Hong Kong E & M Engineering Services, HVAC System Works, Electrical System Works, Water Plumbing and Drainage System Works Market Study

Prepared for

Signature : 

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For and on behalf of Frost & Sullivan Limited

Highly Confidential
Sep 2025

Agenda

Abbreviations and Terms

- **CAGR:** compound annual growth rate
- **Mainland China / the PRC:** the People's Republic of China
- **GDP:** gross domestic product
- **HKD/ HK$:** Hong Kong Dollar, the lawful currency in Hong Kong

Source: Frost & Sullivan

Scope

- **The project scope is defined as follows:**

Research Period	• Historical Year: 2020-2023 • Base Year: 2024 • Forecast Year: 2025E-2029E
Geographic Scope	• Hong Kong
Industry Scope	• Electrical & Mechanical Engineering Services (E&M) • HVAC System Works • Electrical Works • Water Plumbing and Drainage Works

Limitations

- **Source of Information**

➢ Interviews with industry experts and competitors will be conducted on a best-effort basis to collect information in aiding in-depth analysis for this report.

➢ Frost & Sullivan will not be responsible for any information gaps in the circumstances that Interviewees refused to disclose confidential data or figures.

➢ The point of this study is set in 2025. It took 2024 as the base year and 2025-2029 as the forecast period. However, in the case where data has not yet been updated or published on public sources at the point of this study, Frost & Sullivan would use the latest data available or make preliminary projections based on historical trends.

➢ Under circumstances where information was not available, Frost & Sullivan would use in-house modelling and simulation to arrive at an estimate.

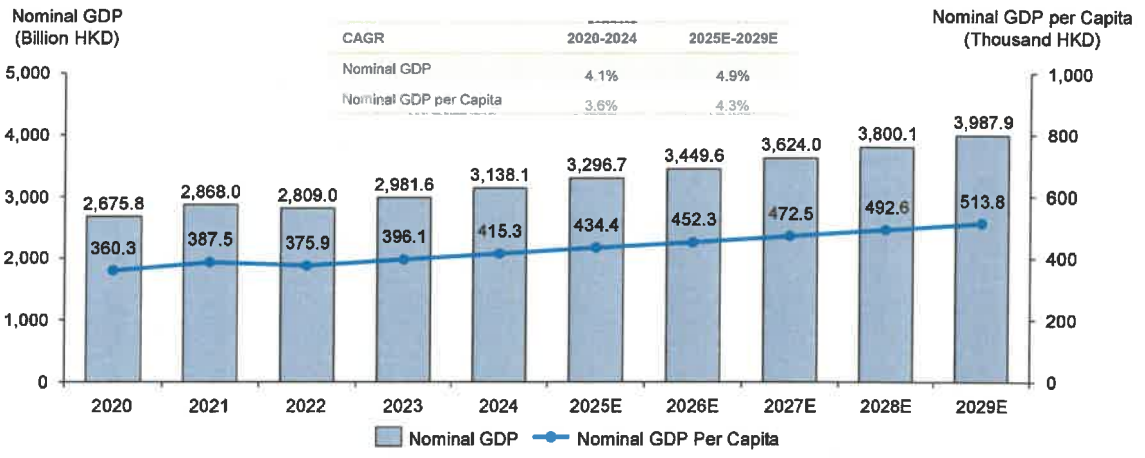
➢ Sources of information are stated at the bottom on each page for reference.

Agenda

Overview of Macro Economy in Hong Kong

Nominal GDP and GDP Per Capita

Nominal GDP and Nominal GDP Per Capita (Hong Kong), 2020-2029E



Source: International Monetary Fund, Frost & Sullivan

Overview of Macro Economy in Hong Kong

Nominal GDP and GDP Per Capita (Cont'd)

- Driven by increased domestic demand and stronger trade performance due to economic recovery in Europe and North America, Hong Kong's nominal GDP has shown steady growth, rising from HKD2,675.8 billion in 2020 to HKD3,138.1 billion in 2024, at a CAGR of 4.1%. The outbreak and resurgence of COVID-19 in 2020 and 2022 caused a temporarily decline in nominal GDP from HKD2,868.0 billion in 2021 to HKD2,809.0 billion in 2022.
- According the International Monetary Fund (IMF), it is forecasted that nominal GDP in Hong Kong would grow from HKD3,296.7 billion in 2025 to HK3,987.9 billion in 2029, at a CAGR of 4.9% from 2025 to 2029. While Hong Kong's total goods exports may be impacted by the U.S. trade protection measures, steady global economic growth is expected to further support these exports. In terms of service exports, the increased convenience of cross-border travel, along with measures from the Central Government and various initiatives from the Hong Kong Government, should attract more visitors to Hong Kong. Gradually easing financial conditions will bolster cross-border financial and business activities, while exports of trade-related services will benefit from the ongoing growth in goods trade. Regarding domestic demand, improved economic sentiment, coupled with the Mainland China's proactive policies to stimulate its economy, easing financial conditions, and the Hong Kong Government's initiatives to promote economic growth and development, should provide strong support.
- In line with the growth of nominal GDP, Hong Kong's nominal GDP per capita increased at a CAGR of 3.6% from 2020 to 2024. According to the IMF, it is expected to grow at a CAGR of 4.3% from 2025 to 2029.

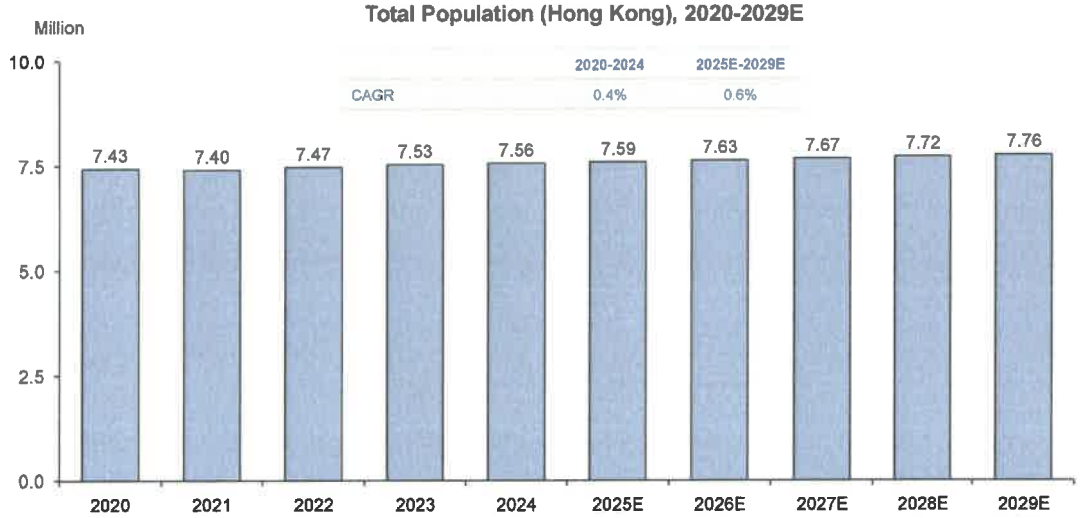
Source: International Monetary Fund, Frost & Sullivan

Overview of Macro Economy in Hong Kong

Total Population

- The population in Hong Kong has slightly increased from 7.43 million in 2020 to 7.56 million in 2024, with a CAGR of 0.4%. It is mainly associated with (i) a natural decrease (i.e. deaths surpassing births) and (ii) net outflow of Hong Kong residents.
- With (i) the proactive approach in attracting more outside talent to settle in Hong Kong and (ii) fostering a supportive environment for raising families, the population growth is mild and is expected to maintain a CAGR of 0.6% from 2025 to 2029.

Total Population (Hong Kong), 2020-2029E



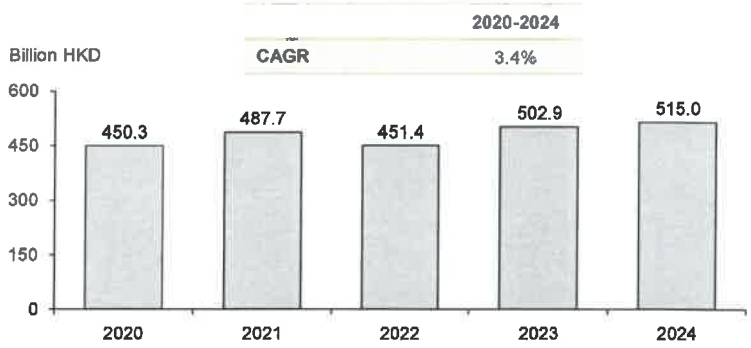
Source: International Monetary Fund, Frost & Sullivan

Overview of Macro Economy in Hong Kong

Gross Domestic Fixed Capital Formation Value

- Gross domestic fixed capital formation vaue in Hong Kong refers to the total value of acquisitions of fixed assets within the economy, minus disposals. This includes investments in buildings, machinery, and infrastructure. It increased from HKD450.3 billion in 2020 to HKD515.0 billion in 2024, representing a CAGR of 3.4% from 2020 to 2024. The growth is attributed to ongoing government initiatives and infrastructure projects, such as transportation and housing developments, which have spurred investments.

Gross Domestic Fixed Capital Formation Value (Hong Kong), 2020-2024



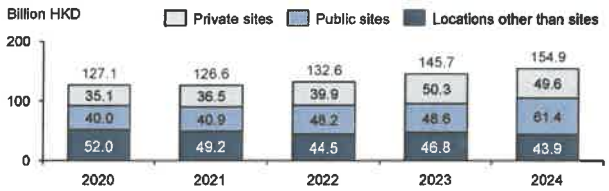
Source: Census and Statistics Department of Hong Kong, Frost & Sullivan

Overview of Macro Economy in Hong Kong

Gross Value of Construction Work Performed

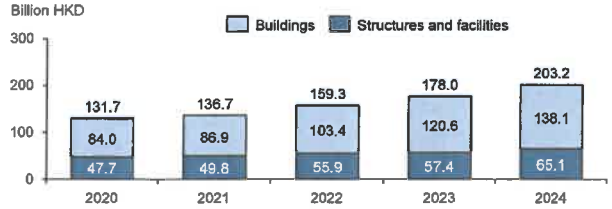
- According to the Census and Statistics Department, the gross value of construction work performed in Hong Kong by broad trade group has seen a slight increase from approximately HKD127.1 billion in 2020 to around HKD154.9 billion in 2024, representing a CAGR of 5.1%. However, a recession in 2020 as a result of social unrest and the COVID-19 pandemic led to: (i) the suspension of construction activities; and (ii) global lockdowns that impacted the supply of raw materials, causing delays in ongoing projects and the initiation of new ones in Hong Kong. Nevertheless, the Hong Kong Government is eager to stimulate economic growth through infrastructure development, including the Kwun Tong North (KTN) and Fanling North (FLN) New Development Areas (NDA), as well as the Kau Yi Chau Artificial Island under the Lantau Tomorrow Vision, which will promote future growth in the construction industry.

Gross Value of Construction Works Performed by Broad Trade Group (Hong Kong), 2020-2024



	CAGR (2020-2024)
Private sites	9.0%
Public sites	11.3%
Locations other than sites	-4.1%
Total	5.1%

Gross Value of Construction Works at Construction Sites Analysed by Detailed End-use Group (Hong Kong), 2020-2024



	CAGR (2020-2024)
Buildings	13.2%
Structures and facilities	8.1%
Total	11.5%

Note:

1. *Gross value of construction works in nominal terms.*
2. *Construction works at locations other than sites include both non general trades and special trades that are performed on non-construction sites. General trades include decoration, repair and maintenance, and construction works at minor works locations such as site investigation, demolition, and structural alteration and addition works. Special trades include carpentry, electrical equipment, ventilation, gas and water fitting installation and maintenance etc.*
3. *Construction works of structure & facilities refer to the construction works that are performed at transport, other utilities & plant, environment and sports & recreation.*

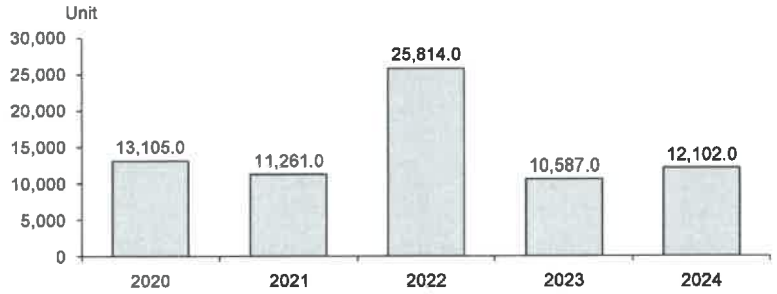
Source: Census and Statistics Department of Hong Kong, Frost & Sullivan

Overview of Macro Economy in Hong Kong

Actual Public Housing Production under the Housing Authority

- The public housing in Hong Kong includes public rental housing and subsidised sale flats. The actual public housing production under the Housing Authority in Hong Kong increased from 13,105 units in 2020 to 12,102 units in 2024. Due to the outbreak of COVID-19, about 7,600 public rental housing flats originally scheduled for completion in end of 2023 was delayed by about one to two quarters and with completion deferred to 2024, resulting in the low public housing production in 2023.The completion of public housing in Tuen Mun, Diamond Hill and Chai Wan contributed to the high actual public housing production under the Housing Authority in 2022. According to the Housing Bureau, the total public housing supply from 2025/26 to 2029/30 is estimated to be around 190,000 units.

Actual Public Housing Production under Housing Authority (Hong Kong), 2020-2024



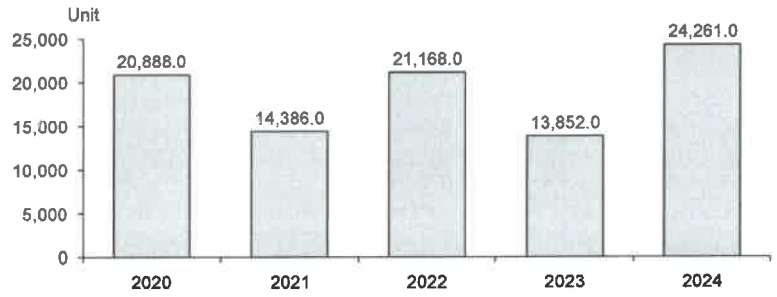
Source: Hong Kong Housing Authority, Frost & Sullivan

Overview of Macro Economy in Hong Kong

Completion of Private Residential Units

- The completion of private residential units in Hong Kong increased from 20,888 units in 2020 to 24,261 units in 2024, totaling more than 94,000 units completed over the past five years, with the around 20,000 units completed each year. The private housing supply in Hong Kong is influenced by land availability, demand dynamics, macro environment and government policies. With a high level of unsold inventory, property developers are focused on reducing this stock. As interest rates slowly decline, it is anticipated that property developers will speed up the launch of new projects and offer more incentives to attract potential buyers. According to the Housing Bureau, the total number of first-hand private residential units completed from 2025 to 2028 is estimated to be around 108,000 units.
- The completion of private residential unit is subject to the economic environment, government policies, market demand, supply chain, and varying project timelines, which would influence the timing of completion. Private domestic completions in 2021 totaled 14,386 units, 31.1% fewer than in 2020, mainly due to the COVID-19 outbreak, which impacted the supply of construction materials from Mainland China and delayed construction works.
- Amid tightened financial conditions, an uncertain external economic outlook, weak local demand, and cautious market sentiment, private residential unit prices fell 7.0% year-on-year by December 2023, despite a slight rebound in the first four months of the year. Trading volume also shrank by 5%. Private domestic completions in 2023 were 13,852 units, down from 21,168 units in 2022.

Completion of Private Residential Units (Hong Kong), 2020-2024



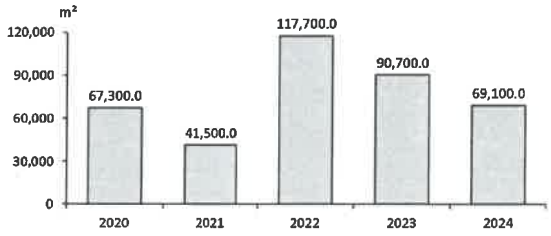
Source: Rating and Valuation Department, Frost & Sullivan

Overview of Macro Economy in Hong Kong

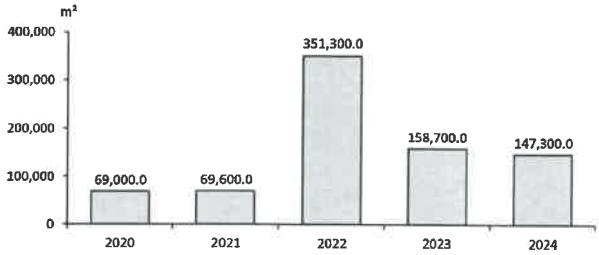
Completion of Private Commercial and Private Office

- The completion of private commercial increased from 67,300 m² in 2020 to 69,100 m² in 2024. The completion of private office in Hong Kong increased from 69,000 m² in 2020 to 147,300 m² in 2024. The private residential unit completions peaked in 2022 with 351,300 m², 47% more than those in 2021, of which 61% of the completions were in the New Territories, 27% in Kowloon and 12% on Hong Kong Island. At district level, the top three suppliers, namely Kowloon City, Yuen Long and Sha Tin, altogether accounted for 49% of the overall completions.

Completion of Private Commercial (Hong Kong), 2020-2024



Completion of Private Office (Hong Kong), 2020-2024



Note: Private commercial premises include retail premises and other premises designed or adapted for commercial use, with the exception of purpose-built offices. Car parking space is excluded.

Source: Rating and Valuation Department, Frost & Sullivan

Overview of Macro Economy in Hong Kong

Analysis of Statistics of Urban Renewal Authority's Urban Redevelopment and Rehabilitation Project

Analysis of Statistics of Urban Renewal Authority's Urban Redevelopment and Rehabilitation Project (Hong Kong), 2021-2024

HK$ per		2021	2022	2023	2024
Urban area improved or to be improved (m2)	m2	218,000	282,000	303,000	332,500
Number of Dilapidated building blocks redeveloped or to be redeveloped	Unit	1,543	1,642	1,754	1,785
Number of Building blocks rehabilitated or undergoing rehabilitation	Unit	4,500	6000	6,500	7,800

Remark : The data is only available up to 2021.

- Urban renewal in Hong Kong includes both redevelopment and rehabilitation and plays vital roles in shaping the future of the city, addressing housing shortages, and improving the urban landscape. The urban area improved or to be improved increased from 218,000 m² in 2021 to 332,500 m² in 2024 while the number of dilapidated building blocks redeveloped or to be redeveloped and number of building blocks rehabilitated or undergoing rehabilitation reached 1,785 and 7,800 units in 2024 respectively.

Source: Urban Renewal Authority, Frost & Sullivan

Overview of Macro Economy in Hong Kong

Analysis of Renovation and Maintenance Cycles of Existing Buildings and Infrastructures, by Residential, Commercial, Industrial etc.

- The average renovation cycle for E&M systems in a building in Hong Kong is subject to various factors, including type of building, intensity of use, quality of initial installation, maintenance practices, technological advancements and regulatory requirements.
- The replacement cycle of major of E&M systems, namely chillers, main switchboards and large ventilation systems, ranges from 20 to 30 years.
- The upgrades and refurbishments of components of E&M system, such as pumps, fans, control systems, may be needed every 5 to 10 years.
- Many building owners are adopting condition-based maintenance strategies, which involves regular monitoring and inspections, to assess the actual condition of E&M systems and schedule renovations based on need rather than adhering to fixed renovation cycles. Upgrading to more energy-efficient E&M systems significantly reduces operating costs and improves a building's environmental performance.
- E&M systems of commercial buildings typically require renovations more frequently than residential buildings as more frequent use of commercial leads to quicker wear and tear, and the systematic maintenance practices highlight renovation needs sooner.

Overview of Macro Economy in Hong Kong

Retro-commissioning Scheme

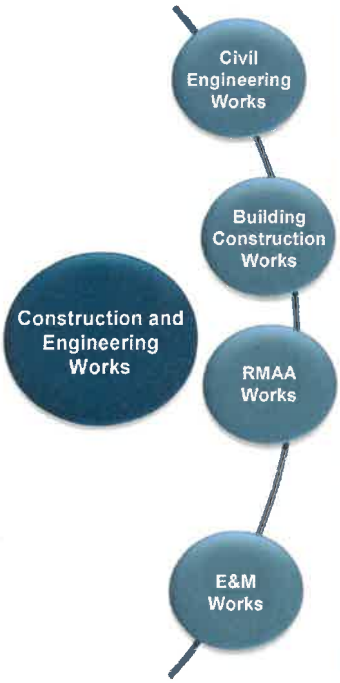
- Growing awareness of energy conservation, supported by Hong Kong's sustainability objectives, is becoming a key market driver for HVAC system works in Hong Kong. Retro-commissioning (RCx) is a key energy-saving initiative outlined in Hong Kong's Energy Saving Plan for the Built Environment 2015~2025+. To promote RCx in existing buildings, the Hong Kong Green Building Council (HKGBC), with support from the Electrical and Mechanical Services Department (EMSD) and professional institutions, launched the RCx Training and Registration Scheme in 2019. The Scheme provides comprehensive training to enhance industry practitioners' capabilities in RCx, enabling them to register as RCx Practitioners, Professionals, or Services Providers. This initiative supports knowledge-based energy management to help achieve Hong Kong's carbon neutrality goal by 2050. RCx aims to optimize existing building systems, particularly energy-intensive HVAC systems, to improve efficiency and reduce energy consumption. As buildings in Hong Kong account for the majority of electricity use, optimization of HVAC systems is crucial for the success of the scheme. This creates demand for HVAC system works contractors to assess, retrofit, and fine-tune systems to meet energy-saving targets, aligning with the carbon neutrality goal by 2050, which in in turn drive the demand for HVAC system works in Hong Kong.

Agenda

Overview of E&M Engineering Services Market in Hong Kong

Classification of Construction and Engineering by Nature of Works

- **Construction industry can be broadly classified by following nature of works:**



- Civil engineering works refer to construction works performed by main contractors at construction sites of end-use group "structures and facilities" which include transport, utilities & plant, environment and sports & recreation.
- Civil engineering works include railways, roads, highways, bridges, airport, port works, water works, drainage, reclamation, excavation works, site formation, landscape, open spaces, sport grounds, other urban services facilities, service stations and plant, and other related construction projects.

- Building construction works refer to construction works performed by main contractors at construction sites of end-use group "buildings" which include residential, commercial, industrial and institutional buildings.
- Scope of building construction works include superstructure works, steel construction and etc., depending on its nature of works or the end-use of the construction project.

- Renovation, maintenance, alteration and addition ("**RMAA**") works refer to the construction works at locations other than sites, including general trades and special trades.
- General trades include decoration, repair and maintenance, and construction works at minor work locations (such as site investigation, demolition, structural alteration and additional works) while special trades include installation and maintenance for carpentry, electrical equipment, ventilation, gas and water fitting, etc.

- Electrical and mechanical ("**E&M**") works are usually undertaken by contracting/subcontracting specialists. It is a significant component of the construction supply chain. E&M design is critical for design decision-making, accurate documentation, performance and cost-estimating, construction planning, etc.
- E&M works normally include design and value engineering, supply and installation, energy audit, testing and commissioning, operation and maintenance of the building facilities.
- Segmentation of E&M works include HVAC, electrical systems, drainage, plumbing, fire service
- Also, E&M works may involve certain RMAA/minor builders' work during the course of works.

Source: Frost & Sullivan

Overview of E&M Engineering Services Market in Hong Kong

Definition of E&M Engineering

Introduction of E&M Engineering

- Electrical and mechanical **("E&M")** engineering is the key domain under construction industry in Hong Kong. Demand for E&M engineering services is associated with construction works of (i) new building and facilities; and (ii) repairing, maintenance, alteration and addition works of existing building and facilities.
- E&M engineering covers design, construction and installation, testing and commissioning, and operation and maintenance of heating, air-conditioning and mechanical ventilation systems; fire protection system; plumbing and drainage system; and electrical and ultra – low voltage system for general buildings, and specialised buildings such as data centres, and healthcare facilities, which typically have high technical specification and requirements. Some E&M engineering services providers are also engaged in sales and engineering services of cable containment products, electrical generator systems, uninterrupted power supply systems, electrical busducts, HVAC equipment, etc.
- The E&M engineering services market can also be segmented based on the customers types, namely (i) private sector and (ii) public sector.

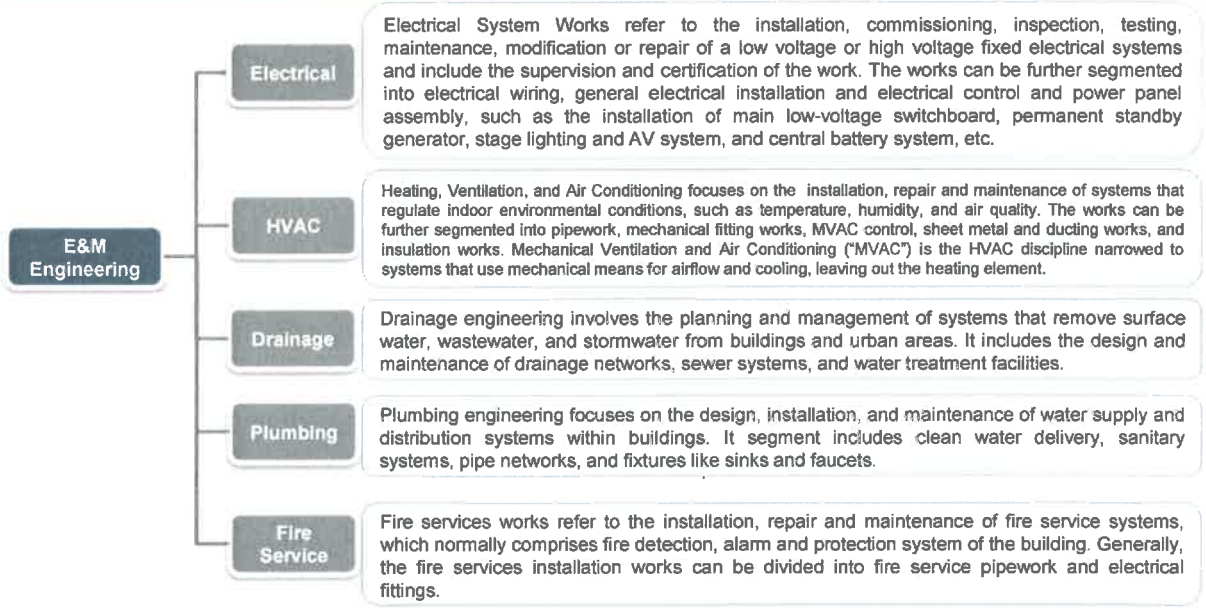
Source: Frost & Sullivan

Overview of E&M Engineering Services Market in Hong Kong

Classification of E&M Engineering (1/2)

Segmentation of E&M Engineering

Segmentation of Electrical and Mechanical Engineering

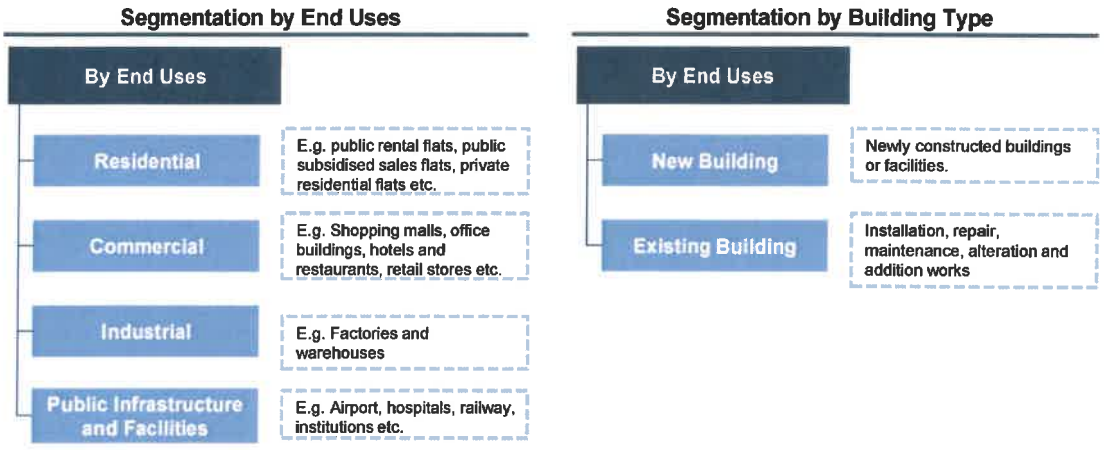


Source: Frost & Sullivan

Overview of E&M Engineering Services Market in Hong Kong

Classification of E&M Engineering (2/2)

Segmentation of E&M Engineering



Source: Frost & Sullivan

Overview of E&M Engineering Services Market in Hong Kong

Value Chain (1/2)

- The value chain of E&M engineering services market generally consists of three major parties : clients; contractors; and suppliers.
- Property owners and property managers of existing buildings, property developers of new buildings, and government departments are the major clients for construction projects in both public and private sectors. As a common practice in the construction market, contract owners initiate projects and issue work orders to main contractors in the form of tendering.
- The Group primarily serves as main contractor, serving as the central point of coordination and responsibility for the successful delivery of the project. The primary role of main contractor involves overseeing and managing all aspects of the project, including planning, scheduling, resource allocation, and ensuring compliance with safety, quality, and regulatory standards. The main contractor is responsible for hiring and supervising subcontractors, such as specialized E&M contractors for HVAC, plumbing, or fire safety systems, and ensuring their work is properly integrated with the overall construction or facility development. Additionally, they act as a liaison between the client, consultants, architects, and subcontractors, ensuring that all parties are aligned with the project's goals, specifications and timelines. The main contractor also manages procurement, ensuring that materials and equipment meet the technical specifications and are delivered on time. They play a critical role in risk management, addressing challenges such as delays, cost overruns, or on-site safety issues.
- In general, depending on client's request, project nature, agreement, main contractors and/ or subcontractors will be responsible for procurement of materials and equipment required for the projects from suppliers.

Source: Frost & Sullivan

Overview of E&M Engineering Services Market in Hong Kong

Value Chain (2/2)

- The subcontractor in an E&M project is a specialized professional or company hired by the main contractor to execute specific tasks or components of the project. Subcontractors typically focus on particular areas of expertise, such as electrical systems, HVAC installation, plumbing, fire safety, or drainage systems. Their role involves translating the project's technical designs and specifications into practical, on-site execution, ensuring that their work adheres to quality standards, safety regulations, and project deadlines.
- In the E&M engineering services market, variation orders are common and in line with industry practices, where downstream clients may demand additions and/or modifications on the original scope of work from time to time in different stages of a project. Additional work may include minor on-site out-of-scope works, dismantling completed works and re-working due to changes in architectural and/or layout designs and procurement and installation of additional systems.
- It is common industry practice for main contractors to carry out projects on a labour-and-materials-inclusive (supply-and-install) basis.
- Further, it is common in the industry that a contractor may pay on behalf of its subcontractors for certain expenses in a E&M Engineering project regarding the procurement of materials encompassing raw materials, provision of labour and machinery. For certain common construction materials, the main contractor will normally purchase the materials for subcontractors to ensure the material quality. Such expenses are typically deducted from the main contractor's payments to the subcontractors when agreeing the amount of the interim payments. The payment arrangement is commonly known as "contra-charge arrangement", which is practiced commonly in the industry. [Subject to further confirmation]
- On top of tenants and households, property developers and managers are the key customers of HVAC system works and their demand is derived from new installations, equipment replacements due to wear or technological upgrades, ongoing maintenance, tenant-specific modifications, and compliance with regulations. These activities ensure operational efficiency, tenant comfort, and adherence to modern standards, making HVAC system works a critical component of property management.

Source: Frost & Sullivan

Overview of E&M Engineering Services Market in Hong Kong

Business Operation Flow and Tendering Process (1/2)

Process Step	Sales and Marketing	Tendering	Preparation and Review of Tenders and Contracts	Project Implementation	Procurement and supply of materials and equipment	Quality and Safety Assurance	Completion
Activity	➢Referrals to tender for projects often come from word-of-mouth referral, reputation and established track record rather than advertising and promotion. ➢Leveraging on the established relationships with our customers, pre-marketing with the clients, architects and consulting engineering firms are performed	➢Projects are generally initiated through identification of tender opportunities or receipt of invitation for tender from customers, which may be open tender or sent to a selected group of prequalified contractors on their list of approved contractors.	➢ Collection of specifications and requirements ➢Cost estimation ➢Feasibility study ➢Preparation of tender	➢Formulating detailed work programs ➢Fine-tune and finalise the design control plan project master plan ➢Procurement of materials ➢Engage and delegate works to subcontractors ➢Coordinate with customer, service providers and suppliers to complete the projects according to the work schedules	➢Place orders for the major materials and equipment required ➢Conduct material planning at the commencement of a project with the objectives of ensuring specific materials are secured and material expenditure and wastage are under control	➢ Stringent controls are put in place to monitor the quality of materials used and the project implementation process ➢Continual monitor and servicing for any defects	➢Handover the works to the client's representatives ➢Issue practical completion certificate

- E&M engineering services contracts are usually arranged in one of three formats: (1) a lump-sum contract, in which all work is delivered for a fixed price; (2) a term-rate contract, in which work is performed over a defined period at agreed unit rates with no overall lump sum; or (3) a monthly-fee contract, most often used for maintenance, in which a fixed amount is paid each month. For formats (2) and (3), the service scope can be either "comprehensive" or "standard". The scope of comprehensive E&M engineering services contracts is broader, covering all E&M system aspects; standard is limited to routine tasks. Standard contracts allow client control over additional services while comprehensive contracts are all-inclusive, reducing client involvement.
- It is a common market practice that comprehensive maintenance contracts cover corrective maintenance works, which are typically identified under routine inspection, but are not covered by standard maintenance contracts. In the case of a standard maintenance contract, typically the project owners would separate engage a contractor (may or may not the maintenance contractor) to conduct those corrective maintenance works.

Source: Frost & Sullivan

Overview of E&M Engineering Services Market in Hong Kong

Business Operation Flow and Tendering Process (2/2)

Tendering for Public Sector Projects

Open Tendering

- Tender invitations are published in the Government Gazette on every Friday, on the Internet, and if necessary, in the local press and selected overseas journals. All interested contractors are free to submit tenders.

Selective Tendering

- Tender invitations are published in the Government Gazette on every Friday, or are sent by letter to all contractors on the relevant lists of approved contractors for the purpose of selective tendering. Contractors not currently on the lists may also be considered provided that there is sufficient time to complete the qualification procedure

Prequalified Tendering

- Prequalified contractors which are approved by the Permanent Secretary for Financial Services and the Treasury of Hong Kong will receive tender invitations. Invitations to apply for prequalification may take the form of open tendering or selective tendering and the respective procedures will apply.

Single and Restricted Tendering

- Tender invitations are only sent to one or a limited number of contractors/ suppliers approved by the Permanent Secretary for Financial Services and the Treasury or the Director of Government Logistics of Hong Kong. This tendering method is only used when the circumstances do not permit open tendering, for example, on grounds of extreme urgency or security, for proprietary products or for reasons of compatibility

Tendering for Private Sector Projects

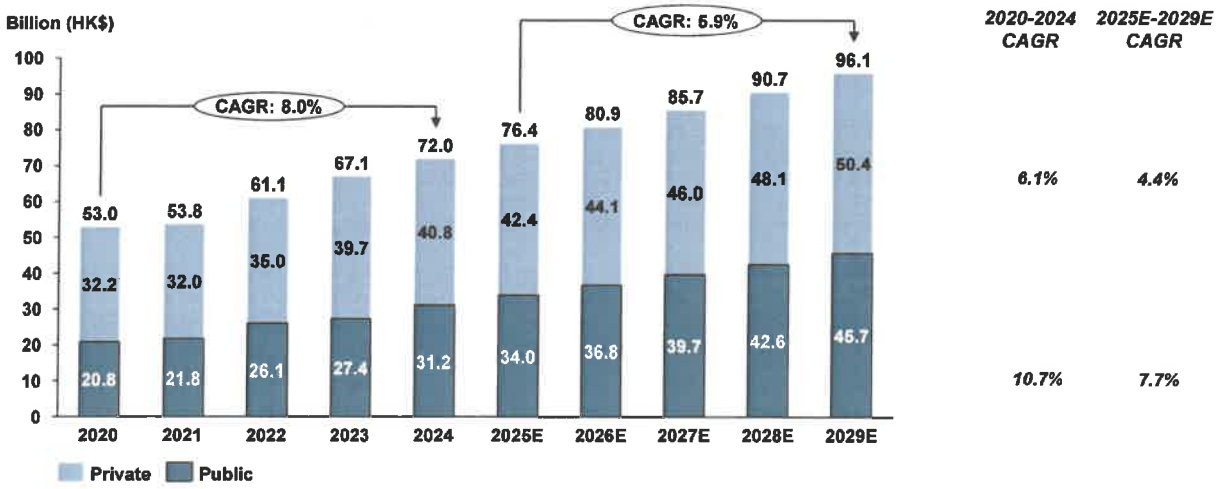
- Property owners including incorporated owners of buildings, property managers and property developers are the major clients for construction projects in private sector. As a common practice in the construction market, contract owners initiate projects and issue works orders to main contractors in the form of tendering.
- E&M engineering projects are normally awarded to contractors by way of open tenders or invited tenders. For open tender, public invitations are published in newspapers and interested parties may submit tenders. For invited tender, it is generally opened to contractors which are on the project owners/managers' approved contractor list. In addition, it is a common market norm for a property owner/manager to refer to or invite tenders from contractors (which are on the project owners'/managers' approved contractor list) for projects to be rendered in the properties whether to the property owner/manager or to the tenants.

Source: Frost & Sullivan

Overview of E&M Engineering Services Market in Hong Kong

Market Size Private/ Public Sector (1/3)

Market Size In Terms of Output Value of E&M Engineering by Sectors (Hong Kong), 2020 – 2029E



	2020-2024 CAGR	2025E-2029E CAGR
	6.1%	4.4%
	10.7%	7.7%

Source: Frost & Sullivan

Overview of E&M Engineering Services Market in Hong Kong

Market Size Private/ Public Sector (2/3)

Output value refers to the total monetary value of the work performed or completed by a construction company within a specific period, regardless of whether payment has been received. It represents the economic value of the construction output, often measured by the cost of work done, including materials, labour, and other resources used. Output value is commonly used in the Hong Kong construction industry to measure the market sizing and assess an E&M engineering company's performance.

The outbreak of COVID-19 in 2020 significantly impacted the construction and E&M engineering works in Hong Kong, causing the market size in terms of output value to decline from HK$56.2 billion in 2019 to HK$53.0 billion in 2020. However, the market has since recovered, driven by strong investments in infrastructure, urban redevelopment, and property development. By 2024, the total market size rebounded to HK$72.0 billion, and going forward, it is expected to reach HK$96.1 billion by 2029, supported by robust growth in both the private and public sectors. Public demand will be driven by the expanded Capital Works Programme, which covers railway links, hospital upgrades, the airport's three runway expansion and the delivery continuous public housing units each year, while private demand will come from faster urban renewal, the Northern Metropolis technology cluster, new data centre construction and green retrofits that favour smart and energy-efficient E&M solutions.
Overall, the overall market CAGR is projected to moderate from 8.0% during 2020 to 2024 to 5.9% from 2025 to 2029, which is attributed to post-pandemic catch-up effects as deferred projects resumed, government stimulus measures that increased infrastructure spending, and building owners continuous investment in E&M improvements to enhance fire safety, reduce energy costs, address heightened hygiene concerns, and achieve green building certifications, creating strong demand across all segments. Additionally, the accelerated adoption of smart building technologies and IoT systems during this period represented a significant technological shift, as building owners sought competitive advantages through facility modernisation and operational efficiency. The moderation in growth rates during the forecast period aligns with established patterns following periods of accelerated expansion, as the enlarged market base requires substantially greater absolute increases to achieve comparable percentage growth..

Private Sector:
The private sector experienced a decline during the pandemic, with its market size falling to HK$32.2 billion in 2020. However, it rebounded strongly, reaching HK$40.8 billion in 2024, representing a CAGR of 6.1% from 2020 to 2024. This growth has been fueled by expedited property development, urban redevelopment, and the increasing demand for E&M services in both new and existing buildings. Urban redevelopment and revitalization have become key drivers of growth in the private sector. The redevelopment of dilapidated building blocks increased from 1,543 in 2020/2021 to 1,785 in 2023/2024, while the rehabilitation of existing building blocks under various assistance schemes rose from 4,500 to 7,800 during the same period. These activities have created substantial demand for E&M engineering services, particularly for upgrading electrical, HVAC, and plumbing and drainage system in aging buildings, where owners are now starting to adopt smart meters, Internet-of-Things-enabled sensors, variable-speed drives, and AI-driven building-management platforms to boost energy efficiency and enable predictive maintenance. In addition, the government's medium- and long-term plans for property development continue to drive demand for E&M services. Major new development area (**"NDA"**) projects, such as Hung Shui Kiu/Ha Tsuen New Development Area, Kwu Tung North/Fanling North NDA, San Tin Technopole, Yuen Long South NDA, Ngau Tam Mei, New Territories North New Town, and Ma Tso Lung, are currently under planning or have commenced work. Looking ahead, the private sector is forecasted to grow at a CAGR of 4.4%, with its market size expected to reach HK$50.4 billion by 2029. The slower growth rate of Hong Kong's private sector E&M engineering services industry from 2025 to 2029, compared to 2020-2024, is driven by the completion of major private property developments, including Grand Central, The Southside, K City, Monterey, Cullinan West, and The Campton. The private E&M engineering services sector relies heavily on the property market, especially residential and commercial projects. It grew from 2020 to 2024 thanks to strong housing demand and commercial developments. But the property market is expected to slow in from 2025 to 2029 due to high interest rates and economic uncertainty, with low activity in both residential and commercial buildings.

Source: Frost & Sullivan

Overview of E&M Engineering Services Market in Hong Kong

Market Size Private/ Public Sector (3/3)

Public Sector :

In Hong Kong, a substantial proportion of the E&M engineering services are conducted for public sector properties, encompassing both new and existing buildings, including the projects commissioned by the Hong Kong Government, Airport Authority, Housing Authority and Hospital Authority. The public sector recorded the growth from HK$20.8 billion in 2020 to HK$31.2 billion in 2024, achieving a CAGR of 10.7%. Supported by the rising supply of public housing and investment in infrastructure, the public sector is forecasted to grow at a CAGR of 7.7% from 2025 to 2029, reaching HK$45.7 billion by 2029.

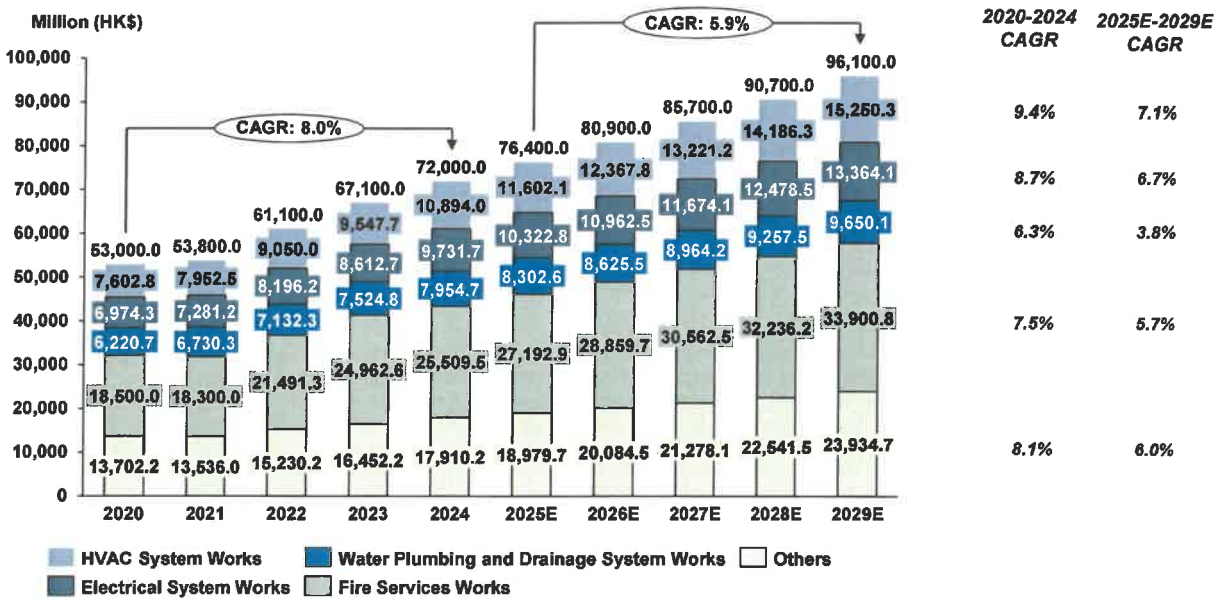
Public-sector construction has comparatively grown faster than private work due to the Government / public corporates such as MTR and Aiport Authority injecting large, steady funding into headline projects push such as the airport's three-runway system, new rail links, major hospital redevelopments and a stepped-up public-housing programme that alone requires at 20 thousand flats a year. Private developers are pacing their project launches more selectively in response to the higher financing costs, elevated office vacancy and a smaller pipeline of newly tendered sites; it is not rising as robustly as the policy-driven surge on the public side.
The slower growth rate of Hong Kong's public sector E&M engineering services industry from 2025 to 2029, compared to 2020–2024, is driven by the completion of major public housing projects, including Kai Tak Development sites, Hung Fuk Estate, the Shek Pai Wan Estate Redevelopment, and the Yau Tong Estate Redevelopment, which generated demand for E&M engineering services.

Source: Frost & Sullivan

Overview of E&M Engineering Services Market in Hong Kong

Market Size by Segments (1/2)

Market Size In Terms of Output Value of E&M Engineering by Segments (Hong Kong), 2020 – 2029E



	2020-2024 CAGR	2025E-2029E CAGR
HVAC System Works	9.4%	7.1%
Water Plumbing and Drainage System Works	8.7%	6.7%
Others	6.3%	3.8%
Electrical System Works	7.5%	5.7%
Fire Services Works	8.1%	6.0%

Remark : Others include but not limited to, lifts and escalator works, specialised system works for systems such as Building Management Systems, Extra Low Voltage System, Digital signage systems and Telecommunications systems etc.

Source: Frost & Sullivan

Overview of E&M Engineering Services Market in Hong Kong

Market Size by Segments (2/2)

In 2024, HVAC system works, electrical system works, water plumbing and drainage system works, and fire services works collectively account for approximately 74.0% of the total E&M engineering market. Among these, the three fundamental systems, HVAC, electrical, and water plumbing and drainage, represent 39.7% of the market, highlighting their critical role in building infrastructure. The distribution underscores how these systems work remain the backbone of the E&M industry.

Among the E&M sub-segments, HVAC system works demonstrated the strongest historical performance with a CAGR of 9.4% from 2020 to 2024, driven by heightened demand for modernisation of ageing residential and commercial buildings, air quality improvements post-pandemic, and the integration of smart climate control systems. The momentum is expected to moderate to 7.1% from 2025 to 2029 as the initial wave of pandemic-driven retrofits concludes and the market shifts toward steady replacement cycles and maintenance contracts. Electrical system works achieved robust growth of 8.7% from 2020 to 2024, propelled by steady demand for repair and maintenance and widespread adoption of smart building management systems. The segment's projected to 6.7% from 2025E to 2029E reflects the completion of major electrical modernisation programs and a transition to incremental upgrades and system optimisation. Water plumbing and drainage system works expanded at 6.3% from 2020 to 2024, driven by ageing infrastructure and maintenance needs as well as advancement in water and plumbing system technology. The forecast period projects growth of 3.8% from 2025 to 2029, as the segment continues to be supported by new construction activity, preventive maintenance requirements, and selective upgrades to water conservation technologies.

Source: Frost & Sullivan

Overview of E&M Engineering Services Market in Hong Kong

Market Outlook (1/2)

Demand for Smart and Green Building Technologies

- In Hong Kong, with buildings contributing over 90% of the city's electricity consumption and 60% of its carbon emissions, the demand for smart and green building technologies is on a sharp upward trajectory as the city accelerates its efforts toward achieving carbon neutrality by 2050.
- Supporting the development of smart green buildings, the Hong Kong Green Building Council's **("HKGBC")** Smart Green Building Design Best Practice Guidebook provides a framework for adopting state-of-the-art technologies. These include Building Information Modeling **("BIM")**, Internet-of-Things-enabled building management systems, and AI-driven energy optimization, all of which enhance operational efficiency while reducing energy consumption. Renewable energy systems, such as solar panels and wind turbines, and innovative solutions for indoor environmental quality and water conservation are also key components of this smart green evolution. These technologies directly impact the E&M systems of buildings, as energy-efficient HVAC systems, advanced lighting controls, and smart meters become critical to achieving sustainability goals.
- The E&M sector plays a vital role in supporting the adoption of these smart green technologies. For example, the integration of IoT sensors into E&M systems enables real-time data collection and remote monitoring of building performance, allowing facility managers to optimize energy use and reduce operational costs. AI-powered systems for HVAC control, demand-based ventilation, and advanced energy management systems are being widely implemented to enhance the energy efficiency of buildings. Additionally, the retrofitting of existing E&M installations with modern, energy-efficient equipment is becoming a significant trend as developers aim to meet stricter energy codes while obtaining green certifications such as BEAM Plus. The Construction Innovation and Technology Fund **("CITF")** and Green Tech Fund have provided significant funding to support the adoption of innovative construction and energy solutions, including Modular Integrated Construction **("MiC")** and energy-efficient E&M systems.
- Regarding existing building's redevelopment and rehabilitation, the Urban Renewal Authority **("URA")** is one of the contributors to incorporating green and smart building designs, such as energy efficiency measures, water conservation systems, and construction waste management, across all projects. To date, over 35 of URA's redevelopment projects have achieved BEAM or BEAM Plus certification, reflecting their sustainable building designs.

Source: Frost & Sullivan

Overview of E&M Engineering Services Market in Hong Kong

Market Outlook (2/2)

Opportunities of Refurbishment of Ageing Buildings

- In Hong Kong, there are over 9,600 private buildings aged 50 years or above in 2024 and this number is expected to rise to 15,800 by 2032 and 22,900 by 2042, with one-fifth of these being private commercial buildings. Further, a total of about 6,500 private buildings in Hong Kong are issued with Mandatory Building Inspection Scheme notices, while there are the 3,100 "three-nil" buildings lacking proper management, require extensive upgrades in structural stability, fire safety, energy efficiency, and mechanical systems. These collectively creates a robust demand for E&M professionals to modernize and optimize building systems, ensuring compliance with safety regulations while improving operational efficiency.
- Government initiatives, such as the third-round of Operation Building Bright 2.0 Scheme and Fire Safety Improvement Works Subsidy Scheme launched in 2023, implemented by the Buildings Department in partnership with the Urban Renewal Authority (URA), which aim to provide subsidies and technical support for inspection and repair works, is further incentivizing building owners to initiate refurbishment projects.
- Furthermore, the government lowering threshold for compulsory sale of ageing properties, from 80% to 65-70% for buildings over 50 years in 2024 could significantly accelerate the pace of redevelopment projects in Hong Kong. This amendment would make it easier for property owners and developers to consolidate fragmented ownership, particularly in older districts with numerous small-unit buildings. The anticipated increase in redevelopment activities presents substantial opportunities for E&M professionals, as these projects require comprehensive upgrades and installations of modern electrical and mechanical systems to meet evolving safety, energy efficiency, and sustainability standards.
- In redevelopment projects, E&M professionals are integral to designing and implementing advanced building systems that align with current regulations and market demands. For instance, electrical systems in older buildings are often outdated and incapable of supporting modern energy-efficient technologies, such as LED lighting, smart meters, and renewable energy systems like solar panels. Also, redevelopment projects allow the incorporation of state-of-the-art HVAC systems with demand-controlled ventilation and energy recovery technologies, which not only improve indoor air quality but also significantly reduce energy consumption.

Note: "Three-nil buildings" generally refer to buildings that neither have an owners' corporation ("OCs") or any form of residents' organisation, nor employ a property management company ("PMC") to manage the buildings.

Source: Frost & Sullivan

Overview of E&M Engineering Services Market in Hong Kong

Market Outlook (2/2)

Opportunities of Refurbishment of Ageing Buildings

- Particularly in the commercial buildings segment, there are few key policies and subsidies measures involved, including but not limited to (i) the Building Safety Loan Scheme administered by the Buildings Department gives individual owners of commercial and other buildings access to low-interest loans for safety-related works, including electrical and fire-safety upgrades, drainage renewal and removal of unauthorised structures, stimulating demand for specialist E&M contractors (ii) the BEAM Plus Tax Incentives and Funding Assistance programme lets new building or existing buildings projects with at least a Final Bronze rating register their energy efficient installations under the EMSD Energy Efficiency Registration Scheme for Buildings, making the related capital outlay eligible for accelerated profits-tax deductions; (iii) CLP Power's Electrical Equipment Upgrade Scheme, which provides subsidies aimed especially at small and medium-sized enterprises for the installation or upgrade of high-efficiency lighting and air-conditioning equipment, reducing upfront expenditure and delivering quicker energy savings for commercial users, while simultaneously generating new orders for HVAC specialists, lighting contractors and energy-service companies who supply, install and maintain the upgraded systems. (iv) the Buildings Energy Efficiency Ordinance (Cap. 610), which requires commercial buildings and other specified buildings to meet the Building Energy Code when they are newly constructed or when major retrofitting works are carried out and to complete energy audits every five years, which induces a recurring pipeline of mandatory upgrade work for E&M retrofit specialists, from high-efficiency chiller, and smart lighting to variable speed drives pumps.

Source: Frost & Sullivan

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Overview of E&M Engineering Services Market in Hong Kong

Estimated Annual Expenditure on The Maintenance of E&M System

Estimated Annual Expenditure on The Maintenance of E&M System

- As estimated, annual E&M maintenance costs of small to medium commercial buildings (e.g., 10,000–50,000 sq. ft.) range from HK$500,000 to HK$2 million. This covers routine maintenance of HVAC, electrical systems, lifts, and fire services. For large commercial buildings (e.g., over 100,000 sq. ft.), costs can range from HK$2 million to HK$10 million annually, depending on system complexity and usage intensity. The average annual E&M maintenance cost for commercial building is estimated to be around HKD40 per sq.ft. These figures are compiled by referencing data published by The Hong Kong Association of Property Management Companies Limited and the Rating and Valuation Department of Hong Kong.

Property Manager (By Group)	Total Commercial Area Managed in 2024 (Sq.metre)	Estimated Annual E&M Maintenance Expenditure (HKD Million)
Sun Hung Kai Properties Ltd.	31,019,523	1,241
Savills Plc.	38,131,494	1,525
CK Asset Holding Ltd.	12,381,586	495
Henderson Land Development Co. Ltd.	3,553,392	142
China Resources Property Management Ltd	8,754,829	350
FSE Lifestyle Services Limited	32,000,000	1,280
Link Property Management Services Ltd	8,700,000	348
Jones Lang LaSalle Management Services Ltd	1,560,670	62
Total	136,101,494	5,443

Source: Frost & Sullivan

Overview of E&M Engineering Services Market in Hong Kong

Licensing Regime, Regulations and Government Policies

Policies and Regulations	Effective Date	Issuing Department	Key Messages
Register of General Building Contractors	2000	BD	The Register of General Building Contractors (RGBC) in Hong Kong is a list maintained by the Buildings Department (BD) under the Buildings Ordinance (Cap. 123). It includes companies authorized to carry out general building works and minor works, excluding specialized works that fall under the purview of Registered Specialist Contractors (e.g., demolition, foundation, ventilation, or electrical works).
O&M Best Practices Booklets & Handbooks	-	EMSD	The Handbook serve as comprehensive guides to support building owners, facility managers, and E&M practitioners in optimizing the performance, safety, and energy efficiency of building services systems.
Safety & Health Handbook	2017	EMSD	The Handbook aims to promote health and safety culture and to prevent workplace accidents for EMSD and the associated contractors to achieve zero accident in worksites. Practical health and safety guidelines are provided in the Handbook for reference by staff of EMSD and the associated contractors.
Code of Practice for the Electricity (Wiring) Regulations	2015	EMSD	The code provides guidelines for all kinds of buildings and properties to be in line with Electricity (Wiring) Regulations.
Code of Practice for Building Energy Audit	2015	EMSD	This code sets out the technical guidance and details in respect of the energy audit requirements governing the central building services installation under the Ordinance.
Air Pollution Control Ordinance	2014	EPD	The policy aims to make provision for abating, prohibiting and controlling emission of air pollutants and noxious odour from construction, industrial and commercial activities and other polluting sources. Subsidiary regulations also impose control on air pollutant emissions from certain operations through the issue of licenses and permits.
Building Energy Efficiency Ordinance	2012	EMSD	To regulate compliance with codes of practice concerning the energy efficiency of air-conditioning installations, electrical installations, lift and escalator installations and lighting installations and energy audits in respect of several types of buildings and to provide for related matters
Environmental Impact Assessment Ordinance	2011	EPD	To avoid and minimise environmental impact of projects through application for environmental permit system prior to construction projects.

Remark : The laws and regulations applicable to the E&M engineering in Hong Kong include but not limit to the aforementioned list.

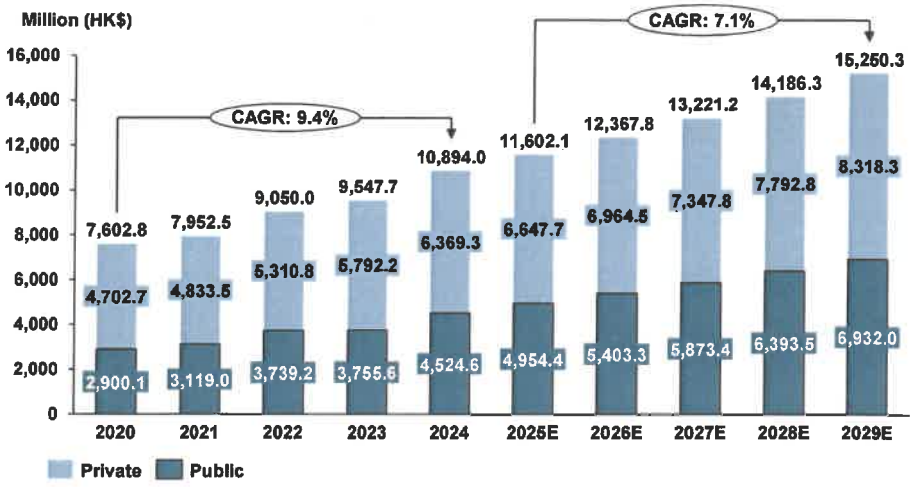
Source: Electrical and Mechanical Services Department ("EMSD"), Environmental Protection Department ("EPD"), Fire Services Department ("FSD"), Frost & Sullivan

Agenda

Overview of HVAC System Works Market in Hong Kong

Market Size by Private/ Public Sector (1/3)

Market Size In Terms of Output Value of HVAC System Works by Sectors (Hong Kong), 2020 – 2029E



	2020-2024 CAGR	2025E-2029E CAGR
Private	7.9%	5.8%
Public	11.8%	8.8%

Source: Frost & Sullivan

Overview of HVAC System Works Market in Hong Kong

Market Size by Private/ Public Sector (2/3)

HVAC system works are one of the key sub-segment of E&M engineering services and account for 15.1% of overall market size in terms of output value. The market size for HVAC system works in Hong Kong has shown robust growth, driven by urban renewal, sustainability initiatives, and technological advancements. The total market output value reached HK$10,894.0 million in 2024, growing at a CAGR of 9.4% from 2020 to 2024, and is projected to expand further to HK$15,250.3 million by 2029, with a slightly slower CAGR of 7.1% from 2025 to 2029.

Private Sector:

The private sector has been the dominant driver of this growth, contributing HK$6,369.3 million in 2024 from HK$4,702.7 million in 2020, with a CAGR of 7.9% during this period. The continuous expansion is fueled by retrofitting and modernization of ageing private buildings, particularly in residential and commercial sectors, where property owners aim to enhance energy efficiency, comply with Indoor Air Quality standards, and remain competitive with newer developments. Private sector growth is expected to grow at a CAGR of 5.8% from 2025 to 2029 and reaching HK$8,318.3 million by 2029, reflecting steady demand for upgrades and smart HVAC technologies.

Public Sector :

Meanwhile, the public sector has experienced even faster growth, driven by large-scale government-led initiatives and infrastructure projects. Starting from HK$2,900.1 million in 2020, the sector surged to HK$4,954.4 million in 2024, with a CAGR of 11.8%. The rapid growth reflects efforts to modernize public facilities, enhance Indoor Air Quality (**"IAQ"**) in public spaces, and implement green building initiatives such as district cooling systems in Kai Tak area. The public sector is expected to maintain strong momentum, growing at a CAGR of 8.8% from 2025 to 2029, and reaching HK$6,932.0 million by 2029, as Hong Kong ramps up its sustainability and carbon neutrality goals by 2050.

Source: Frost & Sullivan

Overview of HVAC System Works Market in Hong Kong

Market Size by Private/ Public Sector (3/3)

The spike was attributed to multiple factors including public-housing completions rose from about 12,100 units in 2023 to nearly 29,300 units in 2024, while several headline infrastructure projects, the airport's three-runway expansion, Northern Link and Tung Chung rail works, major hospital redevelopments and the Kai Tak Sports Park, moved into their peak superstructure and E&M phases, the most resource-intensive stages. At the same time, the full post-COVID reopening cleared labour and supply-chain bottlenecks, allowing contractors to catch up on backlogs and accelerate site progress, producing a sharp rise in overall public-sector construction activity.

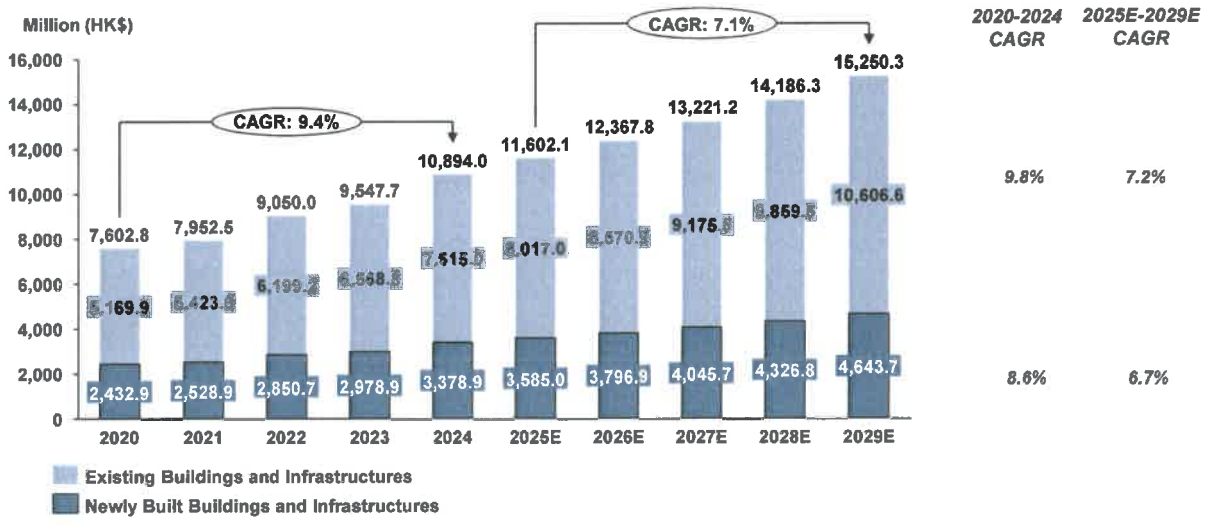
Similar to E&M market description, public sector outpaced due to airport and rail expansions, new hospitals, and an enlarged public-housing pipeline all specify large-capacity, high-spec climate-control systems, while for private developers, facing soft office and retail absorption as well as higher borrowing costs, are not as active on new starts and major retrofits

Source: Frost & Sullivan

Overview of HVAC System Works Market in Hong Kong

Market Size by Building Stages (1/3)

Market Size In Terms of Output Value of HVAC System Works by Building Stages (Hong Kong), 2020 – 2029E



Source: Frost & Sullivan

Overview of HVAC System Works Market in Hong Kong

Market Size by Building Stages (2/3)

The HVAC system works market in Hong Kong is segmented into two main categories: existing buildings and infrastructure and newly built buildings and infrastructure. For existing buildings, HVAC system works include repair, maintenance, retrofitting, and upgrades, which are driven by the need to improve energy efficiency, comply with updated building standards, and enhance indoor air quality in aging building stock. In contrast, HVAC system works for newly built buildings involve the installation of systems in new construction projects, such as residential developments, commercial properties, and public infrastructure.

Existing Buildings and Infrastructures:

In terms of market size, the HVAC works for existing buildings and infrastructure are the largest segment, accounting for approximately 69.0% of the total HVAC works market in 2024. The market grew from HK$ 5,169.9 million in 2020 to HK$ 7,515.0 million in 2024, at a CAGR of 9.8%, and is estimated to reach HK$ 10,606.6 million by 2029, at a CAGR of 7.2% from 2025 to 2029. The consistent growth reflects the strong demand for retrofitting and upgrading HVAC systems in aging commercial, residential, and retail buildings, as well as public infrastructure, where advances in high efficiency chillers, Internet of Things-enabled controls, and predictive maintenance software are prompting earlier replacement of legacy equipment. Commercial retrofits of HVAC systems grow robustly due to energy code requirements, Building Environmental Assessment Method Plus **("BEAM Plus")** and Leadership in Energy and Environmental Design **("LEED")** targets, and rapid payback periods encourage landlords to renew chillers, controls and ventilation systems more frequently than residential owners, while the ongoing modernisation of public infrastructure provides an additional source of demand. The refurbishment cycle, especially in commercial and retail sectors, where keeping systems modern and efficient is critical for tenant satisfaction and operational performance, also contributes significantly to the growth of this segment.

Newly Built Buildings and Infrastructures :

The market for newly built buildings and infrastructure is smaller but still growing steadily. It reached HK$ 3,378.9 million in 2024, up from 2020, with a CAGR of 8.6%, and is expected to grow to HK$ 4,643.7 million by 2029, at a CAGR of 6.7% in the same period. This growth is driven by ongoing public housing projects, expansions in infrastructure like the Northern Metropolis, and the demand for high-efficiency HVAC systems in new developments.

Source: Frost & Sullivan

Overview of HVAC System Works Market in Hong Kong

Market Size by Building Stages (3/3)

The comparatively high CAGR for 2020–2024 is largely a statistical reflection of how subdued the market was in 2020, when pandemic-related site closures and supply-chain issues suppressed spending to an abnormally low level; the rebound that followed therefore lifts the average growth rate for the entire period. Looking ahead, the projected CAGR for 2025–2029 is lower only as it is calculated from a much larger, already-recovered base. In absolute dollar terms the HVAC market is still expected to expand every year, and the total value added during 2025–2029 is forecast to exceed that of the previous five-year span. A smaller percentage growth rate therefore signals normalisation rather than weakness.

Source: Frost & Sullivan

Overview of HVAC System Works Market in Hong Kong

Market Drivers (1/3)

Modernization Needs of Ageing Buildings

The ageing building stock in Hong Kong is a critical market driver for repair, maintenance, alteration, and addition works of HVAC systems. With over 9,600 buildings aged 50 years or older recorded in 2024, and over 28,000 buildings aged 30 years or older, many properties face challenges such as outdated infrastructure, inefficient systems, and structural wear and tear. These issues are prevalent across residential buildings, which house the majority of Hong Kong's population, and commercial properties, including office spaces and retail centers, which are vital to the city's economy. Ageing buildings are particularly vulnerable to issues such as higher energy consumption, inconsistent system performance, and increased maintenance needs, creating ongoing demand for retrofits and replacements. Many property developers, property owners and property managers are prioritizing the refurbishment of these buildings to enhance their functionality, extend their lifespan, and improve indoor environments to better compete with newer developments. The focus on modernizing these properties, especially in densely populated urban areas, is driving consistent demand for HVAC system upgrades, as well as associated maintenance and repair services.

Favourable Government Policies and Subsidies

In 2023, the third round of the Operation Building Bright 2.0 implemented in partnership with the Urban Renewal Authority **("URA")** was launched with an aim to assist owners of ageing residential and composite buildings in conducting essential repair, maintenance, and safety improvement works, targeting buildings aged 30 years or older. The subsidies, which cover up to 80-100% of repair costs for eligible owner-occupiers, have significantly reduced the financial burden of maintenance and modernization projects. It has incentivized building owners to address long-overdue upgrades, particularly in HVAC systems, which are critical for both functionality and tenant safety, driving the growth of HVAC system works market.

Source: Frost & Sullivan

Revised

Overview of HVAC System Works Market in Hong Kong

Market Drivers (2/3)

Rising Awareness of Indoor Air Quality and Related Scheme

Indoor Air Quality **("IAQ")** awareness is emerging as a significant market driver in Hong Kong, bolstered by recent regulatory updates, public health priorities, and the city's sustainability goals. The Environmental Protection Department **("EPD")** has been pivotal in promoting IAQ improvements through its IAQ Certification Scheme for Offices and Public Places. As of 2023, over 2,100 premises have been certified under the IAQ Certification scheme, a 25-fold increase compared the scheme commencement in 2003. The IAQ objectives updates fully implemented in 2024 have tightened requirements for pollutants like carbon monoxide, respirable suspended particulates, radon, and nitrogen dioxide, and introducing mould as a new parameter. These stricter standards have created a surge in demand for HVAC system upgrades, advanced air filtration technologies, and compliance consulting, particularly in older buildings and high-traffic public spaces. The momentum is reinforced by the growing popularity of green-building labels such as Building Environmental Assessment Method Plus **("BEAM Plus")** and Leadership in Energy and Environmental Design **("LEED")**, have propelled developers and property managers to adopt IAQ-focused solutions, including energy-efficient ventilation systems and real-time air quality monitoring, as a way to enhance tenant satisfaction, improve ESG performance, and maintain competitiveness, creating further market opportunities for HVAC system upgrades and maintenance. Moreover, the environmental, social and governance ("ESG") disclosure requirements of Hong Kong Stock Exchange oblige listed property groups to measure and report building-level energy use and IAQ data, giving their property-management arms a clear financial and reputational incentive to install real-time monitoring, upgrade ventilation systems and pursue energy-saving measures. Together, these forces are expanding the market for HVAC system upgrades, advanced air-filtration technologies and associated maintenance and consulting services. The COVID-19 outbreak in Hong Kong from 2020 to 2023 underscored the critical role of effective ventilation systems in reducing airborne pathogen transmission in densely occupied spaces, driving demand for advanced building system upgrades like HEPA filters, UV-C disinfection, and smart ventilation technologies. This has led organizations to adopt stricter ventilation protocols and retrofit outdated systems, creating opportunities for HVAC providers to offer enhanced retrofitting, maintenance, and real-time monitoring solutions. The market size in terms of output value of HVAC system works derived from rising awareness of indoor air quality after the COVID-19 pandemic increased from HK$988.3 million in 2020 to HK$1,465.2 million in 2024, at a CAGR of 10.3% and is expected to increase from HK$1,566.2 million in 2025 to HK$2,089.2 million in 2029, at a CAGR of 7.5% from 2025 to 2029.

Source: Frost & Sullivan

Revised

Overview of HVAC System Works Market in Hong Kong

Market Drivers (3/3)

Retrofitting for Functional Space Optimisation of Commercial Buildings

In Hong Kong, many older commercial properties, including offices, shopping malls, and mixed-use developments, require significant HVAC upgrades to align with new space designs, improve energy efficiency, and comply with IAQ standards. Property developer or property management companies often initiate retrofitting projects for functional space optimisation, which involves upgrading or replacing inefficient HVAC systems to better support reconfigured layouts, such as open-plan offices, expanded retail spaces, or multi-purpose facilities. Optimized HVAC systems are critical for ensuring consistent airflow, temperature control, and energy savings, especially in older buildings with outdated infrastructure. Additionally, the integration of smart HVAC technologies and energy-efficient systems is becoming a prevalent to reduce operational costs and enhance building performance. The market size in terms of output value of HVAC system works derived from retrofitting for functional space and optimisation of commercial buildings increased from HK$1,140.4 million in 2020 to HK$1,644.9 million in 2024, at a CAGR of 9.6% and is expected to increase from HK$1,740.3 million in 2025 to HK$2,302.7 million in 2029, at a CAGR of 7.3% from 2025 to 2029.

Impact of COVID-19 on Ventilation and Building Systems

The outbreak of the COVID-19 during 2020 to 2023 in Hong Kong highlighted the importance of maintaining effective ventilation systems to minimize airborne transmission of pathogens, particularly in densely occupied spaces like offices, schools, hospitals, and shopping malls. It has driven significant demand for the enhancement of building systems, including the installation of HEPA filters, UV-C disinfection technologies, and smart ventilation solutions that optimize airflow and monitor environmental conditions in real time. In response to heightened health and safety concerns, many organizations have implemented stricter ventilation protocols and upgraded outdated systems to meet modern performance standards. These developments have created opportunities for HVAC service providers to offer advanced retrofitting, maintenance, and real-time monitoring technologies.

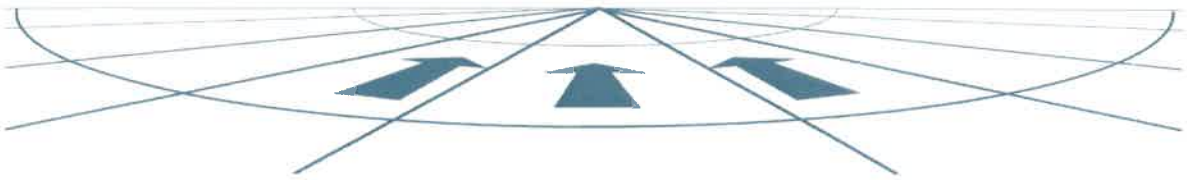
Source: Frost & Sullivan

Overview of HVAC System Works Market in Hong Kong

Development Trend and Opportunities (1/2)

Technological Advancement in HVAC Systems

With the growing emphasis on energy efficiency and environmental responsibility, property owners, property managers and property developers are increasingly incorporating smart HVAC systems that leverage Internet of Things technology, Artificial Intelligence, and advanced automation. IoT-enabled HVAC systems use sensors to collect real-time data on temperature, humidity, and energy consumption, allowing for remote monitoring and control. Centralized systems that manage various building operations, including energy management, security, and maintenance, improving overall efficiency. AI analyzes this data to optimize system performance, predict maintenance needs, and reduce energy waste through machine learning algorithms. Advanced automation further enables HVAC systems to dynamically adjust airflow, cooling, or heating based on occupancy patterns and environmental conditions, ensuring maximum efficiency and comfort. Additionally, advancements in high-efficiency heat pumps, variable refrigerant flow (**"VRF"**) systems, and energy recovery ventilation (**"ERV"**) are enabling HVAC systems to meet stricter energy codes and sustainability goals. The integration of renewable energy sources, such as solar-powered HVAC systems, is also gaining traction. Besides, technological innovations in air purification and filtration systems, such as UV-C disinfection and HEPA filters, are becoming increasingly important in response to heightened concerns about indoor air quality IAQ and health. These advancements are particularly relevant for commercial buildings, such as offices and shopping malls, where maintaining a safe and healthy environment is essential for occupants. As the demand for smart, energy-efficient, and environmentally friendly HVAC solutions continues to grow, technological advancements will remain a key trend shaping the HVAC system works market in Hong Kong.



Source: Frost & Sullivan

Overview of HVAC System Works Market in Hong Kong

Development Trend and Opportunities (2/2)

Sustainability and Decarbonization Initiatives

As Hong Kong works toward carbon neutrality by 2050, and toward the interim Government target of a 50 percent cut in city-wide carbon emissions by 2035 relative to the 2005 baseline, the adoption of energy-efficient HVAC technologies is gathering pace. Listed property companies that own older commercial and office towers face mounting pressure to meet environmental, social and governance reporting requirements while also curbing electricity costs, so many are replacing legacy chillers and air-handling units with advanced heat pumps, variable refrigerant flow systems and smart energy-management platforms. These modern installations combine real time monitoring, AI driven optimisation and renewable-energy integration such as solar assisted chillers to reduce both energy consumption and greenhouse-gas output. At the same time, Building Environmental Assessment Method Plus ("BEAM Plus") and Leadership in Energy and Environmental Design ("LEED") certifications reward projects that deliver superior energy performance, which further stimulates demand for high-efficiency HVAC solutions in new developments and, especially, in retrofit programmes where the environmental and financial pay-offs are greatest.

Adoption of District Cooling System

The District Cooling System **("DCS")** is a centralised cooling solution, which produces chilled water at a central plant and distributes it to multiple buildings for air conditioning, replacing the need for individual cooling systems and enhances energy efficiency by optimising cooling loads across buildings and utilizing high-efficiency equipment, significantly reducing operational costs and greenhouse gas emissions. According to the Environmental and Ecology Bureau, the adoption of DCS in areas like Hung Shui Kiu/Ha Tsuen and San Tin Technopole is projected to save over HKD 40 billion in project costs. Additionally, DCS improves urban aesthetics by minimizing rooftop equipment and mitigating the urban heat island effect. Accordingly, DCS is set to expand further as part of Hong Kong's green development strategy, creating significant opportunities in the HVAC system works market.

Source: Frost & Sullivan

Overview of HVAC System Works Market in Hong Kong

Threats and Challenges

Shortage of Labour

According to the Construction Industry Council **("CIC")**, the site supervisory personnel and technician role involved in air-conditioning/ ventilation works are experiencing a critical shortage of over 25% as of 2024, while skilled or semi-skilled air-conditioning/ ventilation mechanics face a shortage of approximately 6-15% in 2024. Additionally, air-conditioning/ ventilation Mechanic is listed in the CIC's List of Shortage Trades, highlighting the difficulty in finding qualified personnel for these essential roles. The labour shortage not only delays project timelines but also increases labor costs and limits the market's ability to adopt and maintain advanced HVAC technologies such as IoT-enabled systems and energy-efficient solutions. As the demand for sophisticated HVAC systems grows, addressing this labor gap is crucial to ensuring the sustainable development of the industry in Hong Kong.

Rising Labour Cost

According to the Census and Statistics Department, the average daily wages of workers engaged in HVAC system works rose from HK$1,037.9 in 2020 to HK$1,228.2 in 2024, representing a CAGR of 4.3%. The persistent rise in labor costs adds financial pressure to HVAC system works providers, especially in a highly competitive market where profit margins are already tight. The increasing expenses also make budget management more challenging, particularly for small and medium-sized enterprises and retrofitting projects. With the ongoing skilled labor shortage, as highlighted by the Construction Industry Council, these rising wages are expected to remain a challenge

Market Competition

Market Competition is a significant challenge in the HVAC system works market in Hong Kong, as the HVAC system works industry is highly competitive with a large number of players offering similar products and services. The intense competition pressures companies to stand out while maintaining competitive pricing, which often impacts profit margins. Smaller firms, in particular, struggle to compete with larger corporations that have the resources to adopt cutting-edge technologies, invest in skilled labor, and provide comprehensive solutions such as energy-efficient and smart HVAC systems.

Source: Frost & Sullivan

Overview of HVAC System Works Market in Hong Kong

Licensing Regime, Regulations and Government Policies

Policies and Regulations	Effective Date	Issuing Department	Key Messages
O&M Best Practices Booklets & Handbooks-HVAC Systems	-	EMSD	This Booklet is intended to outline the guiding principles on general, good and best practice to be considered during the design, construction, operation, maintenance, alteration, addition and replacement for the heat, ventilation and air conditioning (HVAC) installations in buildings to upraise the efficiency of asset management.
Registered Specialist Contractor (Ventilation Works)	1997	BD	HVAC system works fall under the category of "Ventilation Works" in Hong Kong. Companies engaging in such works must be registered as a Registered Specialist Contractor (Ventilation Works) under the Buildings Ordinance (Cap. 123).This registration is mandatory for carrying out specialized works in new construction, repair, alteration, and maintenance of ventilation systems.
Registered Minor Works Contractor (Works relating to Ventilation System inside Building).	2010	BD	If the HVAC system works involve minor works, such as small-scale repairs, maintenance, or alterations, contractors must register as a Minor Works Contractor (MWC) under the Minor Works Control System under type H (Works relating to Ventilation System inside Building). Minor works are classified into Classes I, II, and III, depending on their complexity and risk. Many HVAC-related tasks (e.g., installing ductwork or repairing small ventilation systems) fall under these categories.
Air Pollution Control Ordinance	2014	EPD	The policy aims to make provision for abating, prohibiting and controlling emission of air pollutants and noxious odour from construction, industrial and commercial activities and other polluting sources. Subsidiary regulations also impose control on air pollutant emissions from certain operations through the issue of licenses and permits.
Registered Electrical Worker for Electrical Work	1992	EMSD	HVAC systems often involve electrical components, such as motors, compressors, and control systems. Workers performing electrical-related tasks must be registered under the Electricity Ordinance (Cap. 406) as Registered Electrical Workers (REWs).

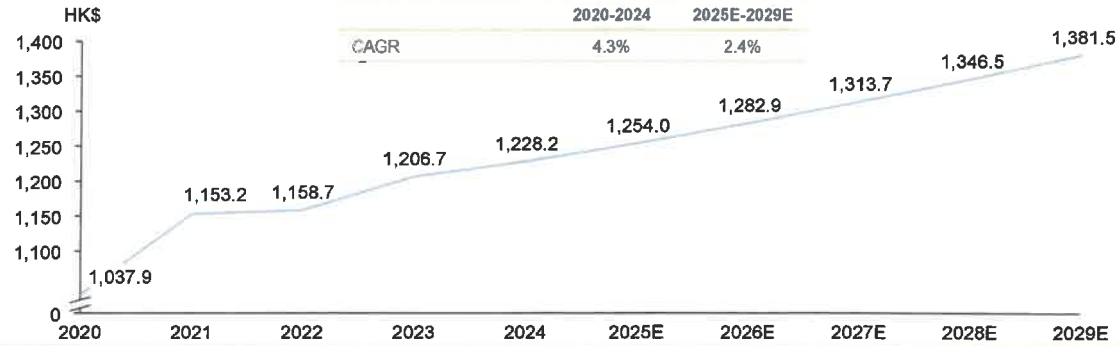
Remark : The laws and regulations applicable to the E&M engineering in Hong Kong include but not limit to the aforementioned list.

Source: Buildings Department ("BD"), Electrical and Mechanical Services Department ("EMSD"), Environmental Protection Department ("EPD"), Frost & Sullivan

Overview of HVAC System Works Market in Hong Kong

Cost Analysis – Labour Cost

Average Daily Wages of Workers Engaged in HVAC System Works Market (Hong Kong), 2020-2029E



- The average daily wages of workers in the HVAC systems market in Hong Kong, as reported by the Census and Statistics Department of Hong Kong, reflect the official earnings of refrigeration, air-conditioning, and ventilation mechanics. The wage have experienced a steady upward trend over the years, increasing from HK$1,037.9 in 2020 to HK$1,228.2 in 2024, representing a CAGR of approximately 4.3%. The growth was driven by the increasing demand for skilled labor and the ongoing labor shortages in the HVAC sector.
- Looking forward, the average daily wages are forecasted to continue rising and estimated to reach HK$1,381.5 by 2029, with a projected CAGR of 2.4% from 2025 to 2029. The consistent upward trend in wages will remain a key cost driver for HVAC projects, requiring market players to implement cost-control strategies and enhance operational efficiency to mitigate the impact on overall project budgets.

Source: Census and Statistics Department of Hong Kong, Frost & Sullivan

Overview of HVAC System Works Market in Hong Kong

Cost Analysis – Raw Material Cost

Average Construction Material Cost Involved in HVAC System Works Market (Hong Kong), 2020-2029E

HK$ per		2020	2021	2022	2023	2024	2025E	2029E	CAGR (2020-2024)	CAGR (2025E-2029E)
Galvanised mild steel - Steel plates	Tonne	13,730	22,651	23,552	18,977	16,968	16,029	15,089	5.4%	-1.5%
Galvanised mild steel - Steel hollow sections	Tonne	9,818	18,941	18,996	14,653	13,520	13,125	16,508	8.3%	5.9%
Epoxy coated cast iron pipes	Unit	-	556	594	630	640	652	737	4.8%*	3.1%
Copper pipes	Unit	-	315	322	327	345	358	400	3.1%*	2.8%

- The HVAC system works market depends on materials like galvanised mild steel (steel plates and hollow sections), epoxy-coated cast iron pipes, and copper pipes, each playing a critical role. Galvanised steel plates are used for ductwork and structural components due to their corrosion resistance, growing at a CAGR of approximately 5.4% during 2020 to 2024, while is expected to decline at a CAGR of -1.5% during 2025 to 2029, as lighter materials like aluminum gain traction for other construction use. Steel hollow sections are essential for structural supports and have shown strong growth with CAGR at 8.4% during 2020 to 2024, with continued growth expected with CAGR at 5.9% CAGR during 2025–2029, driven by retrofitting projects. Epoxy-coated cast iron pipes, critical for distributing chilled and hot water, grew at CAGR of 4.8% during 2021–2024 and expected at 3.1% during 2025 to 2029 Copper pipes, vital for refrigerant lines and heat exchangers due to their thermal conductivity, grew steadily with CAGR at 3.1% during 2021 to 2024 and expected at 2.8% during 2025 to 2029

Remark : Data regarding Epoxy coated cast iron pipes and Copper pipes published by Census and Statistics Department of Hong Kong is released since 2021.

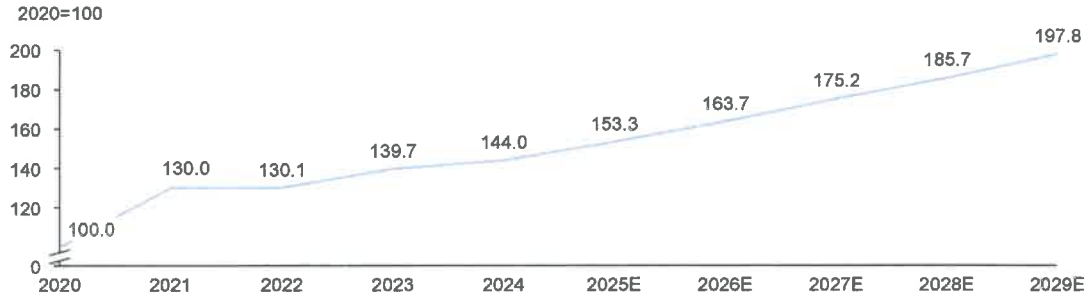
Source: Census and Statistics Department of Hong Kong, Frost & Sullivan

Overview of HVAC System Works Market in Hong Kong

Cost Analysis

Price Index of Air Conditioners (Hong Kong), 2020-2029E

	2020-2024	2025E-2029E
CAGR	9.5%	6.6%



- Air conditioners are the key component of HVAC system .The price index of air-conditioners in Hong Kong increased from 100.0 in 2020 to 144.0 in 2024, at a CAGR of 9.5% from 2020 to 2024. The growth is driven by the recovery following the pandemic-related site closures and supply-chain issues. On the ride of continuous demand for HVAC system works, the price index of air conditioners in Hong Kong is expected to rise at a CAGR of 8.6% from 2025 to 2029. The increasing prices of air conditioners in Hong Kong raise the costs of HVAC system installation, maintenance, and retrofitting while pushing the market toward energy-efficient and advanced systems.

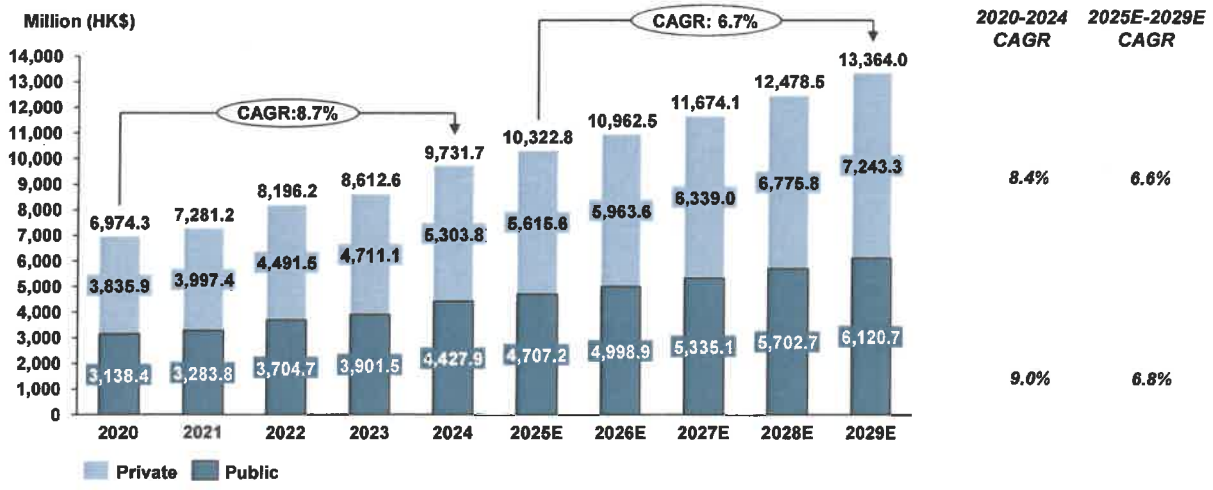
Source: Trade Map, Frost & Sullivan

Agenda

Overview of Electrical System Works Market in Hong Kong

Market Size by Private/ Public Sector (1/3)

Market Size in Terms of Output Value of Electrical System Works Market by Sectors (Hong Kong), 2020 – 2029E



Source: Census and Statistics Department of Hong Kong, Frost & Sullivan

Overview of Electrical System Works Market in Hong Kong

Market Size by Private/ Public Sector (2/3)

The market for electrical system works in Hong Kong has experienced robust growth, driven by the need for infrastructure upgrades, retrofitting of aging systems, and the adoption of smart technologies. The total market output value reached HK$9,731.7 million in 2024, with a CAGR of 8.7% from 2020 to 2024, and is projected to grow further to HK$13,364.1 million by 2029, at a steady CAGR of 6.7% from 2025 to 2029. Both private and public sectors are also benefiting from heightened adoption of electrical infrastructure such as electrical vehicle port, renewable energy solutions like solar panels and battery storage, and compliance-driven retrofitting under initiatives such as the Mandatory Building Inspection Scheme. These trends ensure sustained growth in the electrical system works market, with public-sector projects narrowing the gap with private-sector demand by 2029.

Private Sector:

The private sector accounted for HK$5,303.8 million in 2024, growing from HK$3,835.9 million in 2020 at a CAGR of 8.4%, and is expected to reach HK$7,243.3 million by 2029, growing at 6.6% CAGR. The growth is underpinned by retrofitting and modernization efforts in aging residential, commercial, and industrial buildings, where outdated electrical systems are being replaced to meet modern safety and energy efficiency standards. Additionally, the rise of smart building technologies, including IoT-enabled energy management systems, automated lighting, and advanced security systems, is driving demand for electrical system works in private developments.

Public Sector :

The public sector, meanwhile, grew from HK$3,138.4 million in 2020 to HK$4,427.9 million in 2024, with a CAGR of 9.0%, and is projected to reach HK$6,120.7 million by 2029, growing at 6.8% CAGR. Public demand is fueled by large-scale infrastructure projects, such as smart street lighting, smart grids, urban data networks, and renewable energy integration. Power grid upgrades and compliance with modern safety standards, particularly in older districts prone to outages, further drive growth in public-sector electrical works.

Source: Frost & Sullivan

Overview of Electrical System Works Market in Hong Kong

Market Size by Private/ Public Sector (3/3)

Similar to HVAC's case, the comparatively high CAGR for 2020–2024 is largely a statistical reflection of how subdued the market was in 2020, when pandemic-related site closures and supply-chain issues suppressed spending to an abnormally low level; the rebound that followed therefore lifts the average growth rate for the entire period. Looking ahead, the projected CAGR for 2025–2029 is lower only as it is calculated from a much larger, already-recovered base. In absolute dollar terms the HVAC market is still expected to expand every year, and the total value added during 2025–2029 is forecast to exceed that of the previous five-year span. A smaller percentage growth rate therefore signals normalisation rather than weakness.

Source: Frost & Sullivan

Overview of Electrical System Works Market in Hong Kong

Market Outlook

Robust Demand for Repair and Maintenance

Hong Kong has been grappling with issues related to aging electrical infrastructure. The recent series of power outages in Hong Kong, especially in densely populated areas, highlights the pressing need for infrastructure upgrades in the city's electrical systems. Notable incidents include a high-voltage cable failure in Tsing Yi in 2024 that affected hundreds of users, an abrupt blackout in Wong Tai Sin in 2024 that left over two thousand users without power due to a faulty system, and a power outage in Sham Shui Po in 2022 that caused widespread electricity disruptions. These incidents underscore the urgent need for comprehensive electrical infrastructure upgrades, particularly in older districts where systems are prone to failure. Besides, many in-building electrical systems, such as lighting, power distribution, and fire safety systems, are reaching the end of their lifecycle in older residential, commercial, and industrial buildings. These systems often require replacement, upgrading, or retrofitting to comply with modern safety and energy efficiency standards. The Mandatory Building Inspection Scheme requirements, governed by statutory codes, further drive demand for repair and maintenance work to ensure compliance with safety regulations.

Technological Advancement in Electrical Works

Technological advancements are a significant driver and trend in the Electrical System Works market, as the adoption of smart building systems, renewable energy solutions, and the Internet of Things (IoT) continues to grow. Smart technologies, such as automated lighting systems, energy management platforms, and advanced security systems, are increasingly integrated into residential, commercial, and industrial buildings, driving demand for skilled electrical contractors to install and maintain these systems. Additionally, the rise of electric vehicle (EV) infrastructure, including charging stations, and the incorporation of renewable energy systems like solar panels and battery storage are reshaping the landscape of electrical works.

Smart City Initiatives

The development of smart infrastructure, such as intelligent street lighting, smart grids, and urban data networks, requires sophisticated electrical systems and skilled contractors for installation and maintenance. Smart buildings, equipped with features like automated energy management systems, IoT-enabled devices, and advanced security systems, are becoming increasingly common in new developments and retrofitting projects.

Source: Frost & Sullivan

Overview of Electrical System Works Market in Hong Kong

Licensing Regime, Regulations and Government Policies

Policies and Regulations	Effective Date	Issuing Department	Key Messages
O&M Best Practices Booklets & Handbooks-Electrical Installations	-	EMSD	This booklet is intended to outline the best practices for the operation and maintenance (O&M) of electrical installations, providing practical guidance to ensure safety, efficiency, and reliability in electrical systems. Published by the Electrical and Mechanical Services Department (EMSD) of Hong Kong, the booklet serves as a reference for building owners, property managers, electrical contractors, and licensed electricians.
Registered Electrical contractor, Electricity Ordinance	1992	EMSD	Under the Electricity Ordinance (Chapter 406 of the laws of Hong Kong) (the "Electricity Ordinance"), all electrical contractors carrying out electrical work have to be registered with the Director of Electrical and Mechanical Services. The Electricity Ordinance provides for the registration and regulation of the electrical contractor in order to protect the general public in the use of electricity.
Electricity Ordinance	1997	EMSD	All contractors and workers engaged in electrical work on fixed electrical installations (including the installation of water circulation system) must be registered with the Electrical and Mechanical Services Department.
Electricity (Wiring) Regulations	1992	EMSD	A subsidiary regulation of the Electricity Ordinance, it provides detailed technical and safety requirements for electrical systems and installations.
Code of Practice for the Electricity (Wiring) Regulations	2020	EMSD	the code provides practical guidelines for complying with the Electricity (Wiring) Regulations. It covers: Installation standards, Testing and inspection procedures, Safety measures during operation and maintenance.
Registered Electrical Worker	1992	EMSD	The registration system for Registered Electrical Workers ("REWs") was established under the Electricity Ordinance (Cap. 406) to ensure only qualified individuals carry out electrical works. REWs are categorized into grades based on their qualifications and are authorized to perform specific types of electrical work

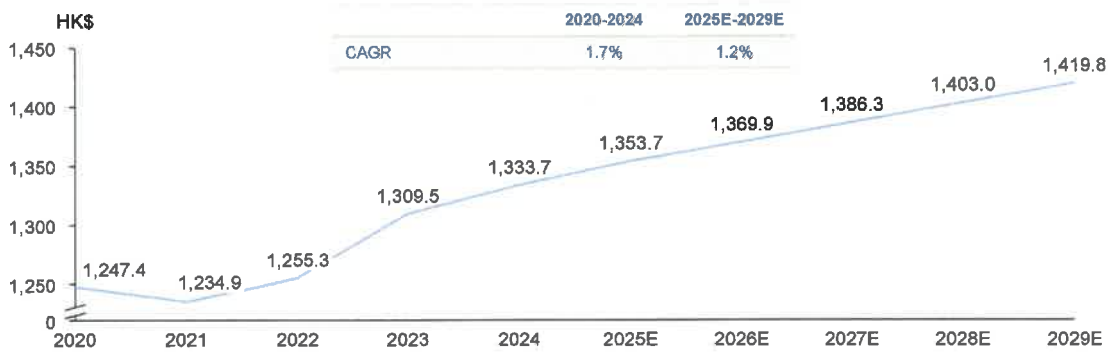
Remark : The laws and regulations applicable to the E&M engineering in Hong Kong include but not limit to the aforementioned list.

Source: Buildings Department ("BD"), Electrical and Mechanical Services Department ("EMSD"), Environmental Protection Department ("EPD"), Frost & Sullivan

Overview of Electrical System Works Market in Hong Kong

Cost Analysis

Average Daily Wages of Workers Engaged in Electrical System Works Market (Hong Kong), 2020-2029E



- The average daily wages of workers in the electrical works market in Hong Kong, as reported by the Census and Statistics Department of Hong Kong, reflect the official earnings of electrical fitters including electrician. The average wage increased from HK$1,247.4 in 2020 to HK$1,333.7 in 2024, representing a CAGR of approximately 1.7% during this period, reflecting the rising demand for skilled labor in the Electrical System Works sector, driven by ongoing infrastructure projects and advancements in electrical systems technology.
- Looking ahead, the average daily wages are projected to continue increasing, reaching HK$1,419.8 by 2029, with a CAGR of approximately 1.2% from 2025 to 2029. The sustained upward trend in wages highlights the importance of retaining skilled workers and managing labor costs as a key consideration for market players in the Electrical System Works industry.

Source: Census and Statistics Department of Hong Kong, Frost & Sullivan

Overview of Electrical System Works Market in Hong Kong

Overview of Market Competition of the Electrical System Works Market in Hong Kong

- The electrical construction works in Hong Kong is relatively fragmented. According to Construction Industry Council ("CIC"), there were approximately 1,793 subcontractors on the List of Registered Subcontractors under the trade code of Electrical of CIC as of 14 July 2025. The electrical system works market in Hong Kong is characterized by intense competition, with established firms dominating due to their technical expertise, strong industry networks, and access to capital. The entry barriers of the industry are as follows :
  - Technical Expertise and Experience: Electrical system works demands specialized skills across diverse projects, namely residential, commercial and renewable energy, requiring expertise in design, installation, and equipment use. Established market participants with proven track records and skilled labor have a competitive advantage, while new entrants struggle to build credibility and compete.
  - Established Relationships and Networks: Long-standing market participants benefit from trusted relationships with clients, suppliers, and stakeholders, securing contracts and repeat business. New entrants face challenges in building these connections and earning industry trust.
  - Access to Resources and Capital: Starting an electrical system works business requires significant investment in specialized equipment, tools, labor, and marketing. Limited access to capital and resources can restrict new entrants' ability to undertake or scale projects effectively.

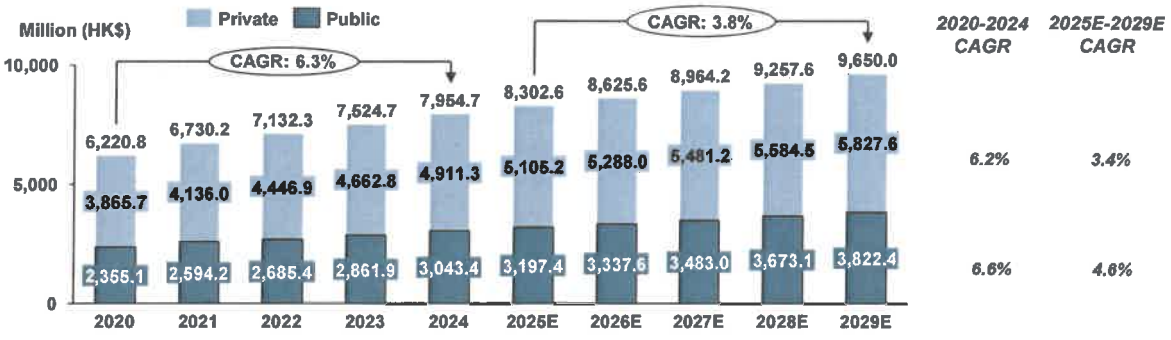
Source: Development Bureau, Frost & Sullivan

Agenda

Overview of Water Plumbing and Drainage System Works Market in Hong Kong

Market Size by Private/ Public Sector

Market Size In Terms of Output Value of Water Plumbing and Drainage System Works by Sectors (Hong Kong), 2020 – 2029E



The market size of water plumbing and drainage system works in Hong Kong, measured in terms of output value, experienced steady growth from 2020 to 2024 and is projected to continue expanding through 2029. The total output value of the sector increased from HK$6,220.8 million in 2020 to HK$7,954.7 million in 2024, reflecting a CAGR of 6.3% during this period. From 2025 to 2029, the market is expected to grow at a CAGR of 3.8%, indicating sustained growth.

The private sector accounted for a significant portion of the market, with its output value rising from HK$3,865.7 million in 2020 to HK$4,911.3 million in 2024, at a CAGR of 6.2%. Looking ahead, the private sector is projected to grow at a CAGR of 3.4% from 2025 to 2029, driven by urban renewal progress where dismantling old and outdated plumbing systems and installing new, advanced infrastructure in rebuilt properties is on going. Meanwhile, the public sector showed robust growth, with its output value increasing from HK$2,355.1 million in 2020 to HK$3,043.4 million in 2024, achieving a CAGR of 6.6%. Growth in the public sector is forecasted to remain strong, with a higher CAGR of 4.6% from 2025 to 2029, driven by ongoing government infrastructure projects such as the Northern Metropolis, San Tin Technopole, Kau Yi Chau Artificial Island Artificial Islands in Lantau Islands, the Hung Shui Kiu/Ha Tsuen New Development Area, as well as on-going repair and maintenance work.

Source: Frost & Sullivan

Overview of Water Plumbing and Drainage System Works Market in Hong Kong

Market Outlook

Aging Infrastructure and Maintenance Needs

Aging water infrastructure in Hong Kong has become a significant factor driving the development of the plumbing and drainage system works market. Many water supply and drainage systems, particularly in older urban districts such as Sham Shui Po, To Kwa Wan, and Tsuen Wan, have exceeded their designed lifespan, leading to frequent pipe bursts, leaks, and even road subsidence. The government has acknowledged this challenge and has implemented programs like the Risk-based Water Main Asset Management Plan, prioritizing the replacement and repair of high-risk pipelines. The growing awareness of aging infrastructure as a critical concern is expected to sustain demand for repair, maintenance, and replacement works in both public and private sectors. In particular, densely populated areas with older buildings and high-water usage are likely to see a surge in refurbishment projects, further driving market growth.

Incorporation of Technology in Plumbing and Drainage Works

The integration of technology into plumbing and drainage system works is transforming the market, paving the way for smarter and more efficient systems. Advanced tools like IoT-enabled monitoring systems, smart water pressure management devices, and leak detection technologies are being implemented to enhance operational efficiency and prevent failures. Programs such as the deployment of Hong Kong's Smart Water Network, which monitors over 2,400 zones across the city, exemplify how big data and real-time monitoring are being leveraged to identify leakage hotspots and optimise maintenance schedules. These innovations not only reduce the risk of pipe bursts but also minimize water wastage, aligning with sustainability goals.

Economic Conditions and Living Standards

Economic conditions and living standards in Hong Kong have been improving over the years, allowing for more investments in residential and commercial infrastructure. The rise in income levels has boosted expenditure in the construction sector, including plumbing and drainage facilities. Homeowners are willing to pay for high quality, efficient plumbing and drainage systems that can improve home environment and convenience. Commercial developers are also keen on premium plumbing and drainage to meet occupant needs and facility standards. The overall improvement in economic and living conditions will drive spending in plumbing and drainage infrastructure, thus promoting the market growth.

Source: Frost & Sullivan

Overview of Water Plumbing and Drainage System Works Market in Hong Kong

Licensing Regime, Regulations and Government Policies

Policies and Regulations	Effective Date	Issuing Department	Key Messages
Registered Minor Works Contractor (Drainage Works)	2010	BD	If the drainage system works involve minor works, such as small-scale repairs, maintenance, or alterations, contractors must register as a Minor Works Contractor under the Minor Works Control System for type (Drainage Works). Minor works are categorized into Classes I, II, and III, depending on their complexity and potential risks. Many drainage-related tasks, such as replacing or repairing small sections of drainage pipes, installing new pipe connections, or altering external rainwater drainage systems, fall under these categories, ensuring that such works are carried out safely and in compliance with the Buildings Ordinance (Cap. 123).
Good Practice Guide on Plumbing Works	2017	WSD	To enhance quality, productivity and construction management of plumbing works. The guide recommended some good practices to relevant stakeholders for carrying out design and construction of different types of plumbing works which require the permission from the Water Authority (WA).
Licensed Plumber	1975	BD	All plumbing works related to water supply systems must be carried out or supervised by a Licensed Plumber (LP) as required by the Waterworks Ordinance (Cap. 102) and its subsidiary Waterworks Regulations.
Waterworks Ordinance	1997	WSD	Under section 15(1) of the Waterworks Ordinance, only a licensed plumber or a public officer authorized by the Water Authority shall construct, install, maintain, alter, repair or remove pipes and fittings in premises, and any pipes and fittings between the premises and a connection to the main for a supply of water
Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations	1997	BD	As one of the subsidiary legislations under the Buildings Ordinance (Cap.123), this regulations is provided for the planning, design and construction of buildings and associated works (i.e. sanitary fitments, plumbing, drainage works and latrines) and to make provision for regular inspections of buildings and the associated repairs to prevent the buildings from becoming unsafe.

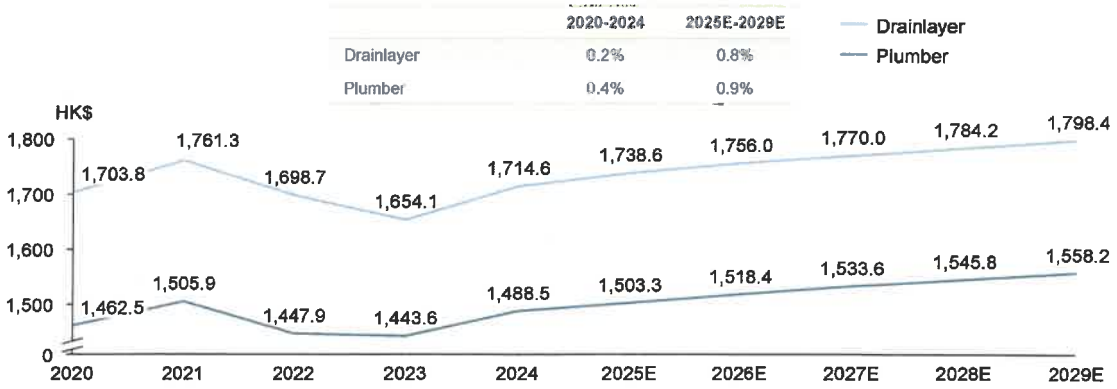
Remark : The laws and regulations applicable to the E&M engineering in Hong Kong include but not limit to the aforementioned list.

Source: Buildings Department ("BD"), Electrical and Mechanical Services Department ("EMSD"), Environmental Protection Department ("EPD"), Water Services Department ("WSD"), Frost & Sullivan

Overview of Water Plumbing and Drainage System Works Market in Hong Kong

Cost Analysis

Average Daily Wages of Workers Engaged in Water Plumbing and Drainage System Works Market (Hong Kong), 2020-2029E



- The average daily wages of workers engaged in the Water Plumbing and Drainage System Works market in Hong Kong have shown a gradual upward trend over the years. For drainlayers, the average daily wage increased slightly from HK$1,703.8 in 2020 to HK$1,714.6 in 2024, representing a CAGR of approximately 0.2%. This is projected to further rise to HK$1,798.4 by 2029, reflecting consistent wage growth driven by the demand for skilled labor in the drainage sector. Similarly, for plumbers, the average daily wage grew from HK$1,462.5 in 2020 to HK$1,488.5 in 2024, with a CAGR of 0.4%, and is expected to reach HK$1,558.2 by 2029. The steady increase in wages for both drainlayers and plumbers highlights the importance of skilled workers in maintaining Hong Kong's water plumbing and drainage infrastructure, and it remains a key consideration for managing costs in the market.

Source: Census and Statistics Department of Hong Kong, Frost & Sullivan

Overview of Water Plumbing and Drainage System Works Market in Hong Kong

Overview of Market Competition of the Plumbing and Drainage System Works Market in Hong Kong

- Overall, the plumbing and drainage system works market in Hong Kong is fragmented and competitive. According to the Construction Industry Council, the number of registered subcontractors under the trade group of plumbing is 422 and the number of registered subcontractors under trade group of supply and installation of pumpsets and associated equipment is 156 as at 12 July 2025. The plumbing and drainage works market in Hong Kong is highly competitive, with established firms dominating due to their client relationship, service quality and reputation.The entry barriers of the industry are as follows :
  - Client Relationships: Established market participants leverage strong ties with property owners, management companies, and retail clients, who maintain preferred contractor lists, making it difficult for new entrants to break into these networks.
  - Service Quality: Market participants with in-house specialists and integrated solutions, capable of delivering timely emergency repairs, are favored, posing a challenge for new firms lacking similar expertise.
  - Reputation: Reputable market participants with proven track records benefit from client referrals, securing new opportunities easily, while new entrants struggle to build credibility.

Source: Development Bureau, Frost & Sullivan

Agenda

Competitive Landscape of the HVAC System Works Market in Hong Kong

Overview of Market Competition and Market Concentration of the HVAC System Works Market in Hong Kong

- As of 20 September 2025, there were 691 subcontractors registered under the subcontractors Registration Scheme of HKCIC for HVAC system works in Hong Kong. Based on the scale and manner of project undertakings, market participants can be broadly categorized into three types:

  1) HVAC Specialized Contractors, generally first-tier subcontractors or equipment suppliers, who primarily undertakes comprehensive HVAC projects directly subcontracted by mechanical and electrical engineering general contractors, real estate developers, or the government. Given the large scale of their projects, these contracts usually involve substantial amounts and it is common for these specialized contractors to further subdivide the work and subcontract different parts to various subcontractors.

  2) HVAC Sub-Contractors, who are usually involved in new residential construction, HVAC renovation and maintenance projects. Most of them take on projects from first-tier subcontractors, and thus, they are relatively dependent on the relationship networks of their upstream contractors.

  3) Small and medium size air conditioning service providers who mainly focus on HVAC retrofit projects. There is a large number of these suppliers in the residential market, resulting in a relatively fragmented competitive landscape.

- The number of HVAC specialised contractors, HVAC sub-contractors and small and medium size air conditioning service providers is unavailable, given that: (i) There is no specific licensing requirement that distinctly categorizes companies into these three segments, making it challenging to obtain definitive counts from regulatory databases or official sources; (ii) The boundaries between these categories are fluid rather than fixed. Companies often operate across multiple segments depending on project opportunities and market conditions. For instance, a specialized contractor may take on sub-contracting work during slower periods, while a sub-contractor might bid as a main contractor for smaller projects. Similarly, air conditioning service providers may expand into broader HVAC contracting or scale back to maintenance-only services based on their capacity and market demand; (iii) This dynamic nature of the industry means that any static count would quickly become outdated and potentially misleading. Companies frequently shift their business models and service offerings in response to market conditions, making categorical classification a moving target. Overall, the Hong Kong HVAC engineering market is relatively competitive and fragmented. HVAC projects from the government and large developers are often controlled by a few leading contractors. To further strengthen their market position, existing participants need to continuously enhance engineering quality and efficiency, reinforce brand building and customer relationship management, as well as strengthen their price advantage.

Source: Development Bureau, Frost & Sullivan

Competitive Landscape of the HVAC System Works Market in Hong Kong

Ranking

- As estimated, the aggregate market share of top five market participants in HAVC system works market in Hong Kong in 2024 was approximately 26.8%. The Group had a market share of approximately 1.3% in the overall HVAC works market and 1.9% of HVAC system works for existing buildings and infrastructures in Hong Kong in 2024.

Ranking and Market Share of Leading HVAC System Works Contractor in Hong Kong by Revenue, 2024

Rank	Market participant	Headquarter	Listed	Background	Estimated revenue in 2024 (HKD billion)	Estimated market share in 2024 (%)
1	Analogue Holdings Limited	Hong Kong	Yes	A Hong Kong E&M engineering contractor involved in public and private sectors in Hong Kong, Mainland China, Macau, the United Kingdom, and internationally	847.9	7.8%
2	Chinney Alliance Group	Hong Kong	Yes	A listed investment holding company engaging in construction & building-related engineering services and in trading & distribution of advance technology & systems in aviation, in engineering plastics & specialty chemicals, and in energy saving initiatives such as LED lighting telecommunications services	663.4	6.1%
3	FSE Lifesytle Services Limited	Hong Kong	Yes	A listed lifestyle services conglomerate with 3 major business segments, namely property & facility management services, city essential services and E&M services in Hong Kong	545.9	5.0%
4	SH Group (Holdings) Limited	Hong Kong	Yes	A listed company principally engaged in provision of E&M engineering services in Hong Kong, including MVAC system and low voltage electrical systems and other E&M systems, including fire protection systems and water supply and sewerage services.	502	4.6%
5	Yau Lee Holdings Limited	Hong Kong	Yes	A listed company principally engaged in building construction, electrical and mechanical engineering services, building materials supply, investment and development of properties and hotel operation	364.8	3.3%
N/A	The Group	Hong Kong	No		145.4	1.3%

Note: The revenue of the ranking is compiled by the revenue generated from the provision of HVAC system works for the year ended 31 March 2025.
The revenues of the ranking are based on estimated revenue rather than actual revenue due to the complexities involved in extracting and standardizing revenue data from listed companies' annual reports. Specifically, the reported revenues may encompass different time periods, requiring adjustments to align them within a consistent timeframe for comparison. In addition, revenues are often presented across varied market segments, such as E&M engineering services or broader construction works, and across different regions, which complicates direct comparisons. To enable a meaningful ranking, the revenue figures for HVAC system works were adjusted to account for these discrepancies, resulting in estimated revenues rather than actual revenues.

Source: Frost & Sullivan

Competitive Landscape of the HVAC System Works Market in Hong Kong

Business Profile of Leading Market Participants

Market participant	Headquarter	Listing status	Introduction
Chinney Alliance Group Limited	Hong Kong	0385.HK	Chinney Alliance Group Limited is an investment holding company in Hong Kong. Its subsidiary, Shun Cheong Engineering Group (SCEG) is one of the major MEP contractors in Hong Kong, principally engaged in the design, construction and installation, testing and commissioning, as well as operation and maintenance of air-conditioning and mechanical ventilation systems, fire protection systems, water supply and drainage systems, and electrical and ultra-low voltage systems, etc., for public and private clients in Hong Kong and Macau.
Sh Group (Holdings) Limited	Hong Kong	1637.HK	Sh Group (Holdings) Limited was found in 1986 and principally engaged in provision of E&M engineering services in Hong Kong, including MVAC system and low voltage electrical systems and other E&M systems, including fire protection systems and water supply and sewerage services.
Lap Kei Engineering (Holdings) Ltd.	Hong Kong	1690.HK	Established in 1997, Lap Kei undertakes building engineering works which are mainly related to the supply, installation and maintenance of mechanical ventilation and air-conditioning system, electrical system, plumbing and drainage system, and fire services system.
Man Shun Group	Hong Kong	1746.HK	Founded in 1996, Man Shun Group is a HVAC E&M engineering service providers, generally acting as first tier or sub-tier subcontractors for new residential property developments in Hong Kong.
FSE Engineering Group	Hong Kong	0331.HK	FSE Engineering Group is one of the largest E&M engineering companies in Hong Kong, providing a comprehensive range of E&M engineering, operation, maintenance, facility management, energy audit, analysis, testing and commissioning services to the civil and private building and facility developers in Hong Kong and China
REC Engineering Company Limited	Hong Kong	Private	Founded in 1966, REC is one of the Hong Kong's largest engineering companies, offering services including electrical installation, air-conditioning, fire prevention and fighting, plumbing and drainage, building automation systems, and engineering maintenance services.

Source: Frost & Sullivan

Competitive Landscape of the HVAC System Works Market in Hong Kong

Factors of Market Competition

Continuous Improvement in Technical Expertise and Quality of Work	• Hong Kong's complex building environment requires high technical expertise and quality equipment for HVAC and electrical engineering services. Providers must have mature construction techniques and reliable equipment supply to meet project needs, especially for large commercial and high-end residential buildings that require high energy efficiency, stability, and intelligent control in air conditioning systems. To enhance work quality and efficiency, companies need continuous R&D investment and advanced technology, namely development of advanced compressors, heat exchangers, and fans that reduces energy consumption, and equipment to solidify their market competitiveness.
Brand awareness and Strategic Partnerships	• In the HVAC industry, brand and strategic partnerships are crucial. Major clients typically prefer well-known brands with large scale and extensive experience in timely project delivery. These established brands further enhance customer retention through robust customer relationship management. For other market participants, they need to strengthen their market positioning and highlight their competitive advantages through brand building and marketing, which helps to attract high-quality partners and clients, creating a virtuous cycle that drives continuous business growth.
Price competitiveness	• Price competitiveness is a critical factor in securing HVAC contracts with major contractors and developers. Leading companies leverage established supply chains, process optimization, strategic supplier partnerships, and economies of scale to control costs, gaining a competitive edge in pricing. Bidders with cost-effective proposals typically hold stronger winning potential.
Long-term partnerships	• Establishing long-term partnerships with suppliers and clients, such as high-profile property developers, property management companies, etc., is one of the key success factors. Long-term cooperation brings M&E contractors stable project orders, such as HVAC retrofit projects in existing buildings. Meanwhile, ongoing collaboration enables contractors to gain a timely and in-depth understanding of client needs and market trends, driving procurement flexibility and efficiency. Meanwhile, suppliers are more willing to provide priority supply, customized services, and more flexible payment terms to long-term partners. Therefore, the E&M contractors are able to optimize their procurement costs and offer a competitive bidding price. Moreover, by partnering with well-known companies, contractors can leverage their brand influence to enhance market visibility and credibility and attract more potential clients, therefore achieving sustainable business development.

Source: Frost & Sullivan

Competitive Landscape of the HVAC System Works Market in Hong Kong

Factors of Market Competition (Cont'd)

Stable and Reliable Management Team	• A stable and reliable management team is critical for an HVAC system works contractor in Hong Kong who manage a large number of projects annually. This team ensures efficient coordination by allocating manpower, materials, and equipment to meet tight project deadlines in a high-density urban environment. By fostering strong client relationships, the team builds trust, securing repeat business and referrals. Their expertise mitigates risks, such as ensuring compliance and addressing site-specific challenges, while low turnover maintains continuity and reduces costly disruptions.
Use of ERP System for Tendering and Project Oversight	• Implementing an Enterprise Resource Planning (ERP) system is a key competitive advantage for managing a large number of projects annually. The ERP system streamlines the tendering process by automating cost estimation, bid preparation, and submission tracking, improving accuracy and increasing win rates. For project oversight, it provides real-time monitoring of progress, budget, and resource utilization, enabling proactive adjustments to avoid delays. In particular, ERP analytics support data-driven decisions, and automated reporting ensures compliance with Hong Kong's stringent safety and environmental regulations.

Source: Frost & Sullivan

Competitive Landscape of the HVAC System Works Market in Hong Kong

Entry Barriers Analysis

Qualification and Certification Requirements

The HVAC and electrical engineering services market in Hong Kong has stringent certification requirements for companies. To undertake both public and private projects, new entrants must obtain accreditations from relevant departments, including EMSD electrical contractor registration, public works supplier certification, and environmental/IMS compliance. These registrations and certifications cover multiple aspects, including technical competency, safety protocols, and quality standards, necessitating substantial upfront investments in compliance infrastructure.

Professional Talent and Team Building

The HVAC and electrical engineering service sector relies heavily on professional talents, including experienced engineers, technicians, and business development teams, to ensure the smooth execution of projects and maintain service quality. Companies must also invest significant time and resources in establishing a robust talent training mechanism. However, large enterprises in the industry, with their strong brand presence and extensive customer base, are better positioned to attract top talent and sustain project pipelines. New entrants face talent acquisition challenges due to limited brand recognition and client trust barriers.

Intense Market Competition

The Hong Kong HVAC and electrical engineering services market is relatively mature and characterized by strong customer loyalty. Major clients typically maintain long-term, stable strategic partnerships with established firms. Large-scale tenders frequently mandate that bidders possess relevant project experience. This competitive landscape is further intensified by incumbent companies leveraging price competition and technological innovation to safeguard their market share. Therefore, new entrants often encounter significant challenges in customer acquisition during the initial phase of market entry.

Source: Frost & Sullivan

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Competitive Landscape of the HVAC System Works Market in Hong Kong

Industry Norm

- It is a competitive advantage if an E&M engineering contractor can maintain stable relationship with customers, suppliers and subcontractors. Such stable relationships contribute to better procurement flexibility and chance for offering competitive tender prices, improve collaboration, mitigate risks, which leads to cost savings, higher operational efficiency, and a stronger market position.
- It is a core competitive advantage for an E&M contractor to be an approved E&M contractor of sizeable property managers in Hong Kong.
- It is an industry norm for E&M engineering works contractors such as the Group to have a high volume of projects from small to big size (with contract sums ranging from below HK$10,000 to over HK$10 million). E&M contractors focusing on existing buildings will likely see a continuous flow of projects, from minor repairs to substantial renovations and system replacements, explaining the wide range in contract sums. As existing buildings require ongoing maintenance and upgrades, it creates a stream of smaller projects, such as electrical repairs, HVAC maintenance, and minor system enhancement.
- The Group's defects liability period (generally 12 months) is in line with the industry norm.
- It is an industry norm for E&M works contractors in Hong Kong to subcontract part of their works to subcontractors, which enable the contractors to manage workload, access expertise, reduce risk, improve efficiency, and control overhead costs. In the case of the E&M works main contractors entering into a term contract with the project owner (i.e. contracts that cover a set period of time), it is a common market practice that the E&M works main contractors may enter into term subcontracts with subcontractors covering the same or substantially the same period as the main contracts.
- It is an industry norm that the main contractor of a work site or project be responsible to take out insurance policies to cover and protect all employees of main contractors and subcontractors of all tiers working in the relevant work sites.
- It is a common market practice in the E&M engineering industry that, in projects with a larger contract sum (e.g. HK$3 million or above), contractors may be required by their customers to take out surety bonds to a certain percentage of the contract sum to secure due performance and compliance with the contracts.
- The absence of an express termination clause in subcontracting agreement is a norm in the E&M engineering industry.
- It is an industry norm for E&M contractors in Hong Kong to incur net cash outflows at the early stages of its projects. Since E&M contractors is typically required to pay the up-front costs, such as materials costs and subcontracting fees, in advance of progress payment from its customers, whereas its customers generally make progress payments to E&M contractors after works have commenced and/or are completed. The Group incurring net cash outflows at the early stages of its projects is in line with the industry norm.

Source: Frost & Sullivan

Competitive Landscape of the HVAC System Works Market in Hong Kong

Supporting

- The Group also has a direct labour ratio of [*] in 2024, higher than 0.3 of the industry average in the construction industry in Hong Kong. [To be provided by the Group] A higher direct labor ratio enables the Group to have higher productivity, specialized expertise, operational flexibility, and the ability to deliver high-quality services to its clients. Direct workers are responsible for the hands-on execution of tasks, which can improve the efficiency and pace of the construction process. With a focus on direct labor, the Group can attract and retain highly skilled workers with specialized expertise in various construction trades. This can lead to better quality workmanship and the ability to handle more complex or specialized construction tasks. In addition, having a larger direct labor force allows the Group to be more responsive to changes in project requirements or unexpected challenges. Direct workers can be quickly reassigned or redeployed to address emerging needs, improving the Group's overall flexibility.
- It is common in the Hong Kong construction industry that main contractor of a work site or project is responsible to take out insurance policies to cover and protect all employees of main contractors and subcontractors of all tiers working in the relevant work sites. Main contractor is generally responsible for taking out all necessary insurance for its direct labor and its subcontractors for injuries at work, such as contractors all risk insurance and employees' compensation insurance.
- The average turnover days of trade receivables in the E&M engineering services industry in Hong Kong ranges from 1 day to 90 days. The average turnover days of trade receivables and contract assets in the E&M engineering services industry in Hong Kong ranges from 1 day to 120 days. The Group's average turnover days of trade receivables and average turnover days of trade receivables and contract assets are in line with the industry norm.
- Heating, Ventilation, and Air Conditioning ("HVAC") focuses on the installation, repair and maintenance of systems that regulate indoor environmental conditions, such as temperature, humidity, and air quality. The works can be further segmented into pipework, mechanical fitting works, MVAC control, sheet metal and ducting works, and insulation works. Mechanical Ventilation and Air Conditioning ("MVAC") is the HVAC discipline narrowed to systems that use mechanical means for airflow and cooling, leaving out the heating element. Therefore, MVAC is the subset of HVAC.
- The average tender success rate of the E&M engineering services industry in Hong Kong generally ranges from 5% to 30%. The wide tender success rates in Hong Kong's E&M engineering industry stems from the variability in project demands, project types (government vs. non-government), market conditions, pricing and tender strategy, client requirements and evaluation methods, and contractor capabilities within Hong Kong's E&M engineering sector.
- It is an industry norm for E&M contractors in Hong Kong to have a degree of customer concentration ranging from approximately 20% to 70% given the prominence of government and major corporate clients, a focus on capital-intensive, large-scale projects, and the specialized, technical nature of E&M services—such as HVAC, electrical systems, plumbing, and fire safety—which restricts the pool of both qualified providers and clients.

Source: Frost & Sullivan

Revised

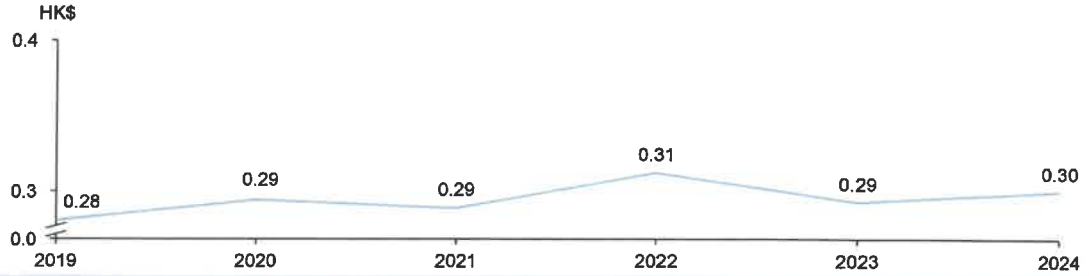
Competitive Landscape of the HVAC System Works Market in Hong Kong

Supporting

- Notwithstanding there is a labour shortage in the construction industry, our Directors are positive that our Group is able to recruit to hire the additional project staff having considered the intended number of additional project staff to be hired as compared to the number of workers available in the construction industry. According to the Industry Report, there was growth in the workforce in the construction industry. For instance, from 2021 to 2023, the number of workers in the construction industry increased by approximately 10%, reaching 195,840 in 2023, with approximately 27% (i.e. approximately 53,000) of which are qualified to be project managers, engineers, technicians, apprentices and safety officers. Frost & Sullivan estimated that the number of workers in the construction industry will further grow to reach approximately 200,000 in 2025. As such, as advised by Frost & Sullivan, our Group has no impediment to hire the intended additional project staff.

Source: Frost & Sullivan

Direct Labour Ratio of Construction Market (Hong Kong), 2019-2024



- The direct labour ratio for construction works refers to the proportion of labour costs directly attributable to construction activities relative to the total project cost or other cost components, such as materials or overheads. In Hong Kong, this ratio is influenced by factors such as labour costs, the specialisation of labour, and the importation of foreign labour. The direct labour ratio for construction works in Hong Kong has remained stable at approximately 0.3, ranging from 0.28 to 0.31 between 2019 and 2024. It is expected to remain around 0.3 in the near future. The direct labour ratio is significantly linked to the quality of HVAC system works in Hong Kong, primarily through its influence on skilled labour availability, productivity, and time for proper installation and commissioning.

Source: Census and Statistics Department of Hong Kong, Frost & Sullivan

Frost & Sullivan's Methodology

- Frost & Sullivan is an independent global consulting firm, which was founded in 1961 in New York. It offers industry research and market strategies and provides growth consulting and corporate training. Its industry coverage in global market includes automotive and transportation, chemicals, materials and food, commercial aviation, consumer products, energy and power systems, environment and building technologies, healthcare, industrial automation and electronics, industrial and machinery, and technology, media and telecom.
- This study has been undertaken through extensive primary and secondary research including interviews with industry experts and market participants, and analysis of official public sources of data, figures, information and reports as well as Frost & Sullivan's independent database and research reports.
- Projected market sizes in this report are estimated through in-depth analysis of the historical macro-economic factors such as the country's economic growth and per capita disposable income, market drivers, future trends and market concentration.
- Bottom-up and top-down methods are applied to cross check and fine tune the obtained figures to arrive at the closest estimate.
- Frost & Sullivan's report was compiled based on the below assumptions:
    1. Growth of Hong Kong economy is assumed to maintain a steady growth over the forecast period;
    2. The social, economic, and political environment in Hong Kong is assumed to be stable during the forecast period;
    3. Additional market drivers such as increasing expenditure on infrastructure development and demand for infrastructures associated with medium to long-term development programmes.

Source: Frost & Sullivan


Thank You!