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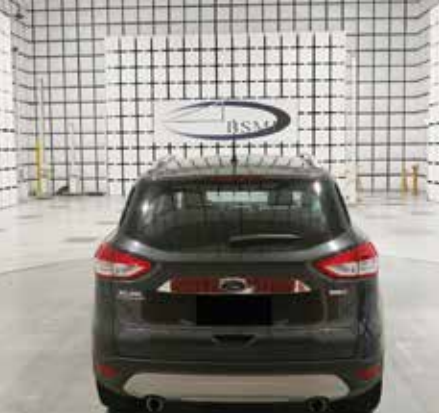
2014
BSMI Annual Report



Contents

2014 BSMI Annual Report

Bureau of Standards, Metrology and Inspection

A Word from the Director General

I assumed the Director General of the Bureau of Standards, Metrology and Inspection (BSMI) on January 3, 2014. The BSMI is in charge of activities closely connect to our daily lives. Under the concerted efforts devoted by my colleagues, we have accomplished great achievements in 2014 to fulfill the responsibilities empowered by laws and to meet the expectations of the general public.

The core functions of the BSMI are two folds: to safeguard the rights and interests of consumers on the one hand, and to support the development of industries on the other hand. Empowered by the *Commodity Inspection Act* and the *Weights & Measures Act,* the BSMI regulates the safety of industrial products and the accuracy of measuring instruments placed on the market. Authorized by the *Standards Act,* the BSMI is responsible for establishing national standards (CNS) and promoting standardization activities nationwide.

In 2014, a number of new technical regulations entered into force to protect the health and safety of consumers. Products covered by these measures include toys with textile materials, children's high chairs, lithium accumulators, LED bulbs, blankets and thin beddings, storage water heaters, children's raincoats and battery chargers. To complement pre-market control measures, market surveillance activities were tailored to respond to emerging concerns about the compliance of products displayed and distributed on the Internet. We have noticed that the number of non-compliant products distributed on the Internet increased over the past years. To address this problem, the

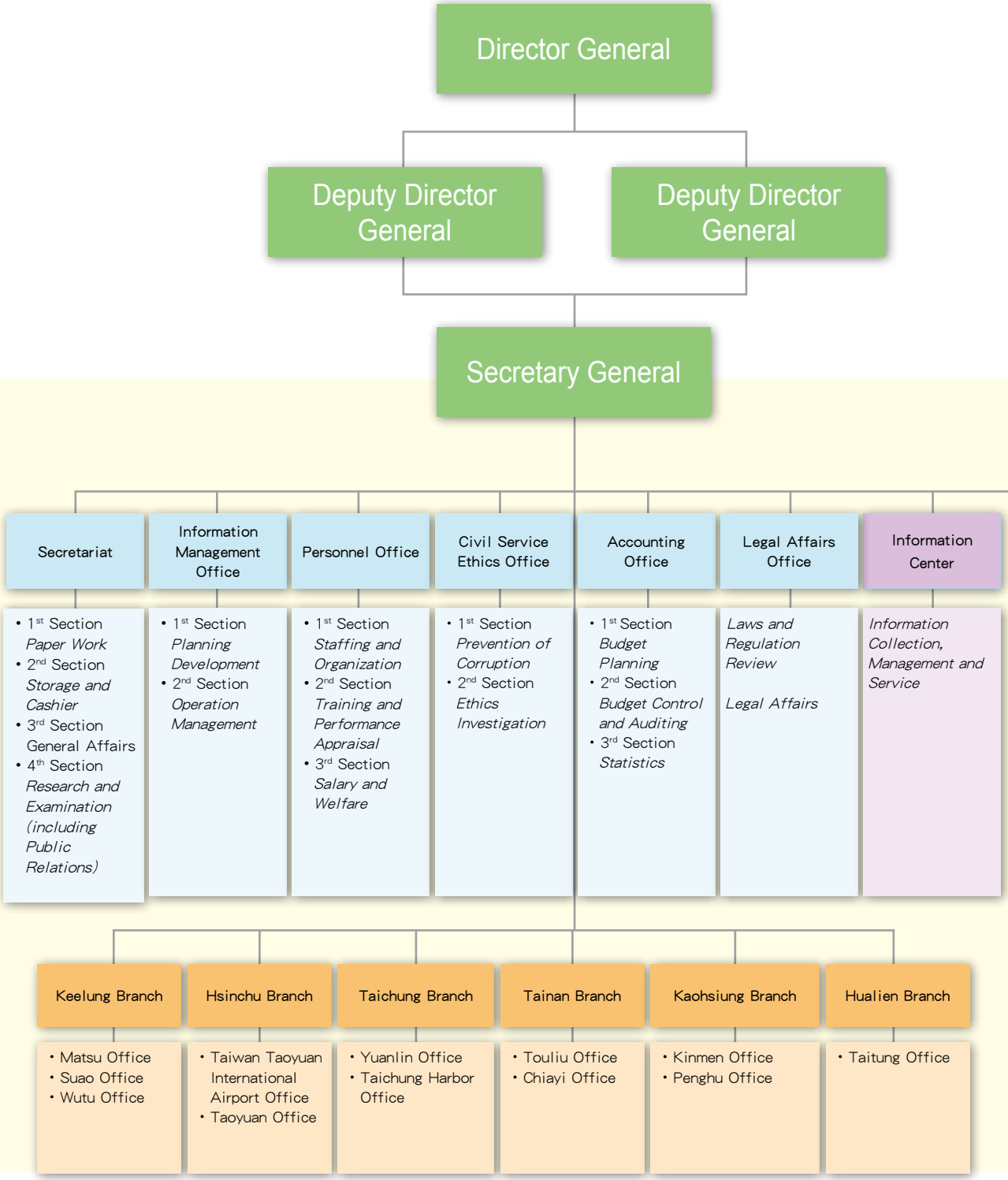
BSMI has been working with on-line shopping websites since 2012 to raise awareness of sellers about relevant requirements concerning product inspection. In 2014, further agreement was reached with 10 popular on-line shopping websites, such as Yahoo, PChome, Ruten, 17Life, etc., to strengthen cooperation on consumer product safety.

Our work on upgrading the technical infrastructure of standards and conformity assessment in Taiwan also yielded promising results in 2014. The BSMI undertook a number of projects to support the national energy policy, in particular to help the industry apply emerging technologies to the design and manufacture of their products. Projects included the development of energy-related national standards, expansion of measuring systems and research on new testing and inspection techniques. Professional testing experts were teamed up in areas of LED, photovoltaic and electric vehicles to assist the industry in overcoming difficulties during the development of systematic technologies and applying for international product certification. In this respect, the "Accreditation Cooperation Arrangement" concluded with New Zealand in December 2014 enables consolidated and comprehensive cooperation between the national accreditation bodies in the two countries, which paves the way for advanced exchanges of experiences and facilitates the development of technical infrastructure in Taiwan.

In view of the globalization and virtualization of product supply chain, the BSMI will strengthen regulatory cooperation with its counterparts of other countries to form a network where unsafe products crossing borders can be effectively monitored and preventive actions can be taken in advance. The achievements that we have accomplished in 2014 lay a good foundation for the BSMI to work towards the goal of establishing a safe and healthy environment for consumers and securing a level playing field for industries.

July 2015

I. Organization



- **1st Division**
  - 1st Section: *Standards Act, Administration of CNS Mark, General Affairs*
  - 2nd Section: *Standards of Machinery, Mechanical and Electrical Products*
  - 3rd Section: *Standards of Chemical Products*
  - 4th Section: *Standards of Agricultural Products*
- **2nd Division**
  - 1st Section: *Inspection Planning & Management of Resource Products*
  - 2nd Section: *Inspection Planning & Management of Livelihood Products*
  - 3rd Section: *Inspection Planning & Management of Chemical Products*
- **3rd Division**
  - 1st Section: *Inspection Planning & Management of Machinery and Mechanical Products*
  - 2nd Section: *Inspection Planning & Management of Electrical Products*
  - 3rd Section: *Inspection Planning & Management of Electronic Products*
- **4th Division**
  - 1st Section: *Legal Metrology Administration*
  - 2nd Section: *Legal Metrology Technology*
  - 3rd Section: Metrology Standards
- **5th Division**
  - 1st Section: *Planning & Consumer Protection*
  - 2nd Section: *Inspection Administration & Management*
  - 3rd Section: *Management Systems Certification*
  - 4th Section: *International Affairs*
- **6th Division**
  - *Polymer Section*
  - *EMC Engineering Section*
  - *Biochemistry Section*
  - *Research and Development Section*
  - *Chemistry Section*
  - *Electrical Engineering Section*
  - *Materials Testing Section*
  - *Mechanical Engineering Section*
  - *Control of Operations Section*
  - *Registration of Applications and Certificates Section*
- **7th Division**
  - 1st Section: *Verification of Weights & Measuring Instruments*
  - 2nd Section: *Inspection of Weights & Measuring Instruments*
  - 3rd Section: *Calibration of Weights & Measuring Instruments*

II. Standards

Being the national standardizing body, the BSMI puts great emphasis on establishing a standardization system that can meet the needs of national policies, social development and industrial advancements. The system is mainly driven by two forces, the one led by the government to support the implementation of national economic plans and enhance the overall quality of the standard-living environment, and the other led by the industry to invent state-of-the-art technologies. Aside from the technology-based approach to developing documentary standards, the BSMI also recognizes the importance to raise the society's awareness of standardization. In 2014, substantive progress was achieved.

1. Government-led Actions

(1) Development of national standards (CNS)

In 2014, the BSMI published 211 new CNS standards, revised 141 standards, and withdrew 87 standards, which resulted in a total of 14,775 national standards in existence by the end of 2014. The new and revised CNS standards mainly involve consumer products and basic technology used by industries. (Please refer to Table II-1 for the number of CNS standards in different sectors.) CNS standards can be accessed at the web address http://www.cnsonline.com.tw/?locale=en_US.

(2) Alignment of CNS with international standards

The difficulties that Taiwan encounters in becoming a member of important international standardizing organizations, such as ISO, IEC and ITU, due to political constraints, does not impair our efforts to align our national standards with international standards. In 2014, 26 drafts of CNS were completed based on relevant international standards, which encompass areas of smart grid, smart automation, Chinese encoding, information processing, etc. In addition, 4 research papers on the relationship between industry technology and international standards for related product sectors were presented to help the industry better understand potential development in the future.

(3) Participation in international standardization activities

In order to understand the development of regional and international standards in sectors relating to emerging technologies, the BSMI dispatched 11 technical experts to participate in activities held by ISO, IEC, AFACT and related standards development organizations in areas of mobile communication network, encoding of symbols and ideological characters, electromagnetic compatibility, appraisal of incidents involving electrical products, etc.

2. Industry-based Initiatives

(1) Enhancement of industry participation in standardization activities

The *"Directions Governing the Recognition of Standardizing Groups"* were published in 2011 to encourage the industry to participate in the development of national standards and to develop human resources for the industry. Recognized standardizing groups are obliged to recommend drafts, submit comments, and attend technical committee meetings. There are 10 standardizing groups being recognized. In 2014, 22 drafts were proposed by these standardizing groups, including marking of cycle components, smart energy profile 2.0 application protocol specifications, information technology - radio frequency identification for item management, etc.

(2) Support of industry participation in international standardization activities

To respond to the call for structural change of Taiwan's industry, emphases have been placed on developing industry standards that can be followed internationally. The *"Directions Governing Subsidies to Groups for Promoting Standardization Activities"* were published in 2008 and recently amended in 2013. Subsidies are given to encourage development of industry standards, submission of proposal for CNS drafts, participation in activities held by international/regional standards setting organizations and training of standards experts. In 2014, financial support was given to companies and associations for sending experts (27 person-times) to attend meetings of CIE, ISO, IEC in areas of lighting, functional textiles, wind turbine, RFID, video encoding, etc.

3. Awareness of Standardization

(1) CNS Mark

The CNS Mark Certification System has been implemented since 1951 to promote the use of national standards and to be applied on products to demonstrate that the quality of the product and the quality management system of manufacturing factories comply with national standards. The CNS Mark products may enjoy exemption from related testing under government procurement projects.

In 2014, 7 additional items were added to the product scope of CNS Mark, including compact fluorescent lamps, tinplate, hot-rolled carbon steel strip, arc welded carbon steel pipes, chromium coated tin free steel, gas shielded and self-shielded flux cored wires, and solid wires, which made a total of 869 product items by the end of 2014. In 2014, CNS Mark was granted to 136 products of 86

manufacturers. (Please refer to Table II-2 for certified CNS Mark products and factories.)

(2) National Standardization Campaign & World Standards Day

The National Standardization Campaign was first launched in 2000 to commend organizations or individuals that attain great achievements in promoting standardization activities. The Awards are given to 10 companies or individuals each year to recognize and honor their contributions. The Taiwan Optoelectronic Semi-conductive Industry Association was awarded in 2014 for their initiatives and enthusiasm in standards development and standards education, including developing 33 LED group standards, 6 cross-strait group standards, and guidance for easy-read labeling of LED light bulbs. The 2014 World Standards Day "Standards Level the Playing Field" was also held back to back with the Award Ceremony of National Standardization Campaign to introduce concepts about standardization and related achievements to the public.

▲2014 National Standardization Campaign & World Standards Day

Table II-1

Number of National Standards by Categories in 2014

Categories	Established	Amended	Rescinded	Existing
Civil Engineering and Architecture	10	14	8	692
Mechanical Engineering	15	9	4	2,240
Electrical Engineering	33	12	8	1,234
Electronic Engineering	6	6	-	862
Motor Vehicles and Aerospace Engineering	-	-	-	518
Track Engineering	1	1	-	89
Naval Architecture Engineering	-	-	-	406
Iron Metal Smelting	1	12	3	391
Non-Iron Metal Smelting	-	-	-	262
Nuclear Engineering	-	-	-	48
Chemicals	15	17	2	2,972
Textiles	-	8	-	381
Mining	-	-	-	284
Agriculture	-	8	2	476
Food Products	3	5	-	546
Wood	2	12	-	83
Paper	-	5	-	195
Environmental Protection	1	-	-	47
Pottery	-	2	-	392
Consuming Products	41	2	-	380
Hygiene and Medical Appliances	10	5	-	435
Information and Communication	11	4	-	837
Industrial Safety	10	4	2	231
Quality Control	4	-	4	84
Logistics and Packaging	5	3	2	171
General and Other Areas	43	12	52	519
Total	**211**	**141**	**87**	**14,775**

Table II-2

Number of CNS Mark Products & Factories by Categories in 2014

Categories	Products	Factories
Civil Engineering and Architecture	464	184
Mechanical Engineering	163	69
Electrical Engineering and Electronic Engineering	359	152
Motor Vehicles and Aerospace Engineering	13	8
Track Engineering	-	-
Naval Architecture Engineering	-	-
Iron Metal Smelting	173	66
Non-Iron Metal Smelting	5	4
Chemicals	420	103
Textiles	5	2
Mining	-	-
Agriculture and Food Products	14	12
Wood	3	2
Paper	61	25
Pottery	264	85
Consuming Products	49	29
Hygiene and Medical Appliances	8	8
Industrial Safety, Packaging, General and Other Areas	63	29
Total	**2,064**	**691**

III. Metrology

The BSMI is responsible for developing the national metrology system in Taiwan. The activities mainly involve two fields, regulated area (legal metrology) and non-regulated area (scientific metrology). For legal metrology, weights and measuring instruments that directly affect people's livelihood, such as those used in trading transactions, certification, law enforcement, environmental protection, public safety and medical health, are regulated in legislations to ensure fair trade and to construct a living environment that is stable and expectable. For scientific metrology, efforts have been devoted in supporting the metrological needs of science to construct metrological traceability and the needs of the industry to produce new products or innovative processing methods using advanced technology. A good example is the application of nanotechnology to a wide variety of products (ICT products, new energy, biotechnology, environmental protection, etc.) and measuring instruments are required to respond to the emerging needs for measuring particles with accuracy accordingly. In 2014, the BSMI completed and upgraded 6 measuring systems for this purpose. Besides, activities were undertaken in 2014 to raise awareness of the importance of metrology system and disseminate metrological knowledge to the general public.

1. Legal Metrology

The legal metrology system basically remained unchanged in 2014. However, there were changes to the technical specifications of weights and measuring instruments, including 3 revisions and 1 addition. The technical specifications for vehicle exhaust emissions analyzers, water meters and diaphragm gas meters were revised. The technical specification for verification and inspection of hybrid corn moisture meters was adopted in November at the request of the Council of Agriculture (please refer to Table III-1 for the effective date of the specifications). In addition, the Ministry of Transportation and Communications is in the process of reviewing taxi fares and the

BSMI completed consultations with relevant associations in 2014 for the preparation of conducting verification of taximeters.

Management of weights and measuring instruments subject to regulatory control can be summarized in 3 aspects: administration of weights and measures industry, verification and inspection of instruments, and type-approval of instruments.

(1) Administration of weights and measures industry

The BSMI requires that a license be obtained in order for any person to be engaged in activities of manufacturing, repairing or importing measuring instruments. By the end of 2014, there were 1,232 licensed measuring instrument enterprises in Taiwan, among them 264 being engaged in manufacturing, 212 in repairing, and 756 in importing measuring instruments.

(2) Verification and inspection of measuring instruments

Measuring instruments used for business transactions, public safety and health care purposes should pass verification before sale or usage, and should be inspected by the BSMI when they are in use. A list of such measuring instruments is provided in Table III-2. Except for a small scope of measuring instruments (electricity meters, radar speedometers, laser speedometers, inductive loop speedometers, sound level meters, alcohol breath testers and analyzers, rice grain moisture meters, vehicle exhaust emissions analyzers and illuminance meters for official inspection) of which the verification and inspection are conducted by qualified organizations assessed by the BSMI, almost all instruments are verified and inspected by this Bureau and its branches. All measuring instruments that pass verification will be inscribed, sprayed, branded, or lead-sealed with the mark " 回 " and attached with a conformity sticker or issued a conformity certificate. In 2014, 3,482,143 instruments were verified and inspected, 58% of them being water meters and watt hour meters. The rate of non-compliance is 0.18%.

With a view to facilitating trade, measuring instrument enterprises that have quality management systems certified against ISO 9001 and testing laboratories

accredited against ISO/IEC 17025 may apply for self-verification. There were 8 enterprises qualified to use self-verification procedures for their measuring instruments and 938,856 instruments were self-verified in 2014, which accounted for 27.8% of the total instruments verified.

A special project was conducted to monitor weighing instruments used in malls, traditional markets, supermarkets, scenery parks, etc. Samples were taken around the island during three important home-gathering holidays, the Chinese New Year in January, the Dragon Boat Festival in June and the Moon Festival in September. A total of 30,390 instruments were inspected and the compliance rate was 99.6%.

(3) Type approval of measuring instruments

Legal measuring instruments that tend to drift after a period of time of service are required to be type approved before verification is conducted to ensure the stability of the measuring instrument and protect the rights of both transacting parties. Taximeters, water meters, electronic weighing instruments and diaphragm gas meters are subject to type approval (please refer to Table III-3 for detailed scope).

2. Scientific Metrology

(1) Measuring systems

The following measuring systems were completed or expanded in 2014 to enhance the capability of the technical infrastructure in Taiwan.

Name of Systems	Applications
Microphone Free-Field Sensitivity Calibration System - Reciprocity Method	Provision of primary standard traceability of microphone free-field sensitivity for ITE, automobiles and electrical products; noise testing laboratories
Gas Concentration Dilution Device and Analysis Equipment Calibration System (new)	Provision of metrological traceability to calibrate analyzers applied in measuring air quality, forensic science (e.g. alcohol breath) and environmental safety

Name of Systems	Applications
Supply and Certification System of the High Pressure Gas Mixtures (expanded)	Provision of cylinder-type primary reference gas mixture for measuring greenhouse gases and regulated industrial pollutant gases to achieve metrological traceability
Gas Concentration Measurement System (expanded)	Provision of metrological traceability to calibrate cylinder gas for calibration of analyzers such as alcohol breath analyzer
Nanoparticle Measuring System-Zeta Potential Calibration Nanoparticle Measuring System-Specific Surface Area Calibration	Provision of Zeta potential value for nano-material registration Provision of Specific Surface area calibration for nano-material registration
Absolute Radiation Measuring System (improved)	Provision of irradiance responsivity of light detectors, photopic responsivity and radiant power for National Metrology Laboratories to conduct self-traceability

(2) National Measurement Laboratory

The National Measurement Laboratory (NML) maintains 136 measurement systems in 17 fields, among them 105 have been incorporated in the key comparison database (KCDB) of the Bureau International des Poids et Mesures (BIPM), which ensures the international equivalence of our national measurement standards. In 2014, the NML participated in 20 key comparisons and, approved by the International Committee of Weights and Measures (CIPM), became an observer of the Consultative Committee for Photometry and Radiometry (CCPR) in September. The NML will be able to join discussions on measurement technology and promote our industrial standards to be international ones.

(3) Metrological technical personnel

The BSMI implements the examination for metrological technical personnel to enhance the quality and technical level of metrological activities. Examinations were carried out in June, September and October. A total of 2,780 people participated in the examinations, which shows the increased support from the industry.

(4) Dissemination of measurement technology

In 2014, the BSMI held 9 seminars to introduce measurement technology to the industry, including the measurement technology of thermometers, proficiency tests for radiation dosimeters, traceability of measuring density of gases, proficiency test of radiation detectors, measurement standards on LED, verification and inspection of surveying and mapping instruments, inspection of machine tools and automatic measurement technology of precision components, measurement of electricity, and measurement in nanotechnology.

▲Seminar on Machine Tools and Precision Components

3. Awareness Programs

(1) Digital collection of cultural relics of standards, inspection and metrology

The BSMI collaborated with the National Science and Technology Museum to complete the project "Roadmap for fairness and safety: the digital collection website of cultural relics of standards, inspection and metrology." The website contains digital collections of 200 artifacts and historical materials, 203 interpretation researches, oral history and video records. It is hoped that through systematic

▲Digital Collection Website
(http://asmi.nstm.gov.tw/home.aspx)

collections and presentations the general public would be attracted to learn more about this specialized area and eventually to appreciate what standards, inspection and metrology contribute to our everyday lives.

(2) World Metrology Day and World Accreditation Day

The themes of 2014 World Metrology Day ("Measurements and the Global Energy Challenge") and 2014 World Accreditation Day ("Delivering Confidence in the Provision of Energy") focused on energy-related issues. The BSMI held a series of events to connect the two important events with a view to giving a comprehensive overview of the roles metrology and accreditation play in assisting the development and application of green energies. The events included workshops, training courses, calligraphy contests, etc., which successfully engaged more than 3,000 participants.

▲ 2014 World Metrology Day

▲ Calligraphy Contest Winners

▲ 2014 World Accreditation Day

Table III-1

Effective Dates of Amendments to Technical Specifications

Title of Specifications	Effective Dates
Technical specification for the verification and inspection of vehicle exhaust emissions analyzers	January 1, 2016
Technical specification for type approval of water meters	January 1, 2015
Technical specification for the verification and inspection of diaphragm gas meters	September 2, 2014
Technical specification for the verification and inspection of hybrid corn moisture meters	July 1, 2016

Table III-2

Categories and Scopes of Weights & Measuring Instruments Subject to Verification and Inspection

	Categories	Scopes
1	Taximeters	
2	Weighing instruments	Non-automatic weighing instruments, automatic gravimetric filling weighing instruments and discontinuous totalizing automatic weighing instruments, excluding (1) The weighing instruments of non-pricing and not for transaction use with a number of verification scale interval all more than 10,000. (2) The weighing instruments with a number of verification scale interval less than 3,000 and maximum weighing capacity less than 3 kg marked not for transaction use on the body of measuring instruments. (3) Portable suspended weighing instruments with a maximum weighing capacity less than 50 kg and marked not for transaction use on the body of measuring instruments. (4) Suspended weighing instruments with a maximum weighing capacity of more than 1t. (5) Bathroom scales. (6) Weighing in motion non-automatic weighing instruments.

	Categories	Scopes
3	Non-Invasive mechanical sphygmomanometers	
4	Volumeters	(1) Liquid volumetric meters: metal measuring pails and measuring tanks marked with divisions; excluding the following measuring tanks: (i)Measuring tanks with a capacity of more than 110 m^3; and (ii)Pressure measuring tanks. (2) Diaphragm gas meters, excluding gas meters with a maximum air flow of more than 100 m^3/hr. (3) Water meters: volumetric water meters, velocity water meters (Woltmann meters, single-jet meters and multi-jet meters) combination water meters and vortex water meters, excluding water meters with a caliber of more than 300 mm. (4) Oil meters, excluding oil meters with a caliber of more than 160 mm. (5) Liquefied petroleum gas flow meters.
5	Electricity meters	Watt-hour meters, Var-hour meters, Watt-hour demand meters, Static electricity meters and Instrument transformers, excluding (1) Ancillary electricity meters within electric products. (2) Ancillary electricity meters within converters/inverters. (3) Panel meters. (4) Portable electricity meters. (5) Reference electricity meters. (6) Direct current electricity meters. (7) Energy transduce. (8) Standard electricity meters with rated voltage higher than 600 V. (9) Current transformer operated electricity meters with rated secondary current below 5 V. (10) Current transformers with rated secondary current below 5A. (11) Instrument transformers of 69 kV higher than the nominal system voltage.
6	Speedometers	(1) Radar speedometers for law enforcement. (2) Laser speedometers for law enforcement. (3) Inductive loop speedometers for law enforcement.
7	Sound level meters for official inspection	
8	Concentration meters	(1) Alcohol breath testers and analyzers for official inspection. (2) Rice grain moisture meters. (3) Vehicle exhaust emissions analyzers for official inspection, excluding those used for motorcycles and diesel engines.
9	Illuminance meters for official inspection	
10	Electrical thermometers	

Table III-3

Categories and Scopes of Weights & Measuring Instruments Subject to Type Approval

	Categories	Scopes
1	Taximeters	
2	Electronic non-automatic weighing instruments, excluding those provided with an automatic packaging function	(1) Price-computing weighing instruments; (2) Non-price-computing weighing instruments: with a maximum capacity of more than 3kg and not more than 100kg, and with the number of verification scale intervals (n) all between 1000~10000, excluding portable suspended weighing instruments.
3	Water meters	(1) Vortex water meters with a nominal diameter of not less than 50mm and not more than 100mm; (2) Volumetric meters and velocity meters (Woltmann type, single-jet type, and multi-jet type) with nominal diameter not less than 13mm and not more than 300mm.
4	Diaphragm gas meters: with a maximum flow of not more than $16m^3/h$	

IV. Regulatory Inspection and Product Safety Management

Product safety is considered the most important mission of the BSMI's jurisdictions. It is achieved mainly through pre-market control measures as well as post-market surveillance actions. Both require a sound risk assessment system to make sure that resources are effectively and efficiently allocated to achieve adequate protection of consumers. While there are different regulatory authorities in Taiwan, the BSMI is responsible for ensuring the safety of most consumer products. Having taken into account the maturity of production technology as well as the diversity of products, the BSMI maintains four kinds of inspection schemes: Batch-by-Batch Inspection (including Type-Approved Batch Inspection), Monitoring Inspection, Registration of Product Certification (RPC) and Declaration of Conformity (DoC). For products that are subject to regulatory inspection, the applicable inspection schemes and inspection standards will be designated. The Commodity Inspection Mark shall be affixed to all products that comply with regulatory inspection requirements.

▲Commodity Inspection Mark

The safety of regulated products is further assured by taking post-market surveillance actions, which are guided by an annual plan prepared at the beginning of each year and forwarded to BSMI branches located around the country for implementation. The annual plan identifies products of high risks and specifies principles for conducting surveillance activities, including market checks, sampling tests, special projects and monitoring of products sold over the Internet. In addition, the revision of the *Commodity Inspection Act* in 2007 imposed obligations on manufacturers or importers to report incidents caused by their products, which provide useful information for the BSMI to analyze the problems and take preventive actions.

Results of market surveillance activities and investigations into product incidents are used as references for making the next year's annual plan.

1. Regulatory Inspection

(1) Regulated products

The number of commodities subject to regulatory inspection was 1,189 by the end of 2014. Most of them are mechanical & electrical/electronic products, and textiles. (Detailed description of the product items are provided in Table IV-1) In addition, there were about 80 products items (feeding stuffs) under the commission of the Council of Agriculture for performance of border checks.

450,413 batches of products were inspected in the whole year of 2014, 98.5% of them being imported products, 54% being mechanical & electrical/electronic products, and 85.5% being processed by BSMI branches in Keelung and Hsinchu, where Keelung Port and Taiwan Taoyuan International Airport are located.

(2) Changes to technical regulations

◆ Products added to the list of regulated products in 2014

Product Items	Effective Date	Description
Composite wood flooring, strip flooring, block flooring and parquet (G/TBT/N/TPKM/138)	2014.01.01	Additional HS Code lines were added to illustrate the inspection scope.
Toys (G/TBT/N/TPKM/137)	2014.03.01	Toys with textile materials, magnets and pens were added to the inspection scope.
Children's high chairs (G/TBT/N/TPKM/145)	2014.03.01	New items (inspection standard: CNS 15017:2013)
Lithium accumulators Power supplies Static converters (G/TBT/N/TPKM/170)	2014.05.01	New items (inspection standards: CNS 15364:2010/2013, CNS 14336-1:2010, CNS 14408:2004 and/or CNS 13438:2006)

Product Items	Effective Date	Description
LED bulbs (G/TBT/N/TPKM/141)	2014.07.01	New items (inspection standards: CNS 15436:2002, CNS 15630:2002, and CNS 14115:2009)
Textiles (G/TBT/N/TPKM/166)	2014.07.01	Blankets and thin beddings were added to the inspection scope.

◆ Proposed technical regulations entering into force in 2015 or at a later date

Product Items	Date of Proposal	Date of Adoption	Effective Date	Description
Storage water heaters (G/TBT/N/TPKM/180)	2014.10.14	2015.02.05	2015.02.05	Inspection standards added (CNS 11010:2013)
Children's raincoats (G/TBT/N/TPKM/182)	2014.10.28	2015.03.11	2015.09.01	New items (inspection standards: CNS 15503:2011 and CNS 15291:2009)
Battery chargers for computer, communication and consumer electronics (G/TBT/N/TPKM/196)	2014.12.25	To be determined.	To be determined.	Inspection standards added for power supplies for electric machine tools (CNS 3765:2005, IEC 60335-2-29:2010 and CNS 13783-1:2004)

◆ Products deleted from the list of regulated products

Product Items	Effective Date
Video tape recorders/players	2014.01.20
Electric shoe cleaning machines	
Illuminated safety signs	
Fuses, for a voltage not exceeding 1,000 V	

◆ Products of which the inspection standards were changed

Product Items	Effective Date	Description
Toys (G/TBT/N/TPKM/165)	2014.03.01	Limits on the use of formamide and 8 phthalates, biological safety for toys containing liquid substance.
Electric pots (G/TBT/N/TPKM/128/Add.1)	2014.05.30	Update of inspection standard CNS 12625:2012
Erasers (G/TBT/N/TPKM/167)	2014.06.11	Update of inspection standard CNS 6856:2012
Textiles (babies' garments, towels, bedding, underwear, clothes, swimsuits and knitted socks) (G/TBT/N/TPKM/166)	2014.07.01	Limits on the use of NP and NPEO on textiles in contact with skin to be used by children below the age of 12.
Steel bars for building (G/TBT/N/TPKM/173)	2014.11.14	Update of inspection standard CNS 560:2014
Low-voltage three-phase induction motors (G/TBT/N/TPKM/148/Rev.1)	2014.11.18	Update of inspection standard CNS 1056:2011 and CNS 14400:2012
Paints (G/TBT/N/TPKM/108/Add.2)	2014.12.29	Update of inspection standard CNS 4940:2013

2. Product Safety Management

The safety of products placed on the market are monitored through planned projects launched by the BSMI, including market checks and testing of products purchased from the market, as well as actions driven by the manufacturers and consumers. The projects basically targeted products with high risks, with high frequencies of non-compliance and of concerns to the public. The list of such products in 2014 encompassed inflated toys, washing machines, gun toys, de-humidifiers, hooks, puzzle mats, towels, wall-mounted sockets, dish dryers, air conditioners, thermal paper, etc. Penalties, including fines, recall of products, corrective actions, prohibition of display

and sale, rescission of certificates, were imposed on noncompliant products depending on the situations of violation.

(1) Market checks

In 2014, 52,523 products were market-checked for their compliance with labeling requirements, including 39,656 physically checked and the rest checked over the Internet. With the users' growing reliance on the Internet to purchase goods, more efforts were put in to browse through the popular on-line shopping websites in Taiwan to check compliance of the products.

(2) Testing of purchased products

53 projects were implemented in 2014 to test 882 products purchased from the market, with 88% being subject to mandatory inspection. These projects focused on compliance of the products' critical features against national standards. For example, textiles were tested for the content of free formaldehyde and azo dyes, and toys were tested for the content of phthalates and heavy metals to protect consumers' health. For electrical products, tests were conducted on the safety features, such as the leakage of electricity, voltage resistance, insulation resistance, rise of temperature, etc.

Project testing was also used to understand the characteristics of non-regulated products. In 2014, the project on children's raincoats (both disposable and non-disposable) raised concerns about the content of phthalates and heavy metals present in these products, which exceeded the limits set in related national standards. The findings further supported a proposed measure to regulate such products.

(3) Reports from volunteers and consumers

The BSMI has been implementing a volunteer program since 1991 to recruit consumers to help uncover suspect products on the marketplace. These volunteers (869 in 2014) are important assets of the BSMI as they serve a

bridge between the BSMI and consumers and help disseminate product safety knowledge. In 2014, volunteers reported 2,123 cases of regulated products that possibly violated relevant requirements, and 247 violations were confirmed. Besides, along with the prevalence of e-commerce, consumers are gradually shifting to the behavior of purchasing products from on-line shopping sites. In 2014, we received 2,674 reports from consumers about suspect products, which were mainly computers and their peripheral devices, such as mp3/mp4, digital cameras, mobile power packs, etc., imported for sale on the Internet without being inspected.

(4) Consumer product incident report

▲Product Safety Information Website
(http://safety.bsmi.gov.tw/wSite/dp?mp=65)

In order to obtain information about unsafe products and to take appropriate actions in time, the BSMI revised Article 49, Paragraph 4 of the *Commodity Inspection Act,* and adopted *"Regulations for Reporting Incidents Caused by Commodities Subject to Inspection"* in 2008, which requires persons with reporting duties to notify the BSMI within 3 working days after the date of obtaining information on the incidents involving their products. Besides, the BSMI accepts voluntary incident reports by those without reporting duties. The BSMI maintains a website for consumers and enterprises to report incidents on line and to learn about useful information on product safety, including products to be recalled, product safety alert, defective products announced by other countries, law-violating products, etc.

In 2014, the BSMI received 145 product incident reports, of which 116 were filed and investigated (the other 29 being either repeated cases, forwarded to the authorities concerned for processing, or not involving products). As the reporting obligation only applies to situations where burning, explosion or melting of commodities causes damages to the life, health or properties of consumers, the reported incidents usually involve electrical appliances. In 2014, 72% of the reported incidents were burning, and the top reported products were de-humidifiers. For unsafe products, the BSMI required companies to take measures, or to disclose information and followed up the progress according to the *Commodity Inspection Act* and *Consumer Protection Law* in order to protect consumer legal rights and benefits.

Table IV-1

Number of items and Inspected Batches of Regulated Products by Categories

Categories	Number of Product Items	Number of Inspected Batches
Total	**1,189**	**450,413**
Live animals and animal products	-	90
Vegetable products	-	3,379
Animal or vegetable fats and oils and their cleavage products; preserved edible fats; animal or vegetable waxes	-	80
Prepared foodstuffs; beverages, spirits and vinegar; tobacco and manufactured tobacco substitutes	-	1,796
Mineral products	19	2,084
Products of the chemical or allied industries	47	1,062
Plastics and articles thereof; rubber and articles thereof	28	7,323
Raw hides and skins, leather, fur skins and articles thereof; saddler and harness; travel goods, handbags and similar containers; articles of animal gut (other than silk-worm gut)	3	53
Wood and articles of wood; wood charcoal; cork and articles of cork; manufactures of straw, of esparto or of other plaiting materials; basket ware and wickerwork	189	7,554
Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard; paper and paperboard and articles thereof	21	1,371
Textiles and textile articles	378	24,527
Footwear, headgear, umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof, prepared feathers and articles made therewith; artificial flowers; articles of human hair	28	2,847
Articles of stone, plaster, cement, asbestos, mica or similar materials; ceramic products; glass and glassware	17	3,009
Base metals and articles of base metal	38	2,714
Machinery and mechanical appliances; electrical equipment; parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	305	243,384
Vehicles, aircraft, vessels and associated transport equipment	7	3,499
Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; clocks and watches; musical instruments; parts and accessories thereof	16	2,094
Miscellaneous manufactured articles	93	143,574

Note: 1.The cells with shaded gray are batches of product items commissioned by the Council of Agriculture.
2.The inspected batches of "products of the chemical or allied industries" include product items commissioned by the Council of Agriculture.

V. Testing and Certification

The BSMI not only maintains testing laboratories in regulated sectors, but also undertakes researches on testing methods in areas of emerging technologies. Currently, the testing laboratories of BSMI are located at the headquarters and the 6 branches around the country, which are capable of performing tests of physical, chemical, electrical and electromagnetic compatibility properties of products. Such capabilities are important to assist in feasibility studies required for developing national standards and regulating product safety.

The BSMI further employs its expertise in testing to support the government policy on developing green products, such as wind turbines and electric vehicles. In addition, the voluntary certification programs that BSMI provided to facilitate export of fishery products and to enhance product quality are well received by the industry.

1. Enhancement of testing competence

(1) Wind turbine

The BSMI in cooperation with related organizations has constructed a testing and certification network for small and medium wind turbines. In 2014, our manufacturers obtained certification from ClassNK of Japan through the operation of the network and successfully had their small wind turbines installed in Hokkaido, Japan.

(2) Electric vehicles (EV)

In 2014, the BSMI achieved the competence of 5 EV-relevant testing items: protection of grounding of charge couplers, EMC of charging systems, EMC of inductive charging stations, charge couplers and performance & abuse tests of battery packs. The testing capabilities help our EV industry to be more competitive in the market abroad and assure the safety of electric vehicles in the domestic market.

(3) Contributions to the international testing community

Research papers were presented at several international conferences to share innovative findings and exchange views with experts and scholars from other countries, including a paper on "Investigation on Realizing 1 Ω Current Probe Complied with IEC 61967-4 Direct Coupling Method," which was one of 21 Award Nominees at the 2014 International Symposium on Electromagnetic Compatibility, Tokyo. This paper introduced a cheap and simple way to implement a low-resistance probe to be used for the detection of the conducted current noise with accuracy and confidence.

(4) Testing Information Service Website

The BSMI maintains a website that integrates domestic testing resources for the use by the industry to locate available testing services meeting their needs. The website also contains updated information on testing and inspection and on-line consulting service.

▲Testing Information Service Website
(http://www.bsmi.gov.tw/wSite/mp?mp=1)

2. Voluntary Certification Systems

The BSMI developed certification systems for industrial products, fishery products and a variety of management systems to help our manufacturers achieve a higher level of quality and to facilitate their access to international markets.

(1) Voluntary Product Certification (VPC) System

The VPC System was launched by the BSMI in 2004, which differs from the other voluntary product certification system operated by the BSMI, the CNS Mark

System, in the product standards used for testing. The VPC System intends to upgrade the levels of design, development and production of products based on more stringent requirements. In 2014, the scope of VPC was reduced to 33 items, with the certification of deep-sea water products and organic textiles being cancelled due to an integration of product marks. There were 273 certified products by the end of 2014. VPC certified products can demonstrate to the market their enhanced performance and reliable quality assurance.

(2) Certification for fishery products exported to foreign countries

With a view to assisting the export of our fishery products to foreign countries, the BSMI implemented a refined system on contracted inspection for exporting fishery products in August 2014. The system strengthens traceability of raw materials and expedites the processing of applications for health certificates by taking a risk-based approach. In order to issue health certificates, some countries require that the processing establishments and fishing vessels be registered with the competent authority. The BSMI serves as the contact point for administrative arrangements relevant to such registration. The number of processing establishments and fishing vessels published on the official websites of foreign countries are described below.

	Processing Establishments	Fishing Vessels
European Union	40	128
Russia	27	59
Viet Nam	49	-
Brazil	33	-

(3) Management systems certification based on international standards

The BSMI follows closely the development of international standards on management systems and implements certification programs to help our industry adopt management systems in line with international practices. In 2014, there were 8 certification programs and the number of registered organizations is illustrated in the following table.

Certification Programs	Registered Organizations
ISO 9001 Quality Management System	1,087
ISO 14001 Environmental Management System	259
Occupational Health and Safety Assessment Series 18001 (OHSAS 18001)	5
ISO 22000 Food Safety Management System	3
Taiwan Occupational Safety and Health Management System (TOSHMS)	4
ISO 14064-1 Greenhouse Gases (GHG verification certificates)	29
ISO 50001 Energy Management System	3
Hazard Analysis and Critical Control Points (HACCP)	79

VI. International Cooperation

The BSMI puts great emphasis on developing cooperative relationship with regulators in foreign countries and participating in international activities in the fields of standardization, legal metrology and conformity assessment. One of the purposes is to build up connections with our counterpart organizations for further exchanges of views and technology and present to the world the experiences acquired in Taiwan.

The BSMI is the TBT Enquiry Point of Taiwan. It answers inquiries about standards, technical regulations or conformity assessment procedures adopted by regulatory authorities, coordinates views on issues discussed at the WTO/TBT Committee meetings, and assists in bilateral consultations involving TBT issues. In 2014, the TBT Enquiry Point submitted 56 TBT notifications to the WTO, translated 759 TBT notifications submitted by important trading partners, and responded to 48 inquiries. On December 2-4, the "WTO-TBT Workshop on Technical Barriers to Trade" was held in Taipei. 41 participants from regulators and academic institutes acquired a deep understanding of the TBT Agreement and related discussions from the presentations delivered by Mr. Devin McDaniels, Economic Affairs Officer of the WTO Trade and Environment Division, and Mr. Dennis Chew, Regional Director of the IEC Asia-Pacific Regional Centre.

Bilaterally, the BSMI was engaged in more in-depth discussions with its cooperation partners. The issues under discussion mainly addressed matters concerning the implementation of agreements or arrangements with foreign countries, in particular the TBT Chapters of the "Economic Cooperation Agreement" with New Zealand (ANZTEC) and the "Economic Partnership Agreement" with Singapore (ASTEP), which came into effect on December 1, 2013 and April 19, 2014 respectively. For countries with which Taiwan does not have an Economic Cooperation Agreement, such as the EU and the USA, discussions on bilateral TBT issues were also undertaken through regulatory dialogues, which facilitated the alignment of regulatory practices and exchange of experiences between experts on topics of mutual interest.

Other than the cooperation centered on TBT concept, the BSMI also concluded formal agreements with government bodies or private organizations of foreign countries on activities under its jurisdictions. The cooperation with Mainland China and Saudi Arabia as well as the Mutual Recognition Arrangements with other countries proceeded well in 2014.

1. TBT Chapter of ANZTEC

The TBT Chapter of ANZTEC integrates two cooperation arrangements signed between Taiwan and New Zealand before the conclusion of ANZTEC. Both cover activities of the BSMI, one on the mutual recognition of conformity assessment results (test reports and/or certificates) for electrical, electronic and information technology products and the other on regulatory cooperation. In 2014, an "Accreditation Cooperation Arrangement" was signed on December 5 under the framework of the TBT Chapter. The Arrangement sets up a mechanism for the Taiwan Accreditation Foundation and the International Accreditation New Zealand to conduct joint research and develop joint accreditation programs. Industries of both sides would benefit from the interoperation of accreditation systems.

2. TBT Chapter of ASTEP

The TBT Chapter of ASTEP also integrates two cooperation arrangements signed prior to its conclusion, one on the mutual recognition of conformity assessment results (test reports and/or certificates) for electrical, electronic and information technology products, the other on consumer product safety. These two arrangements are both implemented by BSMI and SPRING Singapore and have operated smoothly over the past years. Further cooperation will be pursued under the framework.

3. Cross-Strait Cooperation

The "Cross-Strait Agreement on Cooperation in Respect of Standards, Metrology, Inspection and Accreditation" was signed on December 22, 2009 and came into

effect on March 21, 2010. Five working groups were set up to exchange views and promote cooperation in areas of standards, measurement, inspection, certification & accreditation and consumer product safety. An annual symposium is held in Taiwan and Mainland China in turns and meetings of the working groups are generally held back to back with the symposium.

▲Group photo of the 2014 Cross-Strait Symposium on October 27

The 2014 Annual Symposium and related working groups meetings were held in Tainan on October 27-28. The one-and-a-half-day event consisted of the main symposium and afternoon breakout sessions on day 1, and working groups meetings on day 2. The main symposium briefly introduced the achievements of past work and suggested directions for future work. The afternoon breakout sessions discussed how standards, measurement, testing and certification in support of green policy affect the consuming environment by using electrical motorcycles, water meters, energy saving and LED bulbs as examples. A Mainland China delegation of 24 representatives led

by the Vice Minister Sun Dawei of the General Administration of Quality Supervision, Inspection and Quarantine participated in this important event and 206 participants attended the Symposium.

4. Taiwan-Saudi Arabia Cooperation

The BSMI and Saudi Standards, Metrology and Quality Organization (SASO) has maintained a two-decade long partnership. The Technical Cooperation Program between the BSMI and the SASO was renewed in 2011 and BSMI appoints short term experts each year to work with SASO staff members on SASO's request. In 2014, training courses on the inspection of general materials (polystyrene insulation) and mechanical aspects (metallurgical) were delivered at SASO on November 14-29, which enabled the exchange of experience between experts from both sides.

5. Taiwan-US Cooperation

Taiwan and the United States signed a "Memorandum of Understanding on Cooperation Associated with Consumer Product Affairs" in 2004, which provides a framework for the BSMI and the Consumer Product Safety Commission (CPSC) to collaborate on matters concerning consumer product safety, such as information exchange and experience sharing. Seminars on Electrical Product Safety and Bicycle Safety were held in Taipei and Taichung on September 3 and 4 respectively under the auspices of the CPSC and the American Institute in Taiwan. More than 100 delegates from the industry attended the events and benefited a great deal from the presentations.

6. Other Mutual Recognition Agreements/ Arrangements

In addition to the MRAs that are incorporated into the ANZTEC and ASTEP, Taiwan also signed the following MRAs with other trading partners, which are at the service of the industry to avoid repetitive testing and/or certification to export products.

(1) Acceptance of EMC test reports

- ◆ United States and Canada: Letter of Exchange on Mutual Recognition for Equipment Subject to EMC Regulations (Note: information technology products).
- ◆ Australia: Letter of Exchange on Mutual Recognition for Equipment Subject to EMC Regulations (Note: information technology products, electrical and electronic products).

(2) Viet Nam:

Cooperative Agreement on Mutual Recognition of Conformity Assessment Results (Note: product scope under discussion).

(3) United States:

Letter of Confirmation on Compatible Good Laboratory Practices Programs (Note: acceptance of pesticide and industrial chemical data generated by test facilities in compliance with OECD GLP Principles).

(4) Japan:

Arrangement for the Cooperation on Mutual Recognition (Note: acceptance of test reports and/or certificates for electrical, electronic and information technology products).

Table VI-1

List of cooperation partners with whom Agreements/Memoranda of Understanding were signed (arranged in chronological order):

Cooperation	Cooperation Partners
General Cooperation	1. The Polish Centre for Testing and Certification 2. The KERMI Testing and Quality Control Ltd., Hungary 3. The Standards Institution of Israel 4. The Czech Office for Standards, Metrology and Testing 5. Mongolian Agency for Standardization and Metrology 6. The Directorate for Standards and Quality, Viet Nam 7. The Austrian Standards Institute 8. Bureau of Product Standards, the Philippines 9. Slovak Office of Standards, Metrology and Testing
Standards	1. SAI Global Limited, Australia 2. ASTM International, the United States 3. BSI Standards Limited, UK 4. Beuth Verlag GmbH, Germany (authorized by DIN) 5. The Institute of Electrical and Electronics Engineers, Incorporated, (IEEE), the United States 6. International Organization for Standardization 7. AFNOR, France 8. Underwriter Laboratories Inc., the United States
Product Testing	1. Japan Electrical Testing Laboratory 2. Consumer Product Safety Association, Japan 3. Japan Quality Assurance Organization Assurance 4. Swiss Electrotechnical Association 5. Swedish Institute for Testing and Certification of Electrical Equipment 6. Hungarian Institute for Testing and Certification of Electrical Equipment 7. Saudi Standards, Metrology and Quality Organization 8. State of California Bureau of Home Furnishings and Thermal Insulation, the United States
Management Systems Certification	1. Underwriter Laboratories Inc., the United States 2. French Association for Quality Assurance 3. Quality Management Institute, Canada 4. AIB-VINCOTTE International, Belgium 5. South African Bureau of Standards 6. SIRIM Berhad, Malaysia 7. DQS Deutsche Gesellschaft zur Zertifizierung von Managementsystemen mbH, Germany 8. Swiss Association for Quality and Management Systems 9. Korean Foundation for Quality 10. Management System Certification Institute, Thailand 11. Italian Certification of Suppliers' Quality Systems 12. Austrian Association for the Assessment and Certification of Quality Systems 13. TUV SUD PSB Certification, Singapore

Table VI-2

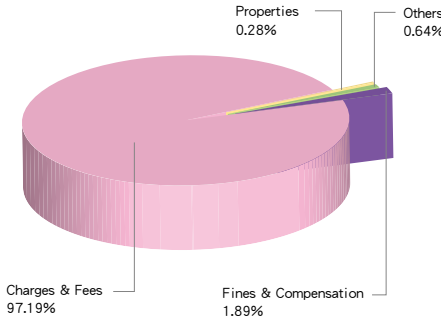
Participation in International Events

Date	Name of Events
February 18-19	APEC/SCSC 1 Meeting, China
February 24-28	The 62nd Meeting of ISO/IEC JTC1/SC2/WG2, USA
February 25-28	ICPHSO 2014 Annual Meeting and ICPSC Meeting, USA
March 18-20	WTO/TBT Committee Meeting, Geneva
March 23-27	American Concrete Institute Spring 2014 Convention, USA
May 7	The APEC 3rd ARCAM Dialogue on International Electric Vehicles, China
May 9	APEC Capacity Building Workshop on Global Data Standards, China
May 12-16	2014 International Symposium on Electromagnetic Compatibility, Japan
May 29-30	2014 AFACT Mid-Term Meeting, Thailand
June 16-18	ICPHSO International Symposium and ICPSC Meeting at International Product Safety Week 2014, Belgium
June 17-19	WTO/TBT Committee Meeting, Geneva
June 21-28	Joint APLAC General Assembly/PAC Plenary, Mexico
August 10	The 19th APEC EEMRA JRAC Meeting, China
August 11-12	APEC/SCSC 2 Meeting, China
September 16-18	WTO Trade Policy Review: Chinese Taipei, Geneva
September 28-October 7	The 63rd Meeting of ISO/IEC JTC1/SC2/WG2, Sri Lanka
October 15-16	2014 Joint IAF-ILAC Annual Meetings, Canada
November 4-6	WTO/TBT Committee Meeting, Geneva
November 9-12	The 21st APLMF Forum Meeting, New Zealand
November 17-21	The 43rd Meeting of ISO/IEC JTC1/SC2/WG2/IRG, USA
November 18-20	The 25th Meeting of the General Conference on Weights and Measures
November 25-28	AFACT 32nd Plenary Meeting
December 4-5	The 7th Meeting of the Committee of Asian Standardization for Photocatalytic Material and Products, Malaysia

VII. 2014 Budget and Manpower

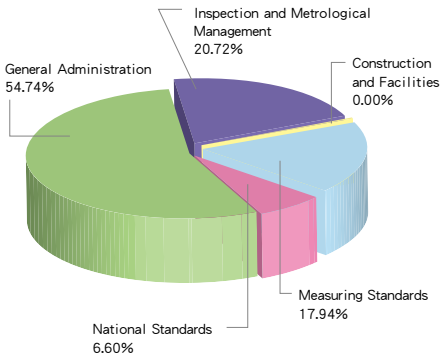
◆Annual Income Budget

Categories	Amount Units: NTD1,000	Percentage
Fines & Compensation	18,577	1.89%
Charges & Fees	953,793	97.19%
Properties	2,688	0.28%
Others	6,301	0.64%
Total	**981,359**	**100.00%**



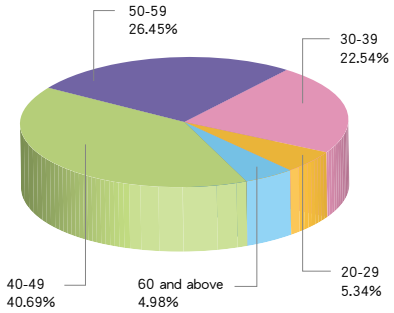
◆Annual Expenditure Budget

Categories	Amount Units: NTD1,000	Percentage
Development and Maintenance of Measuring Standards	410,139	17.94%
Development and Maintenance of National Standards	150,916	6.60%
General Administration	1,251,843	54.74%
Inspection and Metrological Management	473,842	20.72%
Construction and Facilities	46	0.00%
Total	**2,286,786**	**100.00%**



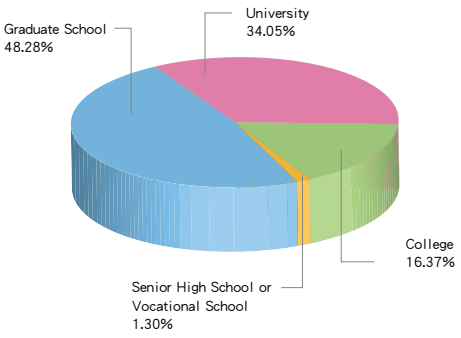
◆Age Distribution of Personnel

Age	Persons	Percentage
20~29	45	5.34%
30~39	190	22.54%
40~49	343	40.69%
50~59	223	26.45%
60 and above	42	4.98%
Total	**843**	**100.00%**



◆Distribution of Education Background of Personnel

Categories	Persons	Percentage
Graduate School	407	48.28%
University	287	34.05%
College	138	16.37%
Senior High School or Vocational School	11	1.30%
Total	**843**	**100.00%**



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