

# 土地測量組

# LAND SURVEYING DIVISION





# TABLE OF CONTENTS

---

<b>CHAPTER 1</b>	<b>The Hong Kong Institute of Surveyors .....</b>	<b>2</b>
<b>CHAPTER 2</b>	<b>Land Surveying Division .....</b>	<b>4</b>
	2.1 Introduction .....	4
	2.2 Legislation.....	5
<b>CHAPTER 3</b>	<b>Area of Specialization.....</b>	<b>6</b>
	3.1 Topographical Surveying, Mapping and Cartography.....	6
	3.2 Engineering Surveying.....	7
	3.3 Geodetic Surveying.....	8
	3.4 Hydrographic Surveying.....	9
	3.5 Cadastral Surveying.....	10
	3.6 Photogrammetry and Remote Sensing.....	11
	3.7 Geographic Information System .....	11
	3.8 Utility Surveying .....	13
<b>CHAPTER 4</b>	<b>Land Surveyors in Hong Kong .....</b>	<b>14</b>
	4.1 Hon. FHKIS, FHKIS, MHKIS and AMHKIS .....	14
	4.2 Registered Professional Surveyor (Land Surveying) or RPS(LS).....	14
	4.3 Authorized Land Surveyor or ALS.....	14
	4.4 Find a Surveyor.....	15
<b>CHAPTER 5</b>	<b>The Ways Forward .....</b>	<b>16</b>

## Disclaimer

This brochure is for general reference only. Users of this brochure should not rely on the information as professional or legal advice of the surveying profession.



Chapter 1

# THE HONG KONG INSTITUTE OF SURVEYORS

The Hong Kong Institute of Surveyors (HKIS) was formally established in April, 1984. HKIS has been incorporated by the Hong Kong Institute of Surveyors Ordinance (Cap. 1148) which was passed in 1990 and is the only professional organization representing the surveying profession in Hong Kong. As of 28 August 2012, the number of members reached 8931, of which 6354 were corporate members, 50 were associates members and 2527 were probationers and students.

The work of HKIS includes setting standards for professional services and performance, establishing codes of ethics, determining requirements for admission as professional surveyors, and encouraging members to upgrade skills through continuing professional development.

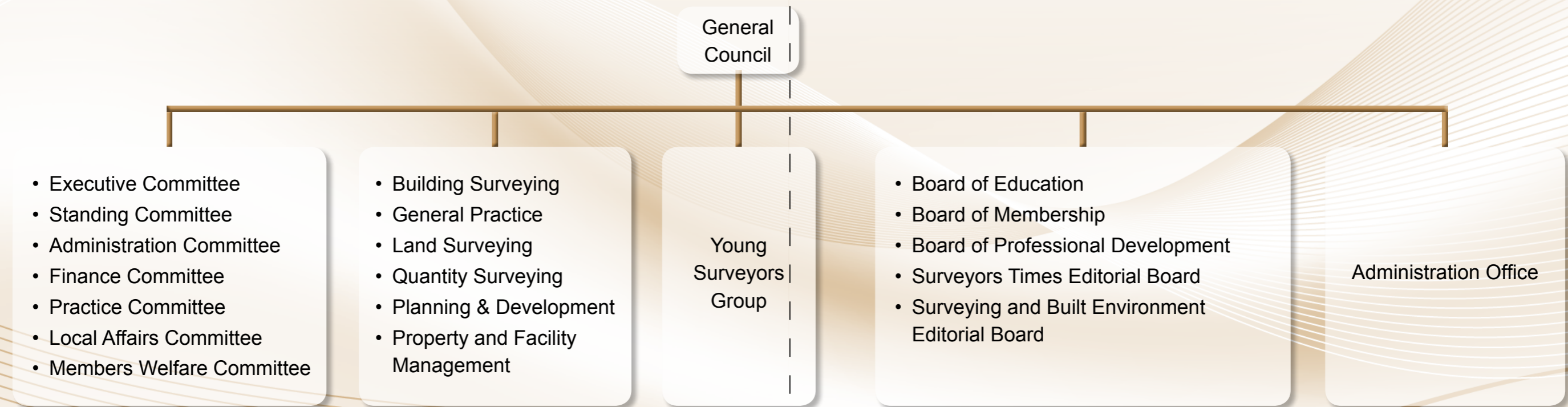
HKIS has an important consultative role in government policy making and on issues affecting the profession. HKIS has advised the Government on issues such as unauthorized building works, building safety campaign, problems of property management, town planning and development strategies, construction quality and housing problems. HKIS is working on amendments to standard forms of building contract and have issued guidance notes on floor area measurement methods.

HKIS has an established presence in the international arenas, has overseas connections, and has entered into reciprocal agreements with professional surveying and valuation institutes in the United Kingdom, Australia and Singapore recognizing the counterpart's member's qualifications. In addition, HKIS is a member of various leading international surveying organizations.

The Hong Kong Institute of Surveyors has six Divisions by reference to respective professional practice. They are the Building Surveying Division, General Practice Division, Land Surveying Division, Quantity Surveying Division, Planning and Development Division and Property and Facility Management Division.

The General Council of HKIS governs the Institute and oversees the functions and activities of the Divisions, Young Surveyors Group, Board of Membership, Board of Education, Board of Professional Development, Surveyors Times Editorial Board, Surveying and Built Environment Editorial Board, and the appointed Committees including the Executive Committee and Standing Committees.

The General Council and all boards and divisions are operated by volunteers from the profession and are supported by an Administration Office with full time staff.





# LAND SURVEYING DIVISION

## 2.1 Introduction

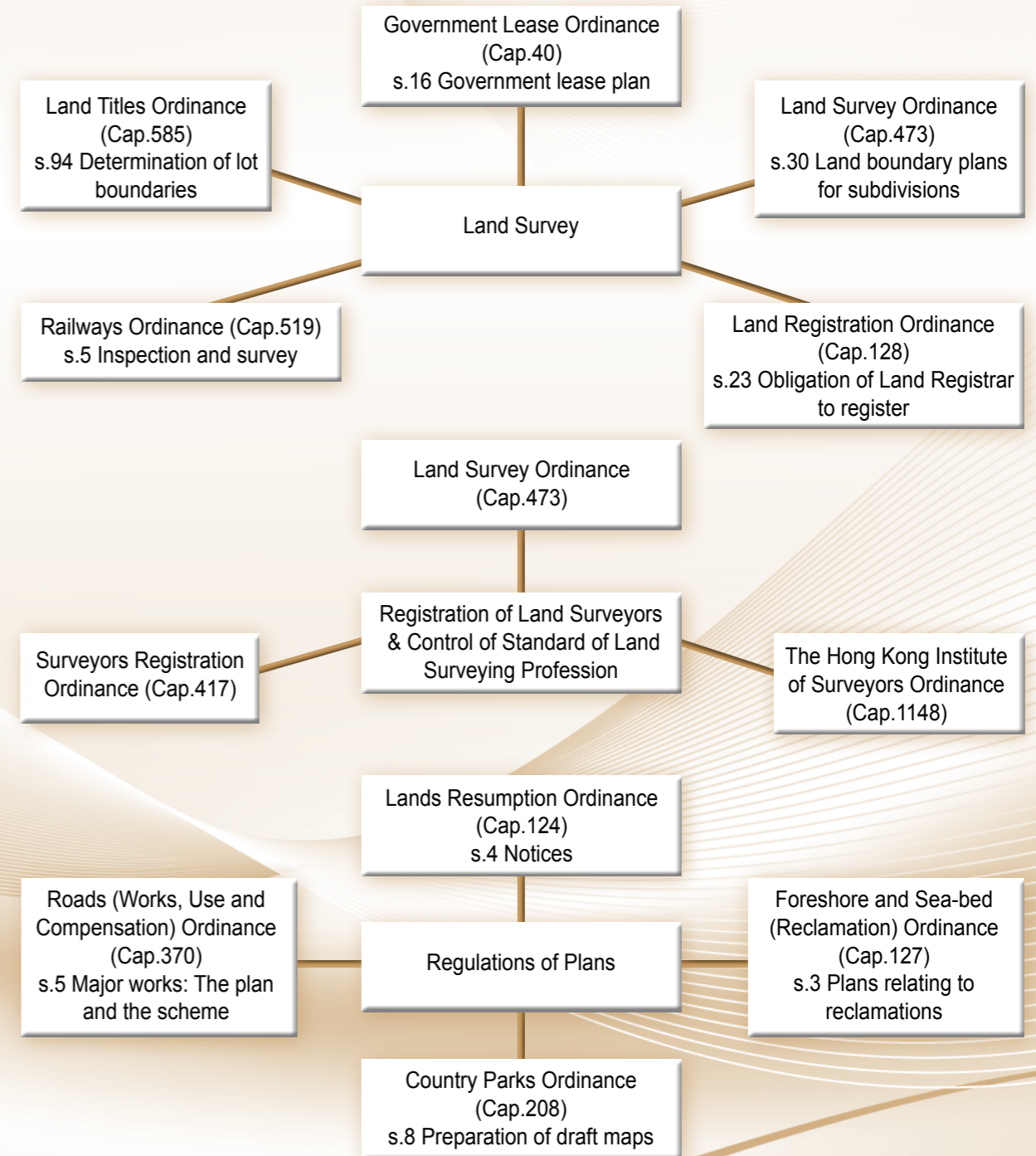
In 1970's, a group of both local and expatriate professional land surveyors decided to provide a professional forum for all land surveyors in Hong Kong, and thus they established the Hong Kong Institute of Land Surveyors (HKILS) in 1976.



In 1984, HKILS was formally recognized by the government as the only professional body representing the professional land surveyors. HKIS was also formally recognized by the government the next year. Corporate membership of the HKIS had also been recognized as a suitable qualification for appointment to the relevant grades and post in the civil service. The increase in the number of land surveyors joining HKIS eventually led HKILS to amalgamate with HKIS in 1991. In the same year, with the effort of land surveyors to strive for a local land surveying degree course, the Hong Kong Polytechnic (now known as the Hong Kong Polytechnic University) had successfully started a degree course in land surveying. In 1994, the first batch of graduates in Land Surveying and Geo-informatics was produced.

## 2.2 Legislation

There are some legislations concerning the surveying profession in Hong Kong and which particularly relate to the aspects of land survey, control of standard of land boundary survey, preparation of plan and registration of land surveyors:-





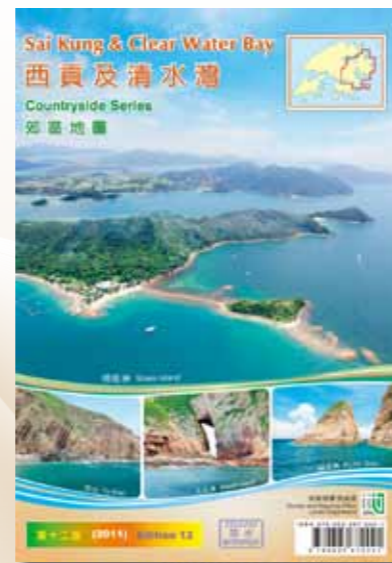
AREA OF SPECIALIZATION

3.1 Topographical Surveying, Mapping and Cartography

Mapping is a national service for the sustainable development, natural resources management, environmental protection, urban planning and utilities management.

Hong Kong has a series of 1:1000 scale digital maps covering the whole territory of Hong Kong. It forms the basic foundation for other information systems such as community services information systems, electronic street guide systems, natural disaster management systems, transport management systems and many others.

Land surveyors are specialised in map updating by topographical surveying. They are also professionals on the nature and accuracy of data for map production, and have the graphic design sense to present map data on various media such as paper, internet, mobile phone and smart phone. The application of mapping products facilitates general public use, government administration and the business industry.



Countryside Maps  
(Copyright : Survey and Mapping Office, HKSAR Government)



Hong Kong and Pearl River Delta Satellite Image Map  
(Copyright : Survey and Mapping Office, HKSAR Government)



3.2 Engineering Surveying

Land surveyors are actively involved in the civil engineering projects including the construction of roads, bridges, seawalls, railways, tunnels, utility systems and harbours. Land surveyors make good use of the advanced technologies such as GPS, photogrammetry 3D modelling computer animation and laser scanning to provide a more efficient service in project planning and design; quality controlling the construction projects to ensure the projects progress according to their designs and tolerances; and monitoring the performance and health conditions of the completed structures and facilities.



(Copyright : Civil Engineering and Development Department, HKSAR Government)





### 3.3 Geodetic Surveying

Land Surveyors established the Hong Kong geodetic datum and the Hong Kong Principal Datum which are the unique horizontal and vertical reference system such that the position of all land boundaries, roads, railways, bridges and many other proposed infrastructures are referred to this system.

Land surveyors are also professionals on the use of Satellite Positioning System for map-making, land surveying, commerce, scientific uses, tracking and surveillance.



Hong Kong Ngong Ping Hilltop SatRef Stations  
(Copyright : Survey and Mapping Office, HKSAR Government)

### 3.4 Hydrographic Surveying

Land surveyors actively participate in charting for the up-to-date seabed terrain over Hong Kong waters for navigation, construction or maintenance of marine facilities such as fairways, piers, container terminals and mooring buoys, reclamation for the provision of land and public filling area for construction and demolition waste. Port development projects rely on accurate knowledge of bathymetry, thus, hydrographic surveying techniques such as multibeam echo sounding survey are inevitably required.



(Copyright : Civil Engineering and Development Department, HKSAR Government)



### 3.5 Cadastral Surveying

Cadastral Surveying is the process of re-establishing, measuring, recording and marking of land parcel boundaries. It involves the physical determination of dimensions, areas and position of land properties. It is always advisable for landowners and developers to ascertain the boundaries and area entitlements of their properties by executing Cadastral Surveying prior to any land development to protect not only their interests and rights but also to prevent adjoining landowners from illegal occupation or encroachment. Land surveyors of the Hong Kong SAR Government and the Mainland Government worked together to survey the boundary of HKSAR.

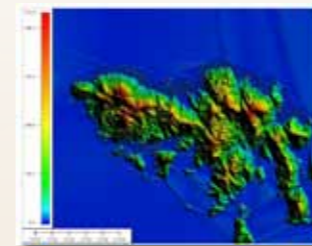


(Copyright : Survey and Mapping Office, HKSAR Government)



### 3.6 Photogrammetry and Remote Sensing

Land Surveyors specialized in Air Survey and Photogrammetry provide the application and development of aerial photography for mapping, engineering, land administration, environmental study, recording and investigation purpose. In Hong Kong, there is an archive of metric standard aerial photographs covering the whole territory of the current year and those years as early as 1960's. Land Surveyors can also provide remote sensing service for urban planning and development monitoring all over the territories and the Pearl River Delta region.

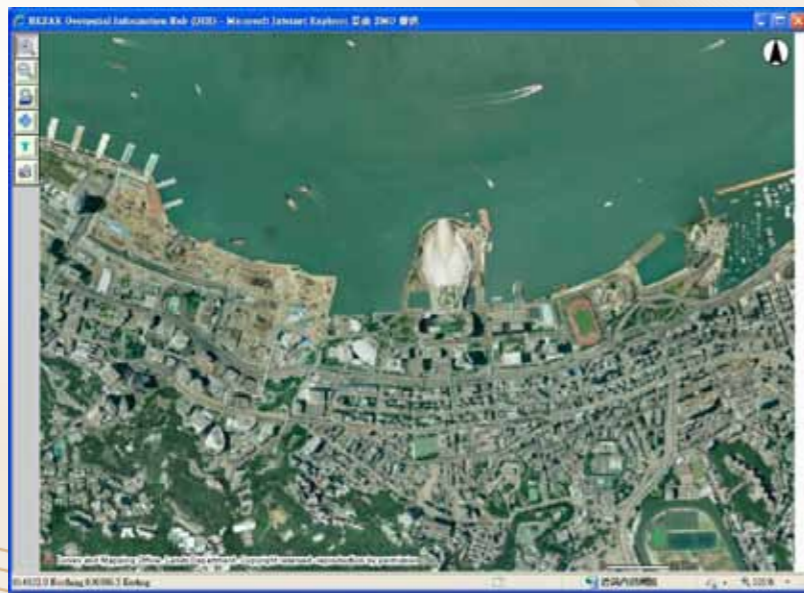


(Copyright : Survey and Mapping Office, HKSAR Government)



### 3.7 Geographic Information System

In the Land Information Management aspects, land surveyors take an important role in the collection, integration and dissemination of spatial information. With the use of geographic information system technology (GIS), land information management is rapidly penetrating into a wide spectrum of applications such as environmental conservation, urban planning, pollution control, transport management, emergency rescues and many others. A GIS has unique ability to answer very sophisticated questions such as to assimilate data from widely divergent sources, to analyze trends over time and to spatially evaluate impacts caused by development. Land surveyors are the professionals who have the full understanding of the inexactness or uncertainty of measurements so as to measure, process and organize spatial objects in the real world.



GeolInfo Map  
(Copyright : Survey and Mapping Office, HKSAR Government)

### 3.8 Utility Surveying

Utility Surveying for utility systems, such as water supply systems, power supply systems, gas and fuel systems, electrical and telecommunication systems, drainage and waste water systems, is a fast growing professional service of land surveyors in recent years. Further to the accreditation granted to the local degree course offered by the Hong Kong Polytechnic University in 2010, local trained professional specialized in Utility Surveying will be available in 2012 as our new work force for the required service.

Land Surveyors specialized in project management and engineering practice including engineering surveys of utilities using the buried object positioning methodology. Land Surveyors make use of GIS knowledge for visualization and modeling, data interpretation and data management of the surveyed utilities in order to facilitate site safety management and related issues.



(Copyright : Mass Transit Railway Corporation Limited)





# LAND SURVEYORS IN HONG KONG

## Chapter 4

### 4.1 Hon. FHKIS, FHKIS, MHKIS and AMHKIS

Membership of the Hong Kong Institute of Surveyors comprises four grades, namely, Honorary Grade consisting of Honorary Fellows (Hon. FHKIS), Professional Grade consisting of Fellows (FHKIS) and Members (MHKIS), Technical Grade consisting of Associate Members (AMHKIS) and Training Grade consisting of Probationers, and Students. Members of the Institute are categorized by reference to their professional practice into six divisions, namely, Building Surveying, General Practice, Land Surveying, Quantity Surveying, Planning and Development and Property and Facility Management. The Institute also has a Young Surveyors Group which comprises members whose ages shall not exceed 40. All Students and Probationers are also attached to the Young Surveyors Group.

### 4.2 Registered Professional Surveyor (Land Surveying) or RPS(LS)

The Surveyors Registration Ordinance (Cap. 417) is an Ordinance to provide for the registration of professional surveyors, the recognition of divisions within the profession and disciplinary control of the professional activities of registered surveyors, and for related matters.

### 4.3 Authorized Land Surveyor or ALS

The Land Survey Ordinance (Cap. 473), which was enacted on 18 May 1995, provides the registration and discipline of land surveyors engaged in land boundary surveys, for the control of the standards of land boundary surveys, for the establishment of land boundary records and for related matters. Authorized Land Surveyor (ALS) is a person whose name is currently entered in the register and whose registration is in force under the Land Survey Ordinance. The person shall be engaged to conduct land boundary surveys for the subdivision of private land in Hong Kong.

### 4.4 Find a Surveyor

Looking for a Land Surveyor who is a member of HKIS? You can find the information through the following ways.

Website : <http://www.hkis.org.hk>

Address : The Hong Kong Institute of Surveyors  
Room 1205-07, 12th Floor, Wing On Centre, No. 111 Connaught Road Central, Hong Kong

Tel No : (852) 2526 3679

Fax No : (852) 2868 4612

E-mail : [info@hkis.org.hk](mailto:info@hkis.org.hk)

Office Hours:	Monday to Friday	9.00 am – 6.00 pm
	Saturday	9.00 am – 12.30 pm
	Sundays and Public Holidays	Closed



## THE WAYS FORWARD

## Chapter 5

All Corporate Members and Technical Associates of the Institute shall maintain a high level of competence in professional practice and technical performance and are obligatory to undertake continuing professional development and lifelong learning to enhance their professional and technical competence. The General Council may from time to time issue regulations and guidance notes on mandatory continuing professional development administered by the Board of Professional Development. All Probationers and Technical Trainees shall endeavour to achieve a high level of competence in performance and are obligatory to undertake such pre-qualification structured learning as may be prescribed by the Board of Education.

## 展望未來

## 第5章

香港測量師學會所有正式會員及副會員均須維持高水準的專業能力及技術表現，並持續進修，終身學習。理事會不時會製訂規例及指引，要求會員持續進修，並交由專業發展委員會統籌。所有見習測量師應不斷致力提升自己的技能，並必須根據教育委員會的指引，進行取得認可資格前的系統性學習。



#### 4.4 尋找測量師

想找香港測量師學會的土地測量師？您可以透過以下途徑找到您所需的資料。

網站：<http://www.hkis.org.hk>

地址：香港測量師學會  
香港中環干諾道中 111 號永安中心 1205-07 室

電話：(852) 2526 3679

傳真：(852) 2868 4612

電郵：[info@hkis.org.hk](mailto:info@hkis.org.hk)

辦公時間：星期一至五 上午 9.00 — 下午 6.00  
星期六 上午 9.00 — 下午 12.30  
星期日及公眾假期 休息

## 香港的土地測量師

## 第四章

#### 4.1 名譽會員、資深專業會員、專業會員和副會員

香港測量師學會的會籍分為四級，分別是由名譽會員 (Hon. FHKIS) 組成的名譽會員級、由資深專業會員 (FHKIS) 和專業會員 (MHKIS) 組成的專業會員級、由副會員 (AMHKIS) 組成的技術會員級及由見習測量師、技術師和學生組成的培訓會員級；另又按會員的專業分為六個不同組別，包括建築測量、產業測量、土地測量、工料測量、規劃及發展和物業設施管理，至於青年組則包括所有不超過 40 歲的會員及所有學生和見習測量師。

#### 4.2 註冊測量師

測量師註冊條例（第 417 章）是規定專業測量師在註冊、專業組別的認可，以及註冊測量師專業活動的紀律管制，以及有關事項的條例。

#### 4.3 認可土地測量師

土地測量條例（第 473 章）於 1995 年 5 月 18 日通過，為從事土地界線測量的土地測量師，提供有關註冊、紀律、標準控制及設立土地界線紀錄等規則。根據法例規定，只有按土地測量條例註冊的認可土地測量師，才可以為香港的私人土地從事土地分割的測量工作。



### 3.8 地下管線測量

地下管線系統，如供水系統，供電系統，天然氣和燃油系統，電氣和電信系統，排水和污水處理系統，是近年來一個快速增長的土地測量專業服務。2010年，香港理工大學的地下管線測量學位課程正式授予認證，而受過本地專業地下管線測量訓練的土地測量將在2012年成為地下管線測量的新力量。

土地測量師提供了項目管理和工程實行服務，包括地下工程測量以測定位。土地測量師利用土地信息管理知識為地下工程測量進行視化、建模、數據解釋以及數據管理的服務，以方便現場安全管理及相關問題。

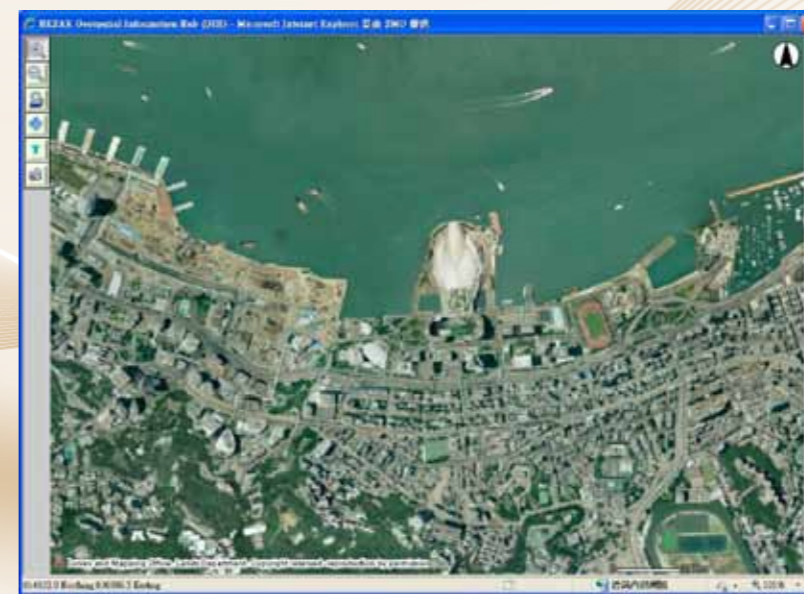


(版權所有：香港鐵路有限公司)



### 3.7 土地信息管理

在土地信息管理而言，測量師負責收集、綜合和發放一系列不同種類的空間信息。隨著地理信息系統科技的應用，土地信息管理旋即得到廣泛使用，包括在環境保護、城市規劃、污染管制、交通管理和緊急救援等方面。土地信息管理系統可以解答一些很複雜的問題，既可融匯分散的訊息來源，又可分析時間轉變的趨勢，及對城市發展所引致的影響進行空間性評估。土地測量師在量度、處理和組織真實世界的空間定位方面訓練有素，對於量度的準確標準有全面的認識。土地測量師所具備的經驗，能夠模擬真實世界的模型，轉化為具經濟效益，但又精確而有系統的模式。

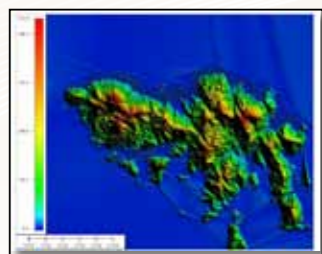


地理資訊地圖  
(版權所有：香港特別行政區地政總署測繪處)



### 3.6 攝影測量及遙感測量

航空測量和攝影測量專業的土地測量師提供空中攝影的應用和發展，當中包括繪圖、工程、土地管理、環境研究、記錄和調查的目的。香港保存有一個具有測量標準的空中圖像資料庫，包含全港地區於近年甚至遠至六十年代的資料。土地測量師還提供了遙感測量服務，在全港及珠江三角地區的城市規劃及發展方面，扮演了一個重要的角色。



(版權所有：香港特別行政區地政總署測繪處)



### 3.5 土地界線測量

土地界線測量是一個量度、紀錄和劃定土地界線的過程，包括量度土地業權範圍、面積和位置。土地業權人及發展商在進行任何土地發展前，最明智的做法是聘請土地測量師，以確定地界和應有面積，這樣不但可保障業權人的土地權益，更可避免土地業權人的土地被非法佔用或侵佔。香港的土地測量師與國內有關政府部門合作研究劃定香港特區地界。



(版權所有：香港特別行政區地政總署測繪處)





### 3.4 水文測量

土地測量師積極參與海圖制作，在香港水域內更新海底地形圖作海上導航，建造或維護海洋設施，如航道，碼頭，貨櫃碼頭，船泊浮標，填海提供土地及為建築和拆卸廢物的公眾填土區等。



(版權所有：香港特別行政區土木工程拓展署)

### 3.3 大地測量

土地測量師建立了香港大地基準和香港高度基準。它們分別是獨特的水平和垂直參考高度系統，很多地界、道路、鐵路、橋樑及建設工程的位置均以這個系統作參考。

土地測量師也是使用衛星定位的專業人員。全球定位系統在世界各地應用甚廣，有助於製造地圖、土地測量、商業、科學用途和監察系統。



香港昂坪衛星定位參考站  
(版權所有：香港特別行政區地政總署測繪處)



### 3.2 工程測量

土地測量師在建設道路、行車天橋、橋樑、海堤、鐵路、隧道、公用系統和港口等方面都擔當重要的角色。土地測量師懂得善用一些先進的技術例如全球定位系統、航空攝影測量及鐳射掃描等科技，在設計和建築階段提供更具效率的服務；在基建項目監管質素以確保項目依照設計及規格完成；並監察已完成的結構及設施的運行狀況。



(版權所有：香港特別行政區土木工程拓展署)



## 專業範圍

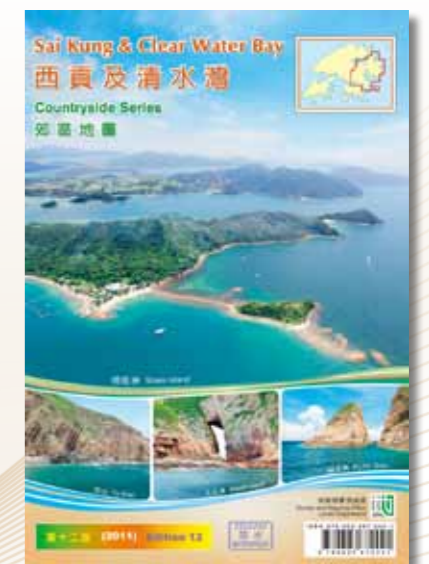
## 第3章

### 3.1 地形測量、製圖及地圖繪製

繪製地圖有助國家防禦和開發，支援持續土地發展、管理天然資源、環境保護及城市規劃的基本資料。

香港擁有一個覆蓋整個香港地區 1:1000 比例的香港全境地圖。它構成了其他信息系統的基本依據，例如社區服務信息系統、電子街道指引系統、自然災害管理系統及交通管理系統等，相信未來將會有更多系統採用數碼地圖。

土地測量師透過地形測量更新的地圖上的地形資訊。他們熟識地圖製作的性質和信息的準確性，並具有平面設計觸覺，能夠於不同的媒體如印刷本、互聯網、手提電話、甚至是電子手帳表達地圖數據。地圖的應用有助於廣大市民使用，政府管理和商業行業。



郊區地圖  
(版權所有：香港特別行政區地政總署測繪處)



香港及珠三角洲衛星影象地圖  
(版權所有：香港特別行政區地政總署測繪處)





## 2.2 相關法例

香港有一些與測量專業有關的法例，特別是在土地測量、土地界線測量水準的管制事宜、測量圖則的規定及土地測量師的註冊制度：



## 土地測量組

### 2.1 簡介

早在 1970 年代，一批本地及外籍專業土地測量師已決定為本港測量師開闢交流渠道，並於 1976 年成立了香港土地測量師學會。



於 1984 年，香港土地測量師學會獲政府正式認可，成為本地唯一代表專業土地測量師的專業團體；並於翌年獲政府正式認可，會員資格可符合申請相關公務員職位的要求。由於香港測量師學會會員人數日益上升，香港土地測量師學會遂於 1991 年與香港測量師學會合併；同年，土地測量師成功爭取於香港開辦土地測量及地理資訊學位課程。首批本地培訓的土地測量師於 1994 年在香港理工學院（現稱香港理工大學）畢業。



# 香港測量師學會

# 第1章

至於與海外及國內聯繫方面，本會已和英國、澳洲、新西蘭、新加坡及中國的專業測量及估價學會簽署協議，互相認可對方的會員資格；此外，香港測量師學會也是多個國際知名測量組織的成員。

香港測量師學會會員按專業範疇分為六大組別，分別是建築測量組、產業測量組、土地測量組、工料測量組、規劃及發展組及物業設施管理組。

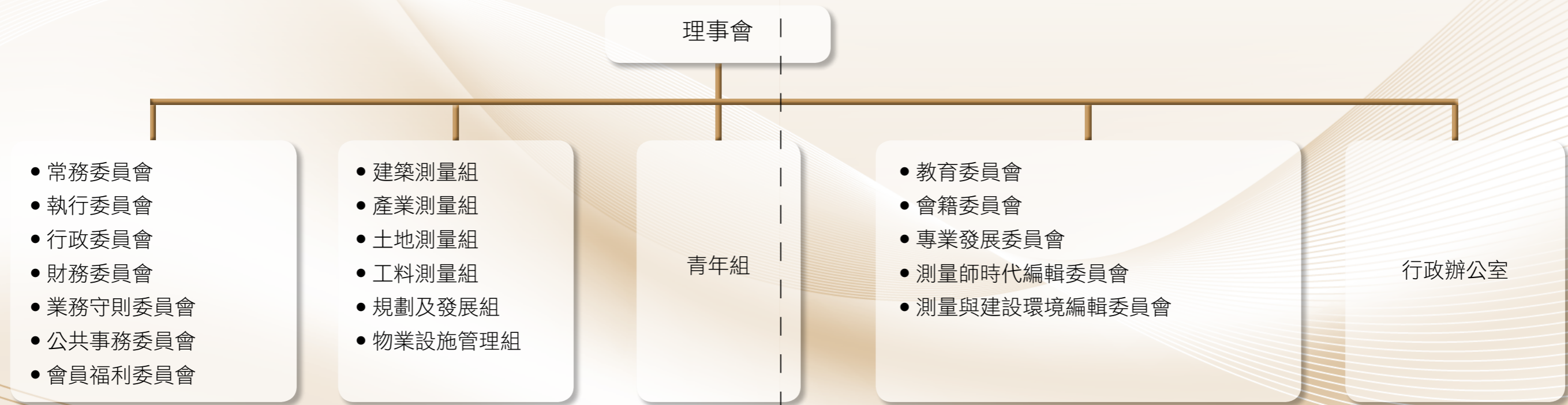
香港測量師學會的理事會負責統籌及監督香港測量師學會及其轄下的組織，包括專業組別、青年組、會籍委員會、教育委員會、專業發展委員會、測量師時代編輯委員會、測量與建設環境編輯委員會及直接主管的委員會，即執行委員會和常務委員會。

理事會、各組別及委員會的決策及實務由會員義務擔任，並交行政辦公室所聘用的全職職員辦理。

香港測量師學會於 1984 年 4 月正式成立。其後於 1990 年，香港立法會通過《香港測量師學會條例》(第 1148 章)，並納入香港測量師學會為專業團體。香港測量師學會成為本港唯一代表測量專業的專業團體。截至 2012 年 8 月 28 日，會員人數達 8931 人，其中正式會員佔 6354 人，副會員佔 50 人，見習測量師，技術學員及學生佔 2527 人。

本會的工作主要是制訂專業服務的標準，包括制訂專業守則、釐訂加入專業測量師行列的要求，並鼓勵會員透過持續專業進修以增進專業技能。

本會在政府訂定政策方面擔當重要的諮詢角色，並十分關注影響測量專業的事務。我們曾向政府提供的意見包括樓宇僭建問題、樓宇安全運動、物業管理問題、城市規劃及發展策略、建築質素和房屋問題，並曾就樓宇面積的量度標準發出指引，目前，本會正在修訂標準建築合約文件。





# 目 錄

<b>第一章</b>	<b>香港測量師學會 .....</b>	<b>2</b>
<b>第二章</b>	<b>土地測量組 .....</b>	<b>4</b>
	2.1 簡介 .....	4
	2.2 相關法例 .....	5
<b>第三章</b>	<b>專業範圍 .....</b>	<b>6</b>
	3.1 地形測量、製圖及地圖繪製 .....	6
	3.2 工程測量 .....	7
	3.3 大地測量 .....	8
	3.4 水文測量 .....	9
	3.5 土地界線測量 .....	10
	3.6 攝影測量及遙感測量 .....	11
	3.7 土地信息管理 .....	12
	3.8 地下管線測量 .....	13
<b>第四章</b>	<b>香港的土地測量師 .....</b>	<b>14</b>
	4.1 名譽會員、資深專業會員、專業會員和副會員 .....	14
	4.2 註冊測量師 .....	14
	4.3 認可土地測量師 .....	14
	4.4 尋找測量師 .....	15
<b>第五章</b>	<b>展望未來 .....</b>	<b>16</b>

免責聲明： 本小冊子只作一般參考。本小冊子的閱覽者不應以本小冊子的資料作為有關測量專業或法律意見。