

**For discussion
on 17 November 2015**

**Legislative Council
Panel on Commerce and Industry**

Latest Development of the Testing and Certification Industry

PURPOSE

This paper informs Members of the latest development of Hong Kong's testing and certification (T&C) industry since the last report to the Panel in November 2013.

BACKGROUND

2. The T&C industry plays an important role in supporting our external trade and contributes to economic development. It also provides essential services to the local community. The range of services provided by the industry is broad and it typically provides three types of services: testing, inspection, and certification.

3. In recognition of the importance and potential of the T&C industry, the Government set up the Hong Kong Council for Testing and Certification (HKCTC) in 2009 as an advisory body that acts as a focal point among relevant stakeholders and advises the Government on development strategies and measures to promote the local T&C industry.

LATEST STATISTICS

4. Based on the latest available survey results from the Census and Statistics Department, there was steady growth of the local testing and

certification industry from 2008 to 2013.¹ The table below set out the business receipts figures of 2011 as last reported to this Panel and other years. The cumulative growth was 51%, as compared to the growth of 25% in the overall GDP of Hong Kong in the same period -

	2008	2009	2010	2011	2012	2013
Business receipts (\$, billion)	7.8	8.6	8.9	10.8	10.9	11.8

The number of persons engaged by private independent T&C establishments remains at around 13 000 persons and there are about 600 such establishments. In addition to its direct contribution, the industry also supports the manufacturing, export and other service industries, and is thus an integral part of the overall supply chain.

FOSTERING A CONDUCTIVE ENVIRONMENT

5. While the business of the T&C industry depends very much on the economic situations and regulatory requirements of our major trading partners, the Government and the HKCTC will continue to adopt a market-oriented approach and work with the industry to preserve our good reputation and professionalism, and create a conducive environment for the sector. The following paragraphs elaborate the efforts made since the last report to the Panel in November 2013.

Improvements to Accreditation Service

6. Accreditation provides formal recognition of the competence of a T&C establishment. It is the cornerstone of Hong Kong's T&C industry, and adds to the credibility of results issued by T&C establishments. In Hong Kong, accreditation service is provided by the

¹ Figures for the whole year of 2014 are not yet available and will be published in early 2016.

Hong Kong Accreditation Service (HKAS) under the Innovation and Technology Commission (ITC). The high standard maintained by HKAS is valued by users in Hong Kong and abroad.

7. HKAS represents Hong Kong on the International Accreditation Forum and International Laboratory Accreditation Cooperation. Through joining multilateral recognition arrangements (MLAs) and mutual recognition arrangements (MRAs) administered by international and regional accreditation co-operation bodies, endorsed test reports and accredited certificates issued by organisations accredited by the HKAS are now recognised by over 90 accreditation bodies in more than 70 economies, including all our major trading partners. Such multilateral arrangement greatly facilitates the acceptance of the results of our T&C establishments outside Hong Kong. Since our last report to the Panel, the HKAS has extended its Asia Pacific Laboratory Accreditation Cooperation (APLAC) MRA to cover accreditation of proficiency testing providers, and extended its Pacific Accreditation Cooperation (PAC) MLA to cover greenhouse gas validation and verification. The HKAS also fostered cooperation with the GCC² Accreditation Center and with the accreditation body in Taiwan by entering into a Memorandum of Understanding with each of them in 2015.

8. The HKAS has also extended its accreditation service to conformity assessment bodies in new areas as set out below –

- (a) verification of greenhouse gas assertions at product level;
- (b) certification of energy management systems (EnMS) to ISO 50003 in conjunction with ISO 17021 for accreditation of EnMS certification bodies;
- (c) operation of Chinese Materia Medica (CMM) certification scheme;

² GCC stands for the Cooperation Council for the Arab States of the Gulf.

- (d) performing testing under the Supplement X to the Mainland and Hong Kong Closer Economic Partnership Arrangement (CEPA);
- (e) performing testing under the Agreement between the Mainland and Hong Kong on Achieving Basic Liberalisation of Trade in Services in Guangdong (Guangdong Agreement) signed under the framework of CEPA;
- (f) operation of construction product certification schemes on water closet suites and unplasticised polyvinyl chloride (uPVC) pipes and fittings for foul water drainage; and
- (g) testing of lead content in solder or filler metal used in soldering, brazing and welding construction methods.

HKAS will keep in view the needs of the T&C industry and the society when considering whether to provide new accreditation service.

9. To enhance the professional knowledge of local practitioners and raise the international profile of Hong Kong's T&C industry, the HKCTC and the HKAS have been organising training, workshops, seminars and conferences from time to time. The HKAS also regularly reviews and updates accreditation criteria documents to assist accredited organisations in operating to new accreditation and technical standards.

Measure to Facilitate Testing Laboratory Operation in Industrial Buildings

10. T&C establishments are usually located in industrial buildings. The leases of many industrial buildings contain user restriction clauses where testing and calibration laboratories would need to apply for a waiver from Lands Department in order to operate.

11. To facilitate the operation of testing and calibration laboratories in industrial buildings, the Government has decided to forgo

the waiver fees that would otherwise be chargeable³ for issuing waivers to accommodate T&C uses. The waivers would allow the use of the entire or part of industrial buildings, irrespective of their age, as testing laboratories for the lifetime of the buildings concerned, or until expiry or termination of the current land leases, whichever is earlier, if such use is permitted by the current land use zoning of the site on the statutory plans, or granted planning permission by the Town Planning Board, or is considered as an existing use in terms of planning control.

12. This measure was formulated after taking into account the views of the T&C industry and HKCTC. It aims at allowing testing and calibration laboratories more choices of suitable premises in the market by addressing existing industrial land lease constraints. We have informed the industry about the new measure and it would be implemented by March 2016.

Enhancements to Manpower, Capital and Technology

13. Together with different stakeholders, the Government have also been making efforts in the following areas that are important to the T&C industry.

Manpower

14. It is important to increase students' awareness and understanding of the industry at an early stage. During the past two years, the HKCTC has continued to organise career talks for students of local universities and the Vocational Training Council (VTC). It has arranged for secondary school students to visit testing laboratories and, beginning from 2014, organised seminars in secondary schools. It also coordinated the offer of 350 internship places in accredited T&C establishments during the summer of 2014 and 2015. In addition, the VTC has organised career talks and visits to testing laboratories, and initiated a Pilot Training and

³ Normally a waiver fee is assessed on the basis of enhancement in rental value of the premises by virtue of the waiver.

Support Scheme for laboratory technicians in 2015. Under the scheme, VTC students will receive a monthly stipend while on training in a T&C establishment as apprentices. The Open University of Hong Kong launched Hong Kong's first full-time undergraduate programme dedicated to testing and certification in 2013. Starting from the 2015/16 academic year, students of the programme are eligible to receive subsidy from the Government's Study Subsidy Scheme for Designated Professions and Sectors.

15. For practitioners, HKCTC has continued to collaborate with the HKAS, relevant Government departments and public bodies to enhance their skills and professionalism. More than 65 training events have been organised since November 2013. HKCTC has also been working with the Independent Commission Against Corruption to promote 'Corruption Prevention Guide for Testing and Certification Industry'. HKAS now requires all its accredited organisations to develop and implement a code of conduct based on the Guide.

16. In July 2014, the Qualifications Framework (QF) released the Specification of Competency Standards (SCS) for Testing, Inspection and Certification Industry, which aims to provide a coherent and consistent set of benchmarks for various capabilities that the industry needs. It can be used by training providers to develop recognised training programmes and related qualifications to promote lifelong learning for sustainable manpower development in the industry. The SCS is also used by assessment agencies appointed by Education Bureau for recognition of prior learning of practitioners in this industry. Currently, the Open University of Hong Kong is the Appointed Assessment Agency for the industry.

17. We believe that the above initiatives would help the T&C industry in recruiting, retaining, and upgrading its talents, and help the industry to stay competitive in the labour market.

Enhancement to Capital and Technology

18. The HKCTC and ITC have been encouraging wider use of the Innovation and Technology Fund (ITF) for research and development of new testing technologies. Since November 2013, a total of 11 new ITF projects related to T&C were supported by ITF with total approved funding of \$24.29 million. In April 2015, the ITC launched the new Enterprise Support Scheme (ESS) under ITF which provides a dollar-for-dollar matching funding of up to \$10 million for each project to encourage the private sector to invest in research and development. Similar to other ITF funding schemes, 'testing and certification' is also featured as a technology area eligible under the ESS.

19. In addition, the Hong Kong Productivity Council (HKPC) and the Hong Kong Science Park (Science Park) jointly launched the 'Lab Test One' initiative in 2013. It allows private testing laboratories to use the laboratory facilities and equipment at the HKPC and the Science Park for a fee. In 2015, the 'Lab Test One' has expanded its coverage to 36 testing laboratories in the public sector and a new web portal was launched.

20. In an effort to promote participation of local practitioners in the production of international standards and to provide opportunities for them to interact with their overseas counterparts, with the support from HKCTC, the ITC will host the 31st International Organization for Standardization (ISO) Technical Committee 176 (ISO/TC 176) Plenary Meeting in Hong Kong from 21 to 28 November 2015. This week-long meeting will discuss matters related to standards on quality management and quality assurance (i.e. the ISO 9000 series of standards). The local industry will join delegates from around the world and attend the meeting to keep abreast of the latest developments in this area. Separately, the ITC will continue to invite locally accredited T&C establishments, universities, Research and Development Centres as well as trade associations to nominate experts to participate in various ISO Technical Committees. There are 149 Hong Kong experts serving on these Committees (as of October 2015), compared to 72 experts in April 2010.

PROMOTIONAL EFFORTS

Specific Trades

21. A significant share of the business receipts of the local T&C industry comes from providing testing services, in particular for more mature trades such as toys, clothing and textiles. The HKCTC advised in 2010 that it would be desirable to explore new trades where there is potential demand for T&C services, and after taking into account factors such as the potential benefit to the society and the promotion of the concerned trades, and the interest and capability of the T&C sector in providing services for these trades, six trades have been identified⁴ and efforts have been made over the past few years to promote T&C services to those trades. Highlights of major developments are set out at **Annex A**. The HKCTC will keep in view the development of different trades and advise the Government of new business opportunities for the T&C industry.

Mainland Market

22. Measures on the opening of Mainland market to Hong Kong's T&C industry was first introduced in 2010 when CEPA Supplement VII was signed. Since then, three supplements and a new agreement under CEPA have been ratified. Different measures to facilitate Hong Kong's T&C industry have been progressively introduced. Hong Kong testing laboratories accredited by the HKAS are now allowed to cooperate with Mainland certification bodies to undertake testing for the China Compulsory Certification (CCC) System for products processed in Hong Kong. As of October 2015, the HKAS has accredited 11 Hong Kong testing laboratories as being capable of performing CCC testing. Six of these have since entered into co-operation agreements with Mainland certification bodies for undertaking CCC testing.

⁴ The six trades are Chinese medicines, construction materials, food, jewellery, environmental protection, and information and communications technologies.

23. Under CEPA, the Guangdong Agreement was signed in December 2014 and has been implemented since March 2015. It allows, for the first time, products under the CCC System which are processed or manufactured in Guangdong to be tested in Hong Kong. Under the Agreement, testing laboratories in Hong Kong are allowed to cooperate with designated Mainland certification bodies to undertake testing of products in the ‘audio and visual apparatus’ category of the CCC System which are designed and prototyped in Hong Kong, as well as processed or manufactured in Guangdong Province. The scope of testing services that can be provided by Hong Kong testing laboratories in the area of voluntary certification has been expanded to products manufactured or processed in Hong Kong or Mainland. Moreover, with respect to the mode of commercial presence, the Guangdong Agreement in general offers establishments set up by Hong Kong’s testing and certification industry in Guangdong Province the same treatment as accorded to Mainland enterprises.

24. ITC will continue to discuss with the relevant Central Authorities on suitable facilitation measures for the T&C industry. We will engage industry stakeholders and seek the advice of HKCTC in the process.

‘Tested in Hong Kong, Certified in Hong Kong’

25. HKCTC has been promoting the T&C industry to potential service users through different channels such as promotion booths, booklets, photo exhibitions, magazines and newspapers. Since November 2013, HKCTC has joined 30 trade fairs in Hong Kong, four on the Mainland and one in Indonesia. HKCTC will continue to enrich the exhibitions and invite T&C bodies to participate. All these activities will help bring the industry to a wider audience beyond its traditional services users. Snapshots of various efforts are at **Annex B**.

26. HKCTC has also collaborated with the Hong Kong Trade Development Council (HKTDC) to promote T&C services by displaying promotional materials at 45 trade fairs internationally since November

2013. HKCTC, in collaboration with HKAS, HKTDC and the Hong Kong Association of Testing, Inspection and Certification, have arranged 10 seminars and a laboratory visit to promote T&C services to buyers and manufacturers attending HKTDC's local trade fairs.

27. The ISO/TC 176 Plenary Meeting as mentioned in paragraph 20 above would also provide a good opportunity to showcase Hong Kong's T&C industry among international experts.

28. Apart from producing promotional materials, HKCTC also held an exhibition in collaboration with the Hong Kong Science Museum during February and March 2015 to promote testing and certification, and distributed a comic booklet which introduces the T&C industry to the public in a more interesting manner.

ADVICE SOUGHT

29. Members are invited to note the latest development of the T&C industry.

**Innovation and Technology Commission
November 2015**

Specific Trades

Major developments in promoting T&C services in the following trades during the past two years are elaborated in this annex –

- (a) Chinese medicines
- (b) Construction materials
- (c) Environmental protection
- (d) Information and communications technologies
- (e) Food
- (f) Jewellery

Development and Promotion of New Testing and Certification Services

2. The HKCTC supported the development of new testing methods and certification schemes. Notably –

- (a) the HKPC completed the development of a Chinese medicine product certification scheme in 2014 with funding support from the ITF. The first certificate has been awarded to a local Chinese medicine trader in October 2015 for two types of Chinese medicines. The HKPC and the HKCTC are working closely in promoting the scheme through various channels;
- (b) a total of 15 product conformity certification schemes (PCCS) for different construction materials have been developed in the past. Recognising the benefits of PCCS in ensuring building quality, the Housing Department is spearheading the use of certified construction materials. It now requires certification for 10 types of construction materials. New PCCS for six construction materials are expected to be rolled out by the end of this year. The Architectural Services Department has been implementing a pilot run with certified construction materials since late 2013; and
- (c) the Gemmological Association of Hong Kong (GAHK)

completed the development of a consolidated set of standard testing methods for Fei Cui (翡翠, or commonly referred to as 'jade') in 2014 to meet the needs arising from the Trade Descriptions Ordinance (Cap. 362).

3. With increasing concern on climate change and energy efficiency, energy management system certification is gaining recognition around the world. ISO 50001 is a relatively new international standard issued in 2011 that specifies requirements for establishing, implementing, maintaining and improving an energy management system. The Hong Kong Housing Authority has imposed ISO 50001 certification requirements for its contractors under specific lists since 2014. In view of its growing usage, the HKCTC held a seminar on ISO 50001 in February 2014 to introduce it to potential users. HKCTC subsequently arranged two visits to Science Park in 2014 and 2015 respectively to introduce the Park's experience in ISO 50001 certification to interested parties.

4. Certification of information security management system (ISMS) to ISO 27001 standard is not widely adopted in Hong Kong. ISO 27001 assists an organisation to assess and treat its information security risks, but cost and human resource implications are likely concerns of potential users that prevent its wider adoption. To promote this standard and to introduce the concepts and advantages of ISMS certification, HKCTC held a workshop in 2015 for potential users to learn about the detailed steps involved in preparing for ISO 27001.

Enhancement of Technical Capability

5. With the support from Government Laboratory, the HKCTC completed the second inter-laboratory comparison exercise on 12 Chinese Materia Medica (CMM) in 2015. Through the exercise, participating testing laboratories were able to assess their own technical competence by comparing testing results with others. With ITF's funding support, six local universities have collaborated and started a study in 2015 about the feasibility of grouping CMM into different categories with similar properties or to specific testing requirements. If the grouping is found to

be feasible, it would reduce the number of proficiency tests required and hence facilitate laboratories in obtaining accreditation for CMM testing. As of October 2015, seven laboratories have been accredited for tests according to Hong Kong Chinese Materia Medica Standards.

6. HKAS has also organised proficiency tests for construction materials testing laboratories with a view to enhancing practitioners' capabilities and supporting testing service needs. During the past two years, two proficiency tests have been organised for infrared thermography and bituminous materials. To enhance the professionalism of auditors, the Hong Kong Institution of Certified Auditors obtained funding support from the SME Development Fund in September 2014 to develop a certification scheme for auditors of quality management systems in Hong Kong.

7. On food safety testing, during the past two years, the Government Laboratory has organised five proficiency tests and produced two certified reference materials of food that are not readily available commercially.

8. In 2013, the Standing Committee on Concrete Technology under the Development Bureau released Construction Standard 3 on aggregates for concrete. Since then, HKAS has updated its accreditation services to this new standard. In 2014 and 2015, four construction materials-related technical seminars were held including a sharing session on Construction Standard 3 to bring T&C establishments up to date on different requirements.

Sharing of Knowledge and Promotion

9. The HKCTC serves as a platform for sharing of information on matters related to T&C among stakeholders. Panels set up under HKCTC shared new techniques or other trade related information and exchanged views on different matters from time to time. Where necessary, Government departments also consult the T&C industry at HKCTC, for example, views from the HKCTC on the 'Legislative proposals on Regulation of Edible Fats and Oils and Recycling of "Waste

Cooking Oils” were conveyed to the Centre for Food Safety in September 2015.

10. In collaboration with the T&C industry and other parties, the HKCTC produces booklets and pamphlets to promote T&C services to users/ potential users. A booklet introducing food testing was published by HKCTC as a collaborative effort with the local T&C industry. The booklet introduces the services that local T&C establishments are capable to provide. It has been distributed at trade fairs. Visits to trade associations, companies and public organisations were also conducted.

Other efforts and collaboration

11. To further support the adoption of PCCS by the construction industry, and in view that the PCCS belong to different owners and some schemes are due for an update, the Construction Industry Council (CIC) has recently indicated interest in taking up a more proactive role by helping with the coordination, updating and promotion of the PCCS currently available. HKCTC would liaise with CIC and explore this feasibility.

12. On software testing, in line with the direction to promote T&C service in ICT, the HKPC opened the Hong Kong Software Testing and Certification Centre in December 2013. The Centre offers a range of services including testing solution demonstration, functional and performance testing, code scanning, technical support, training as well as research. One of its goals is to promote T&C in ICT in Hong Kong. Separately, the Office of the Government Chief Information Officer (OGCIO) has started including ‘information security and independent testing services’ as a service category in Government’s procurement. OGCIO also hosted the ISO/International Electrotechnical Commission Joint Technical Committee 1/ Subcommittee 27 (SC 27) Meeting in April 2014. SC 27 creates and manages standards in the area of information security, including ISO 27001 standard.

Efforts in Promoting Hong Kong's Testing and Certification Industry



InnoCarnival 2014



Trade Fairs



Comic Booklet on Testing and Certification