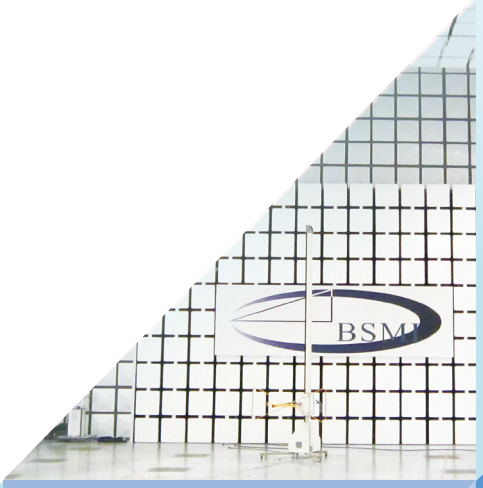
MOEA

ISSN: 2070-3252

2016 Annual Report of BSMI



Bureau of Standards, Metrology and Inspection

2016 Annual Report of BSMI

Bureau of Standards, Metrology and Inspection

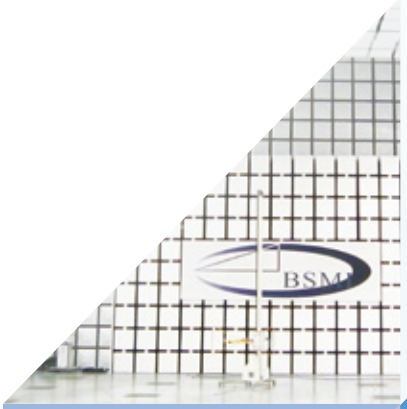


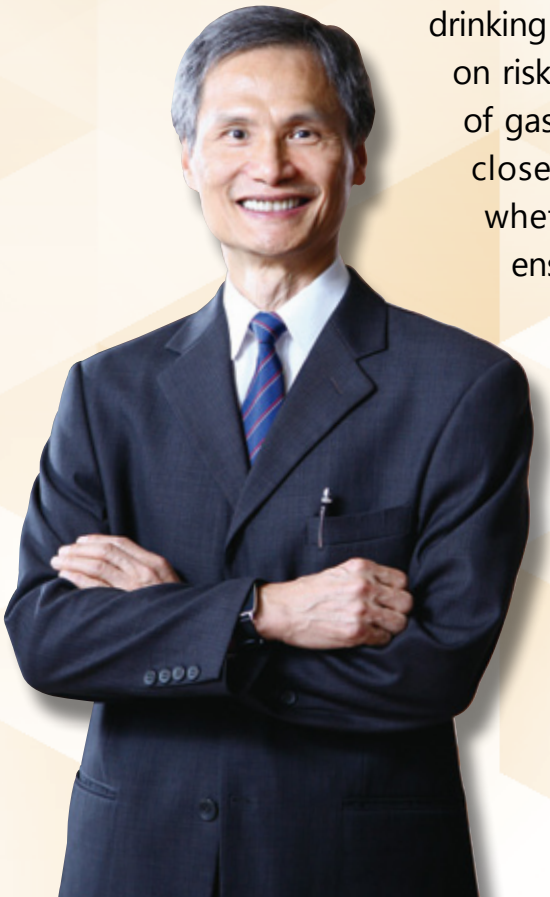
Table of Contents

A Word from the Director General

In 2016, the BSMI implemented a wide range of activities to enhance the competitiveness of our industry through consolidated standardization activites and safeguard the rights and interests of cosnumers with risk-based regulatoy measures. Under the concerted efforts devoted by all colleagues, we have accomplished great achievements.

In support of the government policy of promoting transformation, upgrade and innovation of industry, 318 national standards were developed or updated in 2016, which incorporated up-to-date guidelines on information technology, green energies, and basic industrial technology for the industry to consult. Under the national scientific metrology development project, new features were added to a number of measuring systems to address the needs of industries in sectors of precision machinery, semi-conductor, environmental protection and calibration techniques. Manufacturers were provided with tailored services that they could use to improve the quality of their products.

From the regulatory aspect, in 2016 the BSMI proposed 15 revisions to the current technical regulations, 7 of which already came into effect, to strengthen protection of consumers against hazards arising from unsafe products. A number of these regulations are about the labeling of hazardous substances for electrical products, such as electric blankets, air conditioners, and drinking water suppliers. In 2017, studies will be done on risks of chargers for electric bicycles, vent pipes of gas water heaters, bread makers and products closely related to everyday life, to determine whether regulator's intervention is needed to ensure their safety.



In addition, in 2016 efforts from different resources were coordinated to protect the health and safety of children. First of all, a stocktaking of current national standards for babies and toddlers was done to understand potential gaps. Child seats for cycles,

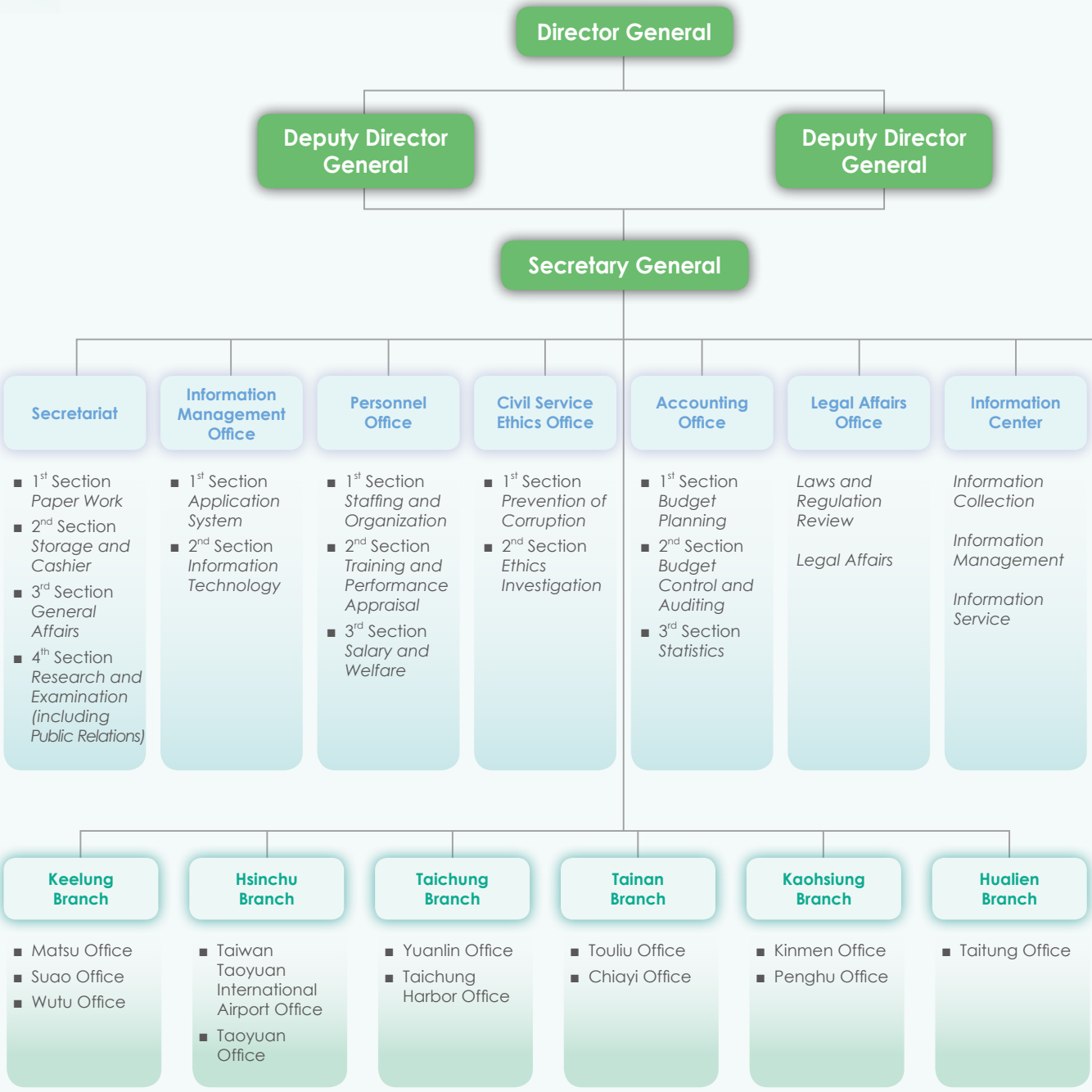
bassinets and folding cots, cradles, as well as infant swings were identified as priority products for standards development. Relevant drafts are under discussion and expected to be published in 2017. It is hoped that the availability of such national standards would provide the industry with useful guidance to produce safe products. Actions were also taken to monitor the content of hazardous substances in children's products. Bicycles for young children and stationery (glues and adhesives, desk mats made by soft plastic) were included in monitoring projects to understand the use of 8 phthalates. Based on the results, requirements for limits of 8 phthalates were proposed for bicycles for young children to reduce exposure due to contact with the handlebar grips and saddle. The requirements came into effect on August 1, 2017 after proper consultation and commenting processes. Furthermore, due to incidents in Taiwan and the United States, testing capabilities were established for safety of bed rails and stability of furniture to address the public's concerns.

Internationally, the BSMI not only maintained good cooperative relationship with corresponding government bodies of its trading partners but also explored opportunities for cooperation with countries in Middle East and Asia in the fields of standardization, metrology, conformity assessment and consumer product safety. Memoranda of Understanding were concluded with the GCC Standardization Organization (GSO) in September and with Japan in November 2016, respectively. The one with GSO sets up a framework for technical cooperation. That with Japan was signed by representative offices of both sides and will be implemented by the BSMI of Taiwan and National Institute of Technology and Evaluation (NITE) of Japan. It mainly includes cooperation on exchanging information on products risks, product recalls, and incident investigation techniques. We believe that regulatory collaboration between government bodies will promote harmonization of systems and facilitate trade in goods.

In the coming years, the BSMI will uphold the policy of "Innovative Lifestyle of Health and Sustainability" administered by the Ministry of Economic Affairs by carrying out its responsibilities as a navigator of quality assurance, a gatekeeper of product safety and a facilitator of industrial competitiveness.

I. Organization

I. Organization



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*
- *Technical 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 attaches great importance to raising the society's awareness of standardization.

1. Government-led Actions

(1) Development of national standards (CNS)

This year, the BSMI published 167 new standards, revised 151 standards, and withdrew 364 standards, which resulted in a total of 14,375 CNS in existence by the end of 2016. New standards mainly involve sectors of chemicals and electrical engineering. (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.

▲ The CNS Online Service Website

(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 ones. In 2016, 17 drafts of CNS were completed based on relevant international standards, which encompassed areas of smart grid, smart automation, Chinese encoding, information processing, bicycles, 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 22 technical experts to participate in activities held by ISO, IEC and related standards development organizations in areas of encoding of symbols and ideological characters, electromagnetic compatibility, electronic packaging technology, scaffold products, machine tools, long-term caring system, investigation 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 were 6 standardizing groups being recognized in 2016. 23 drafts were proposed by these standardizing groups, including welding and allied processes, radio frequency identification (RFID) and quality 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 2016, financial support was given to companies and associations for sending experts (19 person-times) to attend meetings of ISO and IEC in areas of RFID, wireless charging, 3D printing, PM2.5 mask, personal protective equipment, 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.

▲Graphic of the CNS Mark

In 2016, 4 additional items were added to the product scope of CNS Mark, including small diameter steel bars for prestressed concrete, PE piping systems for the supply of gaseous fuels, polypropylene (PP) pipes and insulated ladder for electric work, while 35 items were withdrawn from the scope. By the end of 2016, there were a total of 2,085 products being granted to use CNS Mark. (Please refer to Table II-2 for categories of 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. There are 4 award categories, including Corporate Standardization Award, Organization Standardization Award, Standardization Visionary Award and Standardization Achievement Award. The 2016 World Standards Day "Standards Build Trust" 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.

▲ Group photo of Director General Ming-Jong Liou of BSMI (center), with the award winners (from left to right), General Manager Chen of Ta Liang, Assistant Manager Wu of HIWIN, Chairman Liao of Sino, and Manager Lee of YULON, at the 2016 National Standardization Award & World Standards Day.

4. Work Plan for 2017

National standards for green energy technologies, precision machinery, green transportation, energy-saving, environmental protection, public construction, consumer and senior care products are identified as the priority areas for standardization activities in 2017. For energy-saving and environmental protection, emphasis is placed on cycling products, ectric vehicles, energy management system and smart meters. In response to public concerns raised by consumers for a healthy and safe living environment, work will be targeted to synthetic detergents, down and feather, tyres, wheelchairs, infant products and products used for public construction, etc.

II. Standards

Table II-1

Number of National Standards in 2016 (by Categories)

Categories	Established	Amended	Rescinded	Existing
Civil Engineering and Architecture	9	3	2	661
Mechanical Engineering	18	11	3	2,167
Electrical Engineering	30	15	38	1,231
Electronic Engineering	4	5	3	840
Motor Vehicles and Aerospace Engineering	-	1	-	514
Track Engineering	-	1	-	89
Naval Architecture Engineering	-	-	-	406
Iron Metal Smelting	1	12	-	395
Non-Iron Metal Smelting	-	2	5	257
Nuclear Engineering	-	-	-	48
Chemicals	52	38	166	2,783
Textiles	1	3	3	377
Mining	-	-	-	284
Agriculture	-	8	-	479
Food Products	2	13	10	538
Wood	1	2	-	84
Paper	-	6	2	193
Environmental Protection	3	5	-	50
Pottery	1	6	13	378
Consuming Products	5	7	16	374
Hygiene and Medical Appliances	5	-	32	410
Information and Communication	13	4	-	855
Industrial Safety	7	3	6	236
Quality Control	2	2	-	87
Logistics and Packaging	5	1	7	170
General and Other Areas	8	3	58	469
Total	167	151	364	14,375

Table II-2

Number of CNS Mark Products & Factories in 2016 (by Categories)

Categories	Products	Factories
Civil Engineering and Architecture	502	194
Mechanical Engineering	158	70
Electrical Engineering and Electronic Engineering	364	152
Motor Vehicles and Aerospace Engineering	14	9
Track Engineering	-	-
Naval Architecture Engineering	-	-
Iron Metal Smelting	179	69
Non-Iron Metal Smelting	4	3
Chemicals	392	100
Textiles	1	1
Mining	-	-
Agriculture and Food Products	3	3
Wood	1	1
Paper	61	26
Pottery	287	88
Consuming Products	50	30
Hygiene and Medical Appliances	9	8
Industrial Safety, Packaging, General and Other Areas	60	29
Total	2,085	690

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 secure a living environment that is stable and expectable. For scientific metrology, efforts have been devoted in supporting the metrological needs of science to pursue metrological traceability and those of the industry to produce new products or innovative processing methods using advanced technology. In 2016, the BSMI established, expanded and improved 11 measuring systems for this purpose. Besides, the National Measurement Laboratory (NML) participated in the Consultative Committee for Acoustics, Ultrasound and Vibration (CCAUV) and Length (CCL) of the International Committee of Weights and Measures as an official observer in 2016, which enables the NML to gain up-to-date information on the development of measurement technology in the specific field and make our contributions.

1. Legal Metrology

The legal metrology system basically remained unchanged in 2016. However, there were 2 revisions to the technical specifications of weights and measuring instruments, one for diaphragm gas meters and the other for electricity meters (please refer to Table III-1 for the effective date of the specifications). Moreover, corn moisture meters were required to be subject to verification and inspection beginning July 1, 2016.

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

(1) The weights and measuring instruments 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 2016, there were 1,139 measuring instrument enterprises in Taiwan, among them 260 being engaged in manufacturing, 228 in repairing, and 651 in importing measuring instruments.

(2) Verification and inspection

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, breath alcohol 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 and attached with a conformity sticker or issued a conformity certificate. In 2016, 4,380,424 instruments were verified and inspected, 54% of them being water meters and watt hour meters. The rate of non-compliance is 0.18%.

With a view to upgrading private sector's techniques and downsizing public sector's budget and workload, 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 12 enterprises qualified to use self-verification procedures for their measuring instruments and 1,616,894 instruments were self-verified in 2016, which accounted for 40.76% of the total instruments verified.

A project on monitoring scales used in malls, traditional markets, supermarkets, scenery parks, etc. is conducted annually to ensure fair trade. Samples were taken around the island during three important home-gathering holidays, the Chinese New Year in February, the Dragon Boat Festival in June and the Moon Festival in September. A total of 26,606 instruments were inspected in 2016 and the compliance rate was 99.8%.

(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 prior to manufacture or import to ensure the stability of the measuring instruments 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 established, expanded and improved in 2016 to enhance the capability of the technical infrastructure in Taiwan.

Name of Systems	Applications
Coordinate Measuring Machine Calibration System (established)	Provision of metrological traceability to calibrate coordinate measuring machine to ensure accuracy of results.
Formaldehyde Gas Analyzer Calibration System (established)	Provision of metrological traceability to calibrate formaldehyde gas analyzers / detectors to ensure accuracy of results.
Gravimetric High-Pressure Cylinder Gas Mixture Supply and Certification System (expanded)	Provision of metrological traceability to certify Di (2-ethylhexyl) phthalate (DEHP) in Methanol to ensure the concentration of DEHP.
Three-phase AC Electric Energy System (expanded)	Provision of metrological traceability to calibrate sine wave electric energy system to maintain the fairness of electricity meters that use new types of measuring equipment involving green energy.
Three-phase AC Electric Power System (expanded)	
Nanoparticle Functional Property Measurement System (expanded)	Provision of metrological traceability to calibrate counting efficiency of standard particle counter to ensure accuracy of results.
Gravimetric Environmental Hormone Supply and Certification System (expanded)	Provision of metrological traceability to certify H_2S in N_2, N_2O in N_2, C_2H_5OH in N_2, and VOC (Benzene, Toluene, Ethylbenzene, Xylenes) in N_2 to ensure the concentration of reference gases.
Primary Standard Complying with IEC 61267 RQR X-ray Beam Quality Dosimetry (expanded)	Provision of X-ray dosimeters traceability for hospitals, manufacturers and dealers of medical X-ray units to ensure of the radiation safety of patients and hospital staff while diagnostic X-ray examinations are being operated.

Name of Systems	Applications
Tc-99m Primary Standard of Activity (improved)	Provision of dose calibrators traceability for hospitals to ensure of the dosimetric accuracy of patients while taking radiopharmaceuticals.
Evaluation of Electrode Shadow Effect of Free-air Chamber for Medium Energy X-ray (improved)	Improvement of the primary standard of X-ray dosimetry to promote the accuracy of X-ray dosimetry standards required in areas of medical applications, radiation protection and industrial businesses.
Graphite Calorimeter Techniques (improved)	Promotion of graphite calorimeter measurement techniques and provision of traceability of high energy photon radiation doses.

(2) National Measurement Laboratory

The National Measurement Laboratory (NML) maintains 134 sets of standard measurement systems in 17 fields, and provides 5,285 calibration services for primary and secondary laboratories. In 2016, the NML participated in key comparisons for 16 items and 21 sets of measurement traceability. By the end of 2016, there had been 371 items of measurement standards registered to the database of International Bureau of Weights and Measures (BIPM), to ensure that Taiwan's national measurement standards are equivalent to international standards.

(3) Metrological technical personnel

The BSMI conducts examinations for metrological technical personnel to enhance the quality and technical level of metrological activities. In 2016, examinations were delivered during the period from June to September and 179 people participated. By the end of 2016, there had been a total of 2,074 qualified metrological technical personnel, showing the increased support from the industry.

(4) Promotion of NML services

In 2016, 8 seminars were held to share knowledge and information attained from research projects with the industry, and to introduce related services provided by the NML in support of industrial development. The topics encompassed areas of precise temperature heat and thermal properties, intelligent machinery application technology, and precision mechanical metrology technology, etc.

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." In 2016, progress was made to digitalize 20 artifacts and more than 3,000 horizontal artifacts. Interviews with 9 senior citizens were completed to enrich the collection of oral history. It is hoped that, through systematic 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.

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

(2) World Metrology Day and World Accreditation Day

In support of the theme of 2016 World Metrology Day "Measurements in a Dynamic World," the BSMI held a "Symposium on the Trend of International Development on Measurement" on May 18 to highlight the importance of metrology for standards, industry and trade, the paradigm shift of measurement in IOT era, and the achievements of the National Measurement Laboratory (NML) in serving the industries. There were also a series of activities arranged for the participants to visit the NML. The multi-knowledge activities assisted the industry, users and the public in understanding traditional and advanced technology of measurement.

▲ Group photo of ex-Deputy Minister Shih-Chao Cho of MOEA (eighth from the left), and Director General Ming-Jong Liou of BSMI (sixth from the left), with speakers, Secretary General James McLaren of CIPM (seventh from the left) and Corporate Vice President Yeh of ASUS (second from the right), at the 2016 World Metrology Day.

III. Metrology

The BSMI held a conference on June 13 to celebrate the 2016 World Accreditation Day "Accreditation: A Global Tool to Support Public Policy" and invited experts from other countries to share their views on ways to enhance credibility of accreditation, to present examples of accreditation supporting public policies and to illustrate the significance of the MRA between APLAC and PAC to regional trade. The event successfully engaged more than 200 participants coming from the regulators, healthcare providers, medical industry and consumers.

▲ Group photo of Vice Minister Wei-Fuu Yang of MOEA (seventh from the left), Director General Ming-Jong Liou (sixth from the left) and Deputy Director General Chung-Lin Wang of BSMI (third from the left), Chair Nigel Jou of APLAC (fourth from the left), Chair Brett Abraham of PAC (fifth from the right) and CEO Brian Hsu of TAF (third from the right), at the 2016 World Accreditation Day.

Table III-1

Effective Dates of Technical Specifications in 2016

Title of Specifications	Effective Dates
Technical specification for verification and inspection of corn moisture meters	July 1, 2016
Technical specification for verification and inspection of electricity meters (amended)	August 18, 2016
Technical specification for type approval of diaphragm gas meters (amended)	September 5, 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 3000 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 1 t. (5) Bathroom scales. (6) Weighing in motion non-automatic weighing instruments.
3	Non-Invasive mechanical sphygmomanometers	

III. Metrology

	Categories	Scopes
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 the electric products. (2) Ancillary electricity meters within the converters/inverters. (3) Panel meters. (4) Portable electricity meters. (5) Reference electricity meters. (6) Direct current electricity meters. (7) Energy transducer. (8) Standard electricity meters and those with rated voltage higher than 600 V. (9) Current transformer operated electricity meters those with rated secondary current below 5 V. (10) Current transformers those with rated secondary current below 5 A. (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	

	Categories	Scopes
8	Concentration meters	(1) Breathe alcohol testers and analyzers for official inspection. (2) Rice grain moisture meters. (3) Corn moisture meters. (4) 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 3 kg and not more than 100 kg, 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 50 mm and not more than 100 mm; (2) Volumetric meters and velocity meters (Woltmann type, single jet type, and multi jet type) with nominal diameter not less than 13 mm and not more than 300 mm.
4	Diaphragm gas meters: with a maximum flow of not more than 16 m^3/h	

IV. Regulatory Inspection and Product Safety Management

Product safety is considered one of the most important missions 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.

▲ Graphic of the 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 provides 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 1,204 by the end of 2016. Most of them were 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) that the BSMI is commissioned by the Council of Agriculture to perform border checks in 2016.

485,144 batches of products were inspected in the whole year of 2016, 98.6% of them being imported products, 51.1% being mechanical & electrical/electronic products, and 82.7% being processed by BSMI Branch offices in Keelung and Hsinchu, where Keelung Port and Taiwan Taoyuan International Airport are located respectively.

(2) Changes to technical regulations

• Products added to the list of regulated products

Product Items	Effective Date	Description
Erasers	2016.04.29	C.C.C. Code 4006.90.90.00-8 “Other articles of unvulcanised rubber” added to the list of regulated products

• Revisions to technical regulations

Product Items	Effective Date	Description
Water dispensers (including water dispenser only supplied by bottled and packaged water, inspection scope: only below 250V) (G/TBT/N/TPKM/223)	2016.07.28	Update of inspection standards plus an additional requirement on labeling of hazardous substances
Plastic boxes and fix plates for low voltage A.C. power meters (G/TBT/N/TPKM/224)	2016.08.01	Update of inspection standard
4 items of electrical appliances (including automatic data processing machines)	2016.09.01	Additional requirement for a Chinese warning message regarding the damage to eyesight by overusing monitors.
Plugs and socket-outlets for fixed wiring, adapters and cord sets (G/TBT/N/TPKM/247)	2016.12.27	Update of inspection standards plus an additional requirement for labeling of hazardous substances

IV. Regulatory Inspection and Product Safety Management

• Proposed and adopted technical regulations that will come into effect in 2017 or a later time

Product Items	Date of Proposal	Date of Adoption	Effective Date	Description
Faucets (inspection scope: drinking water faucet subject to CNS 8088) (G/TBT/N/TPKM/228)	2016.02.05	2016.05.11	2017.01.01	New item (inspection standard: CNS 8088:2015)
Plywood (Inspection scope: Plywood, special plywood, structural plywood, plywood for concrete-form, scaffolding plywood, plywood for pallet) (G/TBT/N/TPKM/232)	2016.04.12	2016.07.22	2017.01.01	1. "Plywood for pallet" added to the list of regulated products; and 2. Update of inspection standards CNS 1349:2014, CNS 8058:2014, CNS 11671:2014, CNS 8057:2012, CNS 11670:2014 and CNS 15583:2012
Laminated veneer lumber (G/TBT/N/TPKM/233)	2016.04.12	2016.07.22	2017.01.01	Update of inspection standards CNS 11818:2014 and CNS 14646:2015
Wooden floors (G/TBT/N/TPKM/234)	2016.04.13	2016.07.22	2017.01.01	Update of inspection standards CNS 2871:2014, CNS 11341:2014 and CNS 11342:2014
Glulam (G/TBT/N/TPKM/235)	2016.04.13	2016.07.22	2017.01.01	Update of inspection standards CNS 11029:2014, CNS 11030:2014, CNS 11031:2014 and CNS 11032:2014
Automobile tyres (G/TBT/N/TPKM/237)	2016.06.01	2016.08.31	2017.01.01	Update of inspection standard CNS 1431:2015
Bicycles for young children. Bicycles and other cycles (including delivery tricycles), not motorized (HS: 8712) (G/TBT/N/TPKM/245)	2016.09.01	2017.02.09	2017.08.01	Change of inspection standard (CNS 15503:2011 instead of CNS 4797:2015 on phthalates)

Product Items	Date of Proposal	Date of Adoption	Effective Date	Description
4 items of handheld electric tools (including handheld electric circular saws)	2016.09.01	2016.11.17	2017.01.01	Update of inspection standards
92 items of electronic products (including radio keyboards) (G/TBT/N/TPKM/248)	2016.09.29	2017.01.04	2018.01.01	Addition of CNS 15663:2013, Section 5 “Marking of presence”
Safety footwear and protective footwear (G/TBT/N/TPKM/250)	2016.10.24	2017.02.21	2018.01.01	Update of inspection standards CNS 20435:2015 and CNS 20346:2016
Gas cylinders and the fuel thereof for portable gas stoves, blowtorches and refillable lighters (G/TBT/N/TPKM/254)	2016.10.28	2017.01.23	2017.07.01	Update of inspection standard CNS 14530:2014
Self-ballasted fluorescent lamps (G/TBT/N/TPKM/255)	2016.11.14	2017.02.24	2018.01.01	Update of inspection standard CNS 14125:2014, and addition of inspection standards CNS 14115:2009 and CNS 15663:2013, Section 5 “Marking of presence”
63 items of electrical appliances (including electric blankets) (G/TBT/N/TPKM/256)	2016.11.24	2017.02.24	2018.01.01 2019.01.01	Update of inspection standards and addition of CNS 15663:2013, Section 5 “Marking of presence”
40 items of electrical appliances (including air conditioners) (G/TBT/N/TPKM/258)	2016.12.01	2017.03.27	2018.01.01	Update of inspection standards and addition of CNS 15663:2013, Section 5 “Marking of presence”
Drinking water suppliers (G/TBT/N/TPKM/259)	2016.12.28	2017.03.24	2018.01.01	Update of inspection standards and addition of CNS 15663:2013, Section 5 “Marking of presence”

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 noncompliance and of concerns to the public. The list of such products in 2016 encompassed toys, sunglasses, power banks, bluetooth speakers, hair dryers, LED bulbs, plastic desk pads, suitcases, helmets, children's raincoats, desktop computers, towels, lithium batteries, etc. Penalties, including fines, recall of products, implementation of corrective actions, prohibition of display/sale and rescission of certificates, were imposed on noncompliant products depending on the situations of violation.

(1) Market checks

In 2016, 60,822 products were market-checked for their compliance with labeling requirements, 45,754 of which were 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

35 projects were implemented in 2016 to test 503 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, children's clothing was tested for the content of free formaldehyde and for physical requirements of cords and drawstrings, and toys were tested for the content of phthalates and heavy metals to protect children's health. For electrical products, tests were conducted on the safety features, such as the leakage of electricity, voltage resistance, insulation resistance, raise of temperature, etc.

Project testing is also used to understand the characteristics of non-regulated products. For example, a project on soft plastic desk pads were

conducted for three consecutive years from 2014 to 2016, to understand health risks to consumers from exposure to 8 phthalates in such products. Based on the results, the BSMI took the initiative to contact producers and provide guidance for bringing their products in line with the overall limit of 0.1% specified in national standard CNS 15527 by using alternate raw materials or improving the production processes. The rate of unsafe products dropped significantly from 95% in 2014, to 85% in 2015 and 20% in 2016. This shows the effectiveness of a non-regulatory approach to consumer product safety.

(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 (1,000 in 2016) are important assets of the BSMI as they serve a bridge between the BSMI and consumers and help disseminate product safety knowledge. In 2016, volunteers reported 1,777 cases of regulated products that possibly violated relevant requirements, and 937 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 2016, we received 5,212 reports from consumers about suspect products, which were mainly digital cameras, loudspeakers, power banks, etc., imported for sale on the Internet without being inspected.

(4) Consumer product incident report

In order to obtain information about unsafe products and to take appropriate actions in time, the BSMI revised Paragraph 4 of Article 49 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 online and to learn about useful product safety information, including products to be recalled, product safety alert, defective products announced by other countries, law-violating products, etc.

IV. Regulatory Inspection and Product Safety Management

In 2016, the BSMI received 180 product incident reports, of which 156 were filed and investigated (the other 24 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 caused damages to the life, health or properties of consumers, the reported incidents usually involve electrical appliances. In 2016, 77.8% 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 consumers' legal rights and benefits.

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

Table IV-1

Number and Inspected Batches of Regulated Products by Categories

Categories	Number of Product Items	Number of Inspected Batches
Total	1,204	485,144
Live animals and animal products	-	68*
Vegetable products	-	2,396*
Animal or vegetable fats and oils and their cleavage products; preserved edible fats; animal or vegetable waxes	-	485*
Prepared foodstuffs; beverages, spirits and vinegar; tobacco and manufactured tobacco substitutes	-	1,537*
Mineral products	22	1,969
Products of the chemical or allied industries	47	1,506
Plastics and articles thereof; rubber and articles thereof	30	10,485
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	70
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	187	7,719
Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard; paper and paperboard and articles thereof	21	1,378
Textiles and textile articles	381	36,392
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	30	3,901
Articles of stone, plaster, cement, asbestos, mica or similar materials; ceramic products; glass and glassware	17	2,709
Base metals and articles of base metal	39	2,929
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	311	247,960
Vehicles, aircraft, vessels and associated transport equipment	7	6,352
Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; clocks and watches; musical instruments; parts and accessories thereof	16	2,741
Miscellaneous manufactured articles	93	154,547

Note:
1. The cells marked with "*" 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 smart grid, 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

To keep pace with the emerging testing technologies, which brings forward products with new features, the BSMI participates actively in national programs on science and technology development to contribute its expertise in testing and certification. The programs that the BSMI participated in 2016 and their brief descriptions are listed below:

National Programs on Science and Technology Development	Description of Projects
Smart Grid	• Standards and inspection at user's endpoint • AMI to HEMS communication protocols • Inter-communication test platform of smart appliances • AMI to HEMS inter-communication test platform of G3-PLC • AMI to HEMS wireless/wired network level inter-communication test cases
Off-shore Wind Turbines	• Establishment of off-shore wind turbine noise and vibration testing environment • Standards for off-shore wind turbines and related key components testing • Establishment of anemometer tower of offshore wind turbine test site • Electric power quality studies on wind-turbine connected with grid system • Wind turbine communication protocols with grid system

National Programs on Science and Technology Development	Description of Projects
Emerging Energy	• LED lighting system (indoor/outdoor) testing • Freezers/air-conditioners and new coolants testing • Small and medium-sized wind turbines testing technology • Fuel cells and hydrogen energy system testing • PV power generation system and modules testing • Forestry wastes transformed bio-fuel or chemical materials testing technology • International cooperation on standards and certification for small wind turbines
Assistive Devices	• Raised toilet seats test equipment • Children's bed guards test equipment • Commode chairs test equipment • Basket trolleys test equipment

In the offshore wind turbines program, the BSMI completed setting up Taiwan's first "anemometer tower" at the offshore wind turbine testing site in Taichung. Standing in Taiwan Strait, the anemometer has to withstand severe conditions of strong Northeast Monsoon in winter and typhoon in summer. It collects data of wind speed, atmospheric pressure, humidity and temperature, which could be further used to support type testing and certification of whole off-shore wind turbines and relevant key components. It is hoped that the statistics and analytical results would contribute to the development of international standards in terms of anti-typhoon feature.

▲ The Anemometer Tower of Off-shore Wind Turbine Test Site is next to Taichung-Port's Power Zone II.

Aside from devoting efforts in support of the national science & technology programs, the BSMI maintains a website that integrated domestic testing resources for the use by the industry to locate the 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://testing.bsmi.gov.tw/wSite/mp?mp=58)

V. Testing and Certification

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

▲Graphic of the VPC Mark

The VPC System was launched by the BSMI in 2004, which differs from the other voluntary product certification system, the CNS Mark System, operated by the BSMI 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 2016, the VPC System contained 37 product items, most of them being electrical and electronic products (e.g. fluorescent lamps and starter holders, AC motor capacitors, switches, battery chargers, medium and small wind turbines, stationary training equipment, etc.). There were more than 100 certified products by the end of 2016. VPC certified products can demonstrate to the market their enhanced performance and reliable quality assurance.

In 2016, the scope of VPC System was expanded to cover PV modules to promote duality testing and validation of PV modules, low-carbon footprint investigation of PV manufacturers and development of factory inspection technology. This would provide a comprehensive certification system for the PV industry to develop high-performance solar PV module technology.

(2) Certification of fishery products exported to foreign countries

With a view to assisting the export of our fishery products to foreign countries, the BSMI amended some regulations, including "Inspection Criteria of EU-listed Fishery Processing Plants", "Inspection Criteria of Cold Store for Food Intended for Export", "Inspection, Sampling and Testing Instruction of Fishery Products Intended for Export to the European Union", and "Procedures of Issuing Health Certificate for Fishery Products Intended for Export to EU", to strengthen the management of processing establishments and the traceability of fishery products. In order to issue health certificates, some countries require that the processing establishments and fishing vessels be registered with the BSMI and the Fisheries Agency of Council of Agriculture. The BSMI serves as the contact point for administrative arrangements relevant to such registration at the European Union, Russia and Brazil. The number

of processing establishments and fishing vessels published on the official websites of foreign countries are described below.

Areas/Countries	Processing Establishments	Fishing Vessels
European Union	32	170
Russia	25	26
Brazil	30	386
Viet Nam	48	-
China	67	-

(3) Management systems certification based on international standards

Due to adjustment of the organization's policy, the BSMI will cease its certification service for all management systems, except HACCP, by the end of 2018. Over the past 25 years, certification of management systems in Taiwan has attained fullest development. Not only is the number of certification bodies sufficient to meet the needs of local industry for global deployment, but also their competence internationally recognized. With the exit of BSMI, the certification activities for management systems in Taiwan will be mainly operated under the market mechanism.

The process of exiting from the certification market formally began on January 1, 2016. All certificates expire on the date specified and registration with the BSMI are automatically cancelled upon the expiry date of each certificate. A comparison of the number of registered organizations in 2016 with that in 2015 is provided below to illustrate progress made for the adjustment.

Certification Programs	Registered Organizations	
	2015	2016
ISO 9001 Quality Management Systems	854	298
ISO 14001 Environmental Management Systems	196	68
Occupational Health and Safety Assessment Series 18001 (OHSAS 18001)	144	51
Taiwan Occupational Safety and Health Management Systems (TOSHMS)	130	48
ISO 22000 Food Safety Management Systems	31	18
ISO 27001 Information Security Management Systems	16	9
ISO 28000 Supply Chain Safety Management	2	0
ISO 50001 Energy Management	7	0

The HACCP certification is implemented to assist export of food products and fishery products to foreign countries. By the end of 2016, certificates were issued to 82 food processing plants.

VI. International Cooperation

The BSMI puts great emphases 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 WTO/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 2016, the TBT Enquiry Point submitted 53 TBT notifications to the WTO and responded to 58 inquiries. A presentation on "Building Constructive Working Relationship with Regulators" was presented by the TBT Enquiry Point at the Eighth Special Meeting on Procedures for Information Exchange, held on November 8 in Geneva, to share practices of raising awareness of transparency obligations by regulatory authorities.

Bilaterally, the BSMI was engaged in more in-depth discussions with its cooperative partners on issues concerning mutual recognition of conformity assessment results and consumer product safety. It also established formal technical cooperation arrangements with trading partners to work on projects concerning the development and improvement of national technical infrastructure in line with international practice.

1. Taiwan-US Cooperation

Two seminars co-sponsored by the American Institute in Taiwan were held in Taipei and Changhua respectively. One seminar entitled "Consumer Product Safety: Top Reasons Your Products for Export Could Be Stopped at U.S. Ports" were held on August 30. Speakers from the U.S. Consumer Product Safety Commission (CPSC) delivered presentations on surveillance of consumer products, guidelines for complying with requirements, and role of voluntary standards. 133 people from the industry, regulators, consumer groups, as well as testing facilities attended the seminar.

▲ Ms. Sylvia Chen and Mr. Dennis Blasius from CPSC

VI. International Cooperation

The Taiwan-US Seminar on Plumbing Product Regulations was held at Lukang, Changhua County, on September 20. Mr. Dave Purkiss, Plumbing Products General Manager of National Sanitation Foundation, lectured on the management measures and regulations of plumbing products in the United States and Canada, NSF 61 standard and product certification procedures. More than 70 people attended the seminar, which reflects the public's concern about drinking water safety in Taiwan.

▲ Group photo of Director General Ming-Jong Liou of BSMI (fourth from the right), with Mr. Dave Purkiss of NSF (third from the right), Mr. Jim Curtis of AIT (second from the right) and other guests

2. Taiwan-Swaziland Cooperation

The BSMI received 5 delegates from the Kingdom of Swaziland on July 25-29 and arranged for their visits to its testing laboratories, the Taiwan Accreditation Foundation, Taiwan Textile Research Institute and Industrial Technology Research Institute to learn about the quality infrastructure in Taiwan. A delegation composed of representatives

from the BSMI and relevant organizations visited Swaziland in return on October 18-24 to understand the specific needs of Swaziland in strengthening its technical capacity and infrastructure development. Both sides agreed to enter more substantial cooperation to facilitate transfer of technical knowledge, advice and skills in areas of standardization, metrology and conformity assessment.

▲ Group photo of Director June-Chieh Lai (fourth from the right) and colleagues from BSMI, Deputy Director Chih-Heng Liao of TAF (first from the left), Deputy Division Director Chun-Ming Hsu of ITRI (second from the left), with Senior Quality Systems Officer Sybil Sthembiso Dlamini of RQID (third from the right) and delegates from SWASA.

3. Taiwan-GCC Standardization Organization Cooperation

The BSMI and GCC Standardization Organization (GSO) signed a Memorandum of Understanding (MoU) on Technical Cooperation in Riyadh, Kingdom of Saudi Arabia, on September 25. The cooperation encompasses exchanges of information and experts in areas of standardization, metrology, inspection, quality management, conformity assessment and accreditation. It provides a sound framework for Taiwan and GSO Member Bodies to work towards the goals of compatible regulatory systems and eventually mutual recognition of conformity assessment results.

▲ Group photo of Director General Ming-Jong Liou of BSMI (center), with Secretary General Nabil Molla of GSO (third from the left), Representative Chao-Yuan Ma of TECO in KSA (third from the right) and other representatives from GSO member countries at the signing ceremony of MoU between the BSMI and GSO on September 25, Riyadh.

VI. International Cooperation

4. Taiwan-Japan Cooperation

Taiwan and Japan signed a Memorandum of Understanding (MoU) on Strengthening Exchanges and Cooperation on Product Safety in Taipei on November 30. The MoU will provide better protection of consumers in both countries by way of sharing experiences and technical cooperation. The BSMI and National Institute of Technology and Evaluation (NITE) are designated as the implementing agencies and the cooperation will facilitate exchanges of information on standards, products of risks, product incidents & recalls, risk assessment results, incident investigation, etc.

5. 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 for exporting 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) Acceptance of test reports and certificates (electrical, electronic and information technology products)

- New Zealand: Arrangement Between the New Zealand Commerce and Industry Office and the Taipei Economic and Cultural Office in New Zealand in relation to Facilitating Trade in Electrical and Electronic Products (incorporated into the Economic Cooperation Agreement with New Zealand)
- Singapore: Mutual Recognition Arrangement on Conformity Assessment Between the Bureau of Standards, Metrology and Inspection and the Standards, Productivity and Innovation Board (incorporated into the Economic Partnership Agreement with Singapore)
- Japan: Arrangement for the Cooperation on Mutual Recognition

(3) Viet Nam

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

(4) United States

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

VI. International Cooperation

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. Memorandum of Understanding between the American Institute in Taiwan and the Taipei Economic and Cultural Representative Office in the United States for Cooperation Associated with Consumer Product Safety Matters 8. The Austrian Standards Institute 9. Memorandum of Understanding on Cooperation in the field of Standardization and Conformity Assessment with the Philippines 10. Cross-Strait Agreement on Cooperation in Respect of Standards, Metrology, Inspection and Accreditation 11. Regulatory Cooperation Arrangement on Standards, Technical Regulations and Conformity Assessment with New Zealand 12. Agreement on Information Relating to Consumer Product Safety with Singapore 13. Slovak Office of Standards, Metrology and Testing, Slovak Republic 14. Agreement on Standardization, Conformity Assessment and Metrology with Israel 15. Standards Organization of Nigeria 16. Memorandum of Understanding on Strengthening Exchanges and Cooperation on Product Safety with Japan
Standards	1. SAI Global Limited, Australia 2. ASTM International, 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), United States 6. International Organization for Standardization 7. AFNOR, France 8. Underwriter Laboratories Inc., United States
Product Testing	1. Japan Electrical Testing Laboratory 2. Japan Quality Assurance Organization Assurance 3. Swiss Electrotechnical Association 4. Swedish Institute for Testing and Certification of Electrical Equipment 5. Hungarian Institute for Testing and Certification of Electrical Equipment
Technical Cooperation	1. Saudi Standards, Metrology and Quality Organization 2. GCC Standardization Organization

Table VI-2

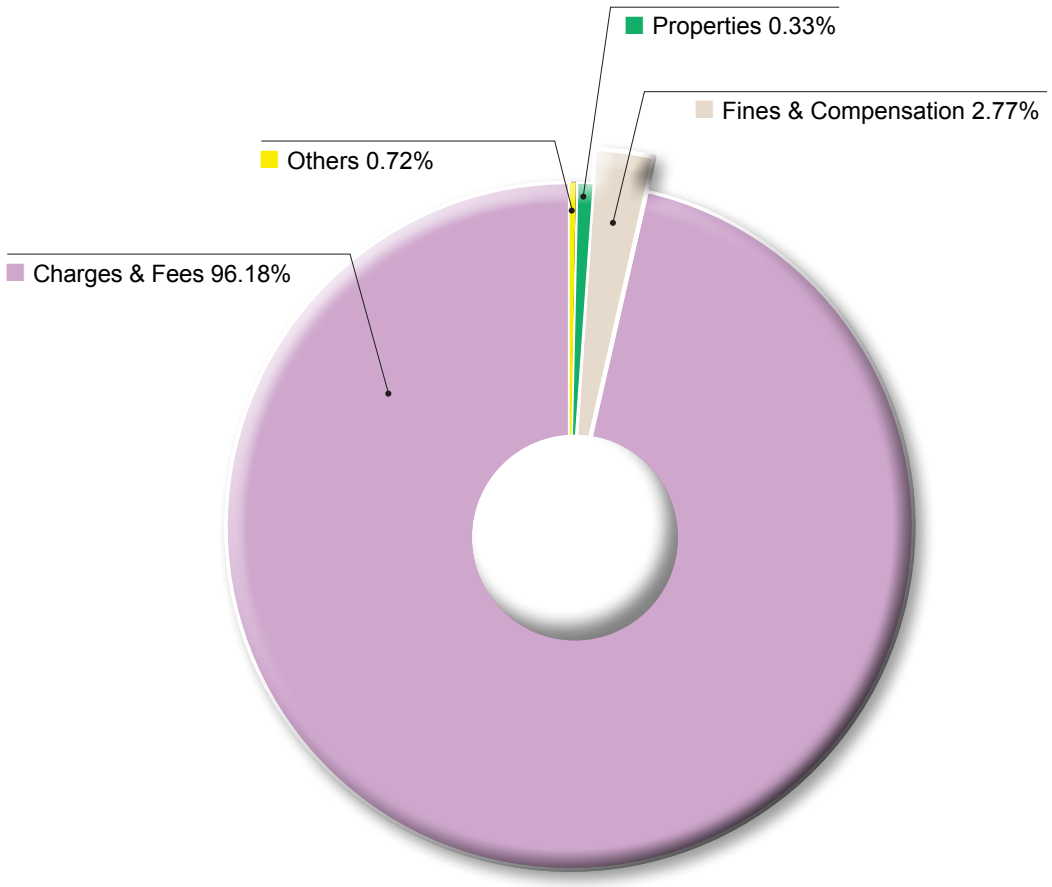
Participation in International Events

Date	Name of Events
January 24-29	ASTM Committee D13/F23 & 10th Symposium on Performance of Protective Clothing and Equipment, San Antonio, Texas, USA
February 21-22	APEC/SCSC 1 Meeting, Lima, Peru
February 29-March 3	2016 ICPHSO Annual Meeting & Training Symposium, Washington, D.C., USA
March 7-10	WTO/TBT Committee Meeting, Geneva, Switzerland
May 23-27	The 46th Meeting of ISO/IEC JTC1/SC2/WG2/IRG, Beijing, Mainland China
June 14-16	WTO/TBT Committee Meeting, Geneva, Switzerland
July 25-29	2016 IEEE International Symposium on Electromagnetic Compatibility, Ottawa, Canada
August 16-21	APEC/SCSC 2, the 21st APEC EEMRA JRAC Meeting and related meetings, Lima, Peru
September 5-9	EMC Europe 2016, Wroclaw, Poland
September 26-30	The 65th Meeting of ISO/IEC JTC1/SC2/WG2, San José, California, USA
October 17-21	The 15th International Conference and 51st CIML Meeting, Strasbourg, France
October 26-November 4	2016 Joint IAF-ILAC Annual Meetings, New Delhi, India
November 7-11	The 19th ISO/TC229 Nanotechnologies Technical Committee: Plenary Meeting & JWG2: Metrology and Characterization, Singapore
November 7-11	WTO/TBT Committee Meeting, Geneva, Switzerland
November 11-18	The 32nd Asia Pacific Metrology Programme General Assembly and related meetings, Da Nang, Viet Nam
November 23-25	The 23rd Asia-Pacific Legal Metrology Forum and Working Group Meetings, Tokyo, Japan

VII. Budget and Manpower

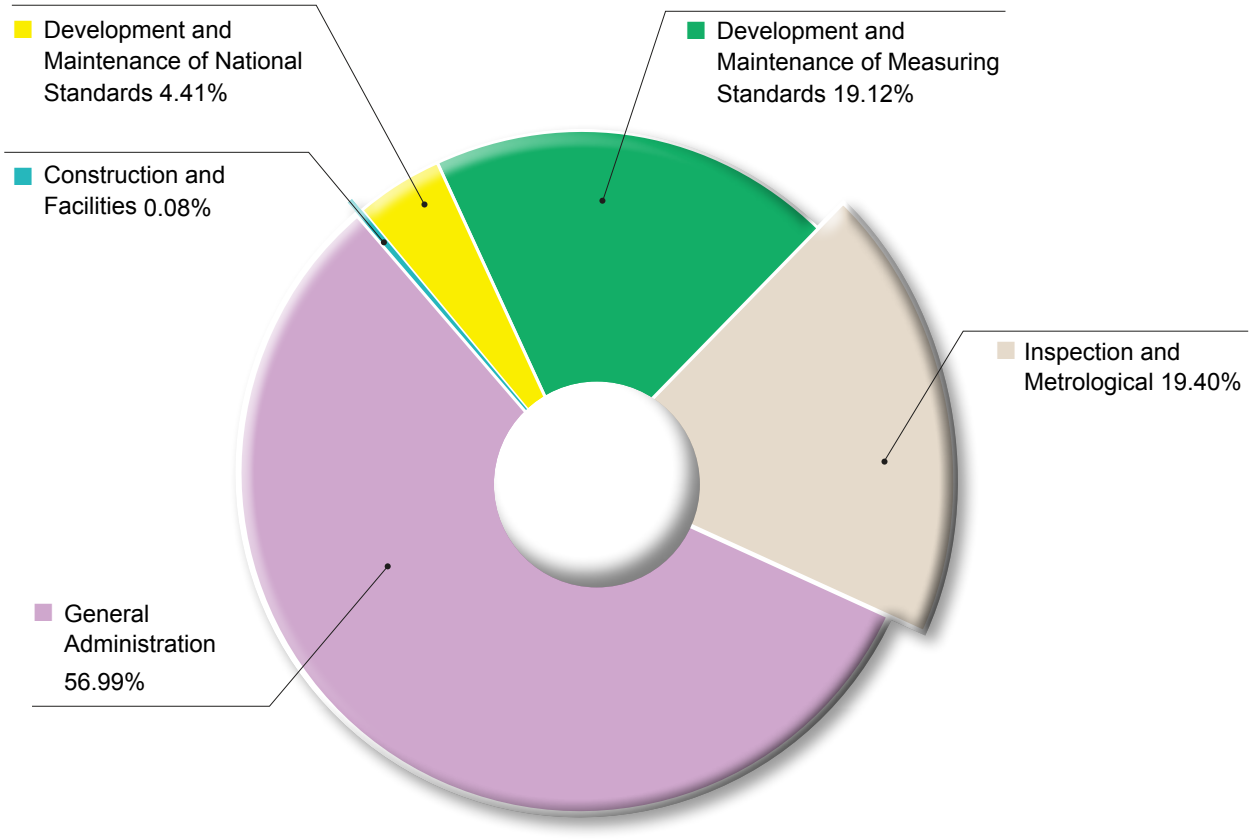
Annual Income Budget

Categories	Amount Units: NTD1,000	Percentage
Fines & Compensation	25,372	2.77%
Charges & Fees	880,160	96.18%
Properties	2,970	0.33%
Others	6,581	0.72%
Total	915,083	100.00%



Annual Expenditure Budget

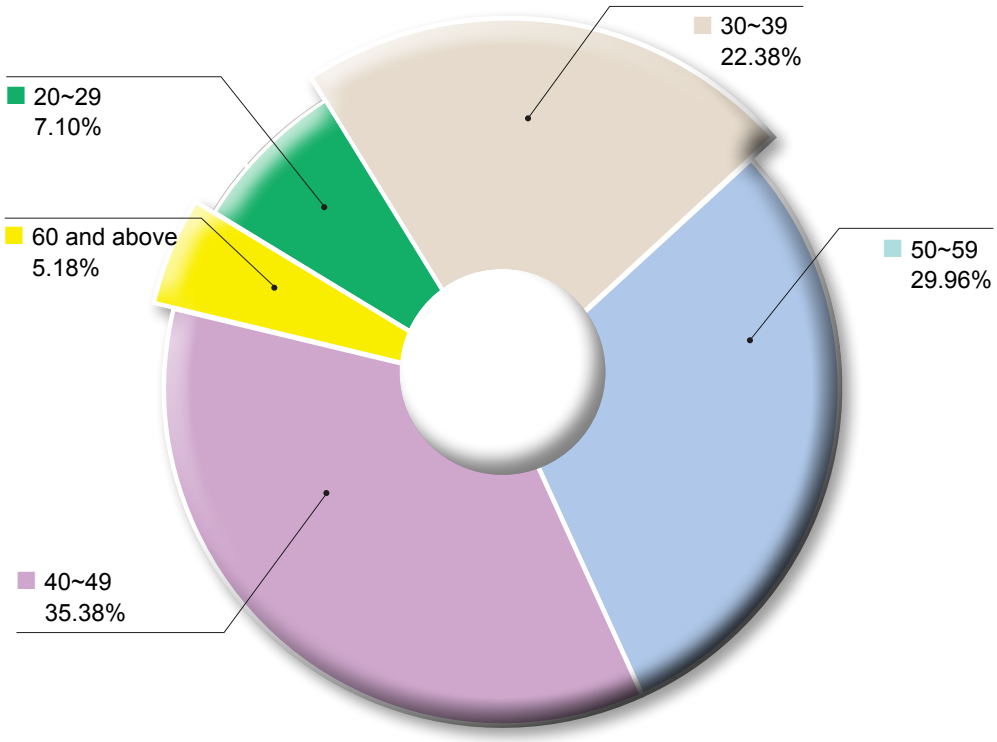
Categories	Amount Units: NTD1,000	Percentage
Development and Maintenance of Measuring Standards	411,586	19.12%
Development and Maintenance of National Standards	94,956	4.41%
General Administration	1,226,575	56.99%
Inspection and Metrological Management	417,406	19.40%
Construction and Facilities	1,683	0.08%
Total	2,152,206	100.00%



VII. Budget and Manpower

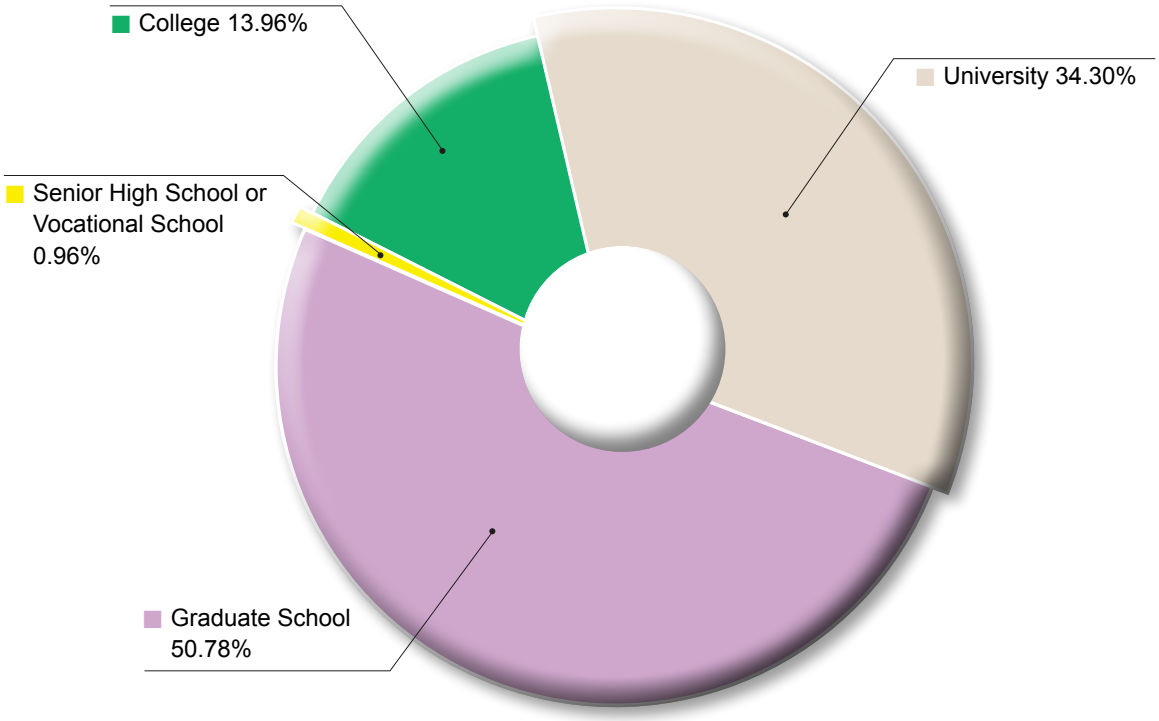
Age Distribution of Personnel

Age	Persons	Percentage
20~29	59	7.10%
30~39	186	22.38%
40~49	294	35.38%
50~59	249	29.96%
60 and above	43	5.18%
Total	831	100.00%



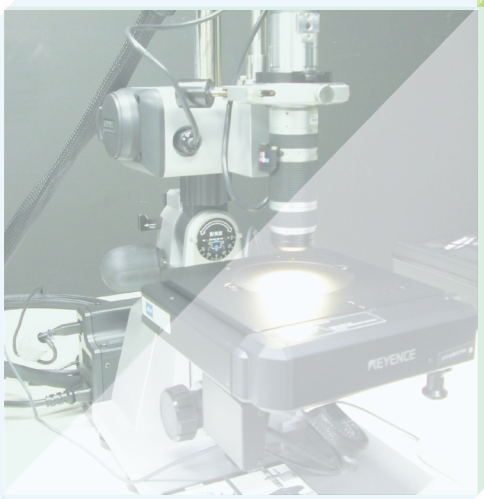
Distribution of Education Background of Personnel

Categories	Persons	Percentage
Graduate School	422	50.78%
University	285	34.30%
College	116	13.96%
Senior High School or Vocational School	8	0.96%
Total	831	100.00%



2016 Annual Report of BSMI

Publisher	Bureau of Standards, Metrology and Inspection Ministry of Economic Affairs 4 Chinan Road, Section 1, Taipei 100, Taiwan (R.O.C.) http://www.bsmi.gov.tw
Editor	The 5th Division, Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs TEL: 886-2-2343-1801
Point of Sale	Government Publications Bookstore 1F, No. 209, Sung Chiang Road, Taipei, Taiwan TEL: 886-2-2518-0207 http://www.govbooks.com.tw Wu-nan Culture Enterprise No. 6, Zhongshan Road, Central District, Taichung City, Taiwan (R.O.C.) TEL: 886-4-2226-0330 FAX: 886-4-2225-8234 http://www.wunanbooks.com.tw
Design and Print	Cabin Corp.
Date of Publication	April 2017
First Issue	April 2008
Price	NT$200
ISSN	2070-3252
GPN	2009700540



ISSN 2070-3252

ISSN 2070325-2

9 772070 325000

GPN 2009700540

NT$200

Bureau of Standards, Metrology and Inspection,
Ministry of Economic Affairs
4 Chinan Road, Section 1, Taipei 100, Taiwan (R.O.C.)
TEL: 886-2-2343-1700
FAX: 886-2-2356-0998
WEBSITE: www.bsmi.gov.tw