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25 July 2018

Mr Desmond LAM
Clerk to Panel on Commerce and Industry
Legislative Council Complex
1 Legislative Council Road
Central, Hong Kong

Dear Mr Lam,

**Panel on Commerce and Industry
Meeting on 27 February 2018**

Latest Development of the Testing and Certification Industry

At the meeting held on 27 February 2018, the Panel discussed the latest development of the testing and certification industry in Hong Kong. The Panel requested the Administration to provide supplementary information on some issues after the meeting. After consulting the Education Bureau on point (c) concerning the Qualifications Framework, our response is set out in the **Annex**.

Yours sincerely,



(Ms Jane Lee)

for Commissioner for Innovation and Technology

c.c. Secretary for Education (Attn.: Mr Martin WONG)

The Administration's Response in relation to
the Panel's discussion on
Latest Development of the Testing and Certification (T&C) Industry
on 27 February 2018

- (a) **Information on the courses dedicated to the T&C industry offered by the tertiary education sector and the number of graduates of such courses joining the industry; and the Administration's effort in encouraging students to take relevant subjects (e.g. Chemistry) in secondary schools and enhancing students' interests in the T&C sector.**

Courses dedicated to the T&C and graduates joining the T&C sector

A number of tertiary institutions are offering courses dedicated to the T&C sector, ranging from master's degree to higher diploma courses. The list is available at the **Appendix**.

In 2017, the Open University of Hong Kong (OUHK) had around 120 graduates from its T&C-related bachelor's degree programmes (including full-time four-year and top-up programmes). According to a survey OUHK conducted on these graduates in mid-2017, over 60% of the respondents had joined testing laboratories while around 15% would pursue further studies.

Besides its course "Higher Diploma in Testing and Certification", the Vocational Training Council offers eight other higher diploma courses with graduates often entering the T&C sector. Altogether these courses provide around 500 graduates each year. Among the graduates in 2017, around 30% have joined the T&C sector.

We do not have statistics on the jobs taken up by graduates of other T&C-related courses.

Measures taken in enhancing students' interests in T&C

The Hong Kong Council for Testing and Certification (HKCTC) launched

a teaching kit for use by senior secondary chemistry teachers in June 2016. Through introducing basic chemical testing concepts in class, it aims to apprise students the value of T&C. In addition, the HKCTC has been organising career talks, laboratory visits, as well as co-organising student competitions with different parties for secondary school students. These initiatives help to enrich the younger generation's knowledge on T&C, thereby stimulating their interests in joining the industry in the future.

(b) Would the Administration consider developing relevant accreditation and T&C services for innovation and innovation management in various industries?

In response to market needs, the International Organisation for Standardisation (ISO) brings together technical experts and develops relevant standards from time to time. For instance, a technical committee under ISO (i.e. ISO/TC 279) was formed in 2013 to discuss and develop standards relating to innovation management. One of the observing members of this technical committee is a local industry practitioner. Seven standards relating to innovation management are currently under development.

In general, to make use of T&C services to confirm compliance with relevant international/ local standards and promote customers' confidence, certification schemes might be devised for specific products, services or processes. While Hong Kong is already making use of certifications of a number of widely recognised international standards (e.g. certifications of ISO 9001 Quality Management System, ISO 14001 Environmental Management System, and ISO 45001 Occupational Health and Safety Management Systems), there are also certification schemes developed locally on a wide range of products and services. They are usually developed by professional associations or certification bodies. Interested parties may take into account the unique circumstances of the target segment and potential customer's needs to consider developing a certification scheme on innovation management or other processes or systems.

- (c) Would the Administration suitably adjust the requirements of the qualification framework to align with the practical needs of the relevant industries, including the beauty and hairdressing industry?**

According to the information provided by the Education Bureau, the Administration has set up Industry Training Advisory Committees (ITACs) under the Hong Kong Qualifications Framework (QF) for 23 industries, of which 19 industries (including beauty and hairdressing industry) have drawn up their Specification of Competency Standards (SCSs) to set out the skills, knowledge and outcome standards required of employees in different functional areas of the respective sectors to facilitate the formulation of training programmes for recognition under the QF. The ITACs will regularly review the SCSs developed and update them if necessary to reflect the development of the industries.

Besides, the pilot projects on the development of vocational qualifications pathway (VQP) for the automotive, banking and property management industries were completed in 2017. The vocational qualifications developed will further link up QF-recognised qualifications to the workplace, attract new blood and encourage practitioners to pursue learning and upgrading. Based on the outcomes of these pilot projects, some education and training providers are preparing to accredit and deliver the vocational qualifications developed for manpower training. In the meantime, the Administration will extend the VQP development to other industries as appropriate and in phases, in consultation with relevant ITACs to ascertain their readiness in doing so.

- (d) How would the Administration make use of T&C to upgrade Hong Kong's overall quality assurance systems, e.g. by implementing market surveillance audit to inspect the integrity and quality performance of auditors and certification bodies?**
- (e) How would the Administration make use of T&C and accreditation services to contribute to the branding and marketing promotion of Hong Kong's products and services?**

To facilitate quality assurance

Accreditation is an official recognition of the competence of a T&C establishment in carrying out specific conformity assessment tasks. The Hong Kong Accreditation Service (HKAS) under the Innovation and Technology Commission (ITC), as Hong Kong's accreditation body, is providing a wide range of accreditation service to T&C bodies.

Market surveillance refers to a short visit carried out by an accreditation body to an organisation which has obtained certification from an accredited certification body. The aim is to evaluate the effectiveness of the accredited certification process. In the absence of an expressed agreement from the organisation obtaining the certification, HKAS cannot conduct market surveillance on it. However, to ensure the capability and integrity of auditors and the accredited certification bodies that they work for, HKAS has been conducting interviews, witnessing assessments, surveillance visits and re-assessments on accredited T&C bodies. This practice is consistent with international standard, ISO/IEC 17011 "Conformity assessment – Requirements for accreditation bodies accrediting conformity assessment bodies".

A number of Government Departments have been making good use of T&C services to carry out quality improvement/assurance initiatives. For example, the Housing Department has been spearheading the use of product certification schemes in its construction projects to enhance building product quality and safety. It has now stipulated product certification requirement for twelve types of building products in its works tender. The contractors of the Housing Department are also required to obtain certifications for ISO 9001 Quality Management System, ISO 14001 Environmental Management System, OHSAS 18001 Occupational Health and Safety Management and ISO 50001 Energy Management, to enhance their management practice in these areas. On the other hand, the Electrical and Mechanical Services Department requires that a "certificate of safety compliance" should be issued for all household electrical products supplied in Hong Kong. A relevant document issued by recognised certification body according to the requirements of relevant legislation can be accepted as a "certificate of safety compliance".

The HKCTC will continue to publicise the benefits of T&C services and encourage Government Departments to further make use of them to help improve and ensure quality.

For branding and marketing

The Administration, through the HKCTC, has been making continuous efforts to promote the branding of “Tested in Hong Kong, Certified in Hong Kong”. For instance, we have participated in numerous local, Mainland and overseas trade fairs covering a wide variety of business areas.

In March 2017, the Gemmological Association of Hong Kong (GAHK) formally announced its new standard methods for testing Fei Cui. The HKCTC has been supporting further promotion of such new testing methods. At a seminar co-organised by HKCTC and GAHK in March 2018, Mainland and overseas speakers shared their views on how the new standard methods for testing Fei Cui could be promoted to Mainland customers and gain international recognition. We will keep on exploring suitable opportunities to promote Hong Kong’s products and services which make good use of local T&C services.

Innovation and Technology Bureau
Education Bureau
Innovation and Technology Commission
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Appendix

List of Courses Dedicated to Testing and Certification Offered by the Tertiary Education Sector

| Institution | Programme Name |
|--|---|
| Master's Degree | |
| The Chinese University of Hong Kong (CUHK) | MSc in Accreditation Chemistry |
| Hong Kong Baptist University (HKBU) | MSc in Analytical Chemistry |
| | MSc in Food Analysis and Food Safety Management |
| The Hong Kong University of Science and Technology (HKUST) | MSc in Analytical Chemistry |
| The Open University of Hong Kong (OUHK) | MSc in Testing and Certification |
| Bachelor's Degree | |
| OUHK | BSc in Product Design, Testing and Certification |
| | BEng (Hons) in Testing and Certification (Formerly known as BSc (Hons) in Testing and Certification) |
| | BSc (Hons) in Testing Science (Environmental Protection) |
| | BSc (Hons) in Testing Science (Food) |
| | BSc (Hons) in Testing Science and Certification |
| HKBU | BSc (Hons) in Analytical and Testing Sciences |
| The Hong Kong Polytechnic University (PolyU) | BSc (Hons) in Analytical Sciences for Testing and Certification |
| Technological and Higher Education Institute of Hong Kong (THEi) | BSc (Hons) in Testing and Certification |
| Associate Degree | |
| HKBU | Associate of Science in Testing and Certification |
| OUHK | Associate of Science in Testing and Applied Science |
| Higher Diploma | |
| Vocational Training Council (VTC) | Higher Diploma in Testing and Certification (Formerly known as Higher Diploma in Product Testing) |