



2019 Annual Report of BSMI

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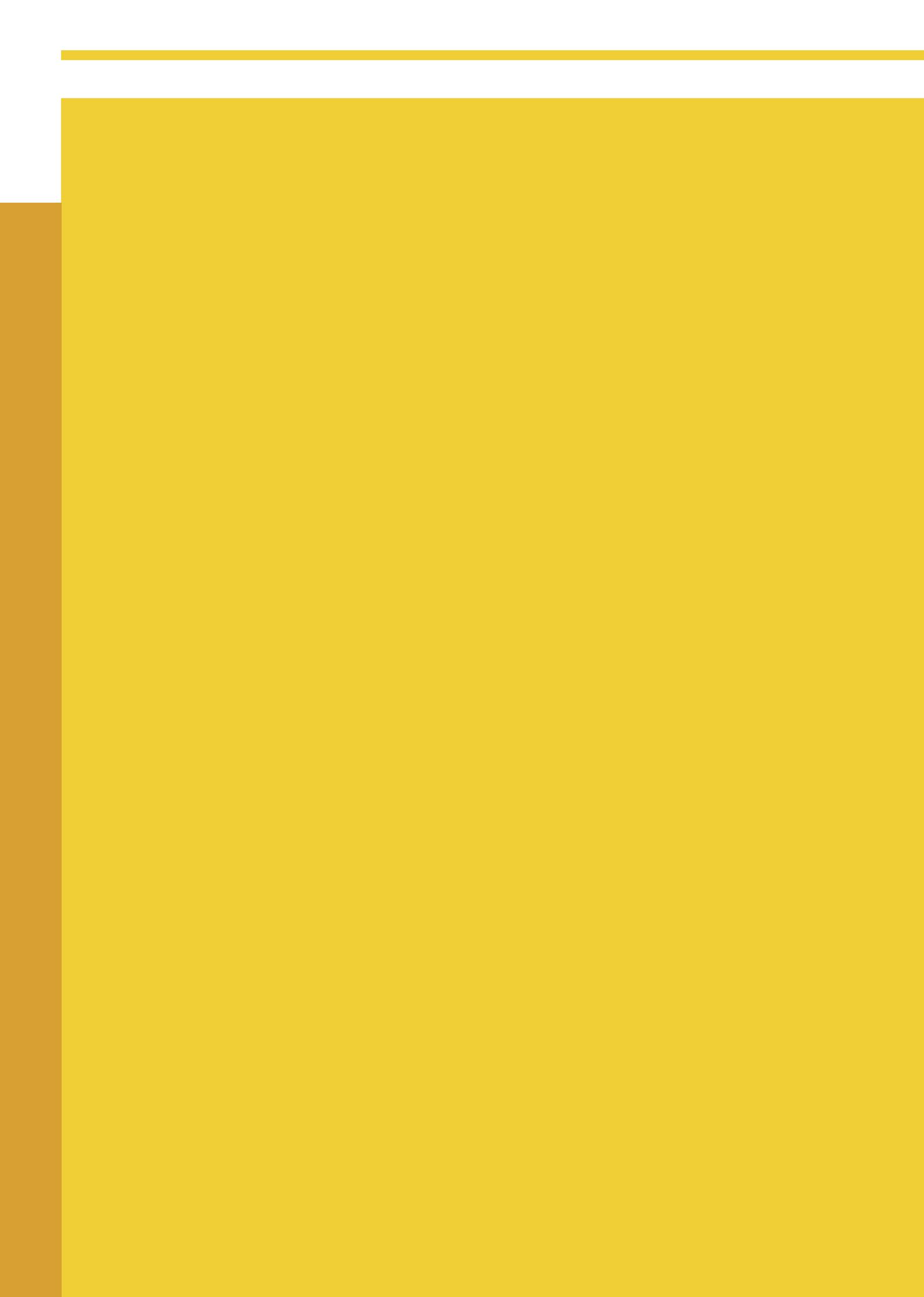


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Foreword from the Director General

Ever since the re-organization of the Bureau of Standards, Metrology and Inspection (BSMI) in 1999, the core mission has been to lead the industrial development and protect consumers' rights by relying on a sound national quality infrastructure. In 2019, my first year as Director General of the BSMI, we took a more proactive and pragmatic approach to addressing various needs quickly and effectively. We also make much more effort on connecting and working with the industry, academic institutions, and the public. The achieved results of our efforts are documented in this report, but I would like to highlight some here.

In 2019, 293 national standards were developed or updated in areas of smart machinery, green energy technology, Asian Silicon Valley, rail construction and 5G technology industry. These standards were used to build the technical capacity required for implementing the national economic

policy "5+2 Industrial Innovation Plan". It is worth noting that, in collaboration with our 5G industry, we had 25 technology proposals being accepted by primary 5G standards bodies, such as 3GPP, ETSI, and ITU. Moving forward, we are planning to introduce 5G Standards and Certification Programs to our industry, scheduled to be launched in mid 2020.

To support green competitiveness for business operators, the National Renewable Energy Certification Center, operated by the BSMI, approved 50 sites this year with a growth rate of 85% compared to that of 2018 and issued 32,433 new renewable energy certificates during the year. Since its official opening in 2017, the amount of certificates has come to 79,602, representing the generation of 32,433 million kWh of green power, and reduction of carbon dioxide (CO₂) emissions by 17,300 metric tons.



Director General

Lien, Ching-Chang

With technology changing rapidly, a growing number of Taiwanese manufactures are leaping toward smart factories. The BSMI and the National Measurement Laboratory (NML) have been actively working on developing new measurement technologies. It is expected that the NML will be able to provide enhanced geometric measurements services for five-axis machine tools in a very short time. Meanwhile, the International System of Units (SI) was formally implemented in 2019. The New SI drives scientific development towards higher accuracy and precision, which will positively contribute to the growth of technology and innovation and further assist in industrial transformation and competitiveness enhancement.

On the other hand, we devoted efforts in analyzing the safety of products in the marketplace. We added 5 new products into our inspection scope based on risk analysis, resulted in a total of 1,253 regulated products. With particular emphasis on electrical household appliances, the inspection standards of around 100 types of products were updated to the latest version and made effective this year. Besides, guidelines were developed to identify the appropriate level of recall in the distribution chain so as to better manage noncompliant products on the market or used by consumers.

Looking ahead, there are a lot more plans being planned and unfolded. I believe, with our clear objectives, dedicated efforts and strong commitment, the BSMI will be able to provide an environment where consumers can enjoy safely and elegantly the state-of-the-art products resulted from technology advanced.

Ching-chang Lien



BSMI OVERVIEW

WHO WE ARE

The Bureau of Standards, Metrology and Inspection (BSMI) under the Ministry of Economic Affairs (MOEA) is the authority responsible for standardization, metrology and consumer product safety in Taiwan.

WHAT WE DO

“Innovative Thinking, Proactive Service and International Connection”, being guided by this philosophy, we aim at following good practices that encourage innovation of technology, provide adequate protection for the public, and facilitate trade by eliminating technical barriers to trade.

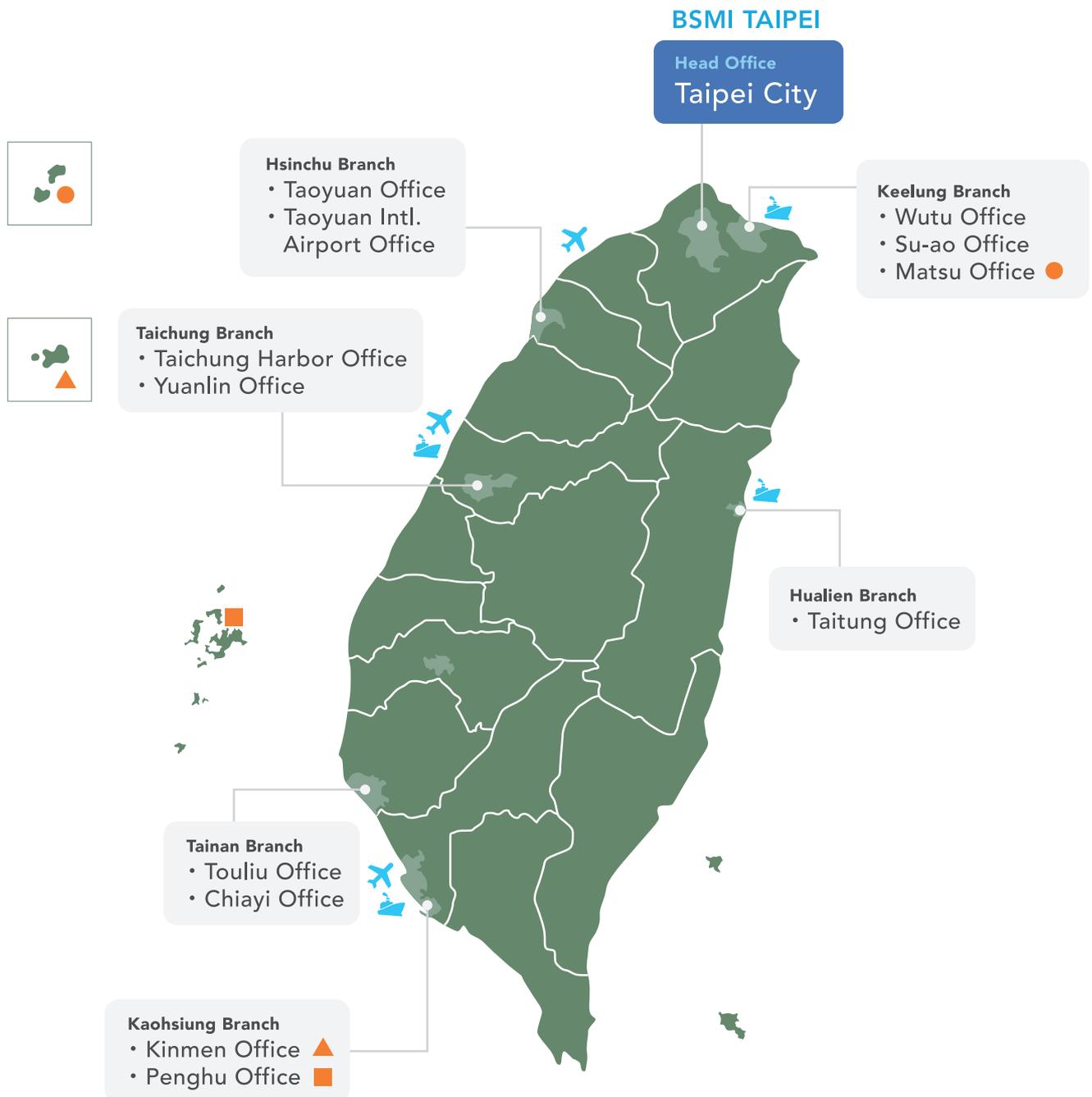
Key functions of our services are as follows:

- Developing and maintaining national standards and national measurement standards;
- Regulating and monitoring safety of products, mainly industrial and consumer products;
- Providing testing and certification services; and
- Cooperating with corresponding authorities or organizations of trading partners.

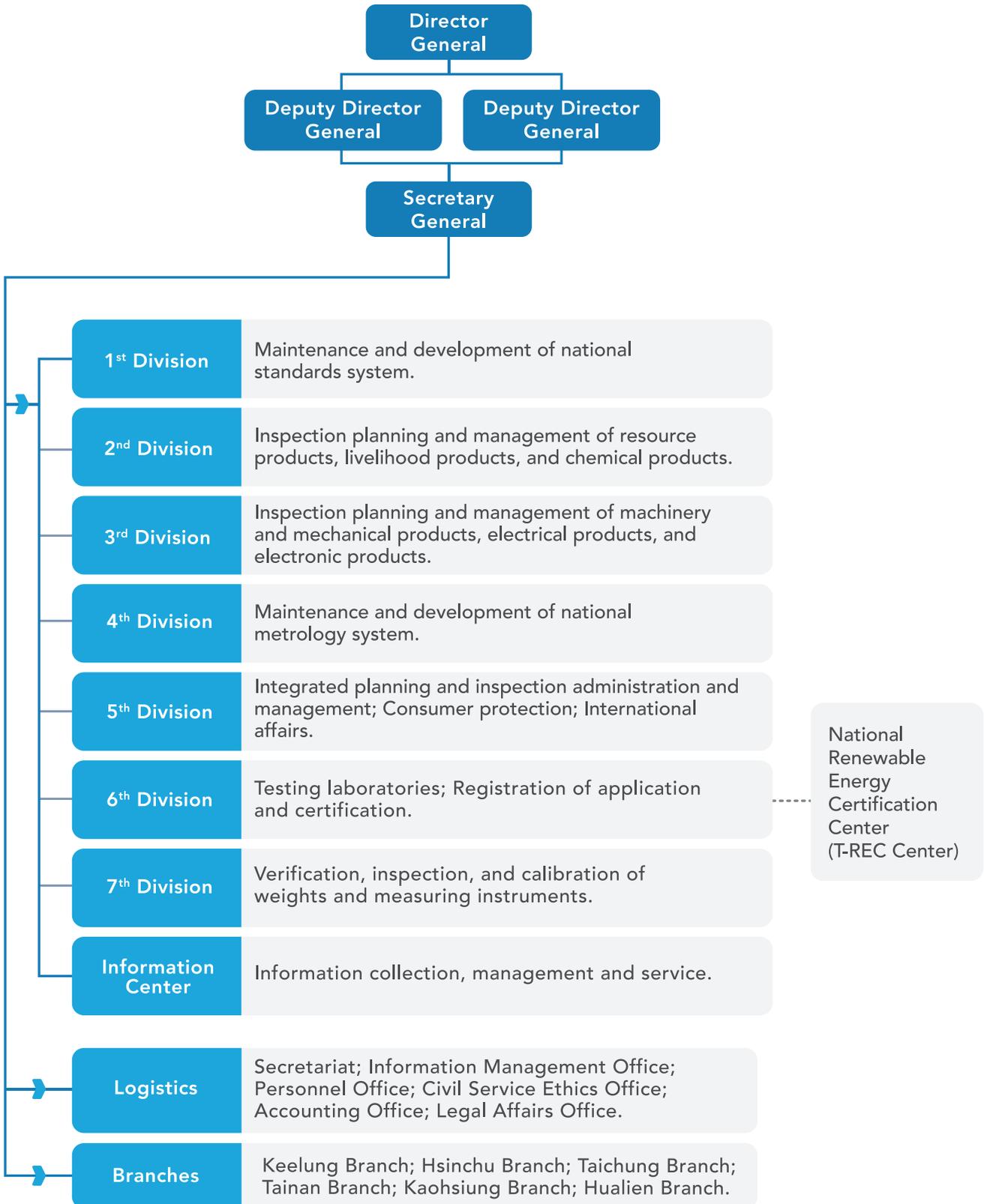


WHERE WE ARE

The BSMI has its head office in Taipei City, the capital of Taiwan, and six branches located in harbors, airports and major cities, providing a dense network of services nationwide.



ORGANIZATION CHART BY ACTIVITIES



BUDGET AND MANPOWER

Annual Income Budget

Categories	Amount (Units: NTD 1,000)	Percentage
Fines & Compensation	20,491	2.17
Charges & Fees	907,928	96.31
Properties	5,484	0.58
Others	8,797	0.93
Total	942,700	100.00

Annual Expenditure Budget

Categories	Amount (Units: NTD 1,000)	Percentage
Development and Maintenance of Measuring Standards	395,185	16.54
Development and Maintenance of National Standards	307,138	12.86
General Administration	1,237,963	51.83
Inspection and Metrological Management	446,855	18.71
Transportation and Relative Equipment	1,468	0.06
Total	2,388,609	100.00

Age Distribution of Personnel

Age	Persons	Percentage
20~29	49	6
30~39	183	21
40~49	253	30
50~59	314	37
60+	50	6
Total	849	100.00

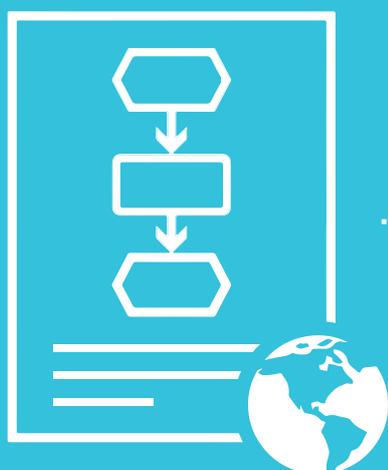
Distribution of Education Background of Personnel

Age	Persons	Percentage
Graduate School	466	55
University	284	33
College	93	11
Senior High School and Vocational School	6	1
Total	849	100.00

ACTIONS OF THE YEAR



Standards



International
Standards



2020 Work
Plan for
National
Standards



Standards

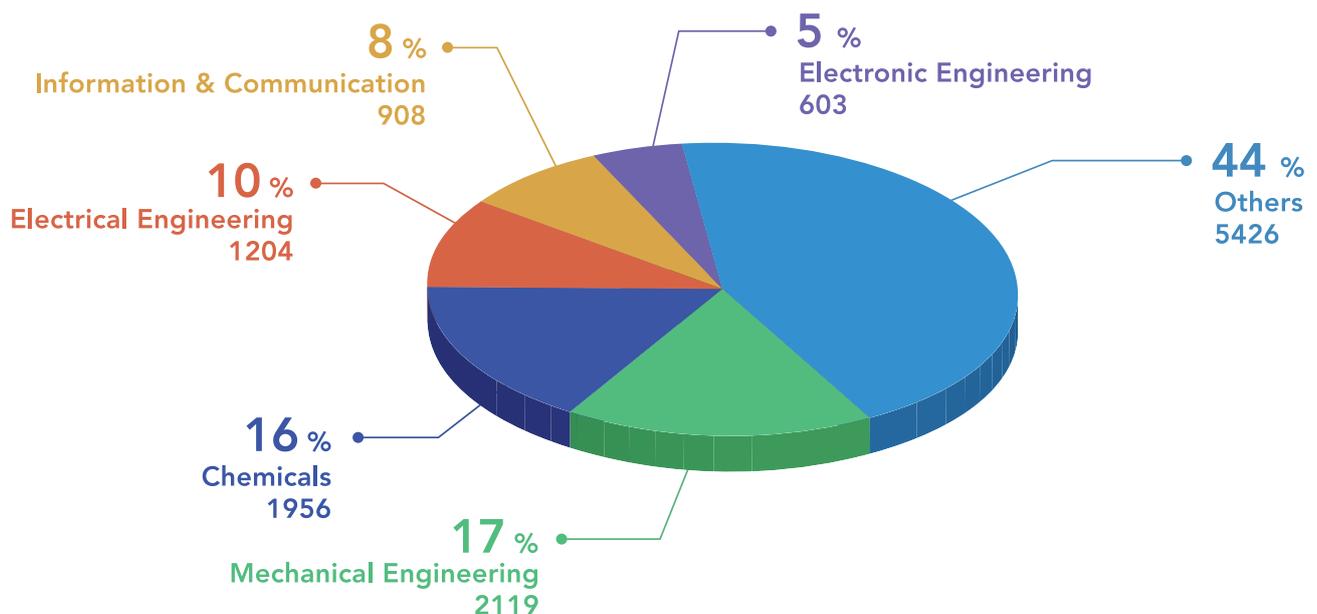
Being the national standards body in Taiwan, the BSMI bears the responsibility to develop and operate a standardization system that is relevant and can effectively respond to regulatory and market needs, as well as keep pace with scientific and technological development. Bringing national standards highly in line with international ones not only ensures compatibility and consistency of technical regulations, but also support the advancement of industry and uplift the living quality of the society.

1. Brief on National Standards (CNS)

This year, we established 136 new standards, revised 157 standards, and withdrew 1,010 standards, which resulted in a total of 12,215 CNS in existence by the end of 2019. New standards mainly involve sectors of electrical engineering, chemicals, consumer products, and information and telecommunication equipment. Besides, national standards (CNS) were adopted or newly revised to provide

up-to-date guidelines, such as those in green energy technology, energy storage and smart machinery in response to the national policies, mainly the "5+2 Industrial Innovation Plan." The chart below shows the top 5 sectors and their proportions in the total number of CNS. For the numbers of CNS standards in different sectors please refer to Table 1.

Chart I / Composition of CNS by the end of 2019



Updated CNS standards can be accessed at the CNS Online Service
https://www.cnsonline.com.tw/?locale=en_US →



2. Alignment of CNS with International Standards

Among the 12,215 CNS, 99% of them are harmonized with international standards when relevant international standards exist. Some CNS, e.g. circuit breakers, are not harmonized with international standards due to fundamental technological problems.

3. CNS referenced in technical regulations

Number of CNS referenced in technical regulations came to 896, accounting for 7.3% of the all. Among these standards, 96.8% of them were harmonized with international standards when relevant international standards exist.

4. CNS Promotion Activities

To promote the use of and adherence to national standards, key initiatives of the BSMI are listed below.

(1) The CNS Mark is a voluntary product certification system in Taiwan to demonstrate that the quality of products and the quality management system of manufacturing factories comply with national standards. CNS Mark products may enjoy exemption from related testing under government procurement projects. A total of 2,004 products are granted to use CNS Mark by 2019. For the categories of certified CNS Mark products and factories, please refer to Table 2.

(2) Seminars and monthly e-newsletters are important means of keeping the public regularly informed of the progress of CNS standards. In collaboration with related associations, we held 4 seminars throughout the year to introduce updates on national standards to encourage the use of such standards in the production processes and enhance the performance of the products, for example in the area of light-emitting diode and steel pipes for building. The number of participants of these events reached 298 in total. On the other hand, the e-newsletter covers topics that are fairly diverse but closely related to people's everyday lives and has been supported by the public ever since the first issue in 2011. Number of subscriptions had grown to 4,593 by the year.



Seminar on steel pipes for piping and structural steel pipes



Products bearing CNS Mark



5. Stakeholder-Led Initiatives

(1) Enhancement of Industry Participation in Standardization Activities

To encourage participation of the industry in the development of national standards and to develop human resources for private sectors, recognized standardizing groups are obliged to recommend drafts, submit comments, and attend technical committee meetings. In 2019, there were a total of 6 recognized standardizing groups recognized by the BSMI.

(2) Support of Industry Participation in International Standardization Activities

We continuously provide financial assistance to companies and associations for sending experts to attend meetings held by international standardizing organizations, including ISO/IEC JTC 1/SC 31, ISO/IEC JTC 1/SC 41 and Asia Nonwoven Fabric Association (ANFA) this year.

6. 2020 Work Plan for National Standards

The BSMI will continuously lay emphasis on areas of green energy technologies, green transportation, energy-saving, precision machinery, public construction, and consumer and senior care products to guide scientific and technological development and social transformation.

Besides, as Artificial Intelligence (AI) and the 5th Generation Mobile Networks (5G) become more ubiquitous, and the needs for international standards are increasing from industry, the Bureau is highly focusing on the global development of these two areas. Relevant national standards are under preparation in response to international development.

2020 Work Plan for National Standards

GREEN
ENERGY
TECHNOLOGIES



GREEN
TRANSPORTATION



ENERGY
SAVING



PRECISION
MACHINERY



PUBLIC
CONSTRUCTION



CONSUMER PRODUCTS
AND SENIOR CARE
PRODUCTS



ARTIFICIAL
INTELLIGENCE (AI)



5TH GENERATION
MOBILE
NETWORKS (5G)



Table 1 Numbers of National Standards in 2019 (by categories)

Categories	Established	Revised	Withdrawn	Existing
Civil Engineering and Architecture	3	3	74	554
Mechanical Engineering	10	4	-	2,119
Electrical Engineering	32	22	29	1,200
Electronic Engineering	7	8	193	607
Motor Vehicles and Aerospace Engineering	-	1	26	488
Track Engineering	3	-	7	88
Naval Architecture Engineering	-	-	-	354
Iron Metal Smelting	4	12	48	312
Non-Iron Metal Smelting	1	3	1	251
Nuclear Engineering	-	-	-	-
Chemicals	4	36	472	1,956
Textiles	5	4	3	374
Mining	-	-	-	82
Agriculture	-	1	-	382
Food Products	-	14	57	359
Wood	1	4	-	86
Paper	-	4	-	193
Environmental Protection	1	3	-	53
Pottery	2	-	3	285
Consumer Products	12	18	-	334
Hygiene and Medical Appliances	5	2	89	251
Information and Communication	16	9	-	906
Industrial Safety	11	3	7	246
Quality Control	8	-	-	89
Logistics and Packaging	0	-	-	173
General and Other Areas	11	6	1	473
Total	136	157	1,010	12,215

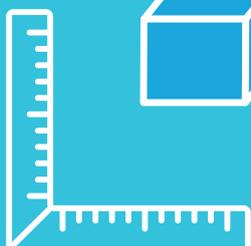
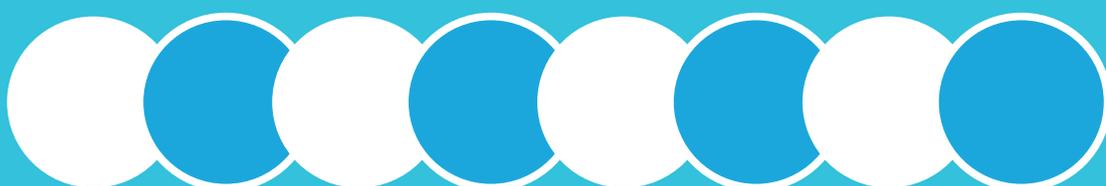
Table 2 Numbers of CNS Mark Products & Factories by 2019

Categories	Products	Factories
Civil Engineering and Architecture	503	195
Mechanical Engineering	132	61
Electrical Engineering and Electronic Engineering	335	140
Motor Vehicles and Aerospace Engineering	13	8
Track Engineering	-	-
Naval Architecture Engineering	-	-
Iron Metal Smelting	184	68
Non-Iron Metal Smelting	4	3
Chemicals	340	98
Textiles	1	1
Mining	-	-
Agriculture and Food Products	-	-
Wood	1	1
Paper	75	34
Pottery	308	92
Consumer Products	44	28
Hygiene and Medical Appliances	7	7
Industrial Safety, Packaging, General and Other Areas	57	28
Total	2,004	674

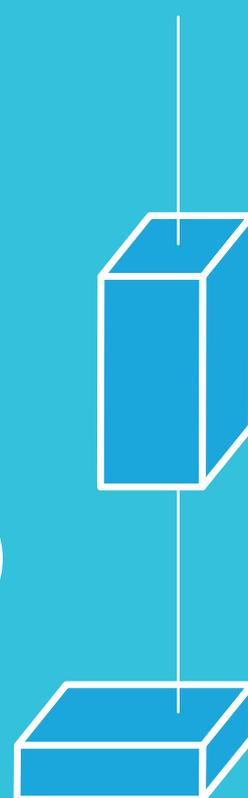
**ACTIONS
OF THE YEAR**



Metrology



International
Systems of Units



METROLOGY

As stipulated in the Weights and Measures Act, the BSMI is responsible for the development of national metrology system in Taiwan. Accurate and precise measurements and measuring equipment are vital to the industry in pursuit of quality and innovation. They are also needed for the protection of health, safety, the environment and consumers. The national metrology system consists of legal metrology, compulsory in nature, and scientific metrology, which provides state-of-the-art service to stakeholders.

1. Legal Metrology

The legal metrology system is implemented by three layers of control.

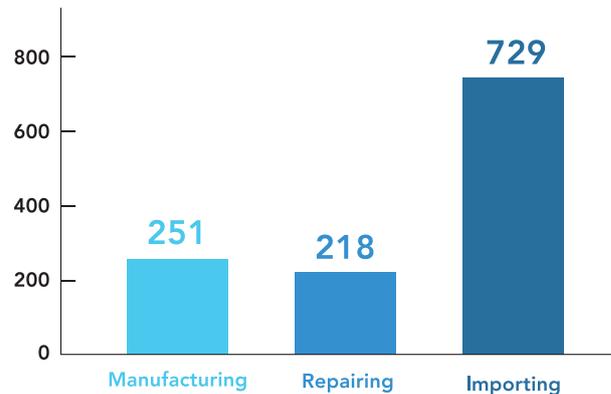
(1) Licensing of Measuring Businesses

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 2019, there were 1,198 measuring instrument enterprises in Taiwan, among them 251 being engaged in manufacturing, 218 in repairing, and 729 in importing measuring instruments.

(2) Verification and Inspection of the Instruments

19 kinds of measuring instruments (please refer to Table 3) are subject to verification before they are allowed to be placed on the market. After they pass verification, the products shall be inscribed, sprayed, branded or lead-sealed with the logo “同” and/or affixed with a conformity sticker. These measuring instruments are also subject to inspection during in service. In 2019, 3,854,755 instruments were verified and inspected, 70% of them were water meters and watt hour meters. The rate of non-compliance is 0.19%.

Chart 2
Licensing of measuring businesses
by the end of 2019



Breath Testers with Verification Mark “同”



(3) Type-Approval of Instruments

Legal metrology instruments that require higher levels of accuracy, stability and durability may be subject to type approval. These legal metrology instruments, prior to manufacture or importation, shall be filed for an application for type approval to the BSMI. Once the type of an instrument has been approved, the BSMI issues a type approval certificate, which serves as a permission for them to apply for initial verification. Please refer to Table 4 for the list of such instruments.

2. Scientific and Industrial Metrology

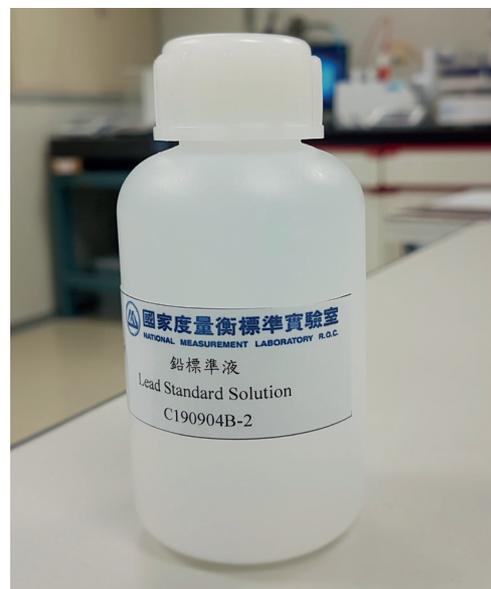
Being an associated state of the General Conference on Weights and Measures (CGPM) and a signatory to the Mutual Recognition Arrangement of the International Committee of Weights and Measures (CIPM MRA), the calibration and measurement capabilities of our national measurement laboratories are traced to primary international measurement standards and recognized by other countries.

(1) National Measurement Standard Laboratory in Brief

The National Measurement System consists of three national measurement laboratories, which are National Metrology Laboratory (NML), National Time and Frequency Standard Laboratory (NTFSL), and National Radiation Standard Laboratory (NRSL). The whole system maintains 134 sets of standard measurement systems in 17 fields, and provides 5,291 calibration services for primary and secondary laboratories. In 2019, they participated in key comparisons for 15 items and 36 sets of measurement traceability (please refer to Table 5). There had been 390 items of measurement standards registered to the BIPM's database by the year end, ensuring that Taiwan's national measurement standards are equivalent to international standards.

(2) New Inorganic Element Supply and Certification System for Lead (Pb)

For strengthening the technical services to the industry, the NML developed a new system of "Inorganic Element Supply and Certification System" for lead (Pb). The new system, based on static gravimetric method, is established to provide certified reference material (CRM) and customized technical services. Being the first Pb CRM produced by the NML against ISO 17034, metrological service of contamination analysis for electronic grade reagents can be provided to domestic industry more efficiently, at a lower cost, and customized to meet the high-level QA/QC requirements in semiconductor manufacturing. The NML will continue developing reference materials and corresponding analytical technologies for cadmium, mercury, cobalt, nickel, zinc, copper, iron, etc identified by the industry.



The first Pb CRM produced by the NML with the concentration of 1000.0 mg/kg \pm 1.5 mg/kg

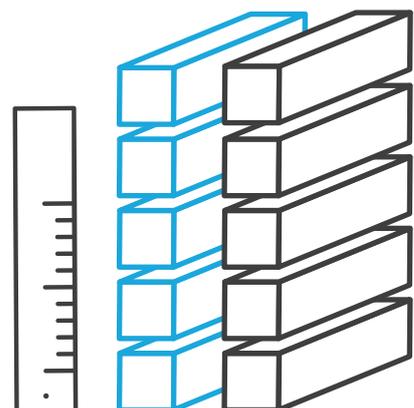
(3) Measuring Systems

Measuring systems listed below were improved by the NML in 2019.

Name of Systems	F08 Low Pressure Gas Flow Calibration System - Large Bell Provers	M03 High-Capacity Mass Weighing System
System Spec Before Improvement	Flow range: (20 ~ 1000) L/min Uncertainty: 0.12 %	Weighing range: 1000 kg Uncertainty: 4 g
System Spec After Improvement	Flow range: (10 ~ 1000) L/min Uncertainty: 0.10 %	Weighing range: 1000 kg Uncertainty: 1.8 g
Impact / Benefit	To provide NML's metrological "Goalkeeper" calibration service of low pressure gas flow, for the legal metrology affairs, verification, inspection and testing laboratory of EPA/Executive Yuan, and the process control and testing demanded by chemical industry, energy industry and semiconductor industry etc.	To provide NML's metrological "Goalkeeper" measurement and calibration service of mass and force, for the legal metrology affairs, proceeding weighbridge calibration affairs required by Freeway Bureau/MOTC, aerospace industry related verification, inspection and testing affairs, and heavy industry related affairs.

(4) Promotion of Measuring Techniques

In support of industrial development, the BSMI and the NML held 11 seminars and 5 workshops to share knowledge and information attained from research projects with the industry, and to introduce related services. Important topics include metrology techniques in areas of smart machinery, the new SI units, and ISO 17025:2017...etc.



3. Awareness Program

(1) World Metrology Day

The BSMI and the NML co-hosted the celebration of 2020 World Metrology Day "The International System of Units – Fundamentally Better" on May 20. Dr. Takashi Usuda, Secretary of the International Committee for Weights and Measures (CIPM) shared the novel issues of metrology during the event. There were also activities arranged for the participants to visit the NML's laboratories for new SI base units – mass, temperature, electrical current and mole. These laboratories are equipped with advanced apparatus and are ready to provide new SI services for the industry to meet the needs of very high degree of accuracy and precision required for innovation.

(2) World Accreditation Day

The BSMI takes a critical role in developing the national quality infrastructure in Taiwan. It supervises and supports the operation of Taiwan Foundation Accreditation (TAF), which is a member of regional and international accreditation organizations.

On June 10, the BSMI and TAF co-hosted the 2019 Taiwan World Accreditation Day. The event focused on the advantages that accreditation services could bring to supply chains, governmental policies, and business competitiveness. The event was attended by around 300 participants from government, industry, research institutes and consumers.

(3) Some Other Featured Events

The BSMI, with a long-term goal of cultivating metrological talents, continues working with non-profit organizations to co-host series of events disseminating metrological knowledge to the public, especially targeting the young generations. Notable activities of this year include "Legal Units of Measurement Promotional Activity", "Tours of a Mobile Laboratory to Countryside Schools", "NML's Open Day for High School Students", and "Promotion of the Digital Collection Website of Cultural Relics of Standards, Inspection and Metrology with the National Science and Technology Museum". A total of more than 7,000 people participated in these events.



The NML hosted the Forum on International Trend of Metrology on 20 May, to celebrate the launch of the new SI and the World Metrology Day.

Table 3 Categories and Scopes of Weights & Measuring Instruments Subject to Verification and Inspection

	Categories	Scopes
1	Taximeters	
2	Weighing instruments	<p>Non-automatic weighing instruments, automatic gravimetric filling weighing instruments and discontinuous totalizing automatic weighing instruments, excluding</p> <ol style="list-style-type: none"> (1) The weighing instruments of non-ricing 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 1 t. (5) Bathroom scales. (6) Weighing in motion non-automatic weighing instruments.
3	Non-Invasive mechanical sphygmomanometers	
4	Volumeters	<ol style="list-style-type: none"> (1) Liquid volumetric meters: metal measuring pails and measuring tanks marked with divisions; excluding the following measuring tanks: <ol style="list-style-type: none"> (i) Measuring tanks with a capacity of more than 110 m³; and (ii) Pressure measuring tanks. (2) Diaphragm gas meters, excluding gas meters with a maximum air flow of more than 100 m³/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 nominal diameter of more than 300 mm. (4) Oil meters provided for trading petroleum products, excluding oil meters with nominal diameter of more than 160 mm. (5) Liquefied petroleum gas flow meters.

5	Electricity meters	<p>Watt-hour meters, Var-hour meters, Watt-hour demand meters, Static electricity meters and Instrument transformers, excluding</p> <ol style="list-style-type: none"> (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	<ol style="list-style-type: none"> (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	<ol style="list-style-type: none"> (1) Breathe alcohol testers and analyzers for official inspection. (2) Rice grain moisture meters. (3) Field 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 4 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 1,000~10,000, 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	



Table 5 The Table Below Lists The Inter-Comparison Programs Of NML In 2019

	Comparison Sub-Field	Transfer Device(S)	Comparison Registered No. Or Comparison Country/Institute	Comparison Result With Explanation
1	Force	50 kN and 100 kN load cells measured in force standard machines	Key Comparison APMP.M.F-K2.a	Results approved for equivalence and listed in the BIPM KCDB website, and published in Metrologia, 2019, 56, Tech. Suppl., 07003 (9 January 2019).
2	Force	50 kN load cell measured in force standard machines	Key Comparison APMP.M.F-K2.b	Results approved for equivalence and listed in the BIPM KCDB website, and published in Metrologia, 2019, 56, Tech. Suppl., 07003 (9 January 2019).
3	Nano particles	Diameter of five different nano particles: 10 nm gold; 20 nm silver; and 30 nm, 100 nm, and 300 nm polystyrene	Supplementary Comparison APMP.L-S5 (Pilot by CMS/ITRI)	Results approved for equivalence and listed in the BIPM KCDB website, and published in Metrologia, 2019, 56, Tech. Suppl., 04004 (26 September 2019).
4	Low Pressure Gas Flow	Four laminar flow meters	Key Comparison CCM.FF-K6.2017 (Pilot by CMS/ITRI)	Comparison data processing and Draft A report writing in progress with the third measurement at NML completed in September 2019.
5	Acceleration Sensitivity	Single-ended servo accelerometer	Key Comparison APMP.AUV.V-K3.1 (Pilot by CMS/ITRI)	Comparison Draft B report writing completed by NML in September 2019, and reviewed by APMP TCAUV, revised in progress by NML as to the review comments.

6	Air Speed	Ultrasound air speed sensor	APMP.M.FF-K3 (Pilot by CMS/ITRI)	Comparison preparation with Protocol started by NML in August 2019, including consultation with participating NMLs, insurance for transfer device(s), giving questionnaire, scheduling, and confirmation of performance test for transfer device(s) etc.
7	DC Voltage	Three Zener diode standards	Key Comparison APMP.EM.BIPM-K11.5	Results approved for equivalence and listed in the BIPM KCDB website, and published in Metrologia, 2019, 56, Tech. Suppl., 01009 (12 July 2019).
8	Length of stainless steel tapes	Three stainless steel tapes (PTB) : 10 m and 50 m	Supplementary Comparison EURAMET.L-S27	Comparison in progress with the measurement at NML completed in June 2019.
9	Micro Fluid Flow	Mass flowmeter	Bilateral Comparison with Singapore/NMC	Comparison data processing and report writing in progress with the measurement at NML completed in May 2019.
10	Resistance	Resistors	Hybrid Comparison APMP.EM-H1.2019	Comparison data processing and report writing in progress with the measurement at NML completed in September 2019.

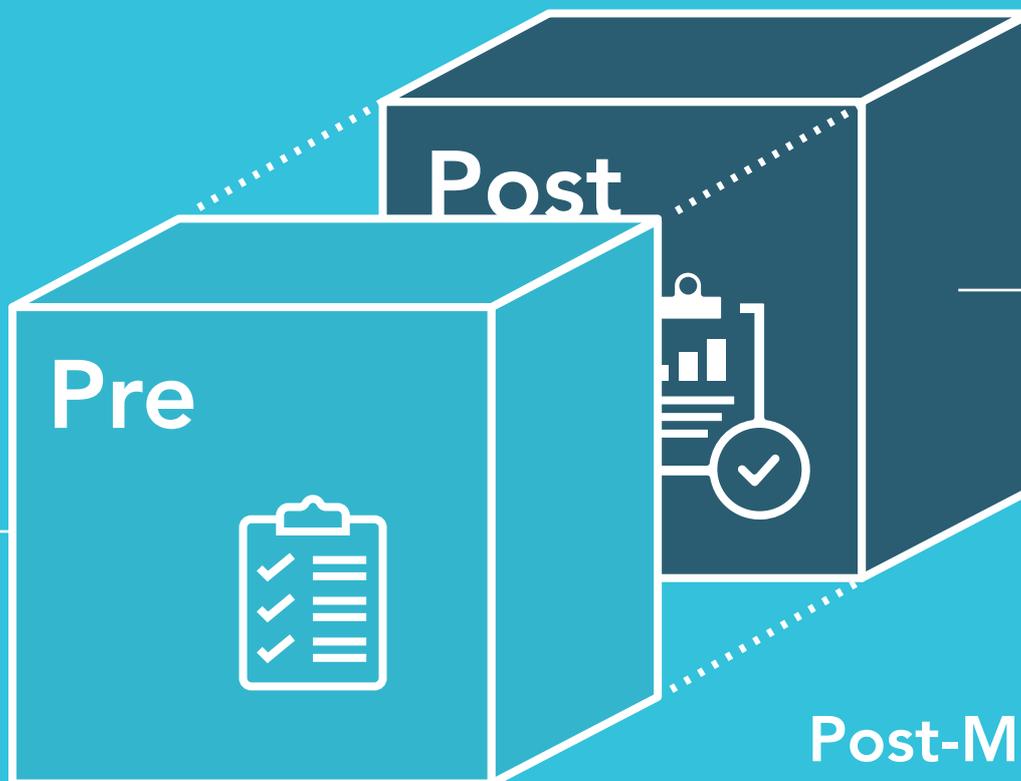
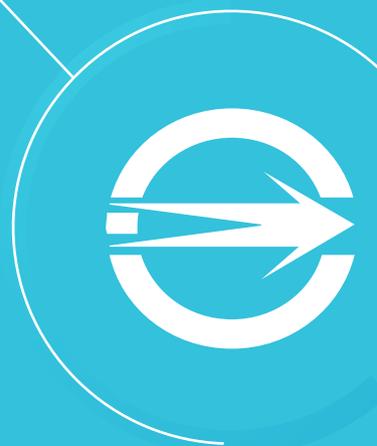
ACTIONS OF THE YEAR



Product Safety

Pre-Market

Batch-by-Batch Inspection
Monitoring Inspection
Registration of Product Certification (RPC)
Declaration of Conformity (DoC)



Post-Market

Market Checks
Sampling Tests
Incident Reports & Product Recall
Report from Volunteers & Consumers

PRODUCT SAFETY

The BSMI is one of the regulatory authorities in Taiwan. It operates mandatory inspection of products under the Commodity Inspection Act. Products fall under the jurisdiction of BSMI are mostly consumer-related commodities, including electrical & electronic products, mechanical products and chemical products. Commodities, both imported and domestically produced, that are announced being subject to regulatory control shall comply with relevant requirements before they are imported or placed on the market. Inspection of such commodities is carried out by the following four schemes, listed in the order of stringency from high to low, namely:

- Batch-by-Batch Inspection (including Type-Approved Batch Inspection);
- Monitoring Inspection;
- Registration of Product Certification (RPC); and
- Declaration of Conformity (DoC)

After these regulated products enter the marketplace, they are monitored by the BSMI post-market surveillance system. In addition, according to Consumer Protection Act, the BSMI also keeps an eye on those non-regulated products that are in the market or used by consumer to well protect public safety.



1. Pre-Market Measures

(I) Regulated Products

Products subject to mandatory inspection are required to follow the designated inspection schemes and comply with the applicable inspection standards. The Commodity Inspection Mark shall be affixed to all products that comply with regulatory inspection requirements.

The number of commodities subject to regulatory inspection was 1,253 by the end of 2019. Most of them were mechanical, electrical, electronic products, and textiles. (Detailed description of the product items are provided in Table 6).

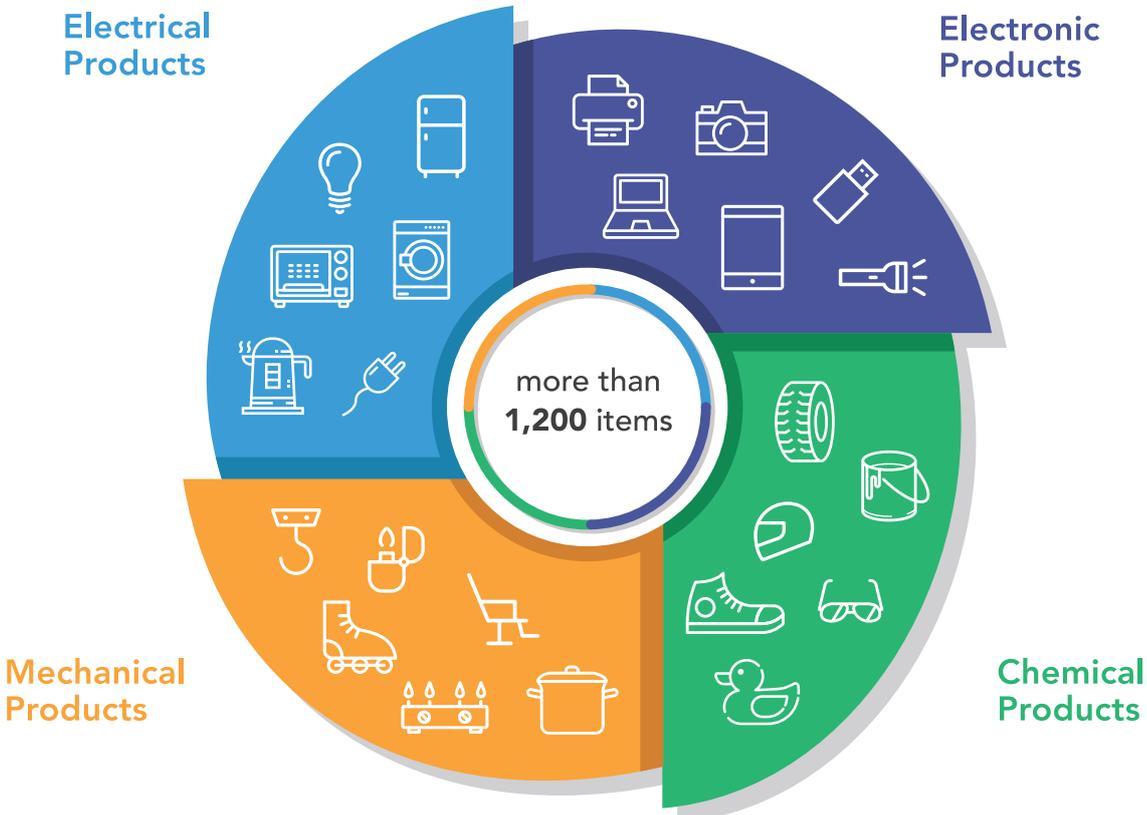
There were 537,594 batches of products inspected during the year, 98.7% of them being imported products, 56.6% being mechanical, electrical and electronic products.



Commodity Inspection Mark



Most regulated products of BSMI



(2) Changes to Technical Regulations

The BSMI periodically reviews its laws and regulations. In 2019, it changed more than 40 technical regulations, including those were newly adopted or amended, with the goal of enhancing protection both to consumers and environment that could keep abreast with the needs and developments of modern times. Products involved in these changes were mainly household electronic devices. As required by Commodity Inspection Act that requirements shall apply both to domestic and imported commodities, the BSMI has notified the World Trade Organization (WTO) about the proposed changes of regulations that could impact international trade ever since 2002 when Taiwan officially joined the WTO. The lists of made notification to the WTO during the year are listed in Table 7 to 9.

2. Post-Market Surveillance

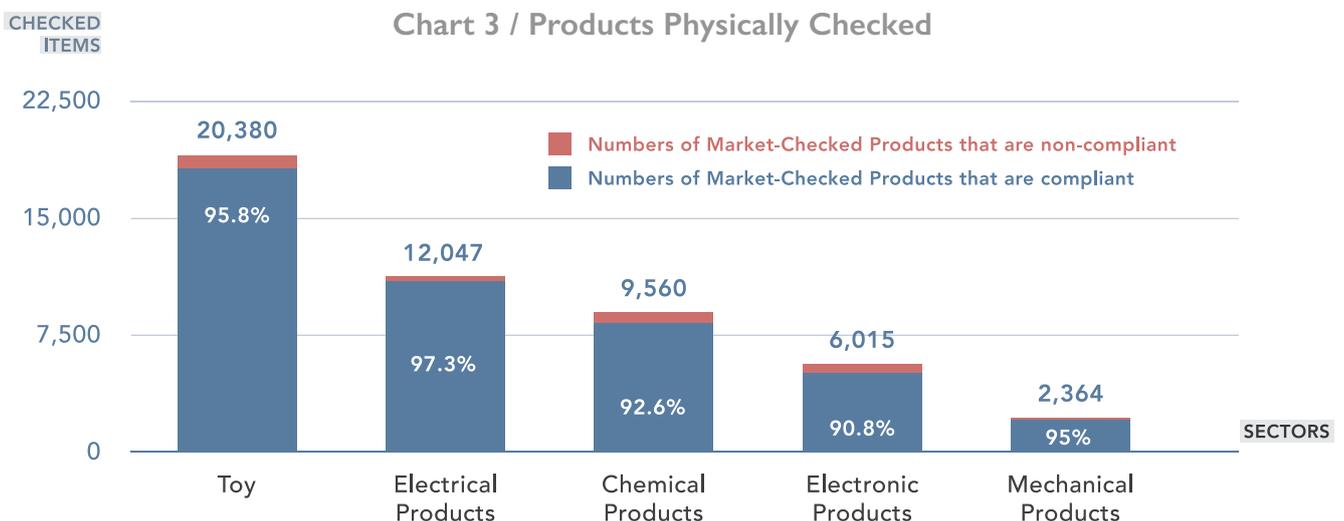
Post-market surveillance system is guided by an annual plan, prepared at the beginning of each year and forwarded to BSMI Branches located around the country for implementation. The annual plan identifies products of high risks and specifies principles for conducting surveillance activities. Market surveillance is performed by the 3 approaches listed below. Results of market surveillance activities and investigations into product incidents are used as references for making the next year’s annual plan.

- Market checks
- Sampling tests
- Incident reports & Product recall
- Report from volunteers and consumers

(I) Market Checks

The projects basically target products with high risks, with high frequencies of noncompliance and of concerns to the public. Such products in 2019 encompassed ceiling fan, airfryer, power banks, speakers, power supply, toys, bedding, sunglasses, baby and toddler clothing, 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.

In 2019, 60,693 products were market-checked for their compliance with relevant requirements, 47,808 of which were physically checked and the rest were checked over the Internet. For those physically checked, toys outnumbered other products, with the total of 19,534 items checked during the year. Compliance rate of electrical product is the highest, accounting for 97.3% of its own. The bar chart below illustrates the numbers of items checked and their respective compliance rate of the 5 sectors.



(2) Testing of Purchased Products

36 projects were implemented in 2019 to test 463 products purchased from the market. These projects focused on compliance of the products' critical features against national standards. For example, children's clothing was tested for the content of 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, rise of temperature, etc.

(3) Report From Volunteers & Consumers

The BSMI has been implementing a volunteer program since 1991 to recruit consumers to help uncover suspect products on the marketplace. These volunteers (700 in 2019) are important assets of the BSMI as they serve a bridge between the BSMI and consumers and help disseminate product safety knowledge. In 2019, volunteers reported 2,411 cases of regulated products that possibly violated relevant requirements, and 1,085 violations were confirmed, accounting for 45% of the reports.

Chart 4 / 2019 Reports from Volunteers



For reports made by consumers, there were 5,746 reports about suspect products in 2019, of which 93% of the total products were sold on the Internet, due to the prevalence of e-commerce. Products involved were mainly power banks, loudspeakers, and digital cameras that were imported for sale on the Internet without bearing the required labeling or marking information. The reports increased in 2019 because some popular products were required to be inspected during this year,

Chart 5 / 2019 Reports from Consumers



such as massage guns , wireless vacuum cleaners, electric shavers and car chargers (power supply for cigarette lighters).

To tackle the problem, the BSMI adopts several pragmatic approaches. These approaches include monitoring products sold on popular shopping websites, strengthening cooperation with online shopping platforms by imposing an obligation on the operators to ensure that information about the compliance of products with mandatory requirements is made available to consumers, and promoting safety awareness to consumers and sellers through social medias like facebook or App Line, in which we also disseminate timely safety messages about products that are of high concern to the public. In addition, the

BSMI is planning to target its online market inspection towards popular products sold on online shopping platforms with high evaluation comments and high sales volume.

(4) Incident Report & Product Recall

Timely incident reports are critical to avoid possible injury or serious accident from re-occurring. To encourage reporting, the BSMI operates a Product Safety Information Website allowing people involved in incidents, people with obligatory duty of reporting or volunteers, to upload the information on incidents caused by unsafe products. Investigation will be initiated

upon receipt of the reports. In 2019, the BSMI received 175 product incident reports, of which 149 were filed and investigated (the other 26 being either repeated cases, forwarded to the authorities in charge for processing, or not involving products). The website also provides unsafe product information on recalled products and violating products. The information is updated daily by the Bureau, sourcing from domestic companies and competent authorities of other countries. In 2019, 1,337 pieces of information were provided on the website. For product recall, the BSMI received 11 cases voluntarily issued by the industry in the year.



Product Safety Information Website and its QR code (<http://safety.bsmi.gov.tw>)



Table 6 Numbers and Inspected Batches of Regulated Products by Categories

Categories	Number of Product Items	Number of Inspected Batches
Total	1,253	537,594
Live animals and animal products	-	-
Vegetable products	-	-
Animal or vegetable fats and oils and their cleavage products; preserved edible fats; animal or vegetable waxes	-	-
Prepared foodstuffs; beverages, spirits and vinegar; tobacco and manufactured tobacco substitutes	-	-
Mineral products	22	2,326
Products of the chemical or allied industries	47	1,476
Plastics and articles thereof; rubber and articles thereof	47	9,170
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)	7	17,229
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	179	9,253
Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard; paper and paperboard and articles thereof	21	1,544
Textiles and textile articles	381	31,436
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	27	4,186
Articles of stone, plaster, cement, asbestos, mica or similar materials; ceramic products; glass and glassware	17	2,602
Base metals and articles of base metal	54	3,371
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	336	304,335
Vehicles, aircraft, vessels and associated transport equipment	7	7,385
Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; clocks and watches; musical instruments; parts and accessories thereof	15	3,166
Miscellaneous manufactured articles	93	140,115

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.

Table 7 Products Added to the List of Regulated Products in 2019

Product Items	Effective Date	Description
Power supply products for automotive cigar lighter (G/TBT/N/TPKM/314)	2019.01.01	Inspection standards CNS 14336-1, CNS 13438 and Section 5 of CNS 15663. Designated inspection schemes: RPC.
Chargers and secondary lithium batteries for electrical bicycles and electrical assisted bicycles.	2019.01.01	Inspection standards CNS 15425-1, CNS 15424-1, CNS 15424-2, CNS 15387, CNS 13438 and Section 5 of CNS 15663. Designated inspection schemes: RPC.
(G/TBT/N/TPKM/272)	2019.07.01	Inspection standards CNS 13604. Designated inspection schemes: RPC or TABI.
Hot rolled steel H-beams (G/TBT/N/TPKM/324)	2019.07.01	Inspection standards CNS 2473, CNS 2947, CNS 13812, CNS 4269, CNS 5083 and CNS 4620. Designated inspection schemes: RPC.
Hoses for gas (G/TBT/N/TPKM/330)	2019.07.01	Inspection standards CNS 15822, CNS 15996, and CNS 13814. Designated inspection schemes: RPC.

Table 8 Revisions to Technical Regulations in 2019

	Product Items	Effective Date	Description		
			Inspection Standards Updated	Inspection Standards Added	Inspection Scope Modified
1	Children's raincoats (G/TBT/N/TPKM/354)	2019.04.18	○		○
2	Suitcases (G/TBT/N/TPKM/368)	2019.05.14	○		○
3	Erasers (G/TBT/N/TPKM/379)	To be determined	○		○
4	Protective helmets for drivers and passengers of motorcycle and mopeds, protective helmets for pedal cyclists (G/TBT/N/TPKM/390)	To be determined	○	○	○
5	Toys (G/TBT/N/TPKM/391)	To be determined			○



**Table 9 Proposed and Adopted Technical Regulations
That Come into Effect in 2020 or a Later Time**

	Product Items	Effective Date	Description		
			Inspection Standards Updated	Additional Inspection Standards	Inspection Scope Modified
1	Wireless chargers (G/TBT/N/TPKM/352)	2020.01.01			○ New Added Product
2	Sunglasses and lens of sunglasses (G/TBT/N/TPKM/360)	2020.03.01	○		
3	Electric Cookers (G/TBT/N/TPKM/361)	2020.01.01	○	○	
4	Electric storage tank water heaters, air conditioners with hermetic type compressor (G/TBT/N/TPKM/362)	2020.07.01	○		
5	Folding tables (G/TBT/N/TPKM/381)	2020.07.01			○ New Added Product
6	Pressure regulators for liquefied petroleum gas (G/TBT/N/TPKM/382)	2020.05.01	○		
7	Steel bars for concrete reinforcement (G/TBT/N/TPKM/383)	2020.05.01	○		
8	Automobile light alloy disc wheels (G/TBT/N/TPKM/386)	2021.01.01			○ New Added Product
9	Eye-protection for protective helmets used in cycling, skating, skateboarding and roller skating (G/TBT/N/TPKM/387)	2020.04.01	○		○ New Added Product
10	Self-ballasted LED lamps (G/TBT/N/TPKM/388)	2021.01.01	○		
11	Children's cots and folding cots for domestic use (G/TBT/N/TPKM/393)	2020.07.01			○ New Added Product
12	Static converters and power supplies (G/TBT/N/TPKM/395)	2020.03.19			○

ACTIONS OF THE YEAR



Testing and Certification



Various Testing



Certification



Quality

TESTING AND CERTIFICATION

The BSMI takes an important role in the development of the national quality infrastructure in Taiwan. It maintains testing laboratories to support the regulated regime in terms of both pre-market control and post-market surveillance. The technical competence is also of great value to fulfill tasks required in national development projects. These have yielded a variety of services in the voluntary regime that are relied upon by other government agencies and industry.

1. Laboratories of BSMI in Brief

Laboratories of BSMI are located at the Headquarters and six Branches, which provide tests mainly for physical, chemical, electrical and electromagnetic compatibility properties of products. Laboratories in headquarters also serve as hubs for technical support to those in the Branches. To make the best use of resources, specialized laboratories have been established to avoid repetition and to build on the expertise in the specific fields. The followings are the specialized areas of BSMI's testing laboratories.

Head Office	Keelung Branch	Hsinchu Branch	Taichung Branch	Tainan Branch	Kaohsiung Branch	Hualien Branch
metallic materials	suitcases	lubricants	lithium batteries	mass calibration	paints	cement
circuit breakers	electric hand tools		baby walkers	electric appliances	wires and cables	
pressure vessels	small household appliances	gas appliances	safety belts for working at height	faucets	LPG	pressure cookers
electronic products	disposable lighters	luminaires	voltage and temperature calibration	water meters	fishery products for exports	
ceramic products			performance anomaly detection / analysis	lifting jacks	plywood	deep sea water
				personal protective equipment	metal composition	

2. Enhancement of Testing Competence

To keep pace with the emerging testing technologies, which bring 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. Third Party Certification for Renewable Energy", initiated in 2016, is one of the major project in recent year. It performs certification of offshore wind farms which are part of the focused new generation infrastructure under the National Forward-looking Infrastructure Development Program. The certification

provides investors, owners and operators with the assurance of wind farms in complying with relevant regulations and reduces the risk profile of wind projects. In 2019, the BSMI published "Offshore Wind Farm Certification Scheme". In addition, along with the completion of Taiwan's first offshore wind farm (named "Formosa 1"), the BSMI verified the certification at the year end.

For projects that the BSMI participated in 2019 and their brief descriptions are listed in Table 10.

3. Voluntary Certification Systems

The BSMI developed certification systems for industrial products, fishery products, and renewable energy 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, 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 2019, the VPC System contained 33 product items, most of them being electrical and electronic products (e.g. fluorescent lamps and starter holders, AC motor capacitors, switches, heat pump water heater, medium and small wind turbines, stationary training equipment, etc.). There were more than 275 certified products by the end of 2019. VPC certified products can demonstrate to the market their enhanced performance and reliable quality assurance.



Product with the VPC Mark

(2) Certification of Fishery Products Exported to Foreign Countries

The BSMI offers the services of issuing health certificates and implementing the HACCP certification. For health certificates, it demonstrates the compliance of Taiwan's processing establishments with the health and quality requirements of the trading partners. The HACCP certification is implemented to assist export of food products and fishery products to foreign countries. By the end of 2019, 4,558 health certificates were issued to 83 food processing plants.

The BSMI also serves as one of the national contact points to coordinate administrative arrangements relevant to registration of Taiwan's processing establishments and fishing vessels with European Union, Russia, and Brazil. The numbers of registered establishments and vessels are described in Table 11.



(3) Taiwan Renewable Energy Certificate (T-REC)

The National Renewable Energy Certificate Center within the BSMI was officially launched in 2017 with a key mission to issue Taiwan Renewable Energy Certificate (T-REC), which is an important tool for companies to demonstrate their commitment to Corporate Social Responsibility along with the efforts to protect the environment. Starting from May 2017 till the end of December 2019, the BSMI issued a total of 79,602 certificates (T-RECs), and 4,595 of them were traded in the market. Through the recognition by Taiwan Environmental Protection Administration (EPA) and the connected tracking system with the Taiwan's National Greenhouse Gas (GHG) Registry Platform, the BSMI aims not only to offer additional certificate tool for GHG recognition, but also to improve the certification system steadily and consistently. Based on the amendment to the Renewable Energy Development Act, the BSMI will optimize the matchmaking and transaction platform in early 2020 to provide more user-friendly functions.

The importance of renewable energy certification development was highlighted at the first Asia-Pacific Renewable Energy Market Summit held on July 9. The Summit brought together participants from different backgrounds and different perspectives, and formed common positions on future actions towards enhancing awareness and understanding of REC in the Asia-Pacific region.



Group photo of the first Asia-Pacific Renewable Energy Market Summit

(4) Photovoltaic Module Voluntary Product Certification

The BSMI undertakes the development of technical specifications according to the national green energy measures of building a large number of solar photovoltaic systems. It is actively working on the improvement of the quality and efficiency of solar photovoltaic modules by means of introducing voluntary product verification services. On July 12, the BSMI announced that regulation "Taiwan High Efficiency Solar Photovoltaic Module Technical Specification (PV Taiwan⁺)" was revised and became effective on the same day. By 2019, a total of 26 voluntary product verification certificates were issued, and 7 seminars on "Photovoltaic Module Testing Technology Conformance" were held to promote the services. The Bureau will keep up its work on the "PV Taiwan⁺" to go along with the industrial evolving needs.

4. Project Certification Review on Offshore Wind Farm

The BSMI published “Directions for Demonstration and Guidance on Reviewing Project Certification of Offshore Wind Farm Projects” on September 23, which required that offshore wind farm developers be reviewed for their implementation of project certification at each stage of the wind farm development so as to ensure the safety and quality of offshore wind farms. In this regulation, CNS 15176-22 is followed to be the standard of project certification, while CNS 15176-1 and CNS 15176-3 are adopted to take the specific climate and seabed conditions of Taiwan Strait (e.g., typhoon and earthquake) into account. In the end of 2019, the BSMI have completed the review of project certification of the first offshore wind farm (Formosa 1) in Taiwan.

The first offshore wind farm (Formosa 1) in Taiwan



Table 10 Participated National Programs on Science and Technology Development

Title of Category	Description of Projects
Third Party Certification and Testing Scheme	<ul style="list-style-type: none"> • Publication of "Directions for Demonstration and Guidance on Reviewing Project Certification of Offshore Wind Farm Projects", and performed project certification review for Formosa 1 wind farm • Offshore wind farm project certification, due diligence, and marine warranty survey • PV system outdoor test and geothermal productivity test
Smart Grid	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Establishment of off-shore wind turbine load measurement, power measurement and pitch system testing environment • Publication of standards for type testing and certification of wind turbines and power measurement techniques • Revision of standards for wind turbine design requirements by taking typhoon related impacts into account • Revision of standards for wind turbine design requirements by taking earthquake related impacts into account • Publication of "Directions for Demonstration and Guidance on Reviewing Project Certification of Offshore Wind Farm Projects", and performed one wind farm Project Certification review
Emerging Energy	<ul style="list-style-type: none"> • 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 of transformed bio-fuel or chemical materials testing technology • International cooperation on standards and certification for small wind turbines
Assistive Devices	<ul style="list-style-type: none"> • Elder care occupancy detector • Wheelchair power • Power raising toilet seat • Power raising shower chair

Table 11 Registered Establishments and Vessels of Taiwan

Areas / Countries	Processing Establishments	Fishing Vessels
European Union	33	198
Russia	20	25
Brazil	25	386

ACTIONS OF THE YEAR



International Cooperation



to work with
trading partners



through exchange
of information on
standards, regulatory
practices, and so on



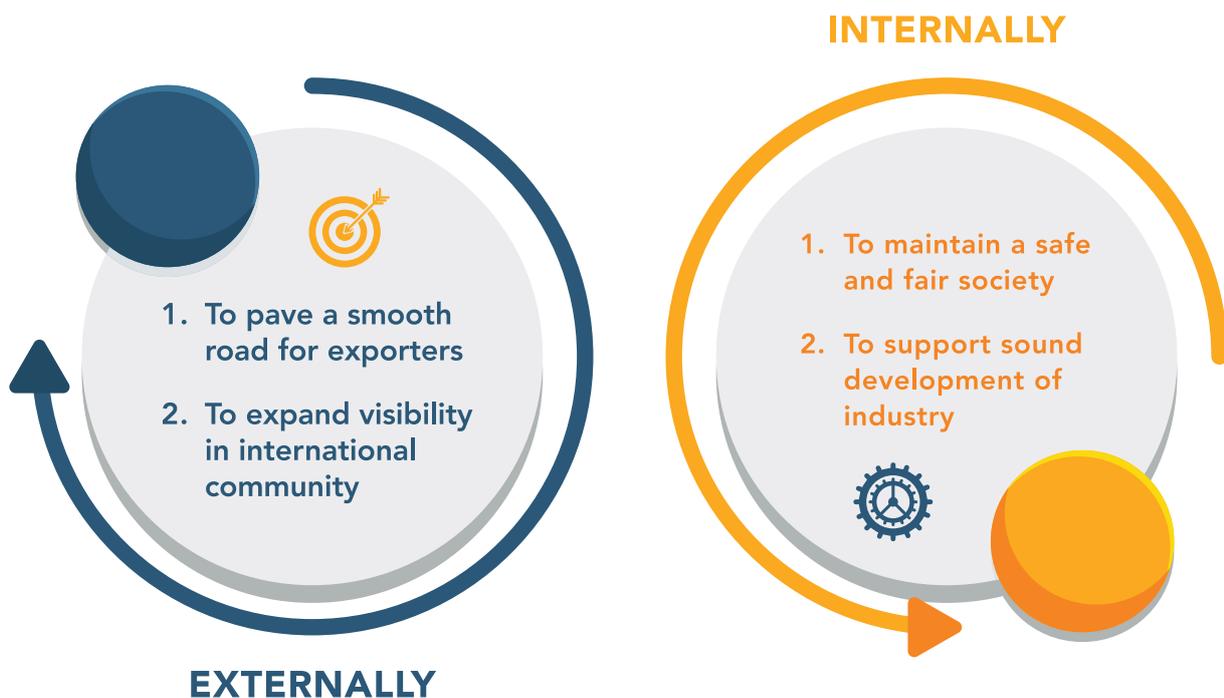
to ensure trade
facilitation



INTERNATIONAL COOPERATION

The different roles that BSMI takes in our national quality infrastructure have yielded a variety of international cooperation activities, which basically serve the goals that we would like to achieve both internally and externally.

Internally, we engage our partner countries in exchanges of information, practices and experts to maintain a safety and fair society, as well as to support sound development of industry. Externally, we spare no efforts to facilitate export of our products by reducing unnecessary conformity assessment costs. We also participate actively in the limited number of international organizations of which we are a member to enhance our visibility in the international community in this area.



1. Bilateral Cooperation

The BSMI's international cooperation activities on bilateral level mainly take the forms of negotiating of cooperative documents, convening formal meetings with counterpart organizations, holding joint workshops and providing training courses. The subject matters encompass a wide range of topics, which in addition to those under the BSMI's jurisdiction, may also involve the activities of other government bodies. The important activities in the year are highlighted below.

(I) Joint Activities

Joint workshops are of great value to have focused discussion on issues of interest to the BSMI and partner countries. They can be used to engage both sides in exchanging experiences from considerably extensive aspects. They also build bridges between stakeholders for further cooperation. Introduction to the regulatory systems by way of workshops makes it easier for exporters to understand technical regulations of the target market and complete conformity assessment procedures in a more efficient way. There were several featured events in 2019 as listed below.

- **Japan - The Second & The Third Annual Meeting on Product Safety**
Taiwan and Japan held meetings on product safety regularly under the Memorandum of Understanding signed in 2016. The second annual meeting was co-hosted by the BSMI, Trade and Industry (METI) and National Institute of Technology and Evaluation (NITE) in Taipei in January. The third annual meeting was held in Tokyo in December. Both sides discussed the product regulatory system on labelling, accidents and E-commerce, as well as shared the accident investigation experience on lithium ion batteries, dehumidifiers and instantaneous electric water heaters.
- **Philippines - Launch of Cooperation Based on the MRA**
On January 22 to 26, the BSMI received 5 delegates from the Bureau of Philippine Standards and the Philippine Accreditation Bureau. A seminar and bilateral meeting was held to share information on standards development and product safety schemes etc. In return, the Bureau of Philippine Standards received the BSMI delegations in Manila on May 27 to 31. Both sides held the 2nd seminar and bilateral meeting on MRA implementation, in particular the designation of the testing laboratories.
- **Israel - The First Coordination Committee Meeting**
Under the framework of Standardization, Conformity Assessment and Metrology Agreement between Taiwan and Israel, the BSMI and Standardization Administration, Ministry of Economy and Industry, Israel, jointly convened this Meeting in Taipei on March 26. The Meeting discussed issues encompassing both sides' systems and practices on standardization and product safety. A side event of the Meeting, Workshop on Israeli Product Safety System, was held back-to-back with more than 70 attendees from Taiwanese private sectors and government agencies.

Group photo of the BSMI and the BPS delegates at the bilateral meeting on MRA related matters in Malina



- **Malaysia - Meeting Regarding the Possibility of Cooperation between Taiwan and Malaysia**

The BSMI held a meeting with the Department of Standards Malaysia and the Energy Commission of Malaysia in Taipei on April 23. Both sides introduced the regulatory regime and practices of electrical and electronic products and shared information on accreditation and standardization systems respectively in order to explore feasible ways for cooperation.

- **Thailand - Bilateral Meeting with Thai Industrial Standards Institute (TISI), on Standards and Product Certification Scheme**

On June 10 to 14, the BSMI received 5 delegates from TISI for a bilateral meeting in the fields of standards and product certification scheme for toys and electrical products. Sharings of the ways relevant systems operate in Taiwan and Thailand helps facilitate alignment of regulatory systems.

- **Thailand - Visit from Department of Science Service (DSS), Ministry of Science and Research**

On September 24, the BSMI received 5 delegates from DSS for a discussion on Taiwan's National Quality Infrastructure of Taiwan. DSS appreciated the experience shared by the BSMI and expressed its usefulness to help promote Thailand's NQI in the near future.

- **U.S. CPSC - Consumer Product Safety Webinar**

Under the Memorandum of Understanding on consumer product safety matters signed in 2004, the BSMI and Consumer Product Safety Commission (CPSC) work together to organize joint activities on a regular basis. "Consumer Product Safety Webinar: U.S. Safety Requirements for Durable Infant or Toddler Products" was

held on September 30. In the webinar, the CPSC provided Taiwan industry stakeholders with an overview of safety rules and requirements that currently exist for durable infant or toddler products in the United States.

- **Singapore - Discussion Meeting on Standards Development**

The BSMI met delegates from the National Environment Agency of Singapore to share the information on standards development system and development of relevant standards on volatile organic compound emissions in Taiwan on October 1.



Group photo with delegates from Singapore

- **New Zealand - Workshop on Energy Efficiency**

To implement the TBT Chapter of the Economic Cooperation Agreement signed between Taiwan and New Zealand, a Workshop on Energy Efficiency was held in Taiwan on October 23. Around 70 people participated in the workshop, which provided comprehensive information on the regulatory approach to MEPS and future plans in New Zealand. A technical meeting was also held between experts of the two sides to exchange views on energy-related issues, including MEPS for LED and air-compressors, as well as Taiwan Renewable Energy Certificate System. Both sides agreed to work together in this area to facilitate trade by reducing duplication and costs.

- **GSO - Bilateral Meeting between the GSO and the BSMI**

On December 16 to 19, the President of GCC Standardization Organization (GSO), Mr. Saud Al-Khusaibi, visited Taiwan and had a meeting with the Director General of BSMI, Dr. Ching-Chang Lien. After the review of cooperation results, both sides agreed to continue current efforts and expand cooperation to other areas. A workshop introducing GSO's incoming technical regulations was held in the margins of the meeting.



Workshop on introducing GSO's incoming technical regulations

(2) Training Courses

The BSMI provides partner countries with training courses, which are tailored based on the needs identified, to assist them in developing a technical infrastructure in line with international practices. By sharing the ways relevant systems operate in Taiwan, we hope that trade can be facilitated as a result of alignment of regulatory systems.



- **Eswatini - Quality Infrastructure Exchange Visit**

On September 24 to October 4, the BSMI and relevant professional institutions organized a team of 10 experts to the Kingdom of Eswatini to conduct the quality infrastructure training courses with a view to assisting Eswatini in developing national quality infrastructure in line with international practices.

The training courses were designed based on discussion between both sides, including the areas of accreditation, standards development, management system certification and metrology by transferring theoretical knowledge, sharing practices and experience of relevant systems operated in Taiwan and visiting laboratories in Eswatini for providing practical trainings and advice.

Opening ceremony of training courses in Eswatini



- **Indonesia - Training Courses on Calibration and Testing of Non-automatic Weighing Instruments**

On December 2 to 6, the BSMI received a team of 5 delegates from the Directorate General of Consumer Protection and Trade Compliance, Ministry of Trade of Indonesia, for training courses on calibration and testing of non-automatic weighing instruments. The cooperation was part of the activities of a Memorandum of Understanding between Taiwan and Indonesia signed on August 24, 2018.

(3) Implementation of Mutual Recognition Arrangements (MRAs)

Taiwan has signed MRAs on conformity assessment results with 7 countries. They basically cover electrical and electronic products. While the ones with the United States, Canada and Australia only apply to recognition of test reports, the ones with New Zealand, Singapore and Japan are full-fledged, with recognition extending to certificates. Testing laboratories or certification bodies were designated under the MRA frameworks, which allow products for export to the other contracting party to be tested locally, thus saving time and costs for industry. The one with the Philippines was most recently signed and implementation details are under discussion.

Bilateral — Mutual Recognition

	Electronic Products	Electrical Products	Tyres
USA	EMC Test Reports		
Canada			
Australia			
Singapore	EMC + Safety Test Reports + Certificates		
New Zealand			
Japan			
The Philippines		EMC + Safety Test Reports	Test Reports

2. Multilateral Cooperation

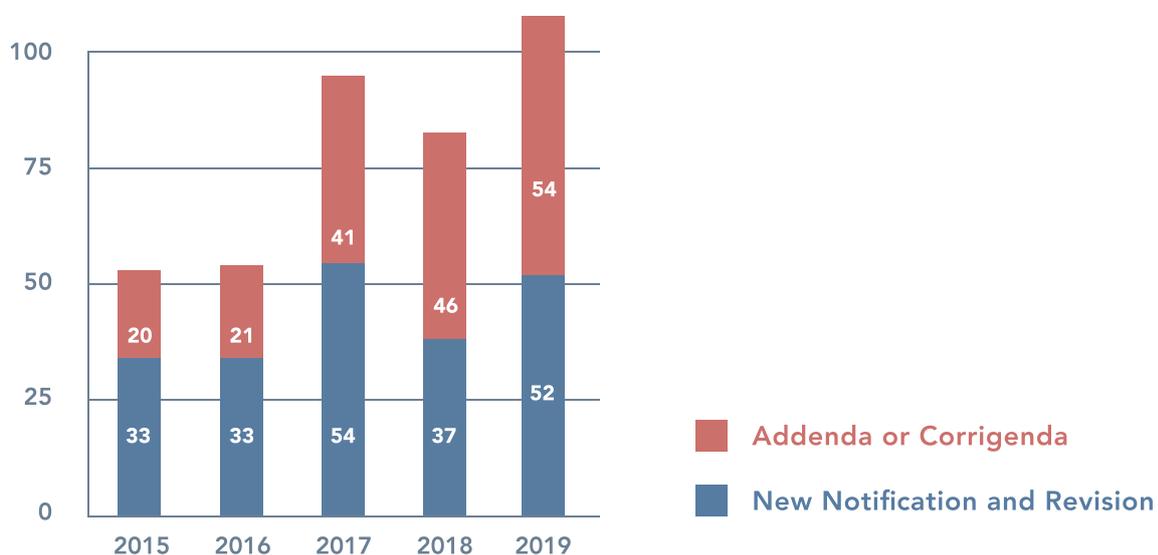
(I) Activities under WTO/TBT Agreement

- The BSMI operates the TBT Enquiry Point as required by the WTO Agreement on Technical Barriers to Trade (TBT). Five main functions are given by this enquiry point:
 - a. To disseminate and translate TBT notification circulated by WTO Secretariat;
 - b. To assist regulatory authorities in submitting TBT notifications and responding to comments and inquiries made by other WTO Members;
 - c. To assist domestic stakeholders in providing comments on adopted or proposed measures by other WTO Members and to respond to their inquiries;
 - d. To convene domestic inter-agency TBT committee meetings and coordinate views with different regulatory on issues being discussed at the WTO/TBT Committee meetings; and
 - e. To maintain domestic on-line TBT notification database.
- In 2019, the number of submitted notifications was 107, in which 55 were addenda or corrigenda and 52 were new notifications and revision.

- A presentation entitled “Practical Experience of Processing Requests” was made by the TBT Enquiry Point at the 9th Special Meeting on Procedures for Information Exchange, arranged by the WTO/TBT Committee on June 18-19. We shared our experience in a number of aspects: (1) practices and procedures for handling enquiries from WTO Members and domestic users, (2) difficulties encountered when processing enquiries, (3) suggestions for making the operation of enquiry points more efficient, and (4) a document containing web links to TBT-related information.



The delegate from the BSMI (first from the right) shared our experiences on operation of TBT Enquiry Point.



(2) Activities under APEC/SCSC

The BSMI is responsible for coordinating Taiwan's participation in activities of the Sub-Committee on Standard and Conformance (SCSC) of Asia-Pacific Economic Cooperation (APEC).

In 2019, two conferences were held in Taipei.

- The third workshop for the project "Capacity Building on Testing Methods for Functionality Finishing on Textile Products and Certification Methods within the APEC Region" (June 5-6)
- "2019 APEC International Workshop on Food Safety and Threat from New Psychoactive Substances" (June 11-12)

(3) Participation in International Event

The table below lists BSMI's participation in international events throughout the year.

Date	Name of Events
February 25-28	2019 ICPHSO Annual Meeting and Training Symposium, Washington, D.C., U.S.A.
February 26-27	APEC/SCSC 1 Meeting, Santiago, Chile
April 4-7	IAF-ILAC Joint Mid-Term Meetings, Mexico City, Mexico
June 3-7	2019 Joint IEEE EMC & APEMC Symposium, Japan
June 17-22	The APAC 2019 Annual Meetings, Singapore
June 18-21	WTO/TBT Committee Meeting, Geneva, Switzerland
August 15-22	APEC/SCSC 2 & JRAC Meeting, Puerto Varas, Chile
October 22-25	Annual Meeting of CIML, Bratislava, Slovak Republic
November 4-8	Meeting of ISO /TC39/SC2, London, UK
November 6-8	The 26th APLMF Forum and Working Group Meetings, Vietnam

Table 12 List of Cooperative Partners Based on Signed Agreement or MoU

Cooperation Items	Cooperation Partners
Mutual Recognition of Conformity Assessment Results	<ol style="list-style-type: none"> 1. United States Federal Communications Commission 2. Industry Canada 3. Australia Communication Authority 4. Directorate for Standards, Metrology and Quality of Viet Nam 5. New Zealand Ministry of Consumer Affairs, and New Zealand Radio Spectrum Management 6. Standards, Productivity and Innovation Board, Singapore 7. United States Environmental Protection Agency 8. Ministry of Economy, Trade and Industry, Japan 9. International Accreditation New Zealand 10. Bureau of Philippines Standards
General Cooperation (Information and Expert Exchange)	<ol style="list-style-type: none"> 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. Consumer Product Safety Commission, United States 6. Mongolian Agency for Standardization and Metrology 7. The Directorate for Standards and Quality, Viet Nam 8. The Austrian Standards Institute 9. Bureau of Philippine Standards 10. Standardization Administration of China, General Administration of Quality Supervision, Inspection and Quarantine; Certification and Accreditation Administration, Mainland China 11. Ministry of Business, Innovation and Employment, New Zealand 12. The Standards, Productivity and Innovation Board (Enterprise Singapore) 13. Slovak Office of Standards, Metrology and Testing, Slovak Republic 14. Standardization Administration under Ministry of Economy, Israel 15. Standards Organization of Nigeria 16. National Institute of Technology and Evaluation, Japan 17. The Standards and Metrology Institute for the Islamic Countries (SMIIC)

Cooperation Items	Cooperation Partners
Standards	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 1. Saudi Standards, Metrology and Quality Organization 2. GCC Standardization Organization 3. Regulatory and Quality Infrastructure Development Department under the Ministry of Commerce, Industry and Trade, eSwatini 4. Directorate General of Consumer Protection and Trade Compliance, Ministry of trade of Indonesia



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**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
WEB www.bsmi.gov.tw

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