PCA與法源鴻益公司須賠償56.445萬元。而PCA連同清永泰數，外債還款員工工傷，外債還款員工工傷等，即將於11月27日於台北高等法院進入二審階段。

The RCA Industrial Disaster was a painful chapter in Taiwan's industrial development history. Between 1970 and 1990, RCA dumped toxic waste at its Taoyuan factory and Zhubei factory, polluting the soil and underground water. At the same time, the pollution led to alarmingly high reports of cancer among the RCA workers after breathing polluted air and drinking contaminated underground water. Moreover, over 200 employees have died as a result. In fighting for the employees' rights, the "RCA Environmental Pollution Victim Self-Help Association" and "RCA Employees' Solicitude Association" were formed in 1998. After lengthy waiting, protesting and lawsuits, the Taipei District Court ordered RCA and French company Thomson (now Technicolor S.A.) to compensate its former employees with a total of NT\$564.45 million on April 17, 2015. However, the RCA movement is still ongoing, fighting for the employees' rights. With joint efforts from TAVOI, a pro bono legal team and consultant team, the trial will enter the second instance stage at the Taiwan High Court on November 27.



Disaster prevention mobile teaching aid “Storm”

8. 2015 Water and Soil Conservation Outdoor Education and Diversified Promotion Project

NSTM received a grant from SWCB, COA to implement the “2015 Water and Soil Conservation Outdoor Education and Diversified Promotion Project”, which involved the following activities: to organize soil and water conservation promotion, develop a disaster prevention related deciphering game, reproduce 20 sets of NSTM’s disaster prevention mobile teaching aid “Storm” to be loaned to various schools nationwide. In total, 26 schools applied for debris

flow disaster prevention education. In addition, the “Morakot Environmental Science Café” lecture was conducted in the exhibition hall of Recovery and Reconstruction after Morakot, and the visitors were also taken on field studies.

9. "2015 Water and Soil Conservation and Debris Flow Prevention Rooted Education Program"

In order to promote the concept of soil and water conservation and debris flow disaster prevention, NSTM and SWCB, COA signed the "Water and Soil Conservation and Debris Flow Prevention Rooted Education Program" agreement, where our "Recovery and Reconstruction after Morakot" was used as the base for promoting, educating and exchanging information on soil and water conservation and debris flow disaster prevention. The 2015 key work areas included: creating the "Soil and Water Conservation and Debris Flow Disaster Prevention Education Area" and reproducing 50 sets of NSTM's disaster prevention mobile teaching aid "Storm" to be used by SWCB for promotional purposes. The collaborative project is carried out between July 29, 2015 and December 31, 2020.

10. The Collaboration Plan of 2015 Epidemic Prevention Exhibition Area

NSTM signed the Phase 2 Epidemic Prevention Exhibition Agreement with CDC in 2011, the agreement will be implemented until December 31, 2017. The main exhibits of 2015 were: the introduction of 5 major contagious diseases in the Diseases Prevention Combat Camp Exhibition Hall, including dengue fever, enterovirus, AIDS, tuberculosis and influenza, where a total 127,729 people and 915 groups visited the exhibition; total of 8 marketing events were conducted; the "All About Disease Prevention" combat camp fan page was opened on May 1, 2015; "Epidemic Prevention Mobile Teaching Aid" was loaned

to 36 schools for health education purposes; 104 thumb theater "Health Proclamation Events" were held during the holidays; during weekdays, 60 performances of "Remember to Wash Your Hands to Stay Away from Enterovirus" and "Remember to Wash Your Hands and Stay Away from Influenza" were held in conjunction with Department of Health, Kaohsiung City Government and storytelling moms from March 17 to May 21 and from September 22 to November 27 respectively.



SWCB, COA's "Water and Soil Conservation and Debris Flow Prevention Rooted Education Program"



Results of the Collaboration Plan of CDC's Epidemic Prevention Exhibition Area



Technology Education

In order to achieve the objective of “Everyone's a scientist” , NSTM hosted a multitude of science-themed educational events for students with different school ages via the core principle of “making technology closer to life, and improving life via technology” . The events include: food science, electrics, chemistry, mathematics, aesthetics, power mechanical engineering and life sciences, etc., providing a diverse learning resource and creating a scientific educational environment. In 2015, we hosted 1,877 events, with a visitor count of over 336,798 people.

In promoting national popular science education, science-themed activities were designed according to age. Aside from elementary school and junior/senior high school students, the NSTM little Creative Master course was also developed for preschool students and children. Moreover, the NSTM Creative Life School and Technology Senior Alumni Association were created for adults, families and senior citizens. In total, 765 events were held to serve 29,375 people.

In order to strengthen scientific experiential learning, various science education activities were organized, and interactive experience

activities were developed by combining the fundamental concept of science to enhance the fun of learning popular science. This year, a total of 906 events were held to serve 193,700 people. The diverse learning model was adopted to promote popular science, where a variety of external activities, seminars and lectures were held to increase the diversity of the events and expand the scope and breadth of our services. This year, a total of 206 events were held to serve 113,723 people. The technology education activities held over 2011 and 2015 are detailed in Table 9.

Table 9 Table of technology education activities from 2011 to 2015

Type Year	Study activity		On-site activity		External service		Lecture		Seminar		Other		Total	
	Sessions	Participants	Sessions	Participants	Sessions	Participants	Sessions	Participants	Sessions	Participants	Sessions	Participants	Sessions	Participants
2011	959	37,451	1,462	185,153	88	55,540	28	4,423	1	198	24	760	2,562	283,525
2012	956	34,407	1,557	204,644	114	43,187	42	5,414	0	0	2	1,662	2,671	289,314
2013	986	34,225	1,502	206,250	96	48,481	32	4,112	0	0	7	3,619	2,623	296,687
2014	1,004	36,672	1,270	229,329	139	59,931	36	4,768	1	520	5	1,886	2,455	333,106
2015	765	29,375	906	193,700	157	106,831	40	6,593	2	114	7	185	1,877	336,798

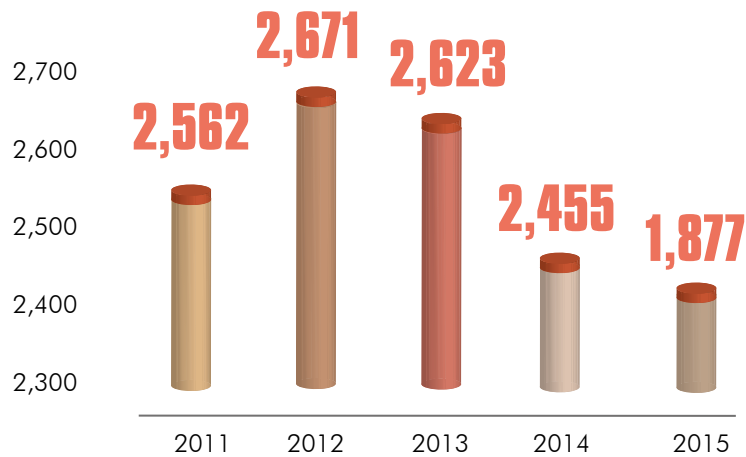


Figure 6 Number of activities from 2011 to 2015

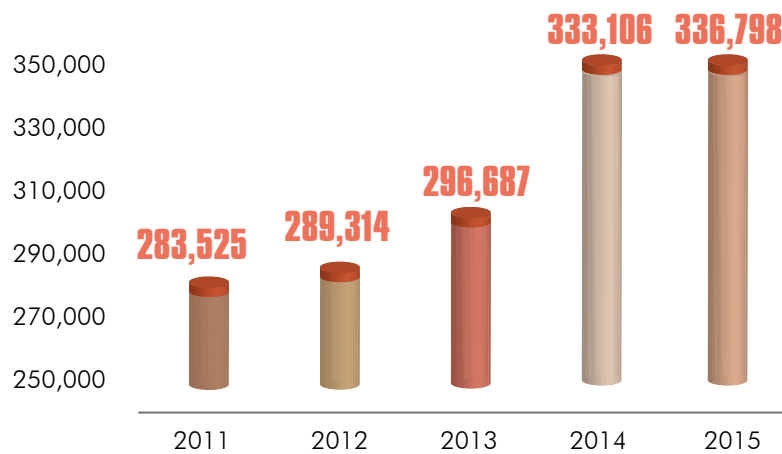


Figure 7 Number of participants from 2011 to 2015

Science Themed Activities

1. Winter/summer vacation science camp

In order to enrich the lives of students during summer and winter vacations, the NSTM promoted a diversity of science education to improve the scientific knowledge and disciplines of our national students via a variety of science experiences. We held summer/winter science camps specifically for preschool, elementary school, and high school students, which included courses in machinery, chemistry, energy, mathematical logic, creativity, life sciences, physics, mathematics, and astronomy. Furthermore, 5% of the vacancies were reserved for specific student groups. In total, NSTM organized 208 camps and serviced 7,173 people in 2015.



Master Duan science summer camp

2. Weekend learning course

In order to cultivate basic scientific knowledge and discipline of students, and also in correspondence with the spirit of the 12-year national education program to train individual talents, the NSTM has integrated applied science resources to develop science courses. Furthermore, 5% of the vacancies were reserved for specific student groups, where “Pandora's Box of Science”, “Science Training Center”, and “Weekend NSTM Creative Master” weekend courses were held from March to June, and from September to December. In 2015, we held 148 courses, and serviced 2,587 people.



“Pandora's Box of Science” green angels



“NSTM Fun Science” pot plant clock

3. Educational Groups Booked Activities

In order to improve basic scientific knowledge in students, and in correspondence to school curriculums, the NSTM planned the “NSTM FUN Science” series hands-on activities open to bookings by school and educational groups for field trips to improve the chance of a diverse learning opportunity for students. The activities are divided into lower, intermediate, medium, higher elementary levels, and secondary school level environmental education activities. In order to fully integrate with the museum's resources, all courses are matched up with recommended experience units and exhibition halls to improve the learning performance of the activities. We held 307 activities, and serviced 13,142 people in 2015.



Interactive water conservation teaching aid experience

Hands-On Science

In order for the students and public to learn basic scientific knowledge through the exhibitions and experiments, the NSTM held Hands-On Science events, guiding the public in the realm of scientific learning via hands-on activities. This year's experience activities include "Interactive Science Teaching Aid Experience", "Piety Family Day – Regain Health" and "Nanotechnology Interactive Teaching Aid Experience", etc.

Furthermore, external resources are integrated to conduct popular science experiences, including co-organizing "Nutrition and Food Safety Campaign" with the Department of Nutrition and Health Science, Fooyin University, "Interactive Water Conservation Teaching Aid Experience" with WRA, MOEA and Motec, Culture & Art Foundation, as well as popular science promotion with R.O.C Military Academy and so on. In 2015, we hosted 906 events to serve 193,700 people.

Scientific Creativity Competition

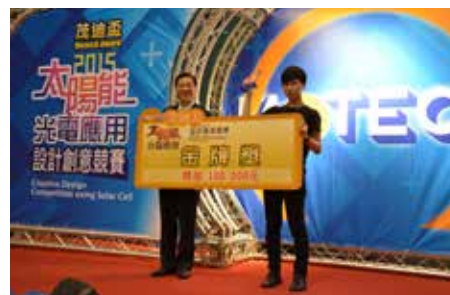
1. Creative Design Competition using Solar Cells

The NSTM held the “Creative Design Competition using Solar Cells” in collaboration with Motech Industries, Inc. and the Motech Culture and Art Foundation, with the application of solar photovoltaics as the theme, aimed at university students and above. The 6th competition was held in 2015, and 44 university teams participated with a total of 182 students and teachers on May 24. In accordance with their creative proposals and models, the winners for Gold, Silver, Bronze, and other prizes were selected on that day. A 3-month exhibition on winning works was also held starting on July 1 with a total of 78 sessions, participated in by 63,772 people.

2. National Energy Technology Competition

In correspondence with the energy technology education promotional policies from the Ministry of Education, the NSTM held the “National Energy Technology Competition” and “MOE Energy Education Program Result Exhibition” in collaboration with MOE Energy Education Program Office. The events include: National Energy Technology Creative Practical Competition, National Energy Technology Teaching Plan Design Competition, MOE Energy Education Program and competition result exhibition. In order to promote the philosophy and details for the National Energy Technology Competition, 6 briefing sessions were held, attracting 3,444 teachers and students from 844 teams to participate in the event. At the end of the competition, 213 contestants from 54 teams received awards.

The MOE Energy Education Program Result Exhibition “2015 Best Energy Creativity – Creative Technology Innovation Exhibition” includes the annual results from 6 energy technology education alliance centers under its office, 2 Energy Technology Education Centers and 19 energy technology education promotion schools, as well as winning works from the 2015 National Energy Technology Competition. Moreover, interactive experience activities including an energy technology DIY challenge and energy school were also held. The exhibition was held for 16 days to serve more than 16,000 people.



“Creative Design Competition using Solar Cell” award ceremony



National Energy Technology Competition



MOE Energy Education Program Result Exhibition

3. Hand Launch Glider Flying Competition

In honor of the Wright Brothers in designing the first manned heavier-than air air-craft in 1903, as well as promoting aerospace science, the NSTM held the 5th "Hand Launch Glider Flying Competition " on December 12 and 13 aimed at senior and junior high school students. The event adopted the method of make-on-the-day, compete-on-the-day with the categories of "Straight Flight" and "Endurance Flight", while taking into considerations of creativity and the scientific principles of flight. It was aimed at training students in developing designing, thinking, and problem solving abilities. The event was participated in by 140 senior high school teams, 116 junior high school teams, and a total of 600 students and teachers.



Student Wu Cheng-en from Taipei Municipal Jianguo High School surpassed the previous flying record of 16.75 seconds with a new record of 20 seconds!



5 th Hand Launch Glider Flying Competition award ceremony - First in junior high school group



FLL and FTC Creative Robot Competition award ceremony

4. Robot Competition

In promotion of cross-industry integration and utilization of scientific knowledge, as well as the motivation in learning and participation of students in robotics, Esunra invited the NSTM in organizing the 2015 FIRST LEGO League and FIRST Tech Challenge creative robot competition. The competition was participated in by a total of 656 people, including contestants, their families, and audience members. The

association also organized the "2015 World Robot Olympiad 2015 National Auditions Southern Region Preliminaries " with the NSTM as co-organizers. The competition was participated in by 43 teams with 139 contestants and coaches. Winning senior high school, junior high school, and elementary school teams were to participate in the national finals.

Environmental Education Promotion Activity

In promoting environmental education, NSTM has created various environmental education activities to pro-actively elevate the quality and content of environmental education. This year, we received honors such as: “Outstanding Environmental Education Facility/Venue”, Kaohsiung City Environmental Education Outstanding Award, MOE Social Education Public Service Group Award and certificate of appreciation from MOEA to strive towards the vision of “Green Museum”.

1. Energy-conservation house promotions

The NSTM conducted the energy-saving volunteer training in certified environments within the museum, bringing volunteer groups passionate in serving as well the public into the “LOHAS Energy-Conservation House”, allowing the house to provide knowledge learning through live-demonstrations and workshops, in order to convey the public with household and everyday life energy-saving skills. This was done in correspondence with the expanded “Energy-Saving & Carbon-Reduction” movement principle of the Bureau of Energy. In 2015, NSTM held the “Energy-Saving Partners” volunteer alliance action camp, “Little Energy Conservation Activist Summer Camps”, Energy Conservation Environmental Education Courses, Little Energy Conservation Volunteer Tour Guide Training Camps, 2015 Earth Hour “Lights Off! Green Up!” carnival as well as “Lights Off! Green Up!” lectures, serving a total of 6,810 people.

2. Environmental teaching aid promotion

In promoting NSTM’s professional image in environmental education, our water conservation teaching aid was loaned to Tainan City Government to organize the “Technology in Tainan – Marching Towards Nanotechnology and Low Carbon Tainan – Save Water and Reduce Waste to Love Earth” event. The teaching aid was also provided to UDN for the Water Experience Exhibition at the FE EcoARK, serving 58,535 people.



Energy conservation environmental education course

Specific Group Activities

1. Remote Area Disadvantaged Group Activities

In order to care for disadvantaged students, the NSTM strove to obtain the sponsorship of Shui-Lai Chen Foundation in holding the “Scientific Banquet Event: Science Papago” project, sponsorship of Kinghong Foundation in holding the 2015 “Multi-Ethnic Group Science Education” promotion collaboration project, and science education banquet events for 2nd generation new residents and remote area students. We held 56 sessions and serviced 2,383 people in 2015. Additionally, we obtained the sponsorship of the Motech Culture and Art Foundation in holding the Solar Energy Journey event for elementary schools in remote regions of Tainan.



Multi-Ethnic Group Science Education natural dye event

We held 8 sessions, and serviced 283 people this year. For this year’s “Best Energy Creativity – Creative Technology Innovation Exhibition”, we arranged 6 visits to schools in remote townships, serving 228 people.

2. Adult Education Learning Activities

In establishing the principle of a community popular science learning center, the NSTM exclusively held the 24-hour museum courses: “NSTM Creative Life School” series learning activities. The activities were aimed at adults, and the courses were held on weekday nights and weekend afternoons to establish an all-day-long knowledge-sharing environment, providing regular adults a chance for a life-long education. It was well-received and recognized by the students. We held a total of 32 sessions, and serviced 483 people in 2015.



“NSTM Creative Life School” – cell phone and table photography guru



"Technology Senior Alumni Association" Pour over coffee course

3. Senior Series Courses

The NSTM held the "Technology Senior Alumni Association" series courses to organize lifelong learning activities for retirees and senior citizens, where the correct scientific concepts and experiential learning are combined to create diet, healthcare, classic technology and craft-related courses. Relaxing and pleasant activities are incorporated based on adult learning characteristics to make the courses more lively, professional and diverse. In 2015, 16 courses were conducted to serve 158 people.

4. Honor Example Courses

In correspondence with the implementation of the 12-year national education, in order to satisfy the demands for junior and high school honor classes or other special educational activities, the NSTM developed the example learning courses through conducting customized learning course planning and developing of new activities. We held 19 whole-class honor classes for junior high schools, and serviced 2,115 people in 2015.

Project-type Programs

1. MOST subsidizes the nanotechnology popular science promotion and resource establishment project

NSTM participated in MOST's "Nanotechnology Education and Training – Nanotechnology Promotion Platform" and "Nanotechnology Digital Platform" during the first half of the year; in the bottom half of the year, we participated in MOST's "Nanotechnology Innovation Popular Science Promotion Project" and "Nanotechnology Digital Popular Science Resource Establishment and Promotion Project" to promote nanotechnology education promotion activities in a diversified manner.

The content includes the planning and establishment of a nanotechnology exhibition area, the 2015 Nanotechnology Carnival, operation and updates of the NANO website, digitalized nanotechnology science education activities, development and demonstration of nanotechnology-teaching aids, DIY experiments, learning courses for teachers, and nanotechnology science camps. These enabled the public to experience and learn about nanotechnology via a variety of methods of participation and learning, in the hopes of improving the knowledge in nanotechnology and science of the participants. We held 245 nanotechnology and popular science promotions, participated in by 23,639 people in 2015.



Nanotechnology popular science promotion activity

2. The Ministry of Science and Technology financially supported the "Sunday Science Reading Master" series popular science lectures

In order to promote popular science education for the public, the Ministry of Science and Technology, since 2003, began to financially support the NCKU, NSTM, KUAS, and NAR Labs in conducting this series of lectures. 16 lectures were held in the NSTM South Wing International Lecture Hall in 2015, during which 2,102 people participated, as well as conducting online real-time video broadcasting, enabling the domestic and foreign public unable to be present at the lectures to also participate.



"Sunday Science Reading Master" series popular science lectures

3. The Ministry of Education financially supported the "Science Learning Center Operational Plan "

In correspondence with the 12-year national fundamental education policy, under the direction of the Ministry of Education and their funding, the NSTM adopted "optimizing existing resources" and "innovating technology courses" as the core strategies, aimed at junior high school students and teachers in establishing the "Science Learning Center" via upgrading and revitalizing the educational environment and professional resources. Its core idea was to correspond to the science and living technology courses in junior

high schools in integrating the professional resources of the museum to develop a diversity of adequate courses, that take into account both the "teacher's professional growth" and "student's diversified multi-learning".

Building on the results of 2014, the implementation results of 2015 were: 16 teaching models; 9 teaching model promotions for seed teacher learning in the NSTM, Pingtung County, Chiayi County, and Tainan City, total number of participants was 359; In addition, 2 lectures were conducted for science and technology guidance teams across the nation; 245 teachers participated in the lectures. Roughly 150 teaching packages were conducted to implement science teaching material promotion in campuses. Furthermore, 30 featured collaborative courses were organized with different schools, while the operation of the learning center resource website was maintained by uploading related teaching resources such as teaching case studies and videos.



Teacher learning course: Operating air cannons

4. MOE subsidizes “Promote Senior Citizen Self Learning Group & Lifelong Learning Activity Pilot Project”

In conjunction with MOE’s senior citizen education policy, NSTM held the “Promote Senior Citizen Self Learning Group & Lifelong Learning Activity Pilot Project” project leader training over 8 days and 55 hours. In addition, 9 days of practical assessment and 1 day of guidance and exchange meeting were held. A total of 123 people participated in the program.



“Promote Senior Citizen Self Learning Group & Lifelong Learning” training program

5. NSTM co-organized “Health Science Master at NSTM” project with Taiwan Association

for Promoting Public Health. Under the vision of “Everyone is Welcome – A Museum You Will Want to Re-visit All the Time” and in conjunction with the concept “Making technology closer to life and improving life via technology”, the aim is to pursue health science knowledge with the public and achieve the mission of implementing social education and promoting public health. In 2015, a total of 5 events were conducted, with the presentation topics including influenza virus, air pollution, GMCs, energy and food safety. In total, 1,429 people attended the events.



“Health Science Master at NSTM” lecture

Public Service



Visitor Services

1. Improve marketing and service, improve visitor ratings

The number of visitors is a key performance indicator for the museum, as well as a demonstration of the performance goal. In facing the changing outside environment, other than continuing to update and innovate our merchandises, the NSTM also adopted diverse marketing channels, combining social/civil resources, and is actively developing potential visitors and disadvantaged groups. On the visitor servicing side, the NSTM provides a diversity of guided tour services and activities, improving service quality, and conducts community events to maintain its customer base, establishing a good interactive mechanism. This year, our customer satisfaction rate was 91.97%, with a total of

2,583,732 visitors. For the number of visitors served from 2011 to 2015, please refer to Table 10.

2. Establish an E-ticket system, improving ticket-purchasing conveniences

NSTM corresponded to the plans of the convenient ticket system proposed in the "2014 Happy Green Park Sub-Project" of the "Southern Taiwan Technology Education Green Exhibition Park" under the "Cross-Field Experience, Learning for Life: Project for Cross-Field Value-Adding in National Social Education Institutes Development" and established the E-ticket system. This enabled

Table 10 Number of visitors served from 2011 to 2015

Year	Exhibition Hall	IMAX 3D Theater	Paid Special Exhibitions	South Complex	Others	Outdoor Activities	Total Number of People
2011	672,493	159,299	386,860	136,274	558,343	137,521	2,050,790
2012	1,015,065	180,570	416,380	194,370	188,494	523,772	2,518,651
2013	1,340,613	131,535	131,761	201,142	163,636	701,949	2,670,636
2014	698,550	113,575	157,223	222,184	155,501	910,301	2,257,334
2015	645,883	86,300	284,324	191,558	217,635	1,158,032	2,583,732

our admission tickets, movie tickets, paid experience facilities, and creative arts merchandise to be substituted with automatic billing, and consumers can also pay for small expenditures with a card to



Visitors using iPASS

expedite the ticketing process, in turn providing the public with more diverse and convenient services to enhance the quality of service.

3. Obtained ISO9001:2008 and TAF certification to create a friendly, professional and innovative visiting and learning environment

NSTM obtained ISO9001:2008 and TAF certification on June 11, 2015 to create a friendly, professional and innovative visiting and learning environment. Guided by the quality policy of “Friendliness, Professionalism and Innovation”, NSTM’s management system has been improved, where



Obtained ISO9001:2008 and TAF certification

ISO9001 standards are applied to examine various service SOPs, and the concept of PDCA is applied to create our dynamic quality management system. More importantly, during the 6 months of introducing and verifying the system, a team consensus of “constant improvement” has been established among our staff to jointly create an outstanding visiting and learning venue for the public.

Public Relationships and Marketing

1. Utilize media resources, develop marketing channels

In accordance with our marketing network concept, we are to develop and maintain good relations with reporters from print, network, broadcast, and television fields, and treat them as best allies in promoting educational events and exhibitions held by the museum. The NSTM has been maintaining a good interaction between educational personnel over the years, gradually establishing a relevant database, actively providing the latest and most relevant information on the museum’s popular science promotional events, enabling the formation of a positive cycle in the industry, word-of-mouth, and active promotions enable the marketing performance to improve every year.

Issue press interview notices and news releases. In total, 55 press interview notices and news releases were issued this year, and the NSTM Newsletter was also sent to the media regularly to establish a feedback mechanism for media exposure. In 2015, over 27

advertising media procurement and promotional activities were conducted, resulting in media exposure in the China Times, United Daily News, The Commons Daily, Taiwan Times, Life Times, Mandarin Daily News, Comment News Website, CHN, Taiwan News, Taiwan Reports, Fengmin Radio, China Daily News Taiwan LOHAS Publication and Happyradio, etc.



"NSTM Newsletter" bimonthly regularly publishes the latest event information.



"Voices Refuse to Be Forgotten – RCA Occupational Injury Exhibition" press conference and opening ceremony

In correspondence to the trend in newspaper editorial fields, we adopted the method of "visual marketing" in constructing an "images aid in getting a newspaper page" thinking logic, and currently have accumulated an image database of over 100,000 pictures. We provide newspaper materials in accordance with our weekly events on scientists, science news, and science events, creating newspaper highlights, and have been well-received.

News regarding our museum can be easily obtained through the constant updates on our official website, active Facebook updates, promotions through e-mail subscriptions, as well as popular mobile devices (such as smartphones), which is also a good method of developing marketing channels. This year, we have accumulated 697 relevant news reports and published 52 issues of e-newsletters issues (a total of 749 e-newsletters) , broadcast 51 "NSTM FUN " shows in collaboration with National Education Radio and 12 "Modern Life News" shows on National Education Radio , and 44 "Kaohsiung Citizens" shows on Kaohsiung Broadcasting Station.



Pavilion of Dream Transport opening ceremony and press conference

2. Utilize social media, conduct real-time information updates

Due to the popularity of social media, we established a Facebook page in October 2009 with the address: <http://www.facebook.com/ilovenstm>, and have amassed 46,332 fans as of December, 2015, which is 22% more in comparison with the 37,835 fans in 2014. The check-in count after our Facebook community page was updated was 122,105. We relay information to our internet fans via our FB, which includes permanent exhibitions, special exhibitions, science education events, selected collections, seminars, relevant images and writings, videos, as well as science, environmental education, and science education news. We wish to bring forth applied science and the vision of a green museum in both an educational and entertaining manner.

Two steps to become a NSTM fan:

1 在facebook裡搜尋，或手機掃描 QR code



2 到科工館FB首頁按讚後，拍照打卡分享美好回憶！



www.facebook.com/ilovenstm



Performance by Kaohsiung Symphony Orchestra Affiliated Youth Symphony Orchestra

3. Holding holiday art festivals, combining technology and art

In integrating art and technology, improving the performing art quality and artistic sense of the southern regions, the NSTM holds creative performing art events on holidays, enabling the visitors to enjoy music, drama, and other performances aside from learning new technologies, allowing artistic education to be closer to life, bringing knowledge and sensibility to everyday life. In 2015, 8 events were organized and participated in by 1,950 people.

Guided Tours

1. Provide quality tours, enrich the tour experience

In correspondence with our exhibitions, we provide the public with a diversity of guided tour services, which include: group guided tours, active guided tours, robot demonstrations, and "periodic guided tours" specific to each different exhibition and exhibition hall.

In the current year, we provided guided tour services for 4 exhibitions including: "All About Inventions" exhibition, Textiles and Clothing Hall, Pavilion of Dream Transport and Typhoon Morakot Recovery Exhibition Hall. We held a total of 1,217 periodic guided tours, with a total of 5,530 various guided tours in the current year, and serviced 264,308 people.



Typhoon Morakot Recovery Exhibition Hall guided tour

Resource Utilization

1. Hand-in-Hand, Side-by-Side

In order to shorten the gap between the rich and the poor, and implement scientific education, we promoted the "Hand in Hand, Side by Side" welfare program for the disadvantaged, accepting

the donations of social welfare enthusiasts for NT\$10,000 per lantern to financially support the economically disadvantaged students in visiting the museum. This further facilitates the goal of the museum, social resources, and education integration. Through the "2015 NSTM Lanterns of Love" event held this year, we received a grant of NT\$2,904,758 to service 345 schools, 5,178 students, and helped disadvantaged students to visit the museum.



2015 NSTM Lanterns of Love activity



Chairman of Sunfar Computer Co., Ltd. in a group photograph with students participating in the NSTM Lanterns of Love activity

2. Adequately utilize social resources to aid disadvantaged groups

Chunghwa Telecom and NSTM co-organized 2 “Zero Distance Love – Telecom Technology Tour for Students in Remote Townships” events in 2015, which were participated in by 495 students and teachers.

K-12 Education Administration of MOE organized the “Send Love to Remote Townships – Care About the Disadvantaged Students to Help Them Materialize their Dreams” event in 2015, a total of 205 teachers and students participated in the event.



Zero Distance Love – Telecom Technology Tour for Students in Remote Townships

3. Utilize social manpower resources, improve overall performance

The NSTM was established to become the first museum for applied sciences in Taiwan and also the first national science education



Senior volunteer award ceremony during the NSTM anniversary celebration

organization in southern Taiwan. Under the restriction of limited employees, in accordance with “Volunteer Service Act” of the Ministry of the Interior, we invite social manpower resources to join our ranks. The scope of service includes reader services, collection maintenance, collection management, maintenance service, educational activities, exhibition services, Chunghwa Telecom exhibition services, theater services, audience services, volunteer administration, guided tours, nursing, an information desk, promotion, group cafeteria, energy-saving house projects, general affairs, and gardening. There were 1,129 volunteers by the end of 2015 with an accumulated total service time of 178,583 hours. We held 3 volunteer forums, participated in by 249 people; one volunteer recognition ceremony was participated in by 944 people. In gratitude of senior volunteers, we awarded 40 volunteers with 15-years-of-service awards (total service time of 2,250 hours) at our NSTM 18th Anniversary.

Since 2012, we aided in the establishment of the “NSTM Volunteer Fund”. The source of the fund primarily comes from volunteer donations, and flea market charity events held at our gift shop halls on Sunday afternoons. The funds are used for volunteer gift money, consolations, volunteer travel, as well as charity donations in accordance with the annual balance. The fund balance for 2015 was NT\$338,350.



2015 NSTM volunteer team visits Chimei Museum

4. Provide service opportunities, encourage students to volunteer

In correspondence with the implementation of the national 12-year education policy, since 2012, the scores of service learning (volunteer service) in diverse learning performance was counted as an important



Encourage students to engage in volunteer service and provide service opportunities

part. In encouraging students to commit to volunteer services and providing service opportunities, the NSTM amended the “NSTM Social Service Student Operation Key Points”, and the implementation began in June 2012. We conduct educational training once per month, all students enrolled in junior high schools or above are eligible to apply. As of November, there were 3,581 students participating in social services with a total service time of 14,322.5 hours in the current year.

5. Conduct community events, building good community relationships

Through the implementation of activities, we provide community members with the opportunity to utilize the resources of the museum. On June 27 (Sat.), we held the “Adventure Time – with Finn & Jake” paid exhibition as well as free visit to NSTM’s exhibit hall and

experiential activities, where local residents were invited to visit the paid exhibitions and the permanent exhibition hall. Furthermore, they were able to experience two experiential activities for free by presenting the voucher. A total of 884 people visited NSTM on the day.

In 2015, NSTM held two community movie viewing events from July 21 (Tues.) to 26 (Sun.) and from August 25 (Tues.) to 30 (Sun.), respectively. In addition to colleagues from Public Service, we also enlisted the assistance of 2 volunteers for issuing tickets and maintaining order at the scene. A total of 3,849 residents visited NSTM during the 2 events.

6. Museums from Taiwan and China exchange experiences to generate new cooperative opportunities

In order to extend NSTM's influence in science and technology museums in China, this year we received museum teams from various provinces in China to demonstrate our achievements in collection, exhibition, science education and operation, thereby creating new opportunities for future collaborations. This year, we received 11 museum teams from different cities including Beijing, Xinjiang, Guangdong, Anhui, Fujian, Shandong and Jiangsu.



2015 Cross-Strait Youth Science Demonstration and Exchange Camp



Chief Wang Liang-chuan briefs guests from Shandong Science and Technology Museum.

Green Museum

In 2015, NSTM continues to strive toward the ideal and vision of a green museum by upholding our sustainable development philosophy in order to exert our function of educating the public about technology education. From the 4 major aspects of “Sustainable Environment,” “Sustainable Society,” “Sustainable Culture,” and “Sustainable Economy” , we aim to promote sustainable development strategies including environmental protection, fulfilling our CSR, enhancing cultural heritage and sound finance. Our implementation status and results in the current year are as follows:



The Sustainable Environment Aspect

The aim of a sustainable environment was to make the NSTM a friendly, comfortable, and enjoyable environment for visitors. The items of implementation included the three major topics of “energy-saving & carbon reduction”, “environmental management”, and “green consumption”.

The major implementation results included the annual use of renewable solar energy to generate a total of 9 kWh ; we reduced the consumption of water by 3,900m³ (5.5% reduction) in comparison with 2014. Green procurement for the entire year reached 97.4%. In 2015, NSTM established an energy



NSTM is the only social education institution to receive the MOEA's Energy Conservation Excellence Award in Taiwan

management organization and introduced an ISO50001-compliant energy management system. NSTM also received MOEA's Energy Conservation Excellence Award, EPA's “Outstanding Environmental Education Facility/Venue Award” and the Kaohsiung City Environmental Education Outstanding Award.

The Sustainable Society Aspect

The aim of a sustainable society was to fulfill our social responsibilities, pursuing social justice, and develop multiple actors' participation, in order to receive the recognition and support from the public, communities, and other domestic/foreign museum communities. The items of implementations included the three topics of: “Improving Diverse Ethnic Group Education and Services”, “Promoting Community Care and Development”, “Promoting Multiculturalism and International Collaborations”. The sub-items of the implementations were threefold: multi-audience development project, social collaboration promotion project and talent cultivation.

The major implementation results included 46,332 fans from social media, showing 22% growth in comparison with 37,835 people in 2014; the “Hand-in-Hand, Side-by-Side” welfare project for the disadvantaged received a financial support fund of NT2,904,758 with an achievement rate of 194%. The actual operational cost was NT2,904,758 (implementation rate of 100%). Throughout the year,

we serviced visiting 345 units with a total number of 5,178 people, and 159 training courses were held, accumulating 609 training hours.



2015 "Zero Distance Love – Telecom Technology Tour for Students in Remote Townships"

The Sustainable Culture Aspect

The aim of a sustainable culture was to improve the transmission and innovation of culture via our collections research, exhibition, and educational events. The items of implementations included the 3 topics of "Cultural Asset Preservation", "Green Education", and "Green Exhibition".

The 3 sub-items of implementation included the collection and research improvement project, green education promotion project, and the green exhibition and assessment project.

The major implementation results in terms of cultural asset preservation included: the storage and collection of 314 historical



Co-organized "Songyunxuan Replica – Ancient Cultural Asset Preservation Workshop" with Dehua Temple in Tainan.

items of technology, holding 12 collection promotion and preservation events, developing 5 creative merchandises for the museum, and completing 15 cultural asset-related papers. In terms of green education promotion, we held 30 specialized personnel training sessions, and 165 energy-saving, electricity-saving, solar photovoltaic, new energy technology, environment, ocean, ecology, and disaster prevention sessions, with over 33,000 participants. Additionally, we continued to conduct science education promotion events for disadvantaged groups, and held 27 educational promotion events aimed at new residents and students in remote areas, including "Science Banquet, " and the "Multiculturalism " series with 3,414 participants. In terms of green exhibitions, we planned to establish the Recovery and Reconstruction after Morakot, Climate Change Hall as well as outdoor wind-power and solar power exhibition areas to transform NSTM into a quality educational facility for environmental education. We held 6 environmental protection and energy-saving exhibitions with roughly 161,000 visitors, as well as 4 exhibition green assessments, all achieving the "Gold" status.

The Sustainable Economy Aspect

The aim of a sustainable economy was to conduct cost control, reduce operational costs, and establish a well-rounded financial mechanism. The items of implementation included the topics of "Resource Recycling" and "External Resource Utilization". The sub-

item of implementation was the income increase & expenditure-reduction project.

The major implementation results, in terms of income-increase & expenditure-reduction projects were: business and other business revenue for 2015 was NT\$328,513,684, which was NT\$142,716,310 more than the estimated target of NT\$185,797,374. The reduced amount for 2015 was NT\$60,352,834, which was NT\$22,844,751 more than the estimated target of NT\$37,508,083.

General Affairs and Environment



General Affairs Management

1. Public Procurement to Conserve Public Funds

For procurement contracts and tender award cases over NT\$100,000, the accumulated tender budget was NT\$252,982,963, and the awarded amount was NT\$238,318,983. NT\$14,663,980 was conserved in total, with a conservation achievement rate of 5.80%. There were 356 procurement cases between NT\$10,000 and NT\$100,000, the accumulated subscription amount was NT\$13,610,635, and the reported amount was NT\$13,174,947. NT\$435,688 was conserved in total, with a conservation achievement rate of 3.20%.

2. Interest Income Resource Widening

In order to increase interest income and flexibly utilize fixed deposit methods, other than the existing 401 NSTM account of operational funds in a fixed deposit in the Agent Institutions of the National Treasury (Taiwan Business Bank, Eastern Kaohsiung Branch), we also conducted fixed deposits at the post office. Currently, the total amount of fixed deposits including the Taiwan Business Bank and the Post Office was NT\$125,000,000. The income from interest in 2015 was NT\$2,078,522, with a 1% decrease in comparison to 2014. In 2015, NT\$1,350,000 rent income was generated from base stations created by 5 telecom companies. Furthermore, NT\$868,589 was generated by auctioning scraped products to actively increase income by widening resources.

3. Improve File Management Quality

Hard copy official documents for the years 2011, 1989, 1990 and 1991 were checked in accordance with NSTM's "Archive Destruction 5-year Plan", where 1,022 documents from 1989~1991 that have no more value or exceeded their storage date were destroyed; they were reported to the MOE and transferred to the National Archives Administration.

In 2015, the "NSTM Archives Poster Exhibition – Witness the History of NSTM through Archive Application" was held in the art exhibition area on the 1F from October 20 to 25. The exhibition contains a retrospective of NSTM's development process complemented by resplendent photos and various official documents from various periods. In total, 21 official archive posters and relics were exhibited.

In addition, colorful NSTM Go luggage fasteners were produced (yellow, red and blue) to denote the class off official document using the concept of traveling official documents, where the colors represent confidential, priority and high priority official documents respectively. The creative approach demonstrates the diverse value added application of the archives.



Archiving by applying cultural & creative products

4. Emphasis on the performance of internal control

The museum is the only museum in Taiwan to participate in the “Phase 2 Pilot Scheme of Signing the Internal Control System Statement Promotion Project” and the 2014 internal control system effective statement was signed on June 3, 2015. On August 6, the “Guidelines for Implementing the NSTM Internal Control Task Force” were revised to officially establish the museum’s auditing task force and institutionalize the internal audit personnel. On the other hand, from a systems point of view, NSTM’s internal control system was revised and after risk evaluation 23 SOPs and control guidelines were established, while the cross-year annual self-assessment, auditing and the information system was adopted to improve administrative performance.

Electromechanical Operations

1. Conserve Water, Electricity, Oil, and Paper to Implement a Green Museum

In order to improve electricity-saving equipment, NSTM completed the dismantling of 2 VAV boxes in the Pavilion of Dream Transport to the decrease energy consumption of air conditioning units in the exhibit hall in February 2015. In May 2015, 4 inverters were installed to minimize the power consumption of the air conditioner units. The R-1 chiller at the South Wing was replaced in July 2015 to enhance the efficiency and reliability of the equipment. Since the average temperature of 2015 was higher than that of 2014, despite the improvements to the equipment, the electricity

consumption increased by 25,400kWh between January and September compared to the same period in 2014, and the power consumption increase ratio was -0.3% (if estimated according to the building energy consumption model and excluding the influence of temperature, the power saving ratio was about 5%). The water consumption was 69,805 cubic meters, with a reduction of 1,564 cubic meters in comparison with 2014, and the reduction ratio was 3.63%.

2. Emphasis on occupational safety and disaster drills

The NSTM held one flood drill in 2015, improving the emergency response skills of our electromechanical department colleges and water/power companies. Additionally, fire drills were held twice every year to improve the familiarity of our colleges in handling fire equipment, and the handling skills of the group in the event of disasters. Furthermore, personnel from the Labor Standards



Fire drill photo

Inspection Office, Labor Affairs Bureau, and Kaohsiung City Government were invited to provide lectures aimed at reinforcing our colleagues' occupational safety education and training, as well as to improve their knowledge on public safety and occupational hazards, thereby preventing accidents from occurring.

3. Improving Efficiency of Public Facilities

Two cases were subsidized by MOE's medium range plan in 2015: NT\$3,000,000 for the "North Wing Building Outdoor Toilet Reconstruction Project" and NT\$2,000,000 for the "North Wing Building Section C 8F Rooftop Waterproofing Project". The remainder of the expenses were paid by the NSTM. The purpose of the outdoor toilet reconstruction project is to cater to the accessibility needs of the users as well as to create a gender equal & friendly environment and improve the external image of the museum. In addition, waterproofing the rooftop of building in Section C prevents leakages that may damage related electromechanical equipment and affect safety, and the building's lifespan can be prolonged to achieve energy conservation and carbon reduction.

In order to materialize an accessible environment and thoughtful service during the rainy season, as well as to improve the overall image of the façade, the "Fair Avenue Accessible Corridor Rain Shelter Project" was implemented from the accessible elevator to the museum entrance.

4. Accolades and honorable mentions

NSTM received a grant of NT\$350,000 from the Bureau of Energy, MOEA for our 2015 service industry energy management system demonstration. We created the ISO50001 energy management system with assistance from the NCKU Research & Development Foundation, which was officially certified on October 27. Furthermore, we received the "2015 Energy Conservation Excellence Award" from MOEA and obtained 3rd place nationally in the National Property Administration's 2014 usage activation benefit assessment in the foundation group.



Passed ISO50001 energy management system to receive SGS international certificate

Cross-Field Value-Adding Project

In order to innovate and re-create social education institutions in terms of management philosophy and form, in turn transforming national museums in Taiwan into a contributing force during the “social innovation” process, MOE proposed the “Cross-Field Experience, Learning for Life: Project for Cross-Field Value-Adding in National Social Education Institutes Development”, which will be implemented from 2014 to 2017.

NSTM has specified our goals according to the extra development program, where education is used as the core to take advantage of the government’s efforts in fostering innovation, training talents and nurturing the cultural & creative industry. At the same time, NSTM benefits from Kaohsiung’s underground railway and light rail infrastructure, this has caused a shift in the traffic pattern to optimize the combination of geography, pedestrian and vehicle traffic flow. NSTM is located in the east-east transport green belt connecting mass transit systems such as THSR, Taiwan Railways and KMRT; in

When the underground railway is completed in 2017, the “Popular Science library Café” and “Metrology Square” will provide the public with a recreational venue combining metrology and coffee-related knowledge as well as the surrounding scenery of NSTM.

turn reinforcing the convenience of the museum.

Furthermore, the “Southern Taiwan Technology Education Green Expo Park Project” is also proposed based on goals including environment, culture, economy and sustainable social development. The implementation of the project serves to connect other museums in southern Taiwan and combine private resources in an effort to promote internationalization. Moreover, the aim is to broaden people’s horizon, facilitate developments in the tourism and recreation industry in Kaohsiung, as well as to improve the quality of the surrounding environment and industrial/commercial development. Most importantly, we strive to create an interesting, knowledgeable museum theme park where people of all ages can learn freely and have fun joyfully.



“Southern Taiwan Technology Education Green Expo Park Project” comprises 2 sub-projects such as “Happy Green Park” and “Happy Taiwan Industry”. In particular, the “Happy Green Park” integrates 6 major facilities including: “Popular Science Library Café”, “Metrology Square”, “Technology Window: The Outdoor Multimedia Interactive Exhibit”, “E-ticket System”, “Green Energy Lifestyle Exploration Pavilion” and “New Agricultural Technology Experience Pavilion”. The implementation of the project will transform NSTM into a green paradise with a social education function.

In 2015, the construction of permanent exhibit halls such as “E-ticket System”, “Technology Window: The Outdoor Multimedia Interactive Exhibit”, and “Pavilion of Dream Transport Exhibition Hall” have been completed with a subsidized budget of NT\$53,001,500. The public is able to visit NSTM conveniently with iPASS, and the large scale multimedia interactive exhibit will enhance the public’s involvement and strengthen their impression toward NSTM.

IT Operations

1. Development of cubic stamp software completed

In succession to the Deep Impression experience facility in 2014, the cubic stamp software development was also completed in 2015, allowing volunteers who originally needed to learn Corel Draw to modify the text on the cubic stamp to type the words on the web page to automatically generate cubic stamp images, in turn significantly decreasing the difficulty of operating cubic stamps.

Furthermore, cloud technology is applied to prevent the theft of cubic stamp forming technology. In addition, the cubic stamp was completed in June 2015 and the exhibit was successfully relocated to MSC. Moreover, the museum’s cubic stamp system is currently undergoing patent application.



2. Illustrate NSTM Lanterns of Love sponsors with digital presentation

In order to maximize the benefit of NSTM Lanterns of Love, the 2015 event drew inspiration from the 2014 event to develop ideas such as a Lanterns of Love card and displaying the sponsors' name on the main hall TV wall so that the sponsors can take photos with the Lanterns of Love. The digital presentation of traditional sky lanterns on the main hall corridor in NSTM using existing equipment allows the public to appreciate the love and benevolence of the sponsors.



NSTM Lanterns of Love sponsor billboard

3. Information disclosure

In 2015, NSTM disclosed 9 sets of information on top of 14 sets of information already disclosed, including: NSTM chronicle of events, annual report, policy promotion, regulations, outsource and subsidy income, accounting monthly report, final report, 2015 approved budget. In total, 34 sets of information were disclosed in 2016.

4. Mobile web page launched

In order to provide mobile device users with various information on NSTM, the mobile web page was developed in 2015 using more concise contents, images and text. Information presented included: the latest information, exhibition information, 3D theater information and visit information.



Mobile web page launched

5. Information system development and revision

Include revising the exhibit hall inspection system, webHR, cubic stamp, senior citizen group course registration system, volunteer management system, and the standalone version was revised as a web page version.

6. Official document and archive system update and verification

In 2015, the official document and archive system update was carried out and we passed the NAA's "Document and Archive Management Computerization Operation Regulation" inspection on December 7, conforming to the latest official document and archive verification standard announced in July 2015.

7. SharePoint launched

In order to improve the administrative efficiency of NSTM, SharePoint was designed, promoted and installed according to the Director-general's instructions in 2014. In 2015, the system was progressively implemented, and we visited MSC's IT personnel in June 2015 to understand how the system is applied at the center. In July, space application and management of various halls as well as the calendar of various sections and departments were open. In August, the SharePoint platform was opened, where all NSTM's bulletins and various shared files/information are edited through SharePoint. Since the same document can be edited simultaneously, document compiling time and format editing time are reduced considerably. In addition, our staff can use the documents at home, outside the office or during official visits.

8. iTaiwan network expansion

In order to provide the public and our staff with iTaiwan service, wireless network equipment was installed at the South Wing in 2015, and Wi-Fi base stations at the North Wing were reinforced. Through the creation of nstm-Staff wireless network for our internal employees and volunteers, network congestion of iTaiwan is minimized. Furthermore, NSTM's external ADSL bandwidth was also increased to provide the public with an improved wireless network environment.



Budget Execution



Annual Balance

The total revenue from execution results of NSTM in 2015 was NT\$328,514,000. The main source was the social education institution development grant of NT\$196,446,000, which occupied 59.80% of the total revenue. Self-raised funds was NT\$132,068,000, occupying 40.20% of the total revenue. Out of which, service income of NT\$38,790,000 took the top, occupying 11.81% of the total revenue. The second highest was the income from Cooperative Education of NT\$31,452,000, occupying 9.57% of the total revenue. The rest in order were: Asset-use and Royalties income of NT\$28,437,000, occupying 8.66% of the total revenue; additional income of NT\$13,636,000, occupying 4.15% of the total revenue; educational promotion income of NT\$11,232,000 occupying 3.42% of the total revenue; donation income of NT\$3,004,000, occupying 0.91% of the total revenue; other income of NT\$5,517,000, occupying 1.68% of the total revenue. Business costs and expenses of NT\$382,169,000, occupy 116.33% of the total revenue; other business expenses of NT\$420,000 occupy 0.13% of the total revenue. Our annual shortage amount was NT\$54,075,000, this was attributed to the fact that operational funds must be depreciated and amortized. On the income side, the self-raised ratio of NSTM in 2015 was 40.20%

Source: Annual Budgets, Financial Accounts

Table 11 2015 Income Balance Sheet

Unit: Thousand NT\$

Item	2015 Yearly budget Amount	2015 accounts Amount	2014 accounts Amount
Business Income	259,484	291,556	280,275
Service Income	39,397	38,790	34,043
Exhibition Halls	13,137	16,833	13,933
Theater	12,000	4,979	6,768
Special Exhibitions	11,260	12,649	9,587
Experience Facilities	3,000	4,323	3,735
Popular Science Card	0	6	20
Cooperative Education Income	15,641	31,452	24,915
Educational Promotion Income	8,000	11,232	11,456
Social Education Institution Development Grant (A)	196,446	196,446	196,446
Additional Income	0	13,636	13,415
Other Business Income	24,383	36,958	32,629
Interest Income	1,134	2,087	2,115
Exchange Gains and Losses	0	127	0
Asset-use and Royalties Income	23,008	28,437	26,574
Donation Income	0	3,004	3,079
Breach and Fine Income (including reparations)	50	363	314
Miscellaneous Income	191	2,940	547
Total Income (B)	283,867	328,514	312,904
Business Costs and Expenses	377,443	382,169	370,990
Service Costs	192,754	205,573	192,110
Cooperative Education Costs	14,967	27,743	24,647
Educational Promotion Costs	5,256	5,944	5,440
Management Costs and General Expenses	164,466	142,909	148,793
Other Business Expenses	0	420	103
Miscellaneous Expenses	0	420	103
Total Expenses	377,443	382,589	371,093
Yearly Surplus (Shortage-)	-93,576	-54,075	-58,189
Government Current Grants Ratio(A)/(B)	69.20%	59.80%	62.78%
Agency Current Self-Raised Ratio 1-(A)/(B)	30.80%	40.20%	37.22%
Self-Raised Income	87,421	132,068	116,458

Annual Capital

The annual capital budget of NSTM in 2015 included the fixed asset of NT\$40,191,000 covered fully by self-raised funds. Additionally, the fixed assets from project grants from the Ministry of Education, the Ministry of Science and Technology were NT\$97,476,000. The total amount was NT\$137,667,000.

Table 12 2015 Fixed Asset Facility Improvement / Expansion Balance Sheet

Unit: Thousand NT\$

Projects	Available Budgets	Yearly Accounts
Fixed Asset Additions	40,888	40,191
Government Support	0	0
Self-Raised Funds	40,888	40,191
Donations and Managements	0	97,476
Total	40,888	137,667

Past Revenues, Expenditures, Budgets and Final Accounts

Table 13 Past Revenues, Budgets and Final Accounts after Implementing Operational Funds

Unit: Thousand NT\$

Item Year	Budgets					Financial Accounts				
	Total	Social Education Institution Development Grant	%	Self-Raised	%	Total	Social Education Institution Development Grant	%	Self-Raised	%
2011	297,950	229,746	77.11	68,204	22.89	343,591	231,045	67.24	112,546	32.76
2012	330,513	221,324	66.96	109,189	33.04	335,751	221,324	65.92	114,427	34.08
2013	315,354	206,165	65.38	109,189	34.62	306,495	205,717	67.12	100,778	32.88
2014	280,823	196,446	69.95	84,377	30.05	312,904	196,446	62.78	116,458	37.22
2015	283,867	196,446	69.20	87,421	30.80	328,514	196,446	59.80	132,068	40.20

Source: Annual Budgets, Financial Accounts

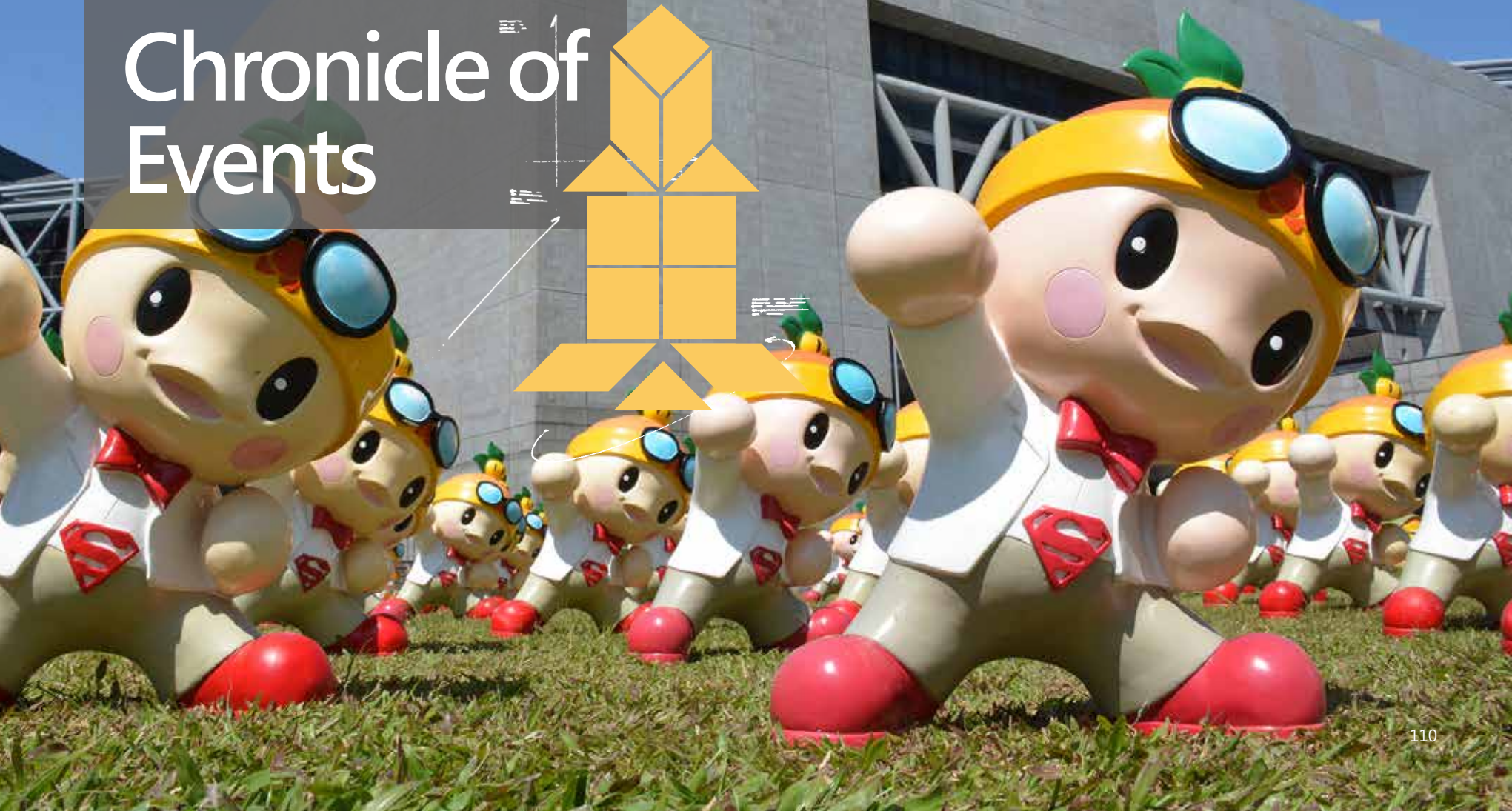
Table 14 Past Expenditures, Budgets and Final Accounts after Implementing Operational Funds

Unit: Thousand NT\$

Item <div>Year</div>	Budgets					Financial Accounts					
	Total	Recurrent Expenditures	%	Capital Expenditures	%	Total	Recurrent Expenditures		%	Capital Expenditures	%
							Staff Costs	Recurrent Costs			
2011	428,603	418,539	97.65	10,064	2.35	432,857	122,749	296,357	96.82	13,751	3.18
2012	470,605	451,713	95.99	18,892	4.01	447,729	124,548	294,624	93.62	28,557	6.38
2013	435,635	424,825	97.52	10,810	2.48	383,037	123,916	248,313	97.18	10,808	2.82
2014	435,237	382,168	87.81	53,069	12.19	423,384	125,236	245,857	87.65	52,291	12.35
2015	418,331	377,443	90.39	40,888	9.79	422,780	124,285	258,304	90.49	40,191	9.51

Source: Annual Budgets, Financial Accounts

Chronicle of Events



Date	Contents	Unit
01/16 03/08	NSTM collaborated with Taiwan Fu Shrimp Enterprise Co., Ltd. to organize the "Ornamental Shrimp Exhibition" at the Biological Technology Hall.	Exhibition Division
01/30- 05/10	"All About Inventions" exhibition was held at the Triangular Hall on 2F.	Exhibition Division
02/01- 04/30	NSTM co-organized a cold weapon exhibition with the Kaohsiung City Ancient Weapon and Art Research Association. The first "Metalworking Exhibition" was held at the Art Café on 2F.	Exhibition Division
02/04	NSTM and Tang Prize Foundation cosigned the "Tang Prize Honor Exhibition Area" agreement.	Exhibition Division
02/06- 03/01	"Heritage of Craft Traditional Cultural Art and Painting Exhibition" was held at the Art & Culture Area in the West Wing corridor on 1F.	Exhibition Division
2/10 ~ 2/24	Organized the 2014 "Selection of 12th-Grade or Higher Senior Level Career Civil Servant for Short Term Study Abroad by the Executive Yuan" experience sharing activity.	Personnel Office
02/13	NSTM and ESUNRA co-organized the 2015 FLL (FIRST LEGO League) and FTC (FIRST Tech Challenge).	Technology Education Division
02/24	NSTM cosigned the "Journey Painting Collection" exhibition lease agreement with MSC.	Exhibition Division
02/24	Organized the 2015 New Year Visit	Personnel Office
03/04- 05/10	"45°C Light Up the Sky – Cheng Hui-lien Solo Exhibition" was held at the Art & Culture Area in the West Wing corridor on 1F.	Exhibition Division

Date	Contents	Unit
03/05	NSTM cosigned the strategic alliance agreement with WZU.	Collections and Research Division
03/05	TECO Electric & Machinery Co., Ltd. supplied a wind turbine, video, photos and descriptions to update the wind power generator exhibition in the "Power and Machines Hall".	Exhibition Division
03/14- 11/14	NSTM co-organized the "Health Science Master at NSTM" project with the Taiwan Association for Promoting Public Health. A total of 5 events were conducted, with the presentation topics including influenza virus, air pollution, GMCs, energy and food safety. Five lecturers invited were: Lai Ming-chao, Yang Ning-sun, Chen Cheng-ping, Kuo We and Dr. Sun Lu-his.	Technology Education Division
03/16	2015 volunteer commendation ceremony.	Visitor Services Division
03/25- 06/07	The "Piece of Peace – World Heritage Exhibit Built with Lego Bricks" exhibition organized by Kuang Hong Arts at the first exhibition hall of NSTM.	Exhibition Division
03/27	Members of the Committee on Educational and Cultural Affairs of The Control Yuan visited NSTM, including: convener Tsai Pei-tsun, members Wang Mei-yu, Chiang Ming-tsang, Chiang Chi-wen, Chen Ching-tsai, Fang Wan-wu and Chen Hsiao-kung.	Secretariat
03/31	NSTM cosigned the "All About Inventions" exhibit lease agreement with GDSC.	Exhibition Division
04/02	"LOHAS & Energy Conservation – Love Water & Save Water to Celebrate Children's Day" and "Agricultural Genie, 500 Kao Tong Tong Figures at NSTM" press conference.	Visitor Services Division

Date	Contents	Unit
04/02- 04/19	Co-organized "Cherish Water – Water Month Promotion Event" with WRA, MOEA.	Technology Education Division
04/10- 07/14	3D Theater temporarily closed to the public due to equipment upgrade.	Exhibition Division
04/17- 04/26	Executed the "National Program on Nano Technology (NPNT) Human Resource Development Platform – Nanotechnology Promotion Platform" and organized the "2015 Nanotechnology Education Research Outcome Promotion Carnival" at the Tainan Cultural & Creative Park.	Technology Education Division
04/21	Creations by students and teachers from the Fashion Department of STU were showcased on the "Sparkling New Stage" of the Textiles and Clothing Hall.	Exhibition Division
04/25- 05/03	Kaohsiung City Government Education Bureau's "55 th National Primary and High School Science Fair" was held at the 4 th and 5 th exhibition hall.	Exhibition Division
04/27- 05/20	Co-organized "Go Low Carbon City, Tainan Go Green – Save Water and Reduce Waste to Love the Earth" event with the Environmental Protection Bureau of Tainan City Government	Technology Education Division
05/01	Experiential facility "Magical Fitting Room" in the Textiles and Clothing Hall was stationed by volunteers from the Public Service Division.	Exhibition Division
2015/05/01- 2016/03/31	Phase 3 of "Nanometer: The Invisible Scale " was opened and exhibited at the gallery on 4F, and the "Giant Carbon Nanotube Model Connection" DIY event was held.	Exhibition Division Technology Education Division
05/03- 08/31	Second exhibit of the Cold Weapon & Art Exhibition "Beauty of Sword Craftsmanship – Chinese Sword Exhibition" was held at the Art Café on 2F.	Exhibition Division

Date	Contents	Unit
05/15-06/28	"Nature and Life Sciences – Paintings, Rocks and Plantation Joint Exhibition" was held at the gallery on 1F.	Exhibition Division
05/16-11/15	"All About Inventions" was held in conjunction with the GDSC at the GDSC.	Exhibition Division
05/19	NSTM and the Tang Prize Foundation co-organized the "Tang Prize Honor Exhibition Area" at the east gallery on 1F.	Exhibition Division
05/22	Passed SGS ISO9001:2008 certification.	Visitor Services Division
05/30	NSTM's 3D printed exhibit "Tomorrow's World – Earth" participated in the "Maker Faire Taipei 2015" exhibition.	Exhibition Division
05/30-08/30	Co-organized "Adventure Time – with Finn & Jake" with Kuang Hong Arts at the 4 th and 5 th exhibition hall.	Exhibition Division
06/10-09/20	"Great Crown of Food Packaging" exhibition was located to NTSEC for exhibition.	Exhibition Division
06/12-12/15	Co-organized the "Impressions Printing – Exhibition on Printing Technology" with MSC at the MSC.	Exhibition Division
6/22	Organized the handover ceremony and tea party for Director Chuang Wen-ching of the Personnel Office.	Personnel Office
06/30	Official launch of the 2014 iPASS system.	Visitor Services Division
06/27	Organized the 1 st community-fostering visit event of 2015.	Visitor Services Division
07/01-07/14	Upgrade of the 3D Theater projection system completed (including the big screen).	Exhibition Division

Date	Contents	Unit
07/01-08/31	Organized the 2015 national social education institution and cultural institution "Cross-Industry New Experience Summer Camp" event.	Visitor Services Division
2015/07/01-2016/08/13	"David Baran Sees Taiwan – Science Comic Arts Exhibition" was held at the Art & Culture Area of the West Wing gallery on 1F, and the opening activity was held on July 4.	Exhibition Division Visitor Services Division
07/03	Completed "Pavilion of Dream Transport" permanent exhibit hall for the Cross-industry Value-added Program – Happy Taiwanese Industry, and the opening event was also held.	Exhibition Division Visitor Services Division
07/17-11/22	Organized the "Fun in SI – Fun in Conversion" exhibition and experience activities with BSMT, MOEA.	Collections and Research Division
2015/07/21-2016/04/19	Launched "Wow! Bang – Adventure" with NanE Design Corp. Ltd. at The Star in the Universe Square.	Exhibition Division Visitor Services Division
07/28-08/07	Organized the 2015 Goodwill Angel Selection Event.	Personnel Office
07/29	Cosigned the "Water and Soil Conservation and Debris Flow Prevention Grassroots Education Program" cooperation agreement with SWCB, COA.	Exhibition Division
08/10	Organized the "Songyunxuan Replica – Ancient Cultural Asset Preservation Workshop".	Collections and Research Division
08/14	Education Bureau of Kaohsiung City Government hosted the screening of documentary "The Walkers" at the 3D Theater.	Exhibition Division
08/15	ESUNRA organized the south region preliminary round of "WORLD ROBOT OLYMPIAD 2015".	Technology Education Division

Date	Contents	Unit
08/16	Organized the 2015 Employee Family Day.	Personnel Office
08/25	Organized "Museum Assessment" and "Museum Promotion Subsidy Outline Revision" in relation to the Museum Act.	Collections and Research Division
08/25-09/27	Organized the "Endless Universe/Painting in the Entire Dharma Realm Wu Chen-Hui 2015" held at the West Wing gallery on 1F and the opening ceremony was conducted on August 28.	Exhibition Division Visitor Services Division
09/09	President Ma Ying-chiu visited the "Reconstruction After Typhoon Morakot".	Exhibition Division
09/11	Dr. Liang Wen-tung from Institute of Earth Sciences, Academia Sinica donated "AS-1 seismometer" to NSTM.	Exhibition Division
09/11	The "volunteer" and "membership" program of Maker Workshop was approved and officially published on NSTM's website and Facebook fan platform.	Exhibition Division
09/11	Organized Kaohsiung City Council's environmental education event.	Personnel Office
09/24	MOE visited NSTM to inspect the function of the operation fund, medium range program and cross-industry value added development program.	Secretariat
09/26-11/29	NSTM's "Force and Energy – Science Magical Train" exhibition was relocated to TAEA and phase 1 of the exhibition was opened at TAEA.	Exhibition Division
10/01-10/02	NSTM collaborated with TNNUA's Graduate Institute of Conservation of Cultural Relics and Museology, NCKU Museum, NSYSU's Department of Theater Arts, WZU's Department of Communication Arts & Graduate Institute of Creative Arts Industries and Chinese Association of Museums to host the "2015 Passion for the New and Old – Museum and Cultural & Creative" International Seminar.	Collections and Research Division

Date	Contents	Unit
10/03-10/04	NSTM collaborated with the MOE Energy Education Program Office, MOEA Bureau of Energy, MOEA WRA and NTNU to hold the “2015 National Energy Technology Competition”. The final competition and awards ceremony were held at the 4th and 5th special exhibition halls and the atrium of the Circular Hall.	Technology Education Division
10/14	NSTM received the excellence award from MOEA Bureau of Energy at the “2015 Energy-saving Outstanding Performance Contest”.	Secretariat
10/16	“Outdoor multimedia interactive exhibit “Technology Window” at the North Hall” was completed and inaugurated for the extra development program - Happy Green Park.	Exhibition Division
10/16	Vice President Wu Den-yi visited the “Recovery and Reconstruction after Morakot” on 6F.	Exhibition Division
10/23	Self-made exhibit “Fleming's Left Hand Rule” was displayed at the Power and Machine Hall.	Exhibition Division
10/20-10/25	NSTM Archives Poster Exhibition – “Witness the History of NSTM through Archive Application” was held in the art exhibition area on 1F.	Secretariat
10/27	Received EPA's “2015 Environmental Education Facility/Venue qualification certificate” and “2015 Outstanding Environmental Education Facility/Venue” Award.	Technology Education Division
10/28	Exhibit update sponsored by MOE's 2014 medium range plan for “Open Sesame” and “Science Laureates” completed and opened to the public.	Exhibition Division

Date	Contents	Unit
10/30- 10/31	NSTM co-organized the “34th Primary and High School Science Fair” with the Kaohsiung City Government Education Bureau. Deputy Curator Tsai Hsieh-tsu of NSTM and Director of Education Bureau Fan Hsun-lu jointly launched the event during the opening ceremony.	Technology Education Division
11/03	Self-made exhibit “Magic Ring” opened to public experience in Open Sesame.	Exhibition Division
11/03- 11/29	“Time & Nostalgia: Home Sentiments – Su Ming-chuan Photography Exhibition” was held on the west wing gallery on 1F.	Exhibition Division
11/07- 11/29	The Kaohsiung exhibition of “2015 MOE Energy Education Program Result Exhibition” was held at NSTM’s 4th special exhibition hall/Circular Hall atrium. The Taipei exhibition was held at NTSEC.	Exhibition Division
11/07- 11/29	NSTM organized the “2015 Best Energy Creativity – Creative Technology Innovation Exhibition” of the 2015 MOE Energy Education Program Result Exhibition. The exhibition was held in southern and northern Taiwan at NSTM’s 4 th special exhibition hall/Circular Hall atrium and NTSEC respectively.	Technology Education Division
11/08	“The Science of Cooking” permanent exhibition hall was completed and opened to the public.	Exhibition Division
11/12- 11/14	NSTM and Kaohsiung City Government Education Bureau co-organized the “Coders and Cities – 2015 Smart Campus Information Education Fair” at the 1st special exhibition hall.	Exhibition Division
11/21- 11/22	NSTM hosted the “First Southern Taiwan Maker Education Expo in 2015” with Education Bureau, Kaohsiung City Government and KSMA at the 1st, 2nd and 3rd special exhibition halls. A total of 120 schools, colleges and businesses in Kaohsiung City attended the exhibition.	Exhibition Division

Date	Contents	Unit
11/25	NSTM received "MOE Social Education Public Service Group Award" and "Social Education Public Service Award" Group Award.	Technology Education Division
11/29	Organized the 2015~2017 cross-industry extra development program "Popular Science Café Book Station" and "Metrology Square" preview party.	Collections and Research Division
12/01	NSTM collaborated with Kaohsiung Bus to organize "Ride the Bus to Visit NSTM".	Visitor Services Division
12/03	Received the "2015 Kaohsiung City Environmental Education Outstanding Award" from the Environmental Protection Bureau Kaohsiung City Government.	Technology Education Division
2015/12/04- 2016/01/17	"Celebrate the New Year with Silver Tree - Hsieh Ying-te Wire Sculpture Exhibition" was held on the west wing gallery on 1F (art area).	Exhibition Division
12/06	NSTM received "Outstanding Volunteer Service Team Award" and "Excellent Performance" in MOE's "2015 Education Volunteer Service Award."	Visitor Services Division
12/06	Organized the 2 nd Employee Family Day of 2015.	Personnel Office
12/07	NSTM's official document and archive management system passed NAA EDRMS-1 : 2015 certification.	Information Technology Team
2015/12/08- 2016/03/31	NSTM co-organized the "RCA Industrial Disaster Exhibition" with the Department of International Cooperation and Science Education, MOST, NTNU, TAVOI and College of Humanities and Applied Sciences, YunTech at the square in front of Triangular Hall on 6F.	Exhibition Division
12/09	NSTM came in 3rd place nationally in the "National Property Administration's 2014 Usage Activation Benefit Assessment in the Foundation Group" from Ministry of Finance.	Secretariat

Date	Contents	Unit
12/12	Organized “When Makers Meet Museum” lecture and workshop.	Exhibition Division
12/12- 12/13	Held the 5 th “Hand Launch Glider Flying Competition” by incorporating creativity and the scientific principles of flight. The event was participated in by 120 junior high school teams, 150 senior high school/vocational school teams. A new record flight time of 20 seconds was achieved during the competition.	Technology Education Division
2015/12/15- 2016/10/12	A 18m tall, 46m long spiral tub slide (highest in Asia) was added to the “Wow! Bang – Adventure” exhibition.	Exhibition Division
12/17	NSTM passed the ISO50001 international energy management system certification.	Secretariat
2015/12/18- 2016/02/29	Co-organized “Imaginary: Infinity & Beyond” with The Mathematical Society of the Republic of China at the 1st special exhibition hall.	Exhibition Division
2015/12/19- 2016/03/06	“The Reality Magic of Interaction Show” was held at the 4 th and 5 th special exhibition hall.	Exhibition Division
12/20	“Force and Energy – Science Magical Train” exhibition was relocated to TAEA.	Exhibition Division
12/25	NSTM signed the “Traditional Chinese and Simplified Chinese version” cooperation agreement with Shanxi Folk Museum.	Exhibition Division



List of NSTM Personnel

STAFF

Director-general CHEN,SHIUNN-SHYANG

Deputy Director-general TSAI,HSIEH-TSU

Secretary SU, YI-HSIANG

Collections and Research Division

LIN, JONG-I

WANG, YUN-YING / WU, CHING-TAI

HUNG, HSUEH-CHIN / CHEN, SHU-CHING

HUANG, JUN-FU / HUANG, CHENG-CHONG

TSENG, CHI-SHU / TSAI, CHIA-JUNG

CHENG, TING -FANG / LIU, CHING-HO

HSIAO,KUO-HUNG / YEH, SHANG-CHING

FAN, CHENG-WEI

Exhibition Division

WU, PEI-HSIU

WANG, TSUNG-CHI / LI, JU-CHING

WU, SU-HUA / WU, YU-CHUN

WU,YUN-JU / LIN, WEN-HSIEN

LIN, SHIS-TANG / LIN, CHAO-HUNG

LIN, SHU-CYU / HONG, WAN-JHEN

SUN, YI-JEN / KAO, SHIH-WEN

CHEN, MEI-TSEN / CHUANG, CHUN-LIN

SU, FANG-YI / HUANG, CHI-HONG

YANG,CHIN-HAO / J HENG, ZONE-JHE

LIOU, JR-YUNG / LU, THAO-RONG

YAN,LI-WEN / CHUANG, SHENG-TENG

HUNG, HUANG-KAI / LI, HSING-LIN

LIN, CHEN-YIN

Technology Education Division

CHANG, HSIU-CHUAN (retired August 1, 2015)

LIN, JONG-I (from August 1, 2015)

WANG, YU-HUNG / HO, SHU-MIN

JIANG, SHU-FANG / LIN, LI-CHUN

LIN, PEI-YING / LIN, CHIH-CHENG

LIN, SUNNY-S / KUO, HONG-BIN

CHEN, CHENG-CHIH / CHEN, YI-CHEN

YEH, CHIN-YU / CHEN, YU-HSIN

CHANG, MEI-CHEN / YANG, MEI-HUI

CHANG, JIA-HWAI / CHUANG, TING-YU

TSUI, YA-TING / CHENG, CHIEN-CHI

MAI, HSIU-WAN / TSENG, JUI-LIEN

CHENG, JUI-CHOU / HSIAO, DER-REN

LIU, JIA-RU / WANG, CHI-HSIANG

YEH, KUAN-YING

STAFF

Visitor Services Division

WANG, LIANG-CHUAN

CHU, PEI-YING / LEE · CHIA-FEN

LEE, KUAN-CHING / CHIU, PING

LIN, SZU-YUAN / CHENG, CHUN-HSIANG

LIN, HUI-CHUAN / TU, MEI-FANG

PU, CHING-CHING / CHANG, SIN-YI

CHEN, I-WEN / CHEN, HSIANG-CHUNG

CHUANG, FU-SHAN / TSENG, I-HSUN

HUANG, PEI-YU / WU, YI-NA

HSIEH, YA-WEN / HUANG, SHIH-TING

HUANG, HUI-TING / LIU, FUN-RU

CHENG, HSIEN-JEN / LIU, JIN-YI

TSAI, PEI-YING / LU, MENG-YIN

LAI, JUO-NAN / LO, SZU-YI

KAO, SHU-CHEN / YANG, SHIN-YI

TSI, FAN-YI / CHUNG, YING-SHIUE

Secretariat

CHEN, CHI-HSIA

WANG, CHU-LIN / JU, YUAN-CHING

LEE, HOUNG-JYH / LEE, CHIEN-HSING

LI, CHANE-WEN / LEE, SHUN-HSIUNG

WU, TING-FANG / WU, CHING-YUN

LIN, CHIH-YU / CHOU, WAN-RONG

HONG, JHIH-MING / HORNG, JING-YI

LIU, CHIN-HUNG / KUO, CHUNG-HAO

SUN, MING-SHENG / CHEN, LIN-YUAN

ZOU, JIA-PING / YOU, SHUN-PING

GER, TZU-HSIANG / YANG, LI-WEI

YEH, CHIA-HSING / LIAO, MIN-LING

TSAI, CHENG-TE / OU, HUI-LING

SU, PEI-JHENSU / SU, YU-JEN

CHANG CHIEN, CHIH-TING / LI, JHENG-DA

HO, JUNG-FU / WU, CHIA-YUAN

HONG, SHUN-CHENG / CHAN, CHEN-AN

CHEN, TAI-WEI / TSENG, HUI-CHANG

Personnel office

HO, CHU-MEI (leaved May 20, 2015)

CHUANG, WEN-CHING (from Jun 22, 2015)

HUANH, HSIN-YI

LIAO, CHUN-HSIANG

TAI, MENG-CHUN

Accounting and Statistics office

TSAI, YA-WEN

HUANG, SHU JUNG / KANG, YA-WEN

YANG, TE-WEI / LIU, SHU-YI

VOLUNTEERS

0860397	TSENG CHIUNG-HUI	0860561	TSAI LI-SHU	0860715	YANG HSUEN-O	0860979	SHAN,SHOU-JU
0860456	KUO SHU-TUAN	0860574	HE,YI-TING	0860716	CHENG SU-FEN	0860995	YANG TSAI
0860474	CHUANGT MEN-CHU	0860575	HSU CHI-FU	0860718	CHEN,SHU-YAN	0861001	KU KUEI-LI
0860487	CHEN JIA-SHIANG	0860578	HUNG SU-CHEN	0860743	LIN CHAO-YIN	0861004	HUANG CHIUNG-FANG
0860502	TSAI NENG-SHENG	0860579	DUH WON-CHUAN-HWA	0860753	CHEN NING	0861006	CHEN KAO-LI-CHU
0860511	CHIU YU-MEI	0860580	FU,YU-CHUAN	0860760	HUNG MEI-YING	0861014	LEE HSIU-CHIN
0860512	LEES-M	0860585	HUANG KUEI-FENG	0860770	LO YUEH-HSIU	0861018	LIANG YU-YING
0860513	SHUN SHU-SHAN	0860586	TSENG SHU-LING	0860780	WANG TA-YAO	0861027	XIE,YU-FENG
0860530	CHEN YANG-YU	0860587	LIN LIANG-HSIU-YUAN	0860781	CHANG LUO-WEI	0861039	LEE CHUN-JUNG
0860539	CHUANG YU-CHUNG	0860594	TZING-KUN LIN	0860809	TSENG PAO-HUI	0861044	WANG,JIAN-HUA
0860541	CHAO LI-FENG	0860599	CHUANG MEI-CHING	0860825	LIAO,ZHEN-XING	0861046	SUN LU-HUA
0860545	HUANG SHU-HUI	0860609	CHANG,YAN-LING	0860841	KONG FUN-CHUAN	0861059	LIU,LING-YU
0860546	CHIANG CHIN-CHU	0860616	SHIH BO-SONG	0860845	KU BAIR-HWA	0861082	HUNG,HSIU-CHUAN
0860549	ZHENG SHOU-YAN	0860670	CHEN CHENG-HSIN	0860852	SHAO YU-TANG	0861096	SHIAI SHAO-ERE
0860550	YANG LEE-JU	0860673	CHANG SHU-MEI	0860865	LAI RONG-JER	0861101	LIN,CUI-DUAN
0860551	TSENG WEN-CHEN-YING	0860705	WANG,CHUN-LIAN	0860876	CHUNG WU-LING	0861103	CHEN SUE-HUA
0860554	CHEN TSUNG-TAR	0860707	LAI,HENG-HUA	0860883	HUANG HUI-LIEN	0861154	LEE SHU-CHING
0860557	SHEN MEI-LING	0860712	LIANG CHIN-O	0860929	LEE TZU-CHI	0861158	HONG KO-MENG-LI
0860559	ZHENG,XIU-ZHEN	0860714	YANG KUEI-TAO	0860945	CHENG CHIN-KUEI	0861165	HONG KANG-NAN

VOLUNTEERS

0861172	WANG CHIN-CHENG	0861335	SHIH CHUAN-CHUAN	0861640	WANG HUI-CHING	0861717	GU,LI-CHIN
0861173	PENG LAI-YU-HUA	0861339	LEE FANG-YING	0861645	TSOU HSING-YING	0861718	LIU,YUE-JIAO
0861174	HSIEH A-MEI	0861358	LIANG CHIN-WEI	0861649	YANG HSIU-YNÜ	0861725	KUO SHUN-HSIEN
0861177	HUNG HSIN-HUA	0861370	CHOU FANG-HUA	0861652	HUANG MEI-LAN	0861732	HUANG SHU-JU
0861179	YEN YIN-IZU	0861400	LIN,HSIU-HUA	0861653	LIN SHAN	0861759	CHEN MAY-LIE
0861188	LOR CHUN-LIN	0861410	LIU,XIU-YING	0861658	HSIEH TSAI LEE-FENG	0861760	WENG,RUI-MEI
0861194	TSUI AI-YEN	0861416	WU WEN-CHING	0861661	ZHU,WEI-HUI	0861762	HSU FENG-HSIANG
0861195	LI,JIN-LIN	0861419	CHOU HUI-LIEN	0861672	CHENG CHIN-CHAI	0861763	LI HSIAO-LIN
0861207	SHIH HUI-CHING	0861421	WU CHING-HUNG	0861673	LIU,CHUN-TSENG	0861765	HUANG SHIH
0861233	HUANG KWEN-FENG	0861500	HUANG SU-SHIA	0861674	HSIEH SHIANG-ER	0861781	CHOU CHEN-MEI-WEN
0861242	CHEN I-LUN	0861540	CHIH CHEN-KNEI-YING	0861675	LIN HUI-MEI	0870001	LIN,HUI-ZHEN
0861256	CHEN PAO-CHU	0861553	SU SU-HUI	0861676	CHUANG PAO-AI	0870010	LIN,XIU-BEI
0861278	TU PI-LIEN	0861560	LIN HSIU-FANG	0861677	LI,SU-CHEN	0870012	SHIH PAO-HSIU
0861283	YANG GAO-GUI	0861589	CHAN PEI-YING	0861678	LEE SHIH-FANG	0870016	YE,YUE-YING
0861287	TSAO YU-HSIU	0861590	LEE LI-HSIANG	0861690	CHOU HUA-KUEI	0870027	LI SING-HONG
0861296	WU YUEH-CHEN	0861619	LIN PSAI-FA	0861693	JIN,SHU-XIA	0870033	HUANG CHIU-HSUEA
0861314	WANG,SHU-CHING	0861629	CHANG MAI-LING	0861694	CHUNG HUI-LAN	0870039	KUO WEN-CHEN
0861320	LI TERANG-CHUAN	0861630	HU CHIN-CHAI	0861695	CHEN SU-CHIN	0870055	SHEN FU-CHIEN
0861327	CHEN LIANG-PAI	0861639	JENG MEI-SHANG	0861703	CHEN YOUNG-CHING-MEI	0870058	LIN SHU-WAN

VOLUNTEERS

0870059	ZENG,SHU-SHEN	0870131	WU TUAN-MEI	0870248	LEE SHU-CHEN	0870403	WEI YANG-HSIU-HUA
0870061	YU CHEN PI-LIEN	0870138	SU CHIN-TSUNG	0870263	WANG YA-LI	0870411	LIN SU-LING
0870070	HUANG TSAI-FZNG	0870141	HO YUAN-PIN	0870281	CHU,JUI-FANG	0870413	QIAN,LI-ZHEN
0870071	TSAI,YU-CHEN	0870144	YANG SHU-FEN	0870290	WANG JUI-HAN	0870415	LI,YUAN-XIAN
0870075	LIN EN-HSIUNG	0870149	SHIEH CHI-HUI	0870294	KAO FEN	0870428	LIANG,ZHU-YAN
0870077	LIN CHUEN-MEEI	0870150	YU,SHUN-YI	0870300	CHANG SU-YING	0870429	CHENG YEN-PIN
0870078	CHEN,LI-HUA	0870152	SHIU LI-CHUAN	0870306	ZHENG,LI-XIANG	0870431	LIN KUEI-MEI
0870084	CHEN,LI-YU	0870190	TSAI CHIN-CHIH	0870315	LEE HSIU-HUA	0870446	HONG,QING-XIN
0870085	HUANG LIN-LIANG-HUI	0870199	CHEN LI-CHU	0870316	SHIH LI-HUA	0870451	WEN,XIN-LAN
0870088	CHEN LI-HUA	0870202	CHANG HSIU-CHIN	0870318	WU PEI-HSUAN	0870453	CHAO LI-KUEI
0870091	LIN WU-MEI-LAN	0870208	LIN KUEI-CHEN	0870322	CHUANG PI-YUN	0870459	CHEN YANG-SHOW-CHING
0870103	TSAI SHU-HSIEN	0870226	CHEN MEI-HUEI	0870330	ZENG,YAN-HUA	0870465	HU XU, XIU-QIN
0870109	LIN,WEN-YI	0870229	YANG SHU-HUA	0870332	HSU WANG-LI-YU	0870467	WEI CHANG CHIU-JUNG
0870110	CHEN,JIN-RUI	0870230	WANG JEN-HSIU	0870333	WANG LEE-BAO	0870483	GUO,MING-ZHEN
0870111	LEE YA-LINE	0870231	CHUANG CHIA-NU	0870338	KUO MEI-JU	0880002	ZHANG,MEI-FENG
0870117	CHEN CHUNG-SHENG	0870242	LEE LING-FEN	0870348	LIN,QIN-JUAN	0880004	SU HUI-MIN
0870122	WU,MIN-YAN	0870243	TSAI TENG-YEH	0870362	WEN CHIU-CHU	0880007	YU JUNG-SHIN
0870127	SU TENG-KUEI-YING	0870244	CHEN MEI-CHU	0870372	ZHANG,MEI-YUN	0880010	LIQIU SHOU-YING
0870130	WU HSIN-HUI	0870246	LIN HUI-YANG	0870402	YU JUI-CHIA	0880013	YANG LING-FEI

VOLUNTEERS

0880017	CHUANG CHUN-HUA	0880087	PAO CHIUNG-YING	0890013	LI HUI-CHEN	0890109	KUO HSUEH-LU
0880019	LIU MING-CHU	0880089	WANG HUANG,CHUN-GUI	0890018	LIANG,LI-ZHU	0890111	LIU CHEN-CHEAN
0880029	WU CHIN-TUAN	0880093	HUANG,YU-LI	0890019	LIN,GUI-FEN	0890119	TSENG YEN-HSIN
0880034	WU CHIN-JUI	0880097	SUN YU-CHU	0890021	LIN,YU-CHIUNG	0890129	CHANG,YUN-HUA
0880037	CHAO PI-LIEN	0880123	HUN SHU-YING	0890022	YANG LI-CHU	0890132	CHEN,HUI-CHEN
0880040	WU SU-SHIH	0880126	LU,YU-YAN	0890023	CHEN CHUN-TAO	0890133	CHENG,HUI-LING
0880041	TIAN CHEN,MEI-ZHU	0880138	CHEN CHAI-CHIN	0890047	CHEN JIAN-LONG	0890140	CAI JIA-JUAN
0880045	LIU KE-SHIU	0880161	CHEN NENG-YU	0890062	LIU CHIN-YEH	0890145	CHAO JUI-CHU
0880046	WU,SHU-YUE	0880179	ZHENG WU,YING-LUAN	0890065	WU HSIU-LIN	0890147	TING MEI-HUI
0880050	SU LEE-CHIN	0880185	WANG,PIH-SIA	0890067	LIN HONG,XIN-YUAN	0890150	HSU,HSIANG-MEI
0880054	LU,LI-RONG	0880195	HUANG HUNG HSIU-CHIN	0890073	HUANG HAI-PING	0890151	WANG,CHIUNG-YUN
0880055	TAI CHING-MEI	0880197	WU,YE	0890074	CHANG HUI-HSIEN	0890153	HO,SHU-LIU
0880058	CAI,ZHEN-FEN	0880236	WANG FENG-YI	0890075	HUANG SHIH-LIAN	0890155	DU SHU-FANG
0880064	TAI CHIEN-HUI	0880241	LAN MEI-CHU	0890080	TSAI JUAN-LI-CHUAN	0890158	CHEN TSAN-CHI
0880070	SU CHIANG-LIU-SZU	0890006	CHEN HSIEN HUI-LI	0890083	LUO,YU-MEI	0890163	LIU MAM-NING
0880072	CHOU SHIU-MEI	0890008	CHU LI-YU	0890084	TSENG SHU-HUI	0890189	KUO FANG-MING
0880078	LIN CHEN-MING-SHOW	0890009	YU CHEN-YUEH-HSIA	0890086	LU,XIU-ZHU	0890195	CHEN CHIN-MEI
0880082	LEE HSIU-HSIANG	0890010	WANG CHIN-HUAN	0890096	WANG,SHU-MIN	0890197	WU,JIAN-LANG
0880086	LIN SHU-CHEN	0890011	SU,MEI-ZHU	0890097	YANG HSUEH-CHIH	0890198	LEE LING-FIENG

VOLUNTEERS

0890199	WU SU-HUA	0900074	HUANG HOU-HSUEH-YUEH	0900151	CHEN KU-LAN	0910098	HUANG CHIEN-CHENG
0890202	HSUEH TUNG-PAO	0900085	WANG YU-CHUNG	0900152	KUO YU-LING	0910099	CHANG CHIN-CHENG
0890203	CHANG MANG-LING	0900086	ZHAO,ZI-WEI	0900158	TU YUAN,LI-DE	0910100	HUANG LIEN-HSIANG
0900004	XU,TIAN-DE	0900089	CHEN YUEN-HSIA	0910018	XU,YA-TING	0910104	TENG CHIN-HSIANG
0900005	HSU HSUEH-YU	0900090	TUNG MEI-CHU	0910039	HOU WEN-FU	0910106	LIU HUI-WEN
0900006	LIM SHU-LI	0900094	WU MEI-CHIN	0910040	CHOU YU-CHIAO	0910110	LAI KE-NAN
0900008	FENG SHU-JUNG	0900098	CHENG CHUANG-CHUEI	0910043	HUANG CHING-MEI	0930002	CHEN YUEH-HSIA
0900009	CHEN MEI-HUI	0900109	WANG,JUN-KAI	0910044	TSUI YU-YU	0930003	CHOU SHIU-CHU
0900010	LEE,YU-YAN	0900125	HUANG FENG-CHIEN	0910047	HUANG MEI-YING	0930005	CHANG SU-CHIAO
0900014	ZHAO SHU-ZHEN	0900126	CHENG I-CHEN	0910051	LIU GUO-CHIEN	0930007	HUANG MING-HUA
0900024	LIU YU-HUA	0900127	CHEN CHI-YUAN	0910052	SUN JUI-HUNG	0930009	HSU LI-HSIA
0900027	LIEN CHING-YUN	0900130	LEE CHI-HOU	0910053	CHEN MING-HUANG	0930010	FAN CHENG-YI
0900034	CAI,QIU-YING	0900133	YEH HSIEN-WEN	0910054	YANG MEI-LI	0930011	CHEN HUI-HUA
0900048	HSIEH PAO-HUA	0900134	CHANG CHIN-YON	0910085	LEE CHIN-YUAN	0930012	HWANG GWO-SHENQ
0900049	LIN MIN-YI	0900139	LIN HUANU-SHU-HSIA	0910088	KUO CHIU-TAO	0930013	YU CHIU-YI
0900050	CHEN AI-LING	0900141	HSIEH MEI-CHEN	0910090	CHEN CHIN-CHUEH	0930014	CHEN LI-CHOU
0900052	CHIANG TAI-CHEN	0900143	CHEN,YAN-MIN	0910091	SU YUNG-PING	0930016	SU PAI-WEI
0900053	PENG,CHIH-CHIANG	0900144	LIN,SHI-LANG	0910094	LIN ENG-MIN	0930017	CHAN MEI-CHU
0900055	HSU SHU-YING	0900146	HSU SU-CHEN	0910096	WENG,MEI-CHU	0930018	CHEN HSIUNG

VOLUNTEERS

0930020	CHIANG AN-NAN	0930055	HSU CHING-HUA	0930111	HUANG HSUEH-CHIAO	0940007	CHIU,YU-LUN
0930021	TSAI SU-CHEN	0930060	CHEN,SHU-NU	0930119	YANG LING-CHEN	0940008	CHUNG CHIG-YEN
0930022	CHOU SHENG-CHING	0930061	WANG YA-CHIH	0930120	SHAO YI-CHAO	0940010	SHIH LING-TZV
0930023	CHENG LI-LAN	0930062	CHANG JUNG-CHUN	0930124	WU CHEN,SU-YU	0940027	LIN PEI-YU
0930024	LIN BI-CHEN	0930065	LIU FONG-HSIUNG	0930126	WANG YUAN-YU	0940029	YANG SHU-YING
0930025	CHANG YUEH-YUN	0930072	JIAN,ZHENG-NAN	0930127	LIU LIN CHAO-HUA	0940033	JUHN LEI-FNA
0930026	LEE YU-HSIA	0930073	CHEN,NAI-JU	0930131	LI WOEI-YANG	0940036	CHEN YU-YING
0930027	HUANG SHENG-TS	0930074	SUN HUYU-LE	0930134	CHEN TLU-CH	0940037	CHEN HSIU-FENG
0930028	WEN YI-MING	0930075	LIN,WU-NAN	0930138	CHANG LIEN-CHU	0940038	CHIU CHI-SHENG
0930030	LEE MU-HWA	0930076	WEI,JIN-HUI	0930139	YU KU-YUNG	0940040	LI,BI-MEI
0930031	KUO CHAO-HSU	0930078	LIN SHU-CHUAN	0930142	SHEN MING-CHIN	0940042	PAN MEI-HSIANG
0930032	LI WANG LI-YU	0930081	YIN WEI-HUNG	0930147	LI YU	0940045	SHIH WAN-YI
0930036	WANG,HSIU-CHING	0930087	TSAI LI-HSIANG	0930150	LIN JUI-MEI	0940050	CHEN HSIU-CHU
0930043	HSIAO LI-YING	0930088	GU,YONG-JIE	0930151	SU JUI-CHUAN	0940051	YANG MAY-JU
0930044	LI LI-FENG	0930089	HUANG,SHU-WAN	0930153	LIN PI-CHAO	0940052	YU LEE-MEI
0930045	WANG CHEN-SHOW-WONG	0930095	LIN,CHIH-CHUNG	0930154	HUANG TSAI-YUN	0940058	HUANG WEN-HSIUNG
0930046	LEE CHAO-FEN	0930097	HUANG HSUEN-FENG	0940001	CHEN,LI-E	0940061	QIU,LIN-YUE
0930048	TSENG YEN-MEI	0930102	DAI KO-LI	0940002	LIU WANG-WAN-MAN	0940063	TUNG WAN
0930053	SHYU HUEY-LI	0930109	LU SHU-CHEN	0940003	SU CHENG-CHIAO	0940064	HOU CHUN-HUA

VOLUNTEERS

0940067	WEN CHI-CHEN	0950027	WU HUAN-JAN	0950060	CAI,QIU-XIA	0950093	FANG HSIAO-LING
0940070	LIN HSIU-LING	0950028	CHEN CHIH-YUAN	0950061	TSAI CHIA-YEN	0950096	LIU SHU-HUI
0940078	LEE KUEI-MAN	0950030	TSENG CHUAN-SUNG	0950062	WU KUEI-MEI	0950098	LIU WEN-CHI
0940080	HUNG YI-WEN	0950031	LU KAI-CHUAN	0950063	TSENG FONG-O	0950099	LEE LI-YUN
0950001	CHOU LIN-CHIU-HSIA	0950034	LEE BAO-NAN	0950066	WENG,XIU-MIAN	0950100	WANG,JIAW-TZER
0950003	CHEN LIN-CHIN-LUN	0950036	ZHANG,LI-MEI	0950067	CHEN SHEN	0950104	LIU CHING-HIN
0950004	YU,SHU-ZHAO	0950039	HUANG YU-LAIN	0950068	CHEN AI-LING	0950105	ZHANG,RONG-LAN
0950005	HUANG SHU-YEN	0950041	HSU CHIEN-CHENG	0950071	TSAI SHU-YUAN	0950107	WANG HSU-SHU-LI
0950007	KUO KUEI-CHU	0950044	LU,YA-HUI	0950073	LIN,YU-JUN	0950112	CHEN,XIU-YAN
0950008	CHANG YUEH-YING	0950045	SUN,YU-HUI	0950075	WANG YU-YUN	0950113	HSIEH PEI-CHU
0950009	HUANG CHIN-PEN	0950046	HUANG,HUI-LING	0950076	LEE MING-HUI	0950116	TSAI SU-CHEN
0950011	LIN,RONG-HUI	0950047	LIN,CHUN-HUI	0950077	WANG CHIA-TSENG	0950119	ZHOU,AI-YING
0950014	LIN CHIN-MEI	0950048	SHI XIAO,SEN-ZHI	0950078	CHANG HSIAO-HIS	0950122	LIN LONG-MIN
0950015	JU,JIA-LING	0950049	LEE CHIAJO	0950079	YI CHEN-YU	0950125	CHEN LIOU-JIN-YING
0950019	CHEN,CHUN-ZHU	0950051	SU JU-SHU	0950080	LAI SHU-YING	0950128	HOU JHAO-WUN
0950020	TUNG SHU-CHEN	0950054	LEE YU-CHIN	0950081	CHUANG,HSIU-LI	0950129	WU SU-CHING
0950023	CHU LIEN-HWA	0950055	TSAI LI-MAN	0950084	HSIEH MEI-YING	0950131	HUNG LI-HWA
0950025	WANG CHAO-YUAN	0950058	LIN,GUAN-RONG	0950089	KUO CHIUNG-CHU	0950134	HUNG JU-RUNG
0950026	CHEN LIN	0950059	CHEN LINH-LI	0950090	LEE MEI-YUEH	0950136	TSO TSUNG-YI

VOLUNTEERS

0950139	LU DU-MEI	0950185	CHEN TENG-CHAO	0960045	HUANG TZU-CHUAN	0970040	YU CHIEH
0950140	RUAN,ZHONG-QING	0950186	CHAO CHENG-CHIEH	0960048	CHUNG YAN-SUH-JAU	0970041	TSAI CHIA-YI
0950144	SUNG LONG-SHENG	0960001	MA SAI-FEN	0960053	WANG CHIU-HSIANG	0970042	CHEN SHU-FEN
0950145	LIN SEN-TIEN	0960002	TANG CHIU	0960054	CHEN,MEI-YIN	0970043	HU,JUI-HUI
0950147	LIAO,YU-CANG	0960005	CHEN,XIAN-YI	0960057	CHEN NAN-SHENG	0970045	HSU CHIA-CHUAN
0950151	HUANG,HE	0960008	CAI,CHENG-MU	0960060	XU,YING-YU	0970051	CHEN HSIAO-HUAN
0950153	HUANG YU-HSIN	0960009	CHEN,YI-MING	0960063	CAI,JIN-ZHANG	0970052	CHOU HUI-LING
0950154	CHOU PO-SHIUN	0960010	XIE,YING-DONG	0960072	YANG HSUEH-FEN	0970055	TESNG YUEH-HSING
0950156	LIU MEI-MAN	0960012	CHEN,SHENG-XIONG	0970004	WENG TZU-SHUAN	0970061	CHENG LI-HUA
0950157	SU,GUANG-ZI	0960013	CHEN,RU-YI	0970006	LIN JIA-HONG	0970062	CHAO HIS-CHING
0950159	CHANG,KUEI-YING	0960016	HSI CHING-PING	0970019	PU,SHI-YUE	0980002	YIN JIAN-CHUNG
0950163	CHEN YI-LI	0960017	WANG HSIU-CHU	0970027	LIN MEI-LING	0980005	CHIANG YU-YUN
0950165	SU,XUE-MEI	0960020	YANG ZN-YUAN	0970029	KE,TING-HUA	0980007	CHEN YU-CHIN
0950166	WU FU-I	0960022	TSAI JU	0970032	HONG,ZHEN-SHAN	0980012	CHEN,JIE-PING
0950174	YU CHIU-TAO	0960023	CHEN NENG-CHI	0970033	YAO CHU-LI-HUA	0980013	LI YUN-YIN
0950175	CHENG,HSIU-CHING	0960029	PAN JIN-LONG	0970034	HON MI-SHOW	0980014	CHANG CHIEN-CHUN
0950176	LIU CHUN-YUEH	0960034	HSU KUEI-HUA	0970035	CHEN SIANG-SYUE	0980015	CHEN,SHAN
0950177	CHENG MING-HSANG	0960040	WANG YU-HSIANG	0970038	HSU SHIH-CHENG	0980016	CHIANG HSIU-MAN
0950181	TSAI HSIU-MEEI	0960042	SHEN YANG-CHENG	0970039	HSIAO LI-CHING	0980017	LIN MEI-LAN

VOLUNTEERS

0980018	CHIANG HUI-CHIN	0980054	KUO KUEI-LAN	0980100	PAN FU-TSUN	0990024	SHI,XIU-ZHEN
0980021	WANG NITA	0980061	CHUNG MEI-LEE	0980101	CHANG CHIEH-YUN	0990025	KUO CHING-MEI
0980022	CHOU LING-CHUAN	0980066	YANG,BI-FEN	0980102	LEE SHU-FEN	0990026	LEE MIAO- CHEN
0980025	HSU MEI-JEN	0980067	LIN SHANG	0990002	SHI,HUI-MIN	0990028	LU FU-MEI
0980027	HU SHU-CHEN	0980074	CHANG,LI-CHING	0990003	CAI,QING-XIAN	0990029	CHEN,MEI-YING
0980028	CHEN,WEN-SHAN	0980081	CAI,CAI-LING	0990004	LAI,KUN-YI	0990030	CHU YU-FANG
0980031	CHOU CHIU-LAN	0980082	ZHANG,MEI-JIN	0990005	TSENG,YU-LUN	0990031	TONG,MING-CONG
0980032	LIU,XING-LIAN	0980083	LIU,YU-YING	0990006	CHEN,CHUN-HSIUNG	0990037	CHEN SU-CHEN
0980033	LIU HSIANG-JU	0980084	LEE LI-YING	0990010	JIN,CUN-SHAN	0990038	CHEN CHENG-HSIUNG
0980034	WANG,LI-MEI	0980085	CHANG CHAW-YANN	0990011	XIE,ZHI-LING	0990040	CHANG MING-SUNG
0980036	LIN DAR-NAN	0980086	LIN,XIU-LUAN	0990012	CHEN,YAN-ZHU	0990042	LIU,YU-LAN
0980038	HUANG SU-MEI	0980087	HSU HSIEN-TANG	0990013	TUNG CHENG-LIANG	0990043	WANG,ZHENG-NAN
0980039	YANG HSIU-YING	0980089	LIN CHUN-SHIA	0990014	XU,QING-RONG	0990044	HSU CHIH-MING
0980042	CHEN TZU-JIUN	0980090	YEH,PAO-CHIH	0990015	LEE YI-HOUN	0990045	CHANG LI CHIEH-YIN
0980045	CHEN,ZI-LING	0980091	CHEN HONG-SHING	0990016	JIANG,HUI-TIAN	0990046	CHEN YUNG-CHIANG
0980046	PENG HUI-CHEN	0980092	YE,MEI-MAN	0990017	QIU,JIN-CHENG	0990047	CHOU YEONG-CHI
0980049	HUANG,ZONG-XIAN	0980093	CHANG HSIU-LAN	0990019	HSU,HSIN-CHU	0990048	CHEN SHUI-WANG
0980050	LIN MEI-FEI	0980095	CHUANG CHEN-CHIN-YUEN	0990020	HUANG KUN-TSE	0990050	CHEN YI-CHUN
0980053	LIN KUNG-SHU-MAN	0980096	CHEN LEE-HUA	0990021	CHEN HSIU-HUA	0990051	CHEN WAN-FU

VOLUNTEERS

0990052	WU,XIU-HUAN	1000007	CHENG CHEN-SU-LUAN	1000029	WU TSUN-NENG	1000049	SONG,LI-ZHU
0990053	CHENG RUEY-SHAN	1000008	CHENG CHI-MING	1000030	HUANG YI-CHENG	1000050	CHAN CHIN-YUEH
0990054	HE,XIA-ZHI	1000009	TSENG YEN-HUANG	1000031	CHEN,XIU-MIN	1000052	LIU CHIN-HSIU
0990055	TU HSIN-WEN	1000010	WEI CHIN-SHUN	1000032	HUANG,BI-YU	1000053	LIU MEI-HSUEH
0990056	LEE YURN-CHONG	1000012	KUO YU-CHING	1000033	LIU,RUI-YU	1000054	CHEN YUAN-MING
0990057	LIN SHOU-SHAN	1000013	WANG LUNG-YUAN	1000034	CHU MAN-CHEN	1000055	CHUNG LO-CHUN-YING
0990058	LIU CHIN-CHIH	1000014	YUAN YA-CHIN	1000035	HSIEH HO-MING	1000056	HU CHIA-LIN
0990059	HSU,YUEH-YING	1000015	JUAN YUEH-YUN	1000036	FANG SHU-LING	1000057	LI,JIN-LING
0990060	HUANG CHIN-HUEI	1000016	CAO,CHIN-YUN	1000037	TSEN HUI-CHAO	1000058	SHI,YI-TING
0990062	LIN HUI-LI	1000017	ZHUANG,JIN-ZHI	1000038	CHIU CHIN-HUI	1000059	KUO HSIANG-JUI
0990063	LIU YEN-CHUN	1000018	HUANG SU-HUA	1000039	TSAO EN-TE	1000062	TSAI HSIU-CHIN
0990064	HUANG JEN-TSUNG	1000019	CHEN PI-ER	1000040	WU CHIU-HUAN	1000064	CHANG MAY-CHING
0990065	YAN SHU-ER	1000020	TSAI CHEN-YUAN	1000041	HSU MING-FU	1000070	CHIU HSUEH-LING
0990066	TSAI HSUEH-HSIANG	1000022	CHANG FU-SHAN	1000043	ZHUANG,ZAN-LI	1000071	YAN,YU-RU
0990067	HSU KUEI-JEN	1000023	LAI,MING-HONG	1000044	LIN RONG-BIN	1000072	WEN HUI-YEN
1000001	LO YU-HUA	1000025	HUANG HUI-HIS	1000045	FENG YU-KUEI	1000073	YEN CHING-KAO
1000003	HSIAO CHIN-CHAO	1000026	WU,JIN-GUI	1000046	LIN SHIU-SHIA	1000074	ZHENG,BO-XIONG
1000005	YEH PAI-MEI	1000027	LIAN,SHENG-LIN	1000047	WU SHIU-CHU	1000075	YU MING-HO
1000006	HSU SHU-CHUN	1000028	YANG,YI-AN	1000048	CHEN MAI-YEN	1000076	GUO,ZHEN-ZHEN

VOLUNTEERS

1000078	LEE TI-PEI	1000110	YE,XIU-RONG	1000136	XIE,GUAN-ZHENG	1000159	TUNG,WEN-SHIANG
1000080	HUANG PO-HSIANG	1000114	HUANG,YA-HUI	1000139	RUAN TANG,FENG-JIAO	1000160	ZHENG,XING-XING
1000081	PAN CHIEN-MEN	1000116	HSU SU-CHEN	1000141	CHEN,PI-CHU	1000161	WANG KUANG-HSIEN
1000084	LI,YAN-XIANG	1000117	WU,CUI-HUA	1000142	LU,SHAO-YU	1000162	HU,QIU-MEI
1000087	HUANG MEI-CHI	1000118	HUANG YU-CHUAN	1000143	LU,JIN-DUAN	1000163	WU,KUEI-HSIANG
1000088	CHEN CHUN-KUANG	1000119	LIN YU-YING	1000144	SHI,NAI-YING	1000165	LIN HOU,XIU-ZHU
1000090	HSIEN,YU-CHIN	1000120	YANG CHING-YUN	1000145	CHIU,SUE-CHEN	1000166	LU,XIU-ZHU
1000091	LEE,HSIU-CHU	1000121	CHANG,LI-CHUEH	1000146	WANG,TE-SHENG	1000167	CHEN,SHU-DAN
1000093	YANG WEN-CHUAN	1000122	CHEN,XIN-JIAO	1000147	ZHENG LIN,XIU-ZHU	1000168	LIU,MING-LI
1000095	GUO,YI-QING	1000123	LIN,DE-YU	1000148	LAI,HE-JING	1000169	TAO,SHU-CHIN
1000097	LO CHIEH-TSUN	1000124	ZHOU,LI-YUE	1000149	LU,JIAN-CHENG	1000170	YANG TSAI-CHUAN
1000099	KUNG LEE-SU-FEN	1000125	LIN LI-CHENG	1000150	WANG LI,BI-XIA	1000171	XIE,FU-ZHEN
1000100	KUNG TING-HUI	1000127	HUANG WEI-PING	1000151	CHEN,QING-SONG	1000172	CHEN,CHUN-MAN
1000101	YU CHIH-HUA	1000128	SHEN MEI-FENG	1000152	CHENG,LI	1000173	ZHANG,YU-MEI
1000103	HUANG YANG-CHIH-HUI	1000129	SHEN,MEI-JIN	1000153	CHANG PAI-LIEN	1000174	WANG PAI-KUNG
1000104	YANG,CHAO-QUN	1000130	PENG,GUANG-TANG	1000154	YE,RUO-YI	1000177	CHEN,RUI-YING
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1000107	LIN,BI-ZHU	1000134	LEE SHAO-MEI	1000157	WU,YIN-TIAO	1000179	HONG,ZHAO-YU
1000108	YANG HSIU-CHAO	1000135	WON LEE-ZHU	1000158	HUANG,CHIU-KUEI	1000180	WU,YI-CHEN

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1000181	SU,TUNG-CHUN	1000205	WU,MING-ZHU	1010012	HUANG,XIAO-ZE	1010033	LIN,SHI-JIE
1000182	LIN,CHING-YING	1000206	TAN,HAI-LIN	1010013	HSU YUEH-YEH	1010034	JUAN,LU-CHIANG
1000183	LI,MING-JANE	1000207	LU,ZONG-MING	1010014	MAI,SHU-CHING	1010035	CHEN,JING-KUAN
1000184	LI,QING-XIAN	1000208	LI,YUNG-CHI	1010015	ZHANG,LI-XUAN	1010036	XU,XIU-FEN
1000185	CHEN,ZHI-SHENG	1000210	ZHU,ZHEN-SHE	1010016	WANG,MEI-YI	1010037	JIANG,RUO-ZHEN
1000186	WEI,JU-HSU	1000211	FU,CHUN-YING	1010017	YE,LI-HUA	1010039	CHEN,YUN-JUAN
1000187	KO,NAI-HUA	1000213	HU,RUEI-SHAN	1010018	RAO,YU-TING	1010040	LIU,HSING-KUEI
1000188	LIAO,YI-CHUN	1000214	HOU,QIU-LAN	1010019	HSU,MING-HSIU	1010042	SHI,FANG-JIN
1000189	HUANG,MEI-LAN	1000216	TSAI SHU-CHIN	1010020	SHI,YU-YING	1010043	CHIOU,CHIEN-JEN
1000191	HUNG,JUNG-YI	1010001	LI,CHUN-HUI	1010022	YANG,SEN-GUI	1010044	LI,YI-JU
1000192	CHEN,YI-HUI	1010002	HUANG,SHU-LING	1010023	WU,SHU-YUAN	1010047	HSU,CHENG-TUNG
1000193	CHANG,FENG-CHEN	1010003	LU,JING-XIAN	1010024	CHEN,ZHEN-MEI	1010048	CHUANG,PI-CHUAN
1000195	WU,PI-YUN	1010005	CHOU,YU-CHING	1010025	TSAI,MIAO-YUEH	1010050	CHOU,SU-JEN
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1010065	SU,HSIU-LI	1010087	LIN,MEI-LING	1020013	HSIEH TSUI	1020033	CAI,LAN-XIANG
1010066	LI,LIAN-LIAN	1010088	LIN HSUEH-HUI	1020014	YAO,MEI-YU	1020034	CHANG,TSUI-HUA
1010067	LI,FANG-YU	1010089	LIN KUEI-CHU	1020015	SU,WEN-HUA	1020035	XUE,YI-XIONG
1010068	GUO,XIU-YING	1010091	CHIU KIN-SHUN	1020016	HUANG,SHAN-FU	1020036	LEI,SHAO-LAN
1010069	ZHUANG,XUE-YU	1010091	ZENG,YU-JING	1020017	HE,YI-WEI	1020037	CHEN,BANG-QUAN
1010070	WANG,SHAO-HSIN	1010092	LEI,SHAO-YING	1020018	YANG,YA-LING	1020038	DU,YI-YUN
1010071	WANG,A-MIAN	1010093	CHEN,KUEI-CHU	1020019	WANG,FU-YING	1020039	HUANG,HUI-ZHU
1010072	HUANG,SHENG-MAO	1010094	CHEN,LING-NA	1020020	SUN,XIAN-GUANG	1020040	HU,HUI-HUANG
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1020048	XIE,CHUN-MAN	1030001	HOU,PO-YAO	1030020	WU,HSIANG-CHIH	1030042	HUANG,YUN-NA
1020049	LIN,JIN-YAN	1030002	CHEN KUN-CHANG	1030021	CHANG KAO-LAN	1030043	LEE CHI-YUAN
1020050	TAI,YIN-LI	1030003	CHEN LIN NU-HUEI	1030022	TSAI LI-HAW	1030044	KUO MEI-LI
1020052	LIN,JUN-LI	1030004	KUO MING-CHU	1030023	CHEN LI-CHU	1030045	HSU CHIN-PI
1020054	PENG,YOU-YU	1030005	YU HSIANG-KUO	1030025	CHEN,HUO-YEN	1030046	TSAI FU-MEI
1020055	GUO,GUI-XIANG	1030006	FENG,HUI-HSUEH	1030026	WANG AY-JANE	1030047	WU,SU-LAN
1020056	LIN,SHU-MEI	1030007	CHOU CHIH-HAO	1030027	TSENG SHU-FEN	1030048	WANG CHIOU-I
1020057	CHEN,YUEH-CHUI	1030008	HSU CHU-FEN	1030028	TSAI CHIUNG-YUAN	1030049	HE,PEI-CHING
1020058	YI,QING-LING	1030009	LI,CHIN-KUO	1030029	HUANG HSIU-LUAN	1030050	TSAI,TSUI-PING
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1020069	WU,YU-FEN	1030019	LIAO YIHG-LI	1030041	CHEN,YU-FANG	1030061	SU XIU-YING

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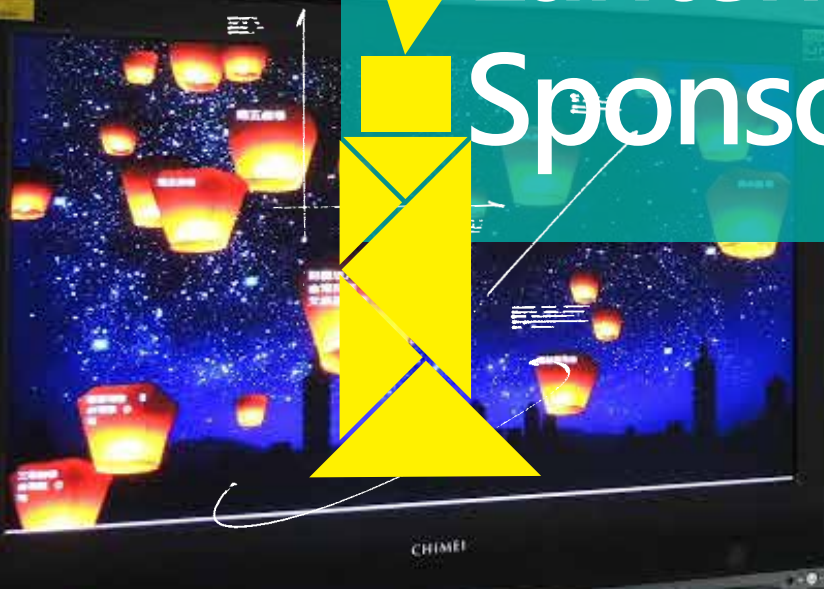
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	10,000	Kaohsiung Clinic Association	10,000	Lions Clubs International Dist.300E1	10,000
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Fengming Broadcasting Co. Ltd.	10,000		
Confirm instruments Co., Ltd	10,000		
President of Der-Fong Clinic	10,000		
President of Der-Fong Clinic	10,000		
Cosmos Language School	50,000		
Shu-Te Home Economics and Commercial	10,000		
High School			

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