

Testing and Certification

Create Your Future



Testing, Inspection and Certification Services

The testing and certification (T&C) sector provides three main types of services: **testing**, **inspection** and **certification**.

What is Testing?

Testing is the determination of one or more characteristics of an object according to a procedure. It can be performed by the first party (the manufacturer itself), the second party (the buyer) or the third party (independent T&C organisations).

Examples



Electromagnetic compatibility (EMC) test to determine the performance reliability of a smart phone when other electronic products operate in close proximity



Colour fastness tests of textiles and garments



Testing a toy robot for the presence of sharp points or hard edges to ensure that it is suitable for children to play with



Testing for harmful pesticide residues on vegetables

What is Inspection?

Inspection is the examination of a product design, product, process or installation and determination of its conformity to specific or general requirements on the basis of professional judgement including using specific equipment.

Examples



An overseas buyer arranges inspection to check a batch of products at the factory before shipment to ensure that they comply with the buyer's specifications

Inspection of structural welds at a construction site to determine whether they meet the contractual and statutory requirements



"Indoor Air Quality (IAQ) Certification Scheme for Offices and Public Places" – conduct measurements of IAQ parameters (e.g., air movement, carbon monoxide and volatile organic compounds) in an office

What is Certification?

Certification means a third-party (i.e. certification bodies) issuing a certificate to confirm that a product, process, system or person satisfies a set of specified requirements.

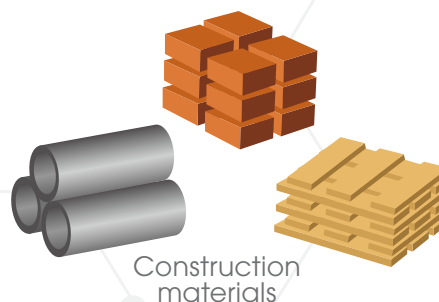
Certification activities in Hong Kong can be broadly divided into two categories

Management system certification

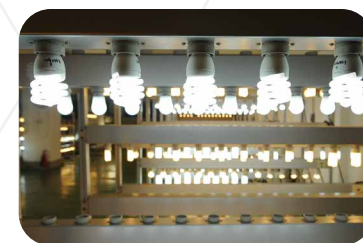


Examples

Product certification



Construction materials



LED lighting

Testing and Certification Safeguard Safety and Quality

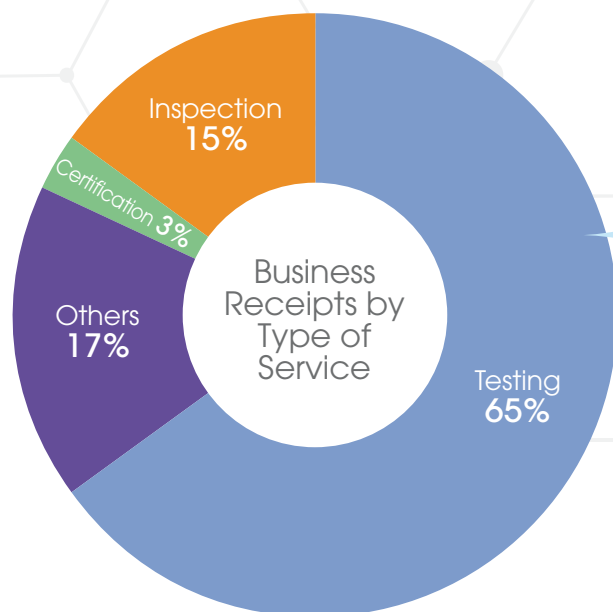
- ✓ Assure the safety and quality of a wide range of products in our daily life
- ✓ Ensure that products comply with international and/or local standards
- ✓ As an integral part of the supply chain, contribute to the local manufacturing industry, external trade and high-end manufacturing industries advocated by re-industrialisation

Competitive Edges of Hong Kong's Testing and Certification Sector

- High professional integrity
- Proximity to consumer product manufacturing centre
- A free port with good logistics support to facilitate easy transport of samples
- Robust accreditation system being widely recognised internationally
- Good intellectual property protection
- High technical competence
- Quick response to market needs

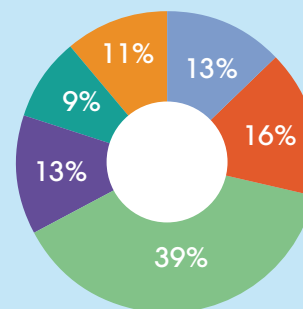
Profile of the Testing and Certification Sector

Statistics of T&C Activities in Private Independent Establishments



Business Receipts from Rendering Testing Services by Products/Services Tested

- Textiles, clothing and footwear
- Toys and games
- Medical testing
- Electrical products and telecommunications equipment
- Construction materials
- Other categories

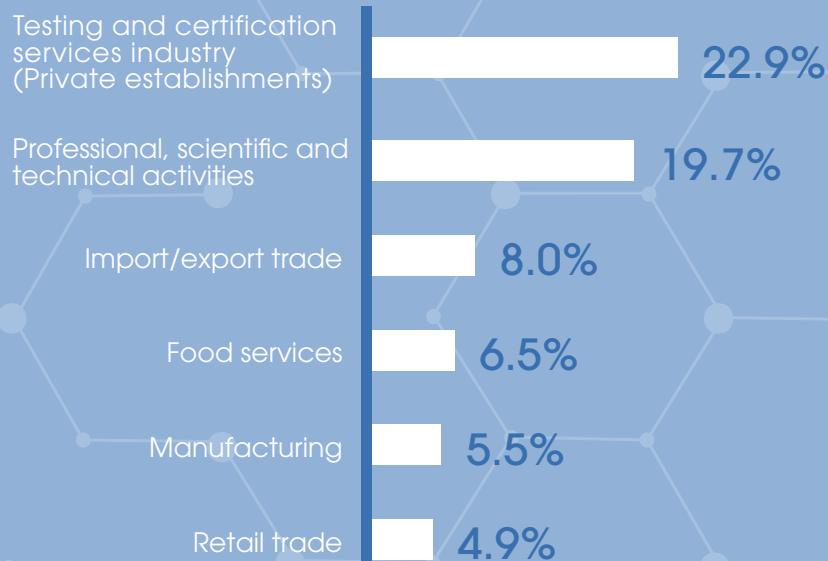


Average annual growth rate of business receipts between 2009 and 2020

7%

[2020 figures, Census and Statistics Department]

Gross Surplus / Business Receipts Ratio



Testing and Certification Professionals in Keen Demand

The demand for quality products and services has never been higher. Given the growing need for testing and certification services, the sector has a keen demand for talent. Pursuing a career in testing and certification will bring you a wide range of opportunities!

How to prepare yourself to join the testing and certification sector

At the senior secondary level

- To be proficient in languages and scientific thinking
- To study at least one science subject, e.g. :

Biology



Chemistry



Physics



Combined Science



Integrated Science



At the post-secondary/university level

- Examples of major:

Science



Engineering



Testing and Certification



Applied Science

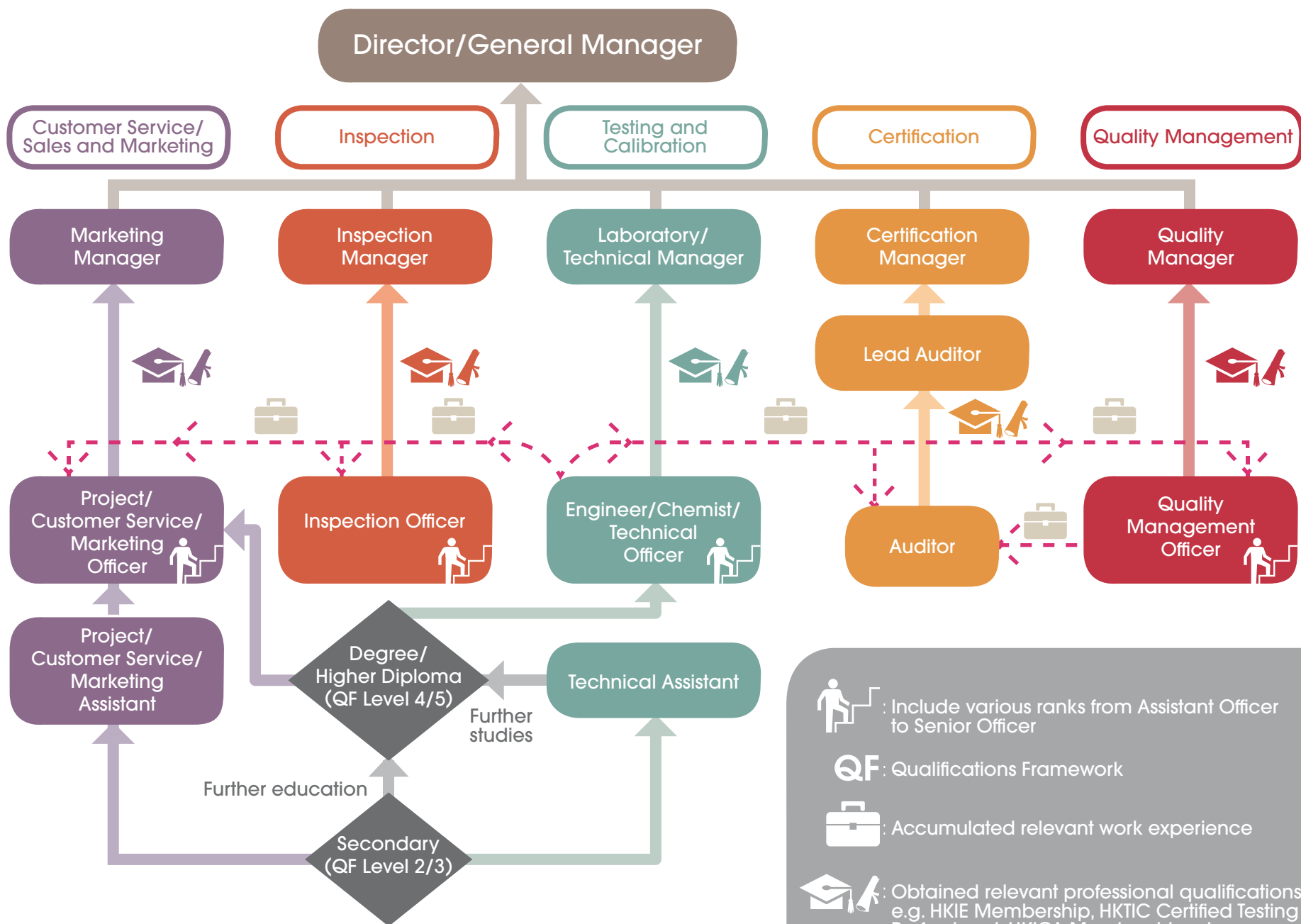


Fashion and Textiles



For more information about the programmes and courses related to testing and certification sector, please refer to HKCTC website : www.hkctc.gov.hk

Career Path of the Testing and Certification Sector



Note : The career pathway is an example for reference only. Different organisations will have a unique pathway depending on the structure of the organisation.

Professional Development of Testing and Certification Practitioners

HKIE Materials Engineers

Materials engineers offer necessary support to manufacturers, suppliers, construction companies and construction materials laboratories, etc. by ensuring quality and safety of construction materials and works. Applicants holding a materials-related engineering degree accredited/recognised by Hong Kong Institution of Engineers (HKIE) (or a degree in building, civil, chemical, environmental or structural engineering disciplines with two subjects in construction engineering materials), as well as possessing sufficient relevant working experience, may apply for the HKIE membership under its Materials Division.

HKIE website : www.hkie.org.hk

Certified QMS Auditors

The Hong Kong Institution of Certified Auditors (HKICA) is operating the Certification Scheme for Quality Management System Auditor based on the ISO 17024 "Conformity assessment – General requirements for bodies operating certification of persons". The scheme has been accredited by China National Accreditation Service (CNAS). Under relevant agreements, Hong Kong Certified QMS Auditors can apply to China Certification and Accreditation Association (CCAA) and International Personnel Certification Association (IPC) to register as Auditors.

HKICA website : www.hkica.org



Professional Certification Scheme for Testing Personnel

The Hong Kong Association of Testing, Inspection and Certification (HKTIC) has developed the Professional Certification Scheme for Testing Personnel. The scheme provides certification to individuals to demonstrate their knowledge and/or competence in specific fields of testing.

The testing fields cover Chemical Testing; Construction Materials Testing; Electrical Products Testing; Microbiological Testing; Textiles and Garments Testing; Toys and Hardlines Testing; Food Testing; Environmental Testing; Quality Assurance as well as Calibration.

HKTIC website : www.hktic.org

Qualifications Framework (QF)

The Industry Training Advisory Committee of the Testing, Inspection and Certification Industry under the QF has completed the Specification of Competency Standards (SCS) for the sector and released it in July 2014. The SCS sets out the skills, knowledge and competency standards required for practitioners to perform various duties.

Under the QF, the Recognition of Prior Learning (RPL) mechanism enables practitioners with relevant work experiences and competencies acquired at the workplace to obtain QF-recognised qualifications. The School of Science and Technology of the Hong Kong Metropolitan University has been appointed as the independent assessment agency for the RPL for the Testing, Inspection and Certification Industry.

QF website : www.hkqf.gov.hk



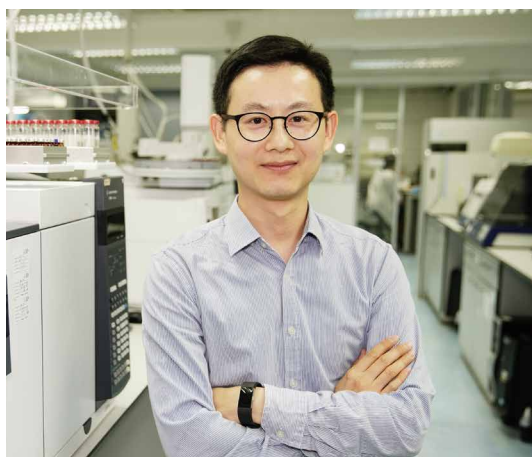
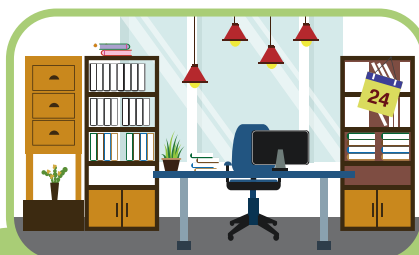
Testing and Certification Practitioners Sharing



Ms Law Wing Yan
Laboratory Manager
SGS Hong Kong Limited

"Garment is an inseparable part of our daily lives and its safety and quality mean a lot to consumers. As the Manager of the Textile & Footwear Services Division, I lead my team of over a hundred colleagues to perform all kinds of testing (such as colour fastness, flammability and air permeability) on a wide range of textile and apparel products, ensuring their safety and quality.

I found my job very meaningful as it is closely related to global trends and helps tackle issues of public concern. For instance, in the light of the global issue of ocean microplastic pollution, we have newly developed a set of methods to assess the leaching of textiles microfibers in the wash to help our clients identify environmentally-friendly fabrics. Although some of my tasks can sometimes be a bit repetitive, it is definitely not short of innovation and challenges as we often strive to derive new testing methods in response to new products. While many practitioners have a science background, I also know lots of people with different characters and diverse academic backgrounds joining this meaningful sector."



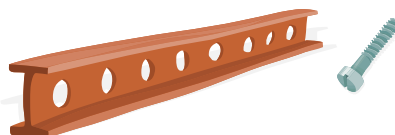
Dr Shek Ka Wing
Assistant Manager
CMA Testing and
Certification Laboratories

"With so much time people spending indoor nowadays, the air quality of indoor environment is having a great impact on people's health. My team is responsible for assessing indoor air quality (IAQ) by gathering and analysing air samples in different venues. As an approved signatory under the voluntary "IAQ Certification Scheme for Offices and Public Places" operated by the Environmental Protection Department, I inspect the concentration levels of air pollutants at clients' venues and issue certificates to premises/buildings that comply with the IAQ objectives.

My job offers me lots of opportunities to visit different places and meet different people. Also, thanks to the "2018/19 Award Scheme for Learning Experiences", I was given the chance to attend an international conference and exhibition in the UK. This valuable experience has allowed me to grasp the latest technology and understand the development trend of T&C. I think T&C services help provide effective protection to public health and safety. With higher public awareness of health issues, I am confident that the T&C sector will continue to thrive and provide ample opportunities for the development of T&C professionals."

"I have been passionate about conducting experiments ever since I was a student. After I finished my master degree in analytical chemistry, I joined a T&C company as a chemist, responsible for testing food contact materials such as cutlery and cooking utensils. I took pride in my job as I played a role in ensuring the products do not contain toxic substances. After a year there, I decided to embrace new challenges and so I switched to my current company.

Now I am working with my supervisor to set up a new chemical laboratory for testing construction materials. Although I have to start everything from scratch, this job allows me to fully exploit my potential. It also gives me great sense of accomplishment, driving me to stay in this sector for the years to come. Looking forward, I plan to study T&C related courses to further my career in this sector."



Sally Pang

Chemist

Material Tech Co. Ltd.

"My company is a global manufacturer of fashion and RFID labels. To ensure the products fulfill safety and environmental requirements, I pay frequent visits to factories located in Southeast Asia to conduct audit checks on the internal records, production process and environment. My goal is to help the factories improve their production process and product quality, so as to obtain relevant management system certification for bringing greater confidence to customers.

As my current job requires cross-disciplinary knowledge and experience, I am thankful that my past experience from working in a T&C company, manufacturers and in-house laboratories has equipped me with knowledge in testing and concepts of quality control. I think that youngsters who wish to pursue a career in this sector should keep themselves abreast of development of regional and worldwide issues. I am sure they would find a career path they enjoy and could develop their potential."



Clement Poon

Senior Compliance
Officer

SML (Hong Kong) Limited



(July 2022 2nd Edition)
(November 2019 1st Edition)

