

Construction Cost Handbook **CHINA & HONG KONG** **2018**

Arcadis Asia Limited
Arcadis Hong Kong Limited



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1. Nanning CRC MixC Mall, Nanning
2. Raffles City, Chengdu
3. Kai Tak Cruise Terminal, Hong Kong
4. The Parisian, Cotai, Macau
5. Infinitas Plaza, Guangzhou

The following handbook of information relating to the construction industry has been compiled by:

Arcadis Hong Kong Limited

38/F, AIA Kowloon Tower, Landmark East
100 How Ming Street
Kwun Tong, Kowloon
Hong Kong

Telephone : (852) 2830 3500
Fax : (852) 2576 0416
Email : info-hk@arcadis.com
Website : www.arcadis.com

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If advice concerning individual projects is required, we would be happy to assist.

Unless otherwise stated, costs reflected in this handbook are **Hong Kong costs at 4th Quarter 2017**.

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2017

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2018

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2020

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ABOUT US

Arcadis is the leading global Design & Consultancy firm for natural and built assets. Applying our deep market sector insights and collective design, consultancy, engineering, project management services we work in partnership with our clients to deliver exceptional and sustainable outcomes throughout the lifecycle of their natural and built assets. In Asia, we have over 4,500 people covering the Asia market across all sectors focused on improving quality of life.

Arcadis has a long history of leading expertise in providing Cost Management capabilities that ensure our clients' projects are delivered with a competitive advantage, exceed project requirements and deliver sustainable outcomes. Our Cost Management heritage is particularly strong in Greater China having set-up our first office in Hong Kong back in 1949. We entered the Mainland China market in 1984, introducing modern cost management techniques to its newly evolving construction market. Our initial commissions were from Hong Kong and foreign developers investing in China, however since then our client base has grown to include state-owned enterprises and local developers.

We are committed to further extending our professional expertise to include new areas like whole-life costing, and supporting the growing number of clients in Asia who are looking for high quality Cost Management solutions as they embark on projects in other parts of the world. Furthermore, we have aligned our operating models to facilitate innovation, ease knowledge transfer and enable the sharing of best practices. We work to ensure clients have access to our best resources, delivering the most appropriate solutions, at a cost that meets their requirements.



OUR CORE VALUES



People First

We care for each other and create a safe and respectful working environment where our people can grow, perform, and succeed.



Integrity

We always work to the highest professional and ethical standards and establish trust by being open, honest and responsible.



Client Success

We are passionate about our clients' success and bring insights, agility, and innovation to co-create value.



Collaboration

We value the power of diversity and our global capabilities and deliver excellence by working as One Arcadis.



Sustainability

We base our actions for clients and communities on environmental responsibility and social and economic advancement.



CONSTRUCTION COST DATA

1

Construction Costs for Hong Kong

M&E Costs for Hong Kong

ACMV Costs for Various Designs and
Developments in Hong Kong

Fit-out Costs for Hong Kong

Unit Costs for Ancillary Facilities
for Hong Kong

Construction Costs for Selected Asian
Cities

M&E Costs for Selected Asian Cities

Major Rates for Selected Asian Cities

Construction Cost Specification

CONSTRUCTION COSTS FOR HONG KONG

CONSTRUCTION COSTS FOR HONG KONG

BUILDING TYPE	HK\$/m ² CFA		
	BUILDING	SERVICES	TOTAL
<u>DOMESTIC</u>			
Apartments, high rise, public authority standard	9,050 - 11,150	1,950 - 2,350	11,000 - 13,500
Apartments, high rise, average standard	19,900 - 22,300	4,100 - 5,900	24,000 - 28,200
Apartments, high rise, high end	27,050 - 30,500	5,350 - 7,200	32,400 - 37,700
Terraced houses, average standard	29,150 - 33,450	3,750 - 4,950	32,900 - 38,400
Detached houses, high end	38,600 - 42,550	4,000 - 5,950	42,600 - 48,500
<u>OFFICE / COMMERCIAL</u>			
Medium/high rise offices, average standard	17,800 - 20,750	5,700 - 7,150	23,500 - 27,900
High rise offices, prestige quality	22,600 - 26,900	6,400 - 8,100	29,000 - 35,000
Out-of-town shopping centre, average standard	17,700 - 20,850	6,300 - 7,150	24,000 - 28,000
Retail malls, high end	25,300 - 29,850	6,500 - 7,950	31,800 - 37,800

<u>HOTELS</u>			
Budget hotels - 3-star, mid market	23,250 - 24,200	7,250 - 8,800	30,500 - 33,000
Business hotels - 4/5-star	24,050 - 27,950	7,950 - 10,050	32,000 - 38,000
Luxury hotels - 5-star	29,550 - 33,450	7,950 - 10,050	37,500 - 43,500
<u>INDUSTRIAL</u>			
Owner operated factories, low rise, light weight industry	16,100 - 20,250	2,300 - 3,150	18,400 - 23,400
<u>OTHERS</u>			
Underground/basement car parks (<3 levels)	15,450 - 18,750	2,650 - 3,750	18,100 - 22,500
Multi storey car parks, above ground(<4 levels)	9,300 - 10,050	2,000 - 3,250	11,300 - 13,300
Schools (primary and secondary)	16,800 - 17,500	2,900 - 3,900	19,700 - 21,400
Students' residences	14,550 - 16,300	4,850 - 6,200	19,400 - 22,500
Sports clubs, multi purpose sports/leisure centres (dry sports) with a/c and including FF&E	23,700 - 26,000	6,300 - 8,000	30,000 - 34,000
General hospitals - public sector	30,100 - 32,900	8,900 - 11,100	39,000 - 44,000

The above costs are at 4th Quarter 2017 levels.

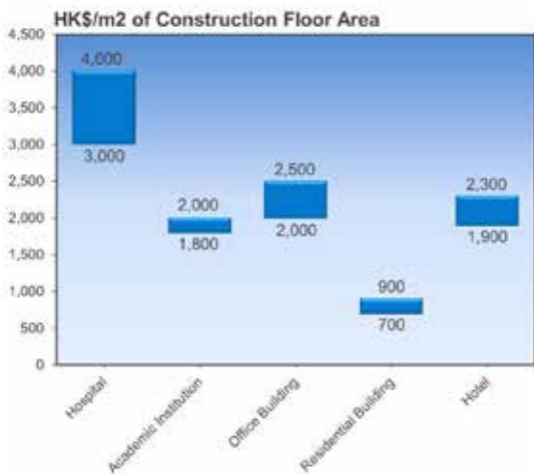
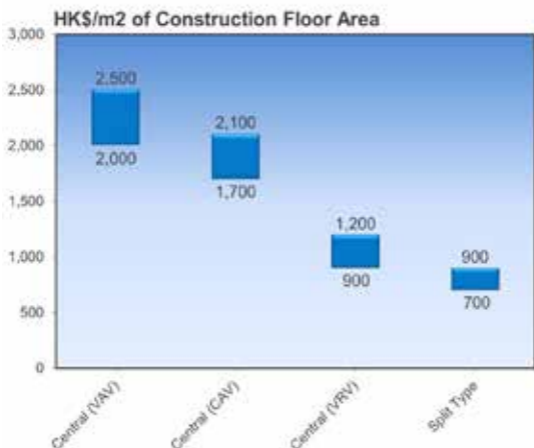
M&E COSTS FOR HONG KONG

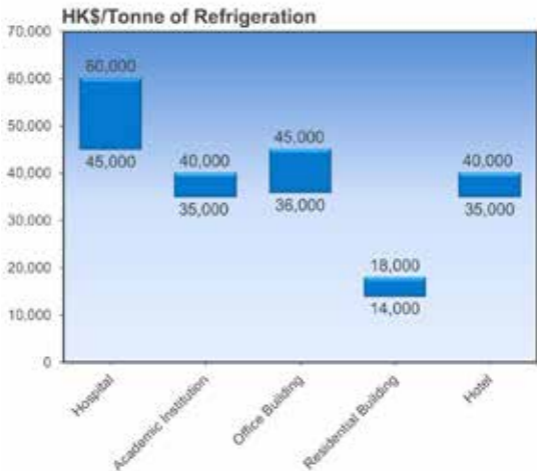
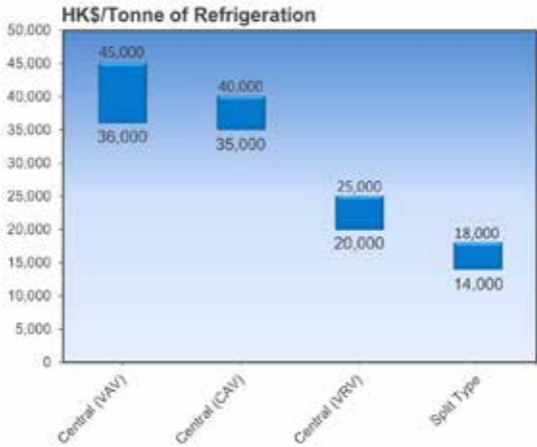
BUILDING TYPE	HK\$/m ² CFA					
	MECHANICAL SERVICES	ELECTRICAL SERVICES	FIRE SERVICES	LIFTS/ ESCALATORS	HYDRAULIC SERVICES	TOTAL SERVICES
<u>DOMESTIC</u>						
Apartments, high rise, public authority standard	--	600 - 700	150 - 200	300 - 350	900 - 1,100	1,950 - 2,350
Apartments, high rise, average standard	850 - 1,100	1,100 - 1,400	200 - 450	450 - 750	1,500 - 2,200	4,100 - 5,900
Apartments, high rise, high end	1,400 - 1,750	1,400 - 1,750	200 - 450	550 - 850	1,800 - 2,400	5,350 - 7,200
Terraced houses, average standard	1,100 - 1,500	1,150 - 1,450	100 - 200	--	1,400 - 1,800	3,750 - 4,950
Detached houses, high end	1,100 - 1,900	1,400 - 2,050	100 - 200	--	1,400 - 1,800	4,000 - 5,950
<u>OFFICE / COMMERCIAL</u>						
Medium/high rise offices, average standard	2,000 - 2,400	1,750 - 2,200	550 - 700	700 - 950	700 - 900	5,700 - 7,150
High rise offices, prestige quality	2,200 - 2,800	2,100 - 2,500	550 - 700	850 - 1,200	700 - 900	6,400 - 8,100
Out-of-town shopping centre, average standard	2,300 - 2,500	1,900 - 2,100	550 - 700	850 - 950	700 - 900	6,300 - 7,150
Retail malls, high end	2,300 - 2,850	2,100 - 2,500	550 - 700	850 - 1,000	700 - 900	6,500 - 7,950

HOTELS											
Budget hotels - 3-star, mid market	2,200 - 2,500	1,900 - 2,200	600 - 850	550 - 750	2,000 - 2,500	7,250 - 8,800					
Business hotels - 4/5-star	2,300 - 2,750	2,200 - 2,600	600 - 850	550 - 850	2,300 - 3,000	7,950 - 10,050					
Luxury hotels - 5-star	2,300 - 2,750	2,200 - 2,600	600 - 850	550 - 850	2,300 - 3,000	7,950 - 10,050					
INDUSTRIAL											
Owner operated factories, low rise, light weight industry	200 - 300	650 - 900	400 - 500	550 - 750	500 - 700	2,300 - 3,150					
OTHERS											
Underground/basement car parks (<3 levels)	900 - 1,100	650 - 1,050	350 - 450	350 - 450	400 - 700	2,650 - 3,750					
Multi storey car parks, above ground (<4 levels)	350 - 800	550 - 850	350 - 450	350 - 450	400 - 700	2,000 - 3,250					
Schools (primary and secondary)	750 - 1,100	1,050 - 1,250	350 - 500	200 - 350	550 - 700	2,900 - 3,900					
Students' residences	850 - 1,100	1,800 - 2,100	600 - 850	200 - 350	1,400 - 1,800	4,850 - 6,200					
Sports clubs, multi purpose sports/leisure centres (dry sports) with a/c and including FF&E	2,700 - 3,200	2,000 - 2,700	600 - 850	350 - 450	650 - 800	6,300 - 8,000					
General hospitals - public sector	3,600 - 4,200	2,600 - 3,150	700 - 950	400 - 600	1,600 - 2,200	8,900 - 11,100					

The above costs are at 4th Quarter 2017 levels.

ACMV COSTS FOR VARIOUS DESIGNS AND DEVELOPMENTS IN HONG KONG





FIT-OUT COSTS FOR HONG KONG

BUILDING TYPE	HK\$/m ²
HOTELS	
Public Areas (Front of House) :	
3-star Hotel	10,200 - 15,000
4-star Hotel	15,500 - 21,500
5-star Hotel	21,500 up
Guest Rooms :	
3-star Hotel	8,700 - 10,500
4-star Hotel	10,500 - 14,000
5-star Hotel	14,000 up
Notes :	
<ol style="list-style-type: none"> 1. Includes furniture, floor, wall and ceiling finishes, drapery, sanitary fittings and light fittings. 2. Excludes partitioning, M&E works, building shell, chandeliers, operational items and equipment (e.g. cutlery, crockery, linen, television, refrigerator etc.), opening expenses, stage equipment and computer systems. 	
OFFICES	
General office	6,200 - 9,700
Executive office	9,700 - 13,500
Prestige office	13,500 up
Notes :	
<ol style="list-style-type: none"> 1. Local/Taiwanese/PRC furniture allowed for general offices. 2. Includes furniture, partitioning, electrical work, minor alteration to air-conditioning, fire services and suspended ceiling to suit layout. 3. Excludes telephones, data cabling, office equipment (e.g. computers, photocopiers, fax machines, UPS, etc). 	

The above costs are at **4th Quarter 2017** levels.

BUILDING TYPE	HK\$/m ²
<p>DEPARTMENT STORES</p> <p>General department store</p> <p>Prestige department store</p> <p>Notes :</p> <ol style="list-style-type: none"> 1. <i>Includes electrical work, additional FCU and minor alteration of fire services to suit layout.</i> 2. <i>Excludes facade modification, data cabling, operational items and equipment (e.g. computers, P.O.S., office equipment) and opening expenses.</i> 	<p>7,700 - 12,500</p> <p>12,500 up</p>
<p>RESTAURANTS</p> <p>General dining restaurant</p> <p>Fine dining restaurant</p> <p>Notes :</p> <ol style="list-style-type: none"> 1. <i>Includes furniture, floor, wall and ceiling finishes, electrical work, minor alteration to air-conditioning and fire services installation to suit layout, exhaust for kitchen.</i> 2. <i>Excludes exhaust flue, operational items (e.g. cutlery, crockery, linen, utensils, etc.).</i> 	<p>10,500 - 20,000</p> <p>23,000 up</p>

The costs per square meter are based on fit-out area measured to the inner face of the perimeter wall.

UNIT COSTS FOR ANCILLARY FACILITIES FOR HONG KONG

DESCRIPTION	UNIT	HK\$
<p>SQUASH COURTS</p> <p>Single court with glass backwall including associated mechanical and electrical services but excluding any public facilities (enclosing structure not included).</p>	per court	600,000
<p>TENNIS COURTS</p> <p>Single court on grade with acrylic surfacing and complete with chain link fence.</p> <p>Single court on grade with artificial turf surfacing and complete with chain link fence.</p> <p>Extra for lighting.</p>	per court per court per court	1,350,000 1,500,000 500,000
<p>SWIMMING POOLS</p> <p>Half Olympic (25m x 10.50m) outdoor swimming pool built on-grade, fully tiled; complete with 5m wide deck and associated pool equipment and ozone system.</p>	per pool	9,500,000
<p>PLAYGROUND EQUIPMENT</p> <p>Outdoor playground equipment comprising various activities.</p>	per set	300,000 to 700,000

The above costs are at **4th Quarter 2017** levels.

DESCRIPTION	UNIT	HK\$
<p>SAUNAS</p> <p>Sauna room for 4-6 people complete with all accessories (enclosing structure not included).</p>	per room	200,000
<p>STEAM BATHS</p> <p>Steam bath for 4-6 people complete with all accessories (enclosing structure not included).</p>	per room	200,000
<p>GOLF COURSES</p> <p>(Based on average cost of an 18-hole golf course)</p> <p>Excluding associated buildings and equipment.</p>	per hole	8,000,000 to 14,000,000
<p>GREEN ROOF</p> <p>Proprietary lightweight green roof system; with automatic irrigation system (roofing and roof structure not included).</p>	per m2	3,000 to 6,000
<p>VERTICAL GREEN</p> <p>Vertical green system; wire frame type, with automatic irrigation system (background supporting wall not included).</p>	per m2	5,000 to 8,000

CONSTRUCTION COSTS FOR SELECTED ASIAN CITIES

CONSTRUCTION COSTS FOR SELECTED ASIAN CITIES

BUILDING TYPE	US\$/m ² CFA				
	HONG KONG £	SHANGHAI +	BEIJING +	GUANGZHOU/ SHENZHEN +	CHONGQING/ CHENGDU +
<u>DOMESTIC</u>					
Apartments, high rise, average standard	3,080 - 3,620	691 - 766	638 - 701	529 - 585	541 - 648
Apartments, high rise, high end	4,150 - 4,830	1,620 - 1,769	1,545 - 1,760	886 - 971	889 - 1,126
Terraced houses, average standard	4,220 - 4,920	465 - 497	465 - 543	402 - 442	445 - 541
Detached houses, high end	5,460 - 6,220	694 - 771	701 - 780	550 - 605	591 - 682
<u>OFFICE / COMMERCIAL</u>					
Medium/high rise offices, average standard	3,010 - 3,580	898 - 1,195	892 - 1,201	773 - 855	865 - 1,005
High rise offices, prestige quality	3,720 - 4,490	1,195 - 1,492	1,201 - 1,973	1,062 - 1,170	1,089 - 1,476
Out-of-town shopping centre, average standard	3,080 - 3,590	N/A	680 - 909	736 - 808	692 - 894
Retail malls, high end	4,080 - 4,850	1,270 - 1,640	1,230 - 1,693	1,082 - 1,189	1,089 - 1,536
<u>HOTELS</u>					
Budget hotels - 3-star, mid market	3,910 - 4,230	985 - 1,209	1,006 - 1,240	995 - 1,095	958 - 1,189
Business hotels - 4/5-star	4,100 - 4,870	1,619 - 2,205	1,681 - 2,220	1,605 - 1,768	1,839 - 2,303
Luxury hotels - 5-star	4,810 - 5,580	2,205 - 2,644	2,142 - 2,755	2,186 - 2,409	N/A

INDUSTRIAL												
Industrial units, shell only (Conventional single storey framed units)	N/A	287 - 350	281 - 343	505 - 556	448 - 571							
Owner operated factories, low rise, light weight industry	2,360 - 3,000	446 - 557	543 - 623	N/A	N/A							
OTHERS												
Underground/basement car parks (<3 levels)	2,320 - 2,880	762 - 1,062	777 - 854	508 - 812	N/A							
Multi storey car parks, above ground (<4 levels)	1,450 - 1,710	395 - 546	467 - 473	364 - 400	309 - 386							
Schools (primary and secondary)	2,530 - 2,740	544 - 697	541 - 699	403 - 444	417 - 464							
Students' residences	2,490 - 2,880	388 - 543	383 - 541	262 - 294	N/A							
Sports clubs, multi purpose sports/leisure centres (dry sports)	3,850 - 4,360	988 - 1,213	927 - 934	747 - 824	N/A							
General hospitals - public sector	5,000 - 5,640	1,474 - 1,912	1,218 - 1,525	N/A	N/A							
Exchange Rate Used : US\$1 =	HK\$ 7.8	RMB 6.60	RMB 6.60	RMB 6.60	RMB 6.60							

The above costs are at **4th Quarter 2017** levels, inclusive of preliminaries but exclusive of contingencies.

£ Offices of average standard are built to the following provisions:

- (i) Curtain wall/window wall facade
 - (ii) Tenant areas include screeded floor, painted wall and ceiling
- Schools (primary and secondary) are of public authority standard, no a/c and complete with basic external works.

+ Houses are built to shell and core standard ONLY, where all tenant or occupant areas are unfurnished.

Schools (primary and secondary) are of public authority standard, no a/c and complete with basic external works.

(Cont'd)

CONSTRUCTION COSTS FOR SELECTED ASIAN CITIES

CONSTRUCTION COSTS FOR SELECTED ASIAN CITIES (Cont'd)

BUILDING TYPE	US\$/m ² CFA				
	MACAU ^b	SINGAPORE ^a	KUALA LUMPUR	BRUNEI	BANGKOK ^c
<u>DOMESTIC</u>					
Apartments, high rise, average standard	2,229 - 2,740	1,325 - 1,510	375 - 520 ⁺	726 - 998	695 - 864
Apartments, high rise, high end	3,126 - 4,770	2,060 - 3,090	780 - 945	897 - 1,168	988 - 1,188
Terraced houses, average standard	3,823 - 4,545	1,730 - 1,950	225 - 330 ⁺	470 - 740	463 - 556
Detached houses, high end	4,645 - 6,040	2,210 - 2,945	755 - 940	713 - 985	803 - 972
<u>OFFICE / COMMERCIAL</u>					
Medium/high rise offices, average standard	2,578 - 3,325	1,730 - 1,950 ⁺	615 - 710 ⁺	726 - 998	648 - 803
High rise offices, prestige quality	3,325 - 3,636	1,950 - 2,135 ⁺	880 - 1,200 ⁺	1,026 - 1,297	880 - 1,111
Out-of-town shopping centre, average standard	2,428 - 3,636	1,950 - 2,060	560 - 690	704 - 975	633 - 818
Retail malls, high end	3,823 - 4,583	2,060 - 2,280	690 - 955	929 - 1,199	849 - 880
<u>HOTELS</u>					
Budget hotels - 3-star, mid market	3,387 - 3,836	2,170 - 2,390	1,020 - 1,420	1,373 - 1,643	1,158 - 1,281
Business hotels - 4/5-star	4,608 - 5,504	2,795 - 3,165	1,760 - 2,065	1,936 - 2,206	1,482 - 1,698
Luxury hotels - 5-star	5,504 - 6,513	2,795 - 3,165	1,965 - 2,290	1,987 - 2,258	1,729 - 2,006

INDUSTRIAL									
Industrial units, shell only (Conventional single storey framed units)	N/A	735 - 945	325 - 410	334 - 605	494 - 617				
Owner operated factories, low rise, light weight industry	N/A	N/A	440 - 500	456 - 727	N/A				
OTHERS									
Underground/basement car parks (<3 levels)	2,005 - 2,964	945 - 1,275	365 - 510	N/A	556 - 725				
Multi storey car parks, above ground (<4 levels)	1,108 - 1,457	650 - 945 [▼]	230 - 300	372 - 643	185 - 296				
Schools (primary and secondary)	2,217 - 2,578	N/A	255 - 295 [▲]	544 - 815	N/A				
Students' residences	1,768 - 2,042	1,585 - 1,730	300 - 330 [◆]	638 - 908	N/A				
Sports clubs, multi purpose sports/leisure centres (dry sports)	N/A	1,985 - 2,135	595 - 695	1,465 - 1,735	N/A				
General hospitals - public sector	N/A	2,795 - 2,945	875 - 1,105	1,646 - 1,917	N/A				
Exchange Rate Used : US\$1 =	MOP 8.03	S\$ 1.36	RM 4.08	B\$ 1.36	BAHT 32.39				

The above costs are at **4th Quarter 2017** levels, inclusive of preliminaries but exclusive of contingencies.

- † Rates are exclusive of any management contract fee.
- ♣ Rates are net of GST.
- ♠ Includes raised floor and ceiling to tenanted areas but excludes office carpets (normally under tenant's fit-out).
- ▼ Open on all sides with parapet
- ▲ Terraced houses exclude air-conditioning.
- ▼ Offices are average standard and exclude tenant fitout.
- ◆ Schools (primary and secondary) are standard government provisions.
- ♠ Studenthostels to university standard.
- ∞ Rates exclude VAT.

(Cont'd)

CONSTRUCTION COSTS FOR SELECTED ASIAN CITIES

CONSTRUCTION COSTS FOR SELECTED ASIAN CITIES (Cont'd)

BUILDING TYPE	US\$/m ² CFA			
	MANILA Ω	INDIA ₹	JAKARTA $\text{\$}$	HO CHI MINH &
<u>DOMESTIC</u>				
Apartments, high rise, average standard	923 - 1,088	550 - 630	713 - 807	630 - 780
Apartments, high rise, high end	1,227 - 1,712	830 - 1,000	981 - 1,107	800 - 920
Terraced houses, average standard	760 - 906	380 - 400	378 - 492	425 - 500
Detached houses, high end	1,570 - 2,353	500 - 525	1,027 - 1,149	485 - 590
<u>OFFICE / COMMERCIAL</u>				
Medium/high rise offices, average standard	897 - 1,048	415 - 450	703 - 778	735 - 855
High rise offices, prestige quality	1,264 - 1,385	520 - 550	1,035 - 1,157	850 - 1,160
Out-of-town shopping centre, average standard	727 - 888	405 - 440	604 - 669	N/A
Retail malls, high end	1,059 - 1,504	565 - 610	667 - 721	690 - 900
<u>HOTELS</u>				
Budget hotels - 3-star, mid market	1,193 - 1,335	780 - 865	1,222 - 1,443	1,370 - 1,670
Business hotels - 4/5-star	1,322 - 1,650	1,215 - 1,440	1,666 - 1,800	N/A
Luxury hotels - 5-star	1,612 - 2,175	1,535 - 1,680	1,770 - 1,996	1,725 - 2,070

INDUSTRIAL						
Industrial units, shell only (Conventional single storey framed units)	445 - 501	325 - 380	325 - 354	305 - 380		
Owner operated factories, low rise, light weight industry	598 - 677	345 - 405	352 - 389	370 - 490		
OTHERS						
Underground/basement car parks (<3 levels)	499 - 568	275 - 295	501 - 616	625 - 750		
Multi storey car parks, above ground (<4 levels)	457 - 678	210 - 230	325 - 354	400 - 440		
Schools (primary and secondary)	693 - 798	260 - 295	N/A	525 - 575		
Students' residences	750 - 895	295 - 325	N/A	525 - 680		
Sports clubs, multi purpose sports/leisure centres (dry sports)	1,200 - 1,585	575 - 600	1,075 - 1,611	780 - 835		
General hospitals - public sector	1,301 - 1,504	630 - 690	N/A	N/A		
Exchange Rate Used : US\$1 =	PHP 50.50	INR 65	IDR 13,055	VND 22,600		

The above costs are at **4th Quarter 2017** levels, inclusive of preliminaries but exclusive of contingencies.

Ω Rates include 12% VAT.

\$ Rates are nett of VAT.

⊘ Rates are based on projects in Bangalore and are nett of GST.

⊙ Mumbai costs are generally 8% higher. & Rates are nett of VAT and contingencies.

M&E COSTS FOR SELECTED ASIAN CITIES

M&E COSTS FOR SELECTED ASIAN CITIES

BUILDING TYPE	HONG KONG		SHANGHAI		BEIJING		GUANGZHOU/ SHENZHEN		CHONGQING/ CHENGDU	
	HK\$/m ² CFA		RMB/m ² CFA		RMB/m ² CFA		RMB/m ² CFA		RMB/m ² CFA	
<u>MECHANICAL SERVICES</u>										
Offices	2,000 - 2,800		776 - 985		760 - 1,050		760 - 1,050		690 - 990	
Industrial *	200 - 300		176 - 295		170 - 280		150 - 280		140 - 230	
Hotels	2,200 - 2,750		990 - 1,290		950 - 1,200		1,080 - 1,350		730 - 1,180	
Shopping Centres	2,300 - 2,850		1,050 - 1,103		790 - 950		700 - 960		590 - 990	
Apartment	850 - 1,750		315 - 415		140 - 450		150 - 400		110 - 300	
<u>ELECTRICAL SERVICES</u>										
Offices	1,750 - 2,500		605 - 664		460 - 703		530 - 780		430 - 660	
Industrial **	650 - 900		311 - 440		320 - 450		310 - 450		260 - 360	
Hotels	1,900 - 2,600		664 - 847		705 - 943		700 - 1000		520 - 770	
Shopping Centres	1,900 - 2,500		530 - 664		481 - 676		490 - 680		410 - 660	
Apartment	1,100 - 1,750		257 - 375		253 - 398		280 - 500		230 - 340	
<u>HYDRAULIC SERVICES</u>										
Offices	700 - 900		110 - 163		95 - 140		125 - 180		60 - 120	
Industrial	500 - 700		89 - 131		95 - 140		86 - 120		60 - 120	
Hotels	2,000 - 3,000		368 - 488		370 - 480		390 - 500		280 - 350	

Shopping Centres	700 - 900	137 - 184	140 - 200	110 - 165	60 - 120
Apartment	1,500 - 2,400	168 - 226	170 - 230	145 - 280	100 - 180
<u>FIRE SERVICES</u>					
Offices	550 - 700	225 - 315	180 - 265	225 - 350	200 - 260
Industrial	400 - 500	153 - 255	150 - 225	140 - 270	130 - 230
Hotels	600 - 850	285 - 385	220 - 375	280 - 420	200 - 320
Shopping Centres	550 - 700	255 - 380	220 - 375	245 - 375	250 - 350
Apartment	200 - 450	53 - 102	70 - 135	70 - 150	60 - 110
<u>LIFTS / ESCALATORS</u>					
Offices	700 - 1,200	280 - 550	294 - 577	295 - 500	340 - 590
Industrial	550 - 750	135 - 390	145 - 400	150 - 440	150 - 350
Hotels	550 - 850	220 - 495	232 - 520	250 - 470	290 - 490
Shopping Centres	850 - 1,000	325 - 495	327 - 520	325 - 470	290 - 440
Apartment	450 - 850	165 - 325	175 - 289	125 - 300	140 - 240

The above costs are at **4th Quarter 2017** levels, exclusive of contingencies.

* Generally without A/C.

** Excludes special power supply.

(Cont'd)

M&E COSTS FOR SELECTED ASIAN CITIES

M&E COSTS FOR SELECTED ASIAN CITIES (Cont'd)

BUILDING TYPE	MACAU		SINGAPORE *		KUALA LUMPUR		BRUNEI		BANGKOK ^o	
	MOP/m ² CFA		S\$/m ² CFA		RM/m ² CFA		B\$/m ² CFA		THB/m ² CFA	
<u>MECHANICAL SERVICES</u>										
Offices	N/A		153 - 249		355 - 515		178 - 220		4,200 - 4,700	
Industrial *	N/A		34 - 117		85 - 190		23 - 38		1,550 - 1,600	
Hotels	2,600 - 3,000		129 - 278		300 - 580		283 - 326		4,600 - 5,100	
Shopping Centres	2,200 - 2,800		147 - 246		315 - 505		201 - 239		4,200 - 4,700	
Apartment	900 - 1,100		90 - 170		195 - 285		208 - 239		4,200 - 4,500	
<u>ELECTRICAL SERVICES</u>										
Offices	N/A		158 - 258		310 - 510		226 - 283		3,400 - 3,800	
Industrial **	N/A		55 - 136		145 - 190		188 - 226		1,950 - 2,200	
Hotels	2,600 - 3,100		181 - 356		285 - 595		283 - 369		3,800 - 4,500	
Shopping Centres	2,600 - 2,800		160 - 304		310 - 495		308 - 369		2,800 - 3,200	
Apartment	1,000 - 1,300		97 - 228		105 - 220		244 - 308		2,800 - 3,350	
<u>HYDRAULIC SERVICES</u>										
Offices	N/A		26 - 55		30 - 60		16 - 38		780 - 900	
Industrial	N/A		18 - 36		40 - 50		11 - 19		750 - 790	
Hotels	1,800 - 2,200		91 - 172		180 - 250		59 - 81		1,400 - 1,650	

Shopping Centres	600 - 800	46 - 80	30 - 35	12 - 40	790 - 950
Apartment	1,500 - 2,000	72 - 141	20 - 50	37 - 58	1,200 - 1,400
<u>FIRE SERVICES</u>					
Offices	N/A	33 - 56	60 - 80	31 - 38	780 - 850
Industrial	N/A	23 - 51	45 - 65	12 - 19	730 - 750
Hotels	900 - 1,100	28 - 57	65 - 95	25 - 48	780 - 890
Shopping Centres	600 - 800	37 - 56	65 - 85	31 - 64	780 - 820
Apartment	250 - 300	25 - 50	20 - 30	25 - 50	720 - 850
<u>LIFTS / ESCALATORS</u>					
Offices	N/A	63 - 162	95 - 395	9 - 31	1,100 - 1,350
Industrial	N/A	41 - 104	55 - 190	4 - 19	N/A
Hotels	600 - 800	49 - 108	85 - 365	12 - 44	1,100 - 1,400
Shopping Centres	450 - 700	56 - 90	85 - 110	12 - 35	250 - 450
Apartment	450 - 600	41 - 113	65 - 105	11 - 25	500 - 580

The above costs are at **4th Quarter 2017** levels, exclusive of contingencies.

- * Generally without A/C.
- ** Excludes special power supply.
- ♣ Rates are nett of GST and excluding BAS.
- ⊕ Based upon nett enclosed area and nett of VAT.

(Cont'd)

M&E COSTS FOR SELECTED ASIAN CITIES

M&E COSTS FOR SELECTED ASIAN CITIES (Cont'd)

BUILDING TYPE	MANILA ^o	INDIA ^φ	JAKARTA #	HO CHI MINH
	PHP/m ² CFA	INR/m ² CFA	IDR/m ² CFA	VND/m ² CFA
<u>MECHANICAL SERVICES</u>				
Offices	3,000 - 5,200	4,585 - 6,500	981,000 - 1,154,000	1,885,000 - 2,687,000
Industrial *	700 - 1,500	2,110 - 3,750	301,000 - 710,000	N/A
Hotels	3,500 - 7,200	5,615 - 6,130	976,000 - 1,313,000	N/A
Shopping Centres	2,500 - 5,000	4,380 - 5,735	863,000 - 1,037,000	N/A
Apartment	700 - 3,600	2,500 - 3,100	873,000 - 1,226,000	1,423,000 - 1,950,000
<u>ELECTRICAL SERVICES</u>				
Offices	3,300 - 7,000	4,050 - 5,575	792,000 - 1,057,000	2,136,000 - 2,547,000
Industrial **	2,000 - 3,500	2,390 - 3,965	449,000 - 700,000	N/A
Hotels	4,700 - 10,000	4,500 - 6,135	797,000 - 1,124,000	N/A
Shopping Centres	3,600 - 6,000	3,870 - 5,175	690,000 - 868,000	N/A
Apartment	3,600 - 6,300	1,950 - 2,680	838,000 - 1,062,000	1,884,000 - 2,379,000
<u>HYDRAULIC SERVICES</u>				
Offices	900 - 2,200	710 - 1,080	199,000 - 281,000	306,000 - 572,000
Industrial	700 - 1,300	485 - 850	112,000 - 204,000	N/A
Hotels	1,950 - 4,300	3,695 - 5,565	797,000 - 1,124,000	N/A

Shopping Centres Apartment	700 - 1,600 1,800 - 3,000	1,050 - 1,900 1,665 - 2,300	189,000 - 291,000 848,000 - 1,144,000	N/A 596,000 - 693,000
<u>FIRE SERVICES</u>				
Offices	800 - 1,300	1,130 - 1,475	271,000 - 398,000	664,000 - 1,101,000
Industrial	750 - 2,000	540 - 710	112,000 - 204,000	N/A
Hotels	700 - 1,200	1,315 - 1,680	271,000 - 393,000	N/A
Shopping Centres Apartment	700 - 1,300 800 - 1,300	1,080 - 1,250 600 - 715	266,000 - 312,000 281,000 - 327,000	N/A 456,000 - 572,000
<u>LIFTS / ESCALATORS</u>				
Offices	1,600 - 3,600	940 - 1,195	424,000 - 1,134,000	635,000 - 1,212,000
Industrial	0 - 400	610 - 785	N/A	N/A
Hotels	1,800 - 3,400	1,365 - 1,990	414,000 - 1,052,000	N/A
Shopping Centres Apartment	800 - 2,300 850 - 2,200	1,600 - 2,050 850 - 1,100	312,000 - 838,000 414,000 - 853,000	1,293,000 - 1,830,000 721,000 - 1,044,000

The above costs are at **4th Quarter 2017** levels, exclusive of contingencies.

- * Generally without A/C. # All rates are nett of VAT. Rates for Electrical Services are excluding genset.
- ** Excludes special power supply. Rates for Hydraulic Services are excluding STP.
- Ω Transformer, included in Electrical Services. Rates for Mechanical Services refers to ACMV Rates only.

₹ Rates are based on projects in Bangalore and are nett of GST. Mumbai costs are generally 8% higher.

(Cont'd)

MAJOR RATES FOR SELECTED ASIAN CITIES

DESCRIPTION	UNIT	HONG KONG		SHANGHAI		BEIJING		GUANGZHOU/ SHENZHEN		CHONGQING/ CHENGDU	
		HK\$	RMB	RMB	RMB	RMB	RMB	RMB	RMB		
1. Excavating basement ≤ 2.00m deep	m ³	220	30	26	32	22					
2. Excavating for footings ≤ 1.50m deep	m ³	200	30	31	26	26					
3. Remove excavated materials off site	m ³	300 ⁵	130	37	80-100	67					
4. Hardcore bed blinded with fine materials	m ³	950	180	170	190	160					
5. Mass concrete grade 15	m ³	1,100	450	410	470	320					
6. Reinforced concrete grade 30	m ³	1,300	485	480	500	360					
7. Mild steel rod reinforcement	kg	9.7	5.2	4.9	5.5	5.2					
8. High tensile rod reinforcement	kg	9.7	5.2	4.9	5.5	5.2					
9. Sawn formwork to soffits of suspended slabs	m ²	410	85	85	85	60					
10. Sawn formwork to columns and walls	m ²	410	85	73	85	60					
11. 112.5mm thick brick walls	m ²	400	85 ⁶	72	75	70					
12. "Kliplok Colorbond" 0.64mm profiled steel sheeting	m ²	870	N/A	N/A	N/A	N/A					

13. Aluminium casement windows, single glazed	m ²	3,200	700	815*	650	650
14. Structural steelwork - beams, stanchions and the like	kg	36	9.5	9.35	11	11.1
15. Steelwork - angles, channels, flats and the like	kg	38	8.5	8.5	9	11.1
16. 25mm cement and sand (1:3) paving	m ²	150	30	27	32	25
17. 20mm cement and sand (1:4) plaster to walls	m ²	155	30	28	30	35
18. Ceramic tiles bedded to floor screed (measured separately)	m ²	400	155	140	155	130
19. 12mm fibrous plasterboard ceiling lining	m ²	600	150	162	190	150
20. Two coats of emulsion paint to plastered surfaces	m ²	75	40	32	35	35
Average expected preliminaries	%	10 - 15	5 - 10	7 - 10	5 - 10	5 - 10

The above costs are at **4th Quarter 2017** levels and are based on lump sum fixed price contract rates exclusive of preliminaries and contingencies.

δ Rates including dumping charges.

@ Rates for 120mm thick concrete block walls.

* Rates for double glazed window.

(Cont'd)

MAJOR RATES FOR SELECTED ASIAN CITIES

MAJOR RATES FOR SELECTED ASIAN CITIES (Cont'd)

DESCRIPTION	UNIT	MACAU	SINGAPORE	KUALA LUMPUR	BRUNEI	BANGKOK
		MOP	S\$	RM	B\$	THB
1. Excavating basement ≤ 2.00m deep	m ³	130	20	15 - 25	3.40	120 - 140
2. Excavating for footings ≤ 1.50m deep	m ³	150	20	15 - 25	2.90	140 - 180
3. Remove excavated materials off site	m ³	100	15 - 20	20 - 30	2.90	110 - 150
4. Hardcore bed blinded with fine materials	m ³	1,200	50	70 - 95	42	650 - 750
5. Mass concrete grade 15	m ³	1,350	175-185**	240 - 315	115	2,300 - 2,500
6. Reinforced concrete grade 30	m ³	1,250	115-120	260 - 320	130	2,500 - 2,700
7. Mild steel rod reinforcement	kg	7.1	1.2 - 1.3	3.2 - 3.7	1.2	24 - 25
8. High tensile rod reinforcement	kg	7.1	1.2 - 1.3	3.2 - 3.7	1.2	23 - 24
9. Sawn formwork to soffits of suspended slabs	m ²	250	40	38 - 45	15	400 - 450
10. Sawn formwork to columns and walls	m ²	250	40	38 - 45	15	400 - 450
11. 112.5mm thick brick walls	m ²	450	35 - 40	45 - 50	16	650 - 750
12. "Kliplok Colorbond" 0.64mm profiled steel sheeting	m ²	N/A	43	55 - 65	58	1,200

13. Aluminium casement windows, single glazed	m ²	4,000	290	380-600	160 - 210	7,000
14. Structural steelwork - beams, stanchions and the like	kg	35	4 - 4.5	7.5 - 9	3	50 - 60
15. Steelwork - angles, channels, flats and the like	kg	40	4 - 4.5	7.5 - 9	3	50 - 60
16. 25mm cement and sand (1:3) paving	m ²	120	21	17 - 23	8	200 - 240
17. 20mm cement and sand (1:4) plaster to walls	m ²	150	22	18 - 23	8	220 - 260
18. Ceramic tiles bedded to floor screed (measured separately)	m ²	450	74	50 - 70	33	1,200
19. 12mm fibrous plasterboard ceiling lining	m ²	650	30	35 - 45	28	750 - 850
20. Two coats of emulsion paint to plastered surfaces	m ²	200	3.5 - 4	3.3 - 4.5	5	110 - 140
Average expected preliminaries	%	10	12 - 15	6 - 15	5 - 8	12 - 18

The above costs are at **4th Quarter 2017** levels and are based on lump sum fixed price contract rates exclusive of preliminaries and contingencies.

♣ Rates are nett of GST.

♣♣ Rate for lean concrete blinding.

∞ Rates are nett of VAT.

(Cont'd)

MAJOR RATES FOR SELECTED ASIAN CITIES

MAJOR RATES FOR SELECTED ASIAN CITIES (Cont'd)

DESCRIPTION	UNIT	MANILA		INDIA ⁶		JAKARTA #		HO CHI MINH #	
		PHP	INR	IDR	VND				
1. Excavating basement ≤ 2.00m deep	m ³	270	190	40,000	92,400				
2. Excavating for footings ≤ 1.50m deep	m ³	300	215	75,000	92,400				
3. Remove excavated materials off site	m ³	160	N/A	30,000	84,700				
4. Hardcore bed blinded with fine materials	m ³	890	4,400	500,000	280,900				
5. Mass concrete grade 15	m ³	2,940	5,950	1,050,000	1,696,400				
6. Reinforced concrete grade 30	m ³	3,780	7,450	1,000,000	1,955,800				
7. Mild steel rod reinforcement	kg	43	67	12,000	18,500				
8. High tensile rod reinforcement	kg	44	69	12,000	18,000				
9. Sawn formwork to soffits of suspended slabs	m ²	1,000	675	200,000	201,800				
10. Sawn formwork to columns and walls	m ²	950	725	195,000	220,000				
11. 112.5mm thick brick walls	m ²	N/A	1,100	250,000	312,780				
12. "Kliplok Colorbond" 0.64mm profiled steel sheeting	m ²	1,100	1,700	300,000	401,110 - 597,600				

13. Aluminium casement windows, single glazed	m ²	10,500 ^Ω	6,000	1,650,000	6,315,000
14. Structural steelwork - beams, stanchions and the like	kg	125	120	26,000	52,650
15. Steelwork - angles, channels, flats and the like	kg	125	120	26,000	52,650
16. 25mm cement and sand (1:3) paving	m ²	400	475	90,000	94,000
17. 20mm cement and sand (1:4) plaster to walls	m ²	360	390	100,000	144,000
18. Ceramic tiles bedded to floor screed (measured separately)	m ²	1,600	1,700	200,000	674,180
19. 12mm fibrous plasterboard ceiling lining	m ²	1,090	1,350	215,000 [⊠]	205,920
20. Two coats of emulsion paint to plastered surfaces	m ²	390	240	30,000	88,900
Average expected preliminaries	%	12 - 18	8 - 12	8 - 10	8 - 12

The above costs are at **4th Quarter 2017** levels and are based on lump sum fixed price contract rates exclusive of preliminaries and contingencies.

Ω Rate for aluminium with anodized finish; 6mm thick. # Rates are nett of VAT.

⊠ All rates above are Supply and Fix, based on projects in Bangalore and # Rate for 9mm gypsum board. are nett of GST. Mumbai costs are generally 8% higher.

CONSTRUCTION COST SPECIFICATION

BUILDING TYPE	OUTLINE SPECIFICATION
<u>DOMESTIC</u>	
Apartments, high rise, average standard	Apartment units with fit-out, including air-conditioning, kitchen cabinets and home appliances, but excluding decorative light fittings and loose furniture
Apartments, high rise, high end	Apartment units with good quality fit-out, including air-conditioning, kitchen cabinets and home appliances, but excluding decorative light fittings and loose furniture
Terraced houses, average standard	Houses with fit-out, including air-conditioning, kitchen cabinets and home appliances, but excluding decorative light fittings, loose furniture, garden and parking
Detached houses, high end	Houses with good quality fit-out, including air-conditioning, kitchen cabinets and home appliances, but excluding decorative light fittings, loose furniture, garden and parking
<u>OFFICE / COMMERCIAL</u>	
Medium/high rise offices, average standard	RC structure, curtain wall, including public area fit-out, tenant area with raised floor/ carpet, painted wall and false ceiling
High rise offices, prestige quality	

Out-of-town shopping centre, average standard	Including public area fit-out and M&E, but excluding shop fit-out
Retail malls, high end	
<u>HOTELS</u>	
Budget hotels - 3-star, mid market	1) Interior decoration 2) Furniture (fixed and movable) 3) Special light fittings (chandeliers, etc.) 4) Operating Supplies and Equipment (OS&E) excluded .
Business hotels - 4/5-star	
Luxury hotels - 5-star	
<u>INDUSTRIAL</u>	
Industrial units, shell only (Conventional single storey framed units)	RC structure with steel roof and M&E to main distribution, but excluding a/c, heating and lighting
Owner operated factories, low rise, light weight industry	RC structure, including small office with simple fit-out and M&E, but excluding a/c and heating

(Cont'd)

CONSTRUCTION COST SPECIFICATION

CONSTRUCTION COST SPECIFICATION (Cont'd)

BUILDING TYPE	OUTLINE SPECIFICATION
<u>OTHERS</u>	
Underground/basement car parks (<3 levels)	RC structure
Multi storey car parks, above ground (<4 levels)	RC structure, natural ventilaion, no facade enclosure
Schools (primary and secondary)	Including fit-out and a/c, but excluding educational equipment
Students' residences	Including fit-out, loose furniture and a/c
Sports clubs, multi purpose sports/leisure centres (dry sports)	Dry sports (no swimming pool) and are for 'leisure centre' type schemes including main sports hall, ancillary sports facilities, changing and showers, restaurant / cafe, bar, etc. Costs include a/c, Furniture, Fittings and Equipment (FF&E).
General hospitals - public sector	Excluding medical and operating equipment



Notes:

1. The costs for the respective categories given above are averages based on fixed price competitive tenders. It must be understood that the actual cost of a building will depend upon the design and many other factors and may vary from the figures shown.
2. The costs per square metre are based on Construction Floor Areas (CFA) measured to the outside face of the external walls / external perimeter including lift shafts, stairwells, balconies, plant rooms, water tanks and the like.
3. All buildings are assumed to have no basements (except otherwise stated) and are built on flat ground, with normal soil and site condition. The cost excludes site formation works, external works, land cost, professional fees, finance and legal expenses.
4. The standard for each category of building varies from region to region and do not necessary follow that of each other.
5. All costs are in US\$/m² CFA. Fluctuation in exchange rates may lead to changes in construction costs expressed in U.S. dollars.



GENERAL CONSTRUCTION DATA

2

2018 Outlook

Building Cost Trends in Hong Kong

Labour Index in Hong Kong

Labour Wages in Hong Kong

Material Prices in Hong Kong

Progress Payments

Estimating Rules of Thumb and Design
Norms

Construction Activity in Hong Kong

Construction Value in Hong Kong

Hong Kong General Construction Insurance

Specified Forms for Buildings Ordinance
or Regulations for Hong Kong

Summary of Building Regulations
for Hong Kong

Percentage Site Coverage and Plot Ratios
for Hong Kong

Evolving Regulations for Green Building
in China

Procurement Strategies and Form
of Contracts

2018 OUTLOOK

China

Construction output in China continued to grow throughout the final three quarters of 2017 at a rate of 11% Year-on-Year (YOY), compared to 7% for the same period in 2016. Both the overall economy and the property sector grew steadily despite ongoing rounds of government interventions to stabilise house prices. Initially, the interventions created market unrest, but we are seeing general market confidence return as the market adjusts to the changes.

Manufacturing industries report a gradual rise in the price of materials since late 2016. Basic construction products such as steel and fuel experienced the biggest increase with rates ranging from 10-15% YOY. The National Bureau of Statistics' (NBS) Construction Material Index rose by 9.8% YOY during the first three quarters of 2017, which is the first time in five years that the Index moved back to positive.

Labour cost rises remained moderate for the second year in a row. The NBS's Construction Labour Index reported 3.7% growth YOY during the first three quarters of 2017, which is consistent with the 3.5% growth in the previous year. In the wider economy, the inflation rate remained steady, with the Consumer Price Index around the 2% mark - a level that has been maintained for five years.

The increase in basic material costs (i.e. fuel, labour and plant) has had an impact on the overall cost of construction. The industry turned upwards from a five-year low and shows signs of continued growth. Some regions in China have experienced greater price growth than others - ranging from 2% to 10% - reflecting local construction needs.

However, it is important to note that the 11% countrywide



growth doesn't take into account regional shrinkage or slower-than-average growth. At the end of the third quarter, there was a drop of 17% in output in Liaoning, and very mild 3% YOY growth in Tianjin. The Western and Southern regions generally performed above-average, with Sichuan experiencing 14% and Guangdong 16% growth YOY.

Further improvement in construction output is anticipated because the government has approved infrastructure investment that could deliver up to 20% growth in 2018. Up to a third of the budget is expected to be invested in transportation networks, and around 10% on water management, targeting regional needs. This investment was introduced by the government in mid-2016 and is aimed at boosting economic growth and to offset a potential slowdown in private investment growth. GDP stabilised at 6.8% in the third quarter of 2017, which remains consistent with 2016's performance of 6.9%. While there is a time lag between approval and actual spending on construction activities, the outlook for short to medium term workload is cautiously optimistic.

Given these conditions, we anticipate construction costs edging up by around 3%.

(Cont'd)

2018 OUTLOOK

Hong Kong

The construction industry in Hong Kong enjoyed another busy year in 2017, with construction output climbing to a new peak, with both major private and public-sector projects contributing to the overall workload. However, growth has now slowed to its lowest rate since the economy picked up in 2010 following the global financial crisis.

Private sector construction projects grew 10% during first half of 2017, which is significantly lower than the 21% reported in the previous year. In terms of floor area, both submission consent and construction commencement remain stable at the peak levels. Contractors in the private sector still have a few more years of high volume workload to manage and complete. The public sector situation is not as encouraging. The overall construction output of the public sector in 2017 was similar to 2016. With demand-driven public housing plans hindered by limited land resources and a lack of mega infrastructure projects to be rolled-out for construction, workload in the medium term is less encouraging. As to workload in the short term, the resources that are about to be released upon completion of certain mega infrastructure projects will likely create a high supply of labour for the contractors who want to bid for new jobs.

The government has repeatedly committed to maintain land supply according to the long-term housing strategy. Therefore, the number of construction jobs in the private sector should remain stable in the medium term. In contrast, the public sector has seen a reduction in the amount of approvals for funding, tendering on new projects, and award schedules of a number of new public works. While two-thirds of the funding for public works projects was granted during the last month of the Legco sessions, the sustainability of volume as well as the steadiness of supply of new works poses an unbalanced approach to growth in the industry.



In 2017, construction workers' wages increased for the ninth year in a row, but at a more diverse range of 4-11%, compared with the 5-8% a year ago. The uneven rate of releasing new public work has resulted in an unstable demand for workers. Contractors may have to offer higher pay to secure labour resources for their projects, according to the Hong Kong Construction Industry Employees General Union. These wage rises are higher than average across all employment sectors in Hong Kong, as measured by the Composite Wage Index, which recorded an increase of 3.8% as of June 2017. There is uncertainty around future of pay rises in the construction industry, amid the uncertainty in workload.

The 2017 macro trend in construction materials showed a general increase in the price of many basic items. However, the notable change in the market was the price of steel, which after experiencing a year-long downturn finished with an increase of 10-20%. Facing growing competition, contractors struggled to find options in cost control, like alternative material origins and innovative technology, to promote their competitiveness. The combined effect of changes in the competitive environment, material prices and labour wages in 2017, reflected a drop in tender prices of 2%.

Looking forward to 2018, it is anticipated that almost all sectors of the industry will be flat or have a fall in their workload. The majority of major public infrastructure projects are close to completion with limited projects set to commence, creating a lag in available workload. The construction cost trend will see another year of consolidation following 2017. With that in mind, we anticipate that construction prices for building works will continue to edge down by (-)2% and (-)1% in 2018 and 2019 respectively.

(Cont'd)

2018 OUTLOOK

Macau

Continuing 2016's off-peak movement, Macau's construction output shrank further in 2017, with the wave of mega hospitality and gaming developments almost coming to an end.

The volume of completed floor area in the private sector dropped and there was an even lower volume of new works commencement, particularly in the hospitality sector. The construction industry workload on hand for the coming quarters is the least since 2011, and largely comes from ongoing projects commenced in 2016. Furthermore, the floor area volume currently under planning in the private sector is only around 3 million square metres, which is about 1 year's workload, compared with the peak in 2014-2015. Taking into account that not all these floor areas will proceed to the construction stage in the short term, the industry will suffer from a further drop in activity levels over the coming year.

In the public sector, new building and civil engineering projects commenced in 2016 contributed to the growth of construction output in 2017. Expenditure increased on building projects such as residential, offices, health and recreational developments, and civil engineering works such as roads, bridges and reclamation works. However, this increase only partially offset the shortfall caused by the decline in the private sector.

Material prices overall in 2017 rose by around 3%, largely attributed to the rebound in steel prices. There was less demand for labour due to weakening construction activity. However, local workers were less impacted by the loss in job opportunities due to the reduction of the number of foreign construction workers. Wages, therefore, rose around 5% year-on-year, as of the 3rd Quarter of 2017,

close to the 2016 rate. Withdrawing foreign resources seems to provide the construction industry with flexibility to ride over the boom and bust cycle. Having consolidated the impact of the shrinking workload for a year, overall construction costs in 2017 reported a mild rise of 2% compared to 2016.

In terms of Macau's overall economy, the contraction ended in the 3rd Quarter of 2016, and the economic recovery has continued since, driven by strong growth in the gaming and tourism sectors. For the first 3 quarters of 2017, the economy grew by 9.3% year-on-year in real terms, up considerably after a 2.1% decrease in 2016. The Chief Executive of Macau is confident that the local economy will continue to grow in 2018. The International Monetary Fund has a similar view, predicting a growth of around 7% in 2018.

Bearing these factors in mind, we anticipate that construction costs will be stable with a mild rise of 1% in 2018. Looking ahead to 2019, although the potential effect of both positive and negative factors is not known, costs may continue to gradually rise by another 1% in 2019.

CONSTRUCTION COST TREND PREDICTION			
REGION	2017	2018	2019
China ⁽¹⁾	(+)6%	(+)3%	(+)3%
Hong Kong ⁽¹⁾	(-)2%	(-)2%	(-)1%
Hong Kong ⁽²⁾	(-)7%	(-)3%	(-)1%
Macau ⁽¹⁾	(+)2%	(+)1%	(+)1%

(1) Building Works

(2) Civil Engineering Works

BUILDING COST TRENDS IN HONG KONG



YEAR	INDEX (Base = 100, at Year 1970)			
	Q1	Q2	Q3	Q4
2007	1,020	1,074	1,175	1,150
2008	1,239	1,360	1,355	1,281
2009	1,245	1,242	1,253	1,273
2010	1,297	1,315	1,342	1,367
2011	1,385	1,425	1,452	1,491
2012	1,511	1,552	1,595	1,632
2013	1,688	1,713	1,747	1,786
2014	1,789	1,808	1,857	1,903
2015	1,946	1,958	1,963	1,984
2016	1,992	1,992	1,993	1,986
2017	1,975	1,968	1,958*	1,948*

* Provisional



YEAR	INDEX (Base = 100, at Year 1970)			
	Q1	Q2	Q3	Q4
2007	821	859	906	998
2008	1,118	1,305	1,401	1,262
2009	1,074	983	1,111	1,107
2010	1,134	1,161	1,249	1,266
2011	1,273	1,320	1,369	1,408
2012	1,414	1,438	1,467	1,496
2013	1,516	1,532	1,559	1,590
2014	1,621	1,648	1,679	1,703
2015	1,732	1,761	1,777	1,775
2016	1,775	1,776	1,783	1,781
2017*	1,779	1,776		

* Up to Q2 only

Source: Architectural Services Department, Hong Kong, SAR
Refer to www.archsd.gov.hk for further information.

(Cont'd)

BUILDING COST TRENDS IN HONG KONG

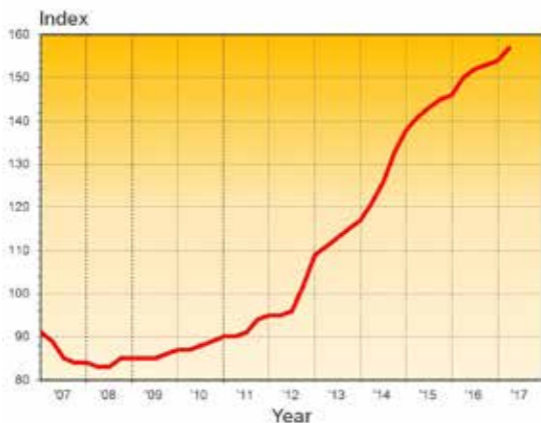


YEAR	HyD CONST. COST INDEX (Nov. 1975 Value = 100)	CEDD CIVIL ENGINEERING WORKS INDEX (1980 Value = 100)
2007	917	450
2008	1,031	500
2009	950	461
2010	989	481
2011	1,075	525
2012	1,127	550
2013	1,191	583
2014	1,256	616
2015	1,282	627
2016	1,323	652
2017*	1,405	692

* 1/17 to 6/17 only

Source: Civil Engineering and Development Department, Hong Kong, SAR
Refer to www.cedd.gov.hk/eng/index.htm for further information.

LABOUR INDEX IN HONG KONG



YEAR	INDEX (Base = 100, at April 2003)			
	Q1	Q2	Q3	Q4
2007	91	89	85	84
2008	84	83	83	85
2009	85	85	85	86
2010	87	87	88	89
2011	90	90	91	94
2012	95	95	96	102
2013	109	111	113	115
2014	117	121	126	133
2015	138	141	143	145
2016	146	150	152	153
2017*	154	157		

Figures above are the quarterly average of the monthly indices * 1/17 to 6/17 only

Source: Census and Statistics Department, Hong Kong, SAR
 Refer to www.censtatd.gov.hk for further information.

LABOUR WAGES IN HONG KONG

STRUCTURAL

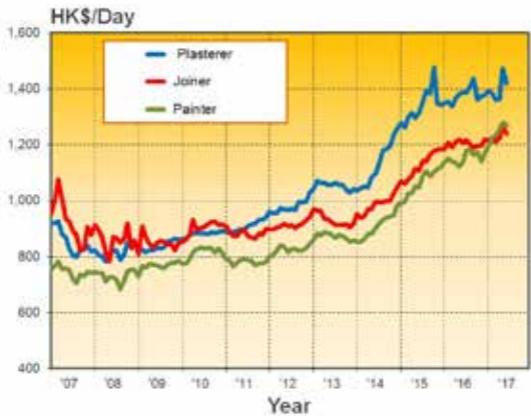


ARCHITECTURAL - BASIC WORKS



Source: Census and Statistics Department, Hong Kong, SAR
Refer to www.censtatd.gov.hk for further information.

ARCHITECTURAL - DECORATIVE WORKS



M&E

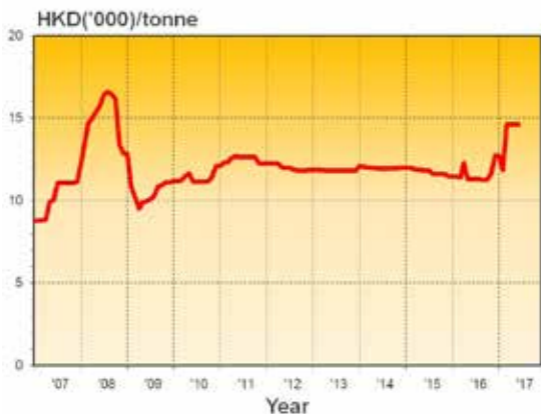


Source: Census and Statistics Department, Hong Kong, SAR
Refer to www.censtatd.gov.hk for further information.

(Cont'd)

MATERIAL PRICES IN HONG KONG

GALVANIZED MILD STEEL ANGLE



REBAR



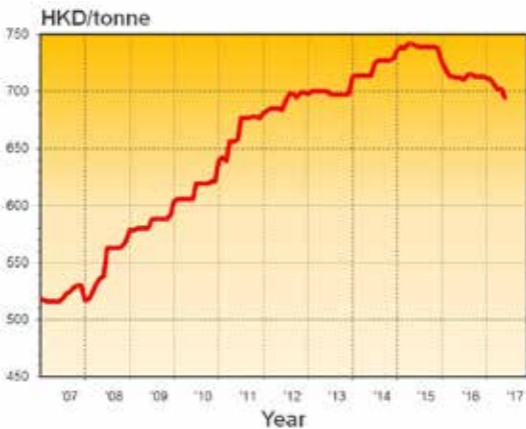
Source: Census and Statistics Department, Hong Kong, SAR
Refer to www.censtatd.gov.hk for further information.



SAND



ORDINARY PORTLAND CEMENT

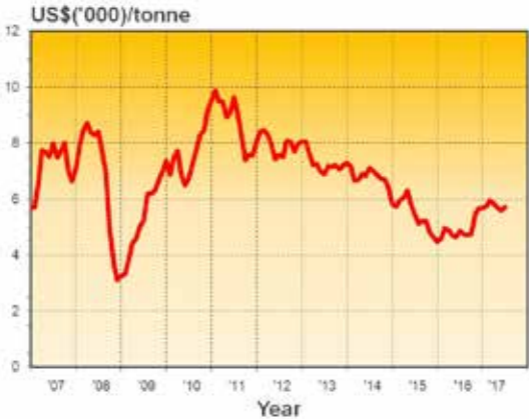


Source: Census and Statistics Department, Hong Kong, SAR
Refer to www.censtatd.gov.hk for further information.

(Cont'd)

MATERIAL PRICES IN HONG KONG

COPPER GRADE A



Source: International Monetary Fund
Refer to www.imf.org for further information.

CRUDE OIL



Source: Organization of the Petroleum Exporting Countries (OPEC)
Refer to www.opec.org for further information.

PROGRESS PAYMENTS

The following graph and table are an indication of the rate of expenditure for construction projects.

The rate of expenditure is an average rate and will vary from project to project when specific project circumstances are taken into account.

No account has been made for retention.



CONTRACT PERIOD	CUMULATIVE PROGRESS PAYMENTS	CONTRACT PERIOD	CUMULATIVE PROGRESS PAYMENTS
5%	1%	55%	41%
10%	2%	60%	50%
15%	3%	65%	60%
20%	4%	70%	69%
25%	6%	75%	77%
30%	8%	80%	84%
35%	12%	85%	89%
40%	17%	90%	93%
45%	24%	95%	97%
50%	32%	100%	100%

ESTIMATING RULES OF THUMB AND DESIGN NORMS

HONG KONG

CFA To GFA Ratio

Building Type	CFA : GFA
Residential	1.15 to 1.25 : 1
Office / Commercial	1.15 to 1.25 : 1
Hotel	1.30 to 1.45 : 1

The above ratios do not include any associated car parking area.

Functional Area Distribution in 5-Star Hotels

Functional Area	% of Total Hotel CFA
Front of House	15 - 20%
Guestroom Floors	50 - 60%
Back of House	25 - 30%

Dimensions of Typical Grade A Office Space

Component	Dimension
Distance from curtain wall to core wall	9 - 13 m
Population	9 m ² usable floor area/person
Average waiting interval for lifts	30 - 40 seconds

Density of Basic Materials for Structure

Material	Density
Concrete	2,400 kg/m ³
Cement	1,450 kg/m ³
Sand	1,600 kg/m ³
Aggregate	1,600 kg/m ³
Steel	7,843 kg/m ³

Average Loads Volume

Lorry (24 ton)	10.0 m ³
Concrete truck (24 ton)	5.5 m ³
Barge	200 - 1,450 m ³

HONG KONG (Cont'd)

Average Piling Ratio - Bored Piles

Building Type	m² CFA / m² cross section area of piles
Residential	200 - 300
Office / Commercial	200 - 250
Hotel	200 - 300

Average Piling Ratio - Driven H-Piles

Building Type	m² CFA / No. of piles
Residential	50 - 90
Office / Commercial	50 - 80
Hotel	50 - 90

Average Piling Ratio - Pre-Bored H-Piles

Building Type	m² CFA / No. of piles
Residential	70 - 120
Office / Commercial	70 - 110
Hotel	70 - 120

All pile ratios are for high-rise buildings with normal soil conditions.

Building Structure - Concrete Ratio

Concrete/floor area	0.4 m ³ /m ² to 0.5 m ³ /m ²
Formwork/floor area	2.2 m ² /m ² to 3.0 m ² /m ²
Reinforcement	160 kg/m ³ to 250 kg/m ³

Average External Wall/Floor Ratio

Residential Apartments	1.2 m ² /m ²
Office, Hotel	0.4 m ² /m ²
Industrial	0.4 m ² /m ²

(Cont'd)

ESTIMATING RULES OF THUMB AND DESIGN NORMS

HONG KONG (Cont'd)

Average Internal Wall/Floor Ratio

Residential Apartments	1.0 m ² /m ²
Office	0.5 m ² /m ²
Hotel	1.5 m ² /m ²

The above ratios are indicative and for reference purposes only. They do not account for buildings with special shapes, configurations or particularly small foot prints.

Average Lighting Level

Building Type	Lux
Residential	300
Office	500
Retail	400
Hotel	300
School	300 - 500

Average Power Density

Building Type	VA/m ² CFA
Residential	80 - 100
Office	70
Retail	300 - 400
Hotel - Accommodation	30
Hotel - F&B Area	550
School	50

Average Cooling Load

Building Type	m ² Cooling Area/RT
Residential	18 - 23
Office	14 - 18
Retail	12-14
Hotel	23
School	23

HONG KONG (Cont'd)

Dimensions of Parking Spaces

Type of Vehicle	Length	Width	Minimum Headroom
Private Cars and Taxis	5 m	2.5 m	2.4 m
Light Goods Vehicles	7 m	3.5 m	3.6 m
Medium/Heavy Goods Vehicle	11 m	3.5 m	4.7 m
Container Vehicles	16 m	3.5 m	4.7 m
Coaches and Buses	12 m	3.5 m	3.8 m
Light buses	8 m	3 m	3.3 m

Minimum headroom means the clearance between the floor and the lower most projection from the ceiling including any lighting units, ventilation ducts, conduits or similar.

Indicative Dimensions for Sports Grounds

	Length	Width
Tennis Court	40 m	20 m
Squash Court	10 m	6.4 m
Basketball Court	34 m	20 m
Volleyball Court	36 m	20 m
Badminton Court	20 m	10 m
Ice Rink	61 m	26 m
Soccer Pitch	120 m	90 m

The above dimensions are for a single court with appropriate clearance. No spectator seating or support area has been allowed.

(Cont'd)

ESTIMATING RULES OF THUMB AND DESIGN NORMS

CHINA & HONG KONG

Minimum Imposed Loads (kPa) for Building Design

Building Type	China [@]	Hong Kong [*]
<u>DOMESTIC</u>		
Apartments	2.0	2.0
<u>OFFICE / COMMERCIAL</u>		
Office	2.0	3.0
Shopping Arcade	3.5	5.0
<u>HOTELS</u>		
Hotel	2.0	2.0
<u>INDUSTRIAL</u>		
Industrial, light duty	4.0	5.0
<u>OTHERS</u>		
Carpark, private cars	2.5	3.0
School	2.5	3.0
Theatre, Sports Hall, etc.	4.0	5.0
Hospital	2.0	2.5

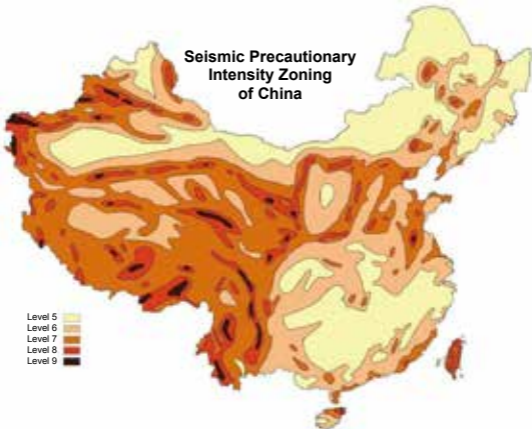
Source :

- [@] *Load Code for the Design of Building Structures, GB 50009-2012, Ministry of Housing and Urban-Rural Development, PRC*
- ^{*} *Code of Practice for Dead and Imposed Loads 2011, Buildings Department, HKSAR*

CHINA

Seismic Precautionary Intensity Zoning

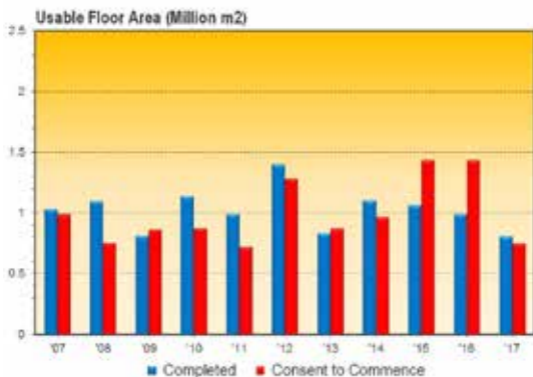
As stipulated in PRC National Standard GB 50011-2010 (Code for Seismic Design of Buildings), geographic regions which are classified as Level 6 or above in Seismic Precautionary Intensity Classification should incorporate seismic measures in the design of the structure and foundations.



Geographic Regions	Intensity Level	Geographic Regions	Intensity Level
Beijing	8	Hong Kong	7
Changsha	6	Macau	7
Chengdu	7	Qingdao	6
Chongqing	6	Shanghai	7
Dalian	7	Shenyang	7
Foshan	6 - 7	Shenzhen	7
Guangzhou	6 - 7	Suzhou	6
Haikou	8	Tianjin	7 - 8
Hangzhou	6	Wuhan	6
Hengqin	7	Xi'an	6 - 8

Source : China Earthquake Data Center (data.earthquake.cn)

CONSTRUCTION ACTIVITY IN HONG KONG



YEAR	COMPLETED m ²	CONSENT TO COMMENCE m ² #
2007	1,030,000	991,000
2008	1,097,000	755,000
2009	815,000	862,000
2010	1,139,000	872,000
2011	991,000	719,000
2012	1,395,000	1,278,000
2013	831,000	872,000
2014	1,099,000	965,000
2015	1,064,000	1,431,000
2016	987,000	913,000
2017*	808,000	751,000

* 1/17 to 8/17 only

First Submission only

Source: Census and Statistics Department, Hong Kong, SAR
Buildings Department, Hong Kong, SAR

Refer to www.censtatd.gov.hk and www.bd.gov.hk for further information.

CONSTRUCTION VALUE IN HONG KONG



YEAR	VALUE IN NOMINAL TERMS HK\$ MILLIONS	VALUE IN CONSTANT (2000) MARKET PRICE HK\$ MILLIONS
2007	92,866	96,844
2008	99,599	97,024
2009	100,944	93,683
2010	111,274	100,278
2011	128,535	108,263
2012	161,449	126,414
2013	176,575	129,868
2014	199,737	138,285
2015	223,947	146,978
2016	236,491	149,973
2017*	118,204	71,088

* Up to Q2 figures and are provisional only

Source: Census and Statistics Department, Hong Kong, SAR
Refer to www.censtatd.gov.hk for further information.

HONG KONG GENERAL CONSTRUCTION INSURANCE

This section provides general information regarding construction insurance arrangements in Hong Kong.

It is common place for Hong Kong construction contracts to contain provisions as to insurances such as Employees Compensation Insurance, Third Party Liability Insurance, Works Insurance and, on occasion, Professional Liability Indemnity Insurance. For employers, the insurance placement ensures that the contractual indemnities are backed by a financial institution that can afford to pay. For contractors, it provides a certain degree of protection to ensure that he has the means to pay in the event of mishaps.

The insurances may be effected by the contractor (Contractor Controlled Insurance Programme or CCIP) or be taken out by the employer (Employer Controlled Insurance Programme or ECIP). CCIP tends to be the most common insurance arrangement in Hong Kong, since the contractor is in control of all site operations and in a better position to manage its own site safety / risk. As a poor safety record will count against the contractor in premiums negotiation in the procurement of insurance, CCIP provides an incentive for better safety / risk management. On the other hand, ECIP placement leaves the control of the insurance programme in the hands of the employer, thereby offering the advantage of providing comprehensive insurance coverage on a project-wide basis and hence minimizing overlaps and gaps in insurance coverage.

Employees Compensation

Section 40(1) of the Employees Compensation Ordinance states that no employer shall employ any employee unless there is a policy of Employees Compensation Insurance in place. The maximum penalty for failing to comply with this provision is two years in jail and a maximum fine of HK\$100,000.

Under the Ordinance, the principal contractor shall take out insurance for his employees and all of the employees of subcontractors with a limit of indemnity of HK\$200 million per event (or HK\$100 million if the number of employees is less than 200).

Since an injured worker could attempt to sue the employer, the employer will want to ensure the contractor has taken out insurance in joint names with the employer.

Contractors' All Risks Insurance

A Contractors' All Risks policy generally comprises (i) Third Party Insurance which covers injury to persons (except the Contractor's own workmen) or damage to property (other than the Works), due to the carrying out of the Works which may or may not be caused by a default of the contractor. The policy is normally subject to a maximum reimbursement per incident but unlimited in the number of incidents, (ii) Contract Works Insurance which covers damage caused to the Works itself by risks not excluded from the policy and (iii) Plant & Equipment Insurance which covers the contractor's plant and equipment used in the Works. Plant & Equipment Insurance is not normally required under the contract conditions and is voluntarily purchased by the contractor.

Professional Indemnity Insurance

For construction contracts involving contractor's design, it is not uncommon for the employer to require the contractor and his design consultants and independent checking engineers to obtain insurance to cover their liability for design. For Government Contracts, the Professional Indemnity Insurance shall cover the contractor's liability for design generally for the construction period and a further 6 years.

SPECIFIED FORMS FOR BUILDINGS ORDINANCE OR REGULATIONS FOR HONG KONG

SPECIFIED FORMS FOR BUILDINGS ORDINANCE OR REGULATIONS

FORM NO.	PURPOSE	RELEVANT SECTION OF REGULATION
BA1	Application for inclusion in the authorized persons' register / structural engineers' register / geotechnical engineers' register / inspector's register.	BOs 3(6)
BA1A	Application for retention of name in the authorized persons' register / structural engineers' register / geotechnical engineers' register / inspectors' register.	BOs 3(9B)
BA1B	Application for restoration of name to the authorized persons' register / structural engineers' register / geotechnical engineers' register / inspectors' register.	BOs 3(12)
BA2	Application for registration as a general building contractor / specialist contractor.	BOs 8B
BA2A	Application for renewal of registration as a registered general building contractor / registered specialist contractor.	BOs 8C(2)
BA2B	Application for restoration of name to the register of general building contractors / specialist contractors.	BOs 8D(2)
BA2C	Application for approval of technical director / other officer / person appointed to act for the purposes of the Buildings Ordinance for a registered general building contractor / registered specialist contractor.	BOs 8B
BA4	Notice of appointment of authorized person and/or registered structural engineer and/or registered geotechnical engineer.	BOs 4, B(A)R 23
BA5	Application for approval of plans of building works and/or street works and certificate of preparation of plans.	BOs 14(1)(a), B(A)R 29 & 18A



BA6	Stability certificate of authorized person and/or registered structural engineer.	B(A)R 18
BA7	Notice of urgent works required as a result of accident or emergency.	BOs 19, B(A)R 28
BA8	Application for consent to the commencement and carrying out of building works or street works.	BOs 14(1)(b), B(A)R 31
BA8A	Application for concurrent consent to the commencement of building works.	BOs 14(1)(b), B(A)R 31
BA9	Application for renewal of consent to the carrying out of building works or street works.	BOs 20
BA10	Notice of appointment of registered contractor, notice of commencement of building works or street works and undertaking by registered contractor.	B(A)R 20, BOs 9
BA11	Notice from a registered contractor on ceasing to be appointed in respect of building works or street works and certificate in respect of that part of the building works or street works carried out by the registered contractor.	B(A)R 24
BA12	Certificate on completion of building works resulting in a new temporary building, a new building or part of a new building and application for temporary occupation permit in respect of such building or part.	B(A)R 25, BOs 21
BA13	Certificate on completion of building works resulting in a new building and application for permit to occupy such building.	B(A)R 25, BOs 21
BA14	Certificate on completion of building works not resulting in a new building or of street works.	B(A)R 25 & 26
BA14A	Certificate on completion of demolition works.	B(A)R 25

Source: Buildings Department, Hong Kong, SAR. Refer to www.bd.gov.hk for further information.

(Cont'd)

SPECIFIED FORMS FOR BUILDINGS ORDINANCE OR REGULATIONS FOR HONG KONG

SPECIFIED FORMS FOR BUILDINGS ORDINANCE OR REGULATIONS

FORM NO.	PURPOSE	RELEVANT SECTION OF REGULATION
BA15	Notice of intended material change in the use of a building.	BOs 25, B(A)R 47
BA16	Application for modification of and/or exemption from the provisions of the Buildings Ordinance and/or Regulations made thereunder.	BOs 42
BA17	Application for permit to erect a temporary building.	B(P)R 51
BA18	Application for permit to erect a contractor's shed.	B(P)R 53
BA19	Application for permit to erect hoardings, covered walkways or gantries.	B(P)R 64
BA20	Notice of technically competent person or persons appointed to supervise demolition works.	B(DW)R 8
BA21	Notice of nomination by authorized person or registered structural engineer or registered geotechnical engineer to temporary act in his stead.	BOs 4(2), B(A)R 23(2)
BA22	Application for authorization to carry out and/or maintain groundwater drainage works.	BOs 28B(1)
BA23	Application for grant/renewal of licence for an oil storage installation.	B(OS)R 6(1) & 7(3)
BA24	Notification of change of business address / Contact Information.	B(A)R 45



BA25	Application for registration as a registered minor works contractor (company).	B(MW)R 10(1)(B)
BA25A	Application for renewal of registration of registered minor works contractor (company).	B(MW)RS 14(1)
BA25B	Application for restoration of name to the register of minor works contractors (company).	B(MW)RS 18(1)
BA25C	Application for registration of additional class and /or type of minor works for registered minor works contractor (company).	B(MW)RS 21(2)
BA25D	Application for approval of nomination of additional authorized signatory/technical director of registered minor work contractor (company).	B(MW)RS 24(1)
BA25E	Application for review of decision of the Building Authority or recommendation of the Minor Works Contractors Registration Committee in respect of registration of minor works contractor (company).	B(MW)RS 26
BA26	Application for registration as a registered minor works contractors (individual).	B(MW)RS 10(1)(A)
BA26A	Application for renewal of registration of registered minor works contractor (individual).	B(MW)RS 14(1)
BA26B	Application for restoration of name to the register of minor works contractor (individual).	B(MW)RS 18(1)
BA26C	Application for registration of additional items of Class III minor works for a registered minor works contractor (individual).	B(MW)RS 21(1)
BA26D	Application for review of decision of the Building Authority or recommendation of the Minor Works Contractors Registration Committee in respect of registration of minor works contractor (individual).	B(MW)RS 26

Source: Buildings Department, Hong Kong, SAR. Refer to www.bd.gov.hk for further information.

SUMMARY OF BUILDING REGULATIONS FOR HONG KONG

DESCRIPTION	NUMBER OF REGULATIONS
Administration	48
Appeal	14
Construction	93
Demolition Works	13
Energy Efficiency	6
Minor Works	66
Minor Works (Fees)	21
Inspection and Repair	36
Oil Storage Installations	12
Planning	72
Private Street and Access Roads	28
Refuse Storage and Material Recovery Chambers and Refuse Chutes	25
Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines	91
Ventilating Systems	7

Source: *Buildings Ordinance, Hong Kong, SAR*
 Refer to www.legislation.gov.hk for further information.



PERCENTAGE SITE COVERAGE AND PLOT RATIOS FOR HONG KONG

DEFINITION

Class A Site : Not being a class B or class C site, that abuts on one specified street not less than 4.5 m wide or on more than one such street.

Class B Site : A corner site that abuts on 2 specified streets neither of which is less than 4.5 m wide.

Class C Site : A corner site that abuts on 3 specified streets none of which is less than 4.5 m wide.

OPEN SPACE ABOUT DOMESTIC BUILDINGS

Item	Class of site	Open space required
1.	Class A site	Not less than one-half of the roofed-over area of the building
2.	Class B site	Not less than one-third of the roofed-over area of the building
3.	Class C site	Not less than one-quarter of the roofed-over area of the building

Source: *Buildings Ordinance, Hong Kong, SAR*
Refer to www.legislation.gov.hk for further information.

(Cont'd)

PERCENTAGE SITE COVERAGE AND PLOT RATIOS FOR HONG KONG

Height of Building in metres	DOMESTIC BUILDINGS					
	Percentage site coverage			Plot Ratio		
	Class A site	Class B site	Class C site	Class A site	Class B site	Class C site
Not over 15 m	66.6	75	80	3.3	3.75	4.0
15 m to 18 m	60	67	72	3.6	4.0	4.3
18 m to 21 m	56	62	67	3.9	4.3	4.7
21 m to 24 m	52	58	63	4.2	4.6	5.0
24 m to 27 m	49	55	59	4.4	4.9	5.3
27 m to 30 m	46	52	55	4.6	5.2	5.5
30 m to 36 m	42	47.5	50	5.0	5.7	6.0
36 m to 43 m	39	44	47	5.4	6.1	6.5
43 m to 49 m	37	41	44	5.9	6.5	7.0
49 m to 55 m	35	39	42	6.3	7.0	7.5
55 m to 61 m	34	38	41	6.8	7.6	8.0
Over 61 m	33.33	37.5	40	8.0	9.0	10.0

Source: *Buildings Ordinance, Hong Kong, SAR*
 Refer to www.legislation.gov.hk for further information.

NON-DOMESTIC BUILDINGS					
Percentage site coverage			Plot Ratio		
Class A site	Class B site	Class C site	Class A site	Class B site	Class C site
100	100	100	5	5	5
97.5	97.5	97.5	5.8	5.8	5.8
95	95	95	6.7	6.7	6.7
92	92	92	7.4	7.4	7.4
89	90	90	8.0	8.1	8.1
85	87	88	8.5	8.7	8.8
80	82.5	85	9.5	9.9	10.2
75	77.5	80	10.5	10.8	11.2
69	72.5	75	11.0	11.6	12.0
64	67.5	70	11.5	12.1	12.6
60	62.5	65	12.2	12.5	13.0
60	62.5	65	15	15	15

EVOLVING REGULATIONS FOR GREEN BUILDINGS IN CHINA

Green Building Certifications

The leading and nationally recognized environmental assessment tool for buildings in China is the Green Building Evaluation Standard (GB-T50378-2014) published by the Ministry of Housing and Urban-Rural Development (MOHURD). The Green Building Evaluation Standard applies to all types of civil buildings, including residential buildings, commercial buildings, governmental offices and other public facilities. The Green Building Evaluation Standard rates applicable buildings under a three star system certified by the Green Building Label based on several environmental factors such as indoor air quality and energy and water efficiency. China also adopted other evaluation standards for other building types, such as green industrial buildings and green hospital.

The Green Building Evaluation Standard is not mandatory for new or refurbished buildings. Nevertheless, under the Green Building Work Plan in 2013, certain government-invested buildings, affordable housing in some big cities and public buildings over 20,000 square meters must fully adopt the Green Building Evaluation Standard. Further, Chinese developers are encouraged to adopt the Green Building Evaluation Standard for residential and commercial projects because there are certain special government funds or other financial awards specifically designed for environment protection purposes.

Provided by :

Mr. Rico Chan
Partner, Baker McKenzie
+852 2846 1971
rico.chan@bakermckenzie.com

**Baker
McKenzie.**



Buildings and Energy Efficiency

China has established a nationwide energy performance evaluation and labelling system – the Civil Building Energy Performance Evaluation and Labelling scheme through the Interim Measures for the Administration of Energy Performance Evaluation and Labelling of Civil Buildings 2008 (“Interim Measures 2008”). The evaluation and labelling are conducted in two stages for a single building: First stage is a theoretical prediction of the building’s energy performance. The second stage is the actual evaluation of a building’s actual energy use after it has been put to use. If the building’s energy performance satisfies the requirements of the scheme, a certificate is issued to the building owner for each of the two stages.

But it should be noted that, though the nationwide energy performance evaluation and labelling system has been established through the Interim Measures 2008, China only launched a pilot of such scheme for certain provinces and cities in respect of a limited scope of projects. For example, office buildings of government authorities or large-scale public buildings that are conducting comprehensive energy conservation improvements and have applied for government support are required to go through the evaluation and labelling procedures. Nonetheless, more and more cities that are not part of the pilot program have been voluntarily participating in the scheme.

Provided by :

Mr. Rico Chan
Partner, Baker McKenzie
+852 2846 1971
rico.chan@bakermckenzie.com

**Baker
McKenzie.**

(Cont'd)

EVOLVING REGULATIONS FOR GREEN BUILDINGS IN CHINA

Buildings and Energy Efficiency (Cont'd)

introduced their own implementation rules of the Civil Building Energy Performance Evaluation and Labelling scheme.

Other than the Civil Building Energy Performance Evaluation and Labelling scheme, China has also adopted various policies addressing the reduction of energy consumption and carbon emission of buildings. The 13th Five-Year Plan published in March, 2016 acknowledged the importance of the various environmental issues. To illustrate, pursuant to the recently published 13th Five-Year Ecological Environment Protection Plan, we should be anticipating the introduction of new policies encouraging the use perfecting and enlarging the enforcement scope of the Green Building Evaluation Standard described above, further implementing the 2013 Green Building Work Plan so that 50% of the newly built buildings in the Beijing, Tianjin and Hebei area are green buildings. The 13th Five-Year Building Energy-Saving and Green Building Development Plan, published in February 2017, sets targets such as over 50% of the new buildings in urban areas shall be green buildings, at least 500 million square meters of residential buildings shall be renovated for energy saving. More recently at the 19th National Congress of the Communist Party of China, further emphasis has been put on the country's agenda on

Provided by :

Mr. Rico Chan
Partner, Baker McKenzie
+852 2846 1971
rico.chan@bakermckenzie.com

**Baker
McKenzie.**

environmental protection the need to push for "green development" and "market-oriented green technologies innovation".

Government Regulatory Measures

As compared to some other countries, at the moment investors and developers in China may not yet be fully motivated by the environmental and social benefits of green buildings. The Chinese central government currently uses planning and zoning regulations and polices to further control and regulate the development of green buildings. For example, under the 2013 Green Building Work Plan, green initiatives, such as the use of renewable energies, must be included in the urban planning by local authorities. It also requires local authorities to strengthen the review and examination of a building's design and construction plan to ensure that the building is in compliance with the energy conservation standards. A number of major cities have also published local regulations administering and promoting development of green buildings. For example, under the Measures for Promoting Green Buildings in Shenzhen, newly-built civil buildings in Shenzhen are required to reach at least one-star certification under the Green Building Evaluation Standard or the bronze certification under local evaluation standard.

Provided by :

Mr. Rico Chan
Partner, Baker McKenzie
+852 2846 1971
rico.chan@bakermckenzie.com

**Baker
McKenzie.**

PROCUREMENT STRATEGIES AND FORM OF CONTRACTS

General

A host of contract procurement approaches have emerged in the past decade. Each procurement approach has characteristics, benefits and restrictions peculiar to it. There is no single approach that fits all situations. The key to a successful procurement arrangement lies in marrying the right procurement approach with the particular contract in question. This calls for a systematic identification of client's requirements and evaluation of the decision criteria relating to the procurement strategy.

Common criteria for procurement selection

Speed – Fast-tracking projects generally favor arrangements that offer opportunities to overlap the design and construction processes e.g. design & build contracting and management contracting.

Cost certainty – Reliability of budgets is one of the prime concerns of most clients. Traditional lump sum bills of quantities and design & build contracting offer the highest degree of price certainty.

Complexity – Projects which are technologically advanced or highly serviced generally favor the use of traditional contracting where the design will be well developed prior to the tendering stage. Procurement arrangements such as construction management and management contracting that allow early involvement of management contractor are also considered suitable for complex projects.

Responsibility – For projects using traditional contracting, the contractor is employed to build what the client's design team has documented. Therefore, any dispute as to quality of works has to be resolved into a design or workmanship issue in the very first place. By contrast, design & build contracts offer the clearest division of responsibility where the design & build contractor will be the sole point of responsibility.



Common standard form of contract in Hong Kong

In 2005, the Hong Kong Institute of Architects, the Hong Kong Institute of Construction Managers and the Hong Kong Institute of Surveyors jointly published a new standard form of building contract which is designed particularly for private projects where bills of quantities are provided.

In 2006, the three institutes published another standard form of building contract tailored for private projects without bills of quantities.

For public works, the conditions of contracts are often based on one of the following standard forms: -

The Government of the HKSAR, General Conditions of Contract for Building Works 1999 Edition

The Government of the HKSAR, General Conditions of Contract for Civil Engineering Works 1999 Edition

The Government of the HKSAR, General Conditions of Contract for Electrical and Mechanical Engineering Works 1999 Edition

The Government of the HKSAR, General Conditions of Design and Build Contracts 1999 Edition

New Engineering Contract (NEC)

NEC is the abbreviation for “New Engineering Contract” which is a suite of contracts published by the Institute of Civil Engineers in the United Kingdom. The NEC has become increasingly popular in the public sector of Hong Kong. In a Development Bureau paper for LegCo dated 25 February 2014, it was reported that “Government has been using the NEC form Currently, there are 10 public works projects with construction contracts using NEC form. We will use

(Cont'd)

PROCUREMENT STRATEGIES AND FORM OF CONTRACTS

New Engineering Contract (NEC) (Cont'd)

the NEC form more extensively in different works categories (including building works, civil engineering works etc.), contract types and contracts of different prices.” The NEC family covers not only construction contracts between employers and contractors but also professional services for employers to engage consultants and adjudicators.

The Engineering & Construction Contract (ECC) of the NEC family of contracts contains standard options that cover lump sum contracts, target cost contracts, cost reimbursable contracts and management contracts. The ECC contract claims to be radically different to traditional construction contracts in that it facilitates good management and encourages collaborative working. For instance, both the Project Manager and the Contractor are obliged to give early warnings and to hold early warning meetings to mitigate the effects of change in contract scope. Great emphasis is also given to the programme which has to be accepted by the Project Manager and to be kept updated by the Contractor. The Project Manager is to maintain a Risk Register to record risks that have arisen during the contract and the decisions of how to deal with them.

Arcadis was the NEC Advisor for Fuk Man Road Nullah Improvement Works – the very first NEC pilot project in Hong Kong. Our work with the project team for that pilot project reveals that it is not only the letter or the form of the NEC that brings about the advantages of flexibility and promotion of good project management. The success lies in a change in mindset and attitudes and the establishment of mutual trust.

Procurement Strategy Table

PROJECT CRITERIA		RELATIVE DEGREE OF APPROPRIATENESS			
Parameter	Objectives	Traditional	Management Contracting	Construction Management	Design and Construct
Timing	Early Completion	Low	High	High	High
Cost	Pre construction price certainty	High	Low	Low	High
Quality	Design prestige	High	High	High	Low
Variations	Avoid prohibitive cost of change	High	Moderate	Moderate	Low
Complexity	Technically advance or highly complex building	Moderate	High	High	Low
Responsibility	Single contractual link	Low	Low	Low	High
Professional Responsibility	Need for design team to report to sponsor	High	High	High	Low
Risk Avoidance	Desire to transfer complete risk	Low	Low	Low	High
Damage Recovery	Facility to recover costs direct from contractor	Moderate	Low	Low	High
Buildability	Contractor input to economic construction	Low	High	High	High



PROPERTY 3

Property Commentary

Property Indicators

Gross Floor Area (GFA) Calculations
in Hong Kong

Gross Floor Area (GFA) Calculations
in PRC

Construction Floor Area (CFA) Definition

PROPERTY COMMENTARY

HONG KONG'S PROPERTY MARKET IN 2017

Economic overview

Hong Kong's economy accelerated in 2017, following slow growth in 2016. In the first three quarters of 2017, Hong Kong's real GDP rose 3.9% year on year (YoY), after growing 2.0% in 2016. The economy is also close to full employment, with the latest seasonally adjusted unemployment rate at 3.0%. Inflation has remained mild, increasing 1.5% YoY in the first 10 months of 2017.

The real estate, financial services and logistics sectors have outperformed the other sectors so far in 2017. With total property sales of over HK\$210 billion, real estate developers have also seen record revenue. The International Monetary Fund gave a positive assessment of the strong risk buffers and robust policy framework of Hong Kong's financial sector, mainly because of its ample reserves and regulatory structure, as well as the Linked Exchange Rate System.

Facing fierce competition from neighbouring cities, the SAR Government has focused on differentiating Hong Kong by developing a high value-added modern logistics infrastructure and services.

The retail and tourism sectors have continued to recover in 2017. Total visitor arrivals increased 2.7% YoY in the first 10 months, while total retail sales value increased 1.2% YoY. The retail sector has been in positive territory since March 2017.

Provided by :





Despite market-wide expectations of three to four US interest rate hikes in 2018, which will have some impact on Hong Kong's financial sector, the current economic fundamentals support continued stable growth of the economy. We expect Hong Kong's real GDP to grow around 3% per annum from 2018 to 2021.

Residential

Residential sales reached 50,560 units in the first 10 months of 2017, up 13.8% compared with the same period in 2016. While primary sales dominated the market early in the year, secondary sales started to pick up in October and November. Both primary and secondary transactions rose from the same period last year, by 12.8% and 14.3%, respectively.

Luxury residential sales have increased significantly. Properties worth HK\$10 million or more accounted for 21% of total residential transaction volume in the first 10 months of 2017, up 14% YoY.

In October 2017, the Chief Executive tabled the details of the "Starter Homes Pilot Scheme" in the Policy Address, which will provide 1,000 residential units for first-time buyers with total monthly household income between HK\$52,000 and HK\$68,000. However, the number of eligible households is believed to be very low, so the scheme should have

PROPERTY COMMENTARY

Residential (Cont'd)

only a limited impact on the overall residential market.

Around 97,000 units of new residential supply are expected to come onto the market in the next three to four years. However, with sustained demand from end-users and investors, mass home prices are expected to grow 5% next year, with luxury prices growing by 7%. Developers will continue to offer various incentive packages to potential buyers. Residential sales volume is expected to remain stable in the coming 12 months.

Office

The Hong Kong Grade-A office sales market has thrived in 2017. According to the Rating and Valuation Department, the number of office sales transactions reached 1,485 in the first nine months of 2017, up 114% YoY, with a few transaction prices setting records, both in terms of total transaction prices and unit prices. The sale of The Center for HK\$40.2 billion has been the most expensive single office transaction in the world to date.

In the leasing market, there has been a decentralisation movement by multinational corporations priced out Central by Mainland companies. The current Central office vacancy rate is close to all-time low of 1.7%. On the Kowloon side, office leasing activity has picked up towards the end of the year. Rents in Kowloon East, however, continued to be suppressed due to massive upcoming supply.

Provided by :





At the end of October, the average rent of Grade-A offices in Hong Kong was up 3.4% YoY, according to Knight Frank Research. Rental growth on Hong Kong Island was up over 2% YoY, with Central/Admiralty (4.2%) the highest. Office rents in Kowloon Bay and West Kowloon dropped 3% and 6%, respectively.

Looking ahead to 2018, the outlook for Hong Kong's Grade-A office market remains positive, thanks to the vibrant business environment and strong economic prospects. With limited upcoming supply in the core areas, Grade-A office rents are expected to increase steadily. However, rental growth in non-core districts is expected to continue to be suppressed.

Retail

Hong Kong's retail sales value has grown eight months in a row since March 2017 and increased 3.9% YoY in October, with notably positive growth in most major categories. The monthly retail sales level of HK\$35 billion is a key indicator of consumer confidence. After the slowdown in 2016, visitor arrivals have recovered in 2017, increasing 2.7% YoY in the first 10 months, driven by Mainland visitor numbers, which have grown 3.1% YoY.

Despite recovering retail sales, rents for retail space in the prime street shopping areas have continued to adjust downwards. According to the Knight Frank Prime Street Shop Rental Index, as at end-October 2017, rents for retail space in prime streets are down over 40% from the tenancy terms three years ago. The downward adjustment in retail rents is expected to spread to residential areas.

Provided by :



(Cont'd)

PROPERTY COMMENTARY

Retail (Cont'd)

tenancy terms three years ago. The downward adjustment in retail rents is expected to spread to residential areas.

Transactions for retail property have surged in 2017. The sales volume of retail properties in the first nine months of 2017 was up 62.8% YoY, translating to a 69.7% YoY increase in sales value. The yield for retail properties has been flat in the past 12 months.

We expect the performance of retail sales to remain stable in 2018, but at the same time, we remain cautious due to the ever-increasing challenges from e-commerce. We expect to see continued downward adjustments in prime street shop rents, but this should slow down to a 5% drop next year. Shopping mall rents in core districts are expected to remain flat in 2018, while those in non-core districts should continue to increase slowly.

Industrial

Sales of flatted factory units reached 4,004 in the first 10 months of 2017, more than double that of the same period last year, according to the Rating and Valuation Department. New completions of flatted factory space reached 22,600 sqm in the first 10 months of the year, up significantly from only 4,500 sqm in 2016. Compared with the ever-rising home prices, the relatively low unit prices of industrial properties have attracted both investors and end-users.



Flatted factory prices rebounded with impressive 10.8% growth from January to October 2017, compared with a 2.0% drop in the same period in 2016. Rents of flatted factories also rose 3.9% from January to October, compared with 2.9% a year ago. With prices rising much faster than rents, flatted factory yields dropped from 3.2% in October 2016 to 2.9% in October 2017.

Benefitting from sustained growth in retail sales value, as well as increasing demand for storage by e-commerce companies, leasing demand for warehouse space was solid during the year.

Looking ahead, the warehouse market is likely to grow further, following the continued recovery in the retail sector. Industrial property sales could also expand further, with industrial completion reaching 130,800 sqm in 2018.

Provided by :



PROPERTY INDICATORS

HONG KONG GRADE-A OFFICE PRICE



* October figures

Source: Knight Frank Research

HONG KONG GRADE-A OFFICE VACANCY RATES

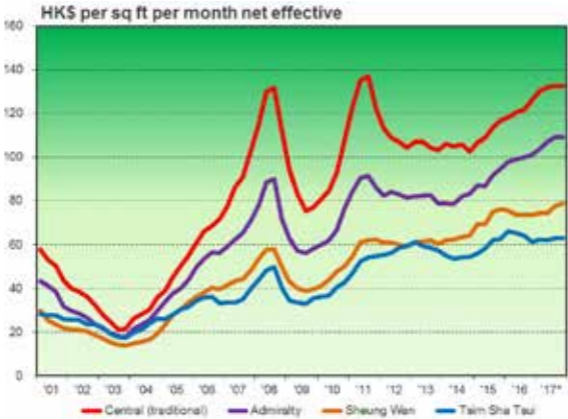


* October figures

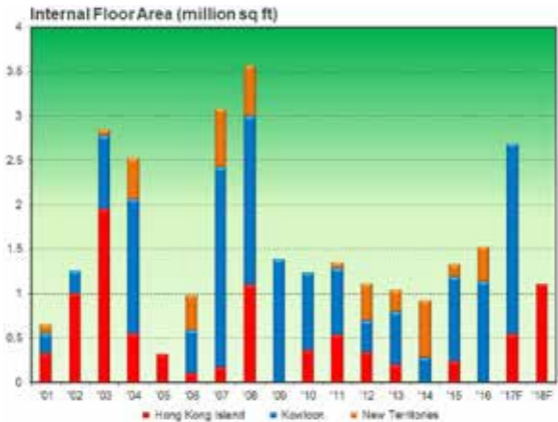
Source: Knight Frank Research



HONG KONG GRADE-A OFFICE RENTAL VALUES



HONG KONG GRADE-A OFFICE SUPPLY



GROSS FLOOR AREA (GFA) CALCULATIONS IN HONG KONG

GROSS FLOOR AREA (GFA) CALCULATIONS IN HONG KONG

FEATURE	BUILDING (PLANNING) REGULATION	REMARKS
General floor area	Accountable	Area within outer surface of external walls.
Basement	Accountable	
Balcony / utility platform *	Accountable	Non-accountable if for residential buildings and be open on at least 2 sides, max. 50% area grantable.
Curtain wall / cladding	Non-accountable	Non-accountable if: 1. The curtain wall system itself does not form part of the structural system of the parent building; 2. The system does not result in any additional floor area at a floor level; 3. The projection of the system from the outer face of the structural elements does not exceed 300 mm.
External wall finishes (including bay windows) *	Non-accountable	Precast facades may, subject to conditions, be excluded from GFA calculation.
Plant rooms	Non-accountable	Subject to justification with reasonable plant layouts.
Staircases and lift shafts	Accountable	Except staircases and lift shafts solely serving non-accountable areas.
Covered public carparking space	Accountable	
Covered private carparking space	Non-accountable	Applicable only for spaces serving users of the building required under local standard and built below ground.
Lobby *	Accountable	Concession may be granted for lift lobbies subject to conditions.

Canopy	Accountable	Non-accountable when the canopy solely serves as protection against weather and falling object.
Refuge floor	Non-accountable	
Space below elevated ground floor	Accountable	Non-accountable if the covered areas are clearly intended for and designed as playground or dedicated as public passage.
Covered walkways *	Accountable	Open-sided covered walkways for common areas in residential developments may be exempted, subject to the proposed walkways being not for commercial use.
Loading and unloading bay	Non-accountable	Applicable if required under local standard/lease and built below ground.
Refuse storage chambers, refuse storage, refuse chutes, refuse hopper rooms	Non-accountable	
Floor space inside sloping roof	Accountable	
Covered area on roof-tops	Non-accountable	Non-accountable for plant rooms and staircases only.
Recreational facilities *	Accountable	Non-accountable subject to conditions.
Spaces for watchmen and management staff *	Accountable	Non-accountable subject to conditions.
External staircases	Accountable	Non-accountable if situated in non-accountable areas.

* Total concessions of these areas are subject to a cap of 10% of the total GFA and prerequisites with sustainability designs.

Disclaimer : GFA calculations are subject to various legislation and practice notes. All cases of accountable or non-accountable GFA are subject to individual conditions. The above presents a brief summary only and users are advised to seek professional advice from authorized persons. Arcadis herewith disclaims any liability that may arise from unsolicited use of the information given above.

GROSS FLOOR AREA (GFA) CALCULATIONS IN PRC

GROSS FLOOR AREA (GFA) CALCULATIONS IN PRC

FEATURE	NATIONAL STANDARD - STANDARD MEASUREMENT FOR CONSTRUCTION AREA OF BUILDING (GB/T 50353-2005)	REMARKS FOR BEIJING, SHANGHAI AND GUANGZHOU
General floor area	Accountable	Area within outer surface of external insulation. Shanghai : External insulation is exempted from calculation of plot ratio.
Basement	Accountable	<ol style="list-style-type: none"> 1. Beijing : Non-accountable 2. Shanghai : Non-accountable 3. Guangzhou : Accountable for GFA except where the floor space is solely for plant rooms or carpark.
Balcony / utility platform	Accountable	
Curtain wall / cladding	Accountable	Except decorative type of curtain wall.
External wall finishes (including bay windows)	Non-accountable	
Plant rooms	Accountable	
Staircases and lift shafts	Accountable	
Covered public carparking space	Accountable	
Covered private carparking space	Accountable	
Lobby	Accountable	

Canopy	Accountable	Non-accountable subject to width of the canopy not exceeding 2.1m.
Refuge floor	Accountable	1. Shanghai : Non-accountable. 2. Guangzhou : Only refuge areas on refuge floor are non-accountable.
Space below elevated ground floor	Accountable	Non-accountable for GFA if for the usage of walkway, green, public amenities or similar public function.
Covered walkways	Accountable	
Loading and unloading bay	Accountable	Non-accountable if not roofed over.
Refuse storage chambers, refuse storage, refuse chutes, refuse hopper rooms	Accountable	Non-accountable if not roofed over.
Floor space inside sloping roof	Accountable	Non-accountable if clear height does not exceed 1.2m.
Covered area on roof-tops	Accountable	1. Shanghai : Non-accountable if the area of the construction on roof-top does not exceed 1/8 of the area of the typical floor. 2. Guangzhou: Staircase, lift lobby and water tank room on roof-tops are exempted from GFA
Recreational facilities	Accountable	
Spaces for watchmen and management staff	Accountable	
External staircases	Accountable	Non-accountable if not roofed over.

Disclaimer : GFA calculations are subject to various legislation and practice notes. All cases of accountable or non-accountable GFA are subject to individual conditions. The above presents a brief summary only and users are advised to seek professional advice from authorized persons. Arcadis herewith disclaims any liability that may arise from unsolicited use of the information given above.

CONSTRUCTION FLOOR AREA (CFA) DEFINITION

The construction floor area measured from drawings is defined as covered floor areas fulfilling the functional requirements of the building measured to the outside face of the external walls or external perimeter.

It includes floor areas occupied by:

- partitions
- columns
- stairwells
- lift shafts
- plant rooms
- water tanks
- balconies
- utilities platforms
- vertical ducts
- service floors higher than 2.2m and the like

But excludes floor areas occupied by:

- bay windows
- planters projecting from the building, and
- the areas covered by canopies, roof eaves and awnings

Sloping surfaces such as staircases, escalators and carpark ramps are to be measured flat on plan.

The measurement of construction floor area is as defined by Arcadis.



FINANCIAL

4

Financial Definitions

Financial Formulae

Mortgage Repayment Table

Composite CPI

Prime Rates

Exchange Rates

Currency Charts

Hang Seng Index

FINANCIAL DEFINITIONS

DISCOUNT RATE

The rate of return a developer expects when investing in a project.

i.e. opportunity cost.

INTERNAL RATE OF RETURN (IRR)

The IRR may be defined as the interest rate that equates the present value of expected future cash flows to the cost of the investment.

The IRR can be compared to the Discount Rate.

NET PRESENT VALUE (NPV)

The NPV is the present value of all future cash flows, discounted back to today's values at the Discount Rate.

The NPV indicates in today's dollars the profit or loss a developer makes above or below his required profit (based on a nominated Discount Rate).

72 RULE

The approximate number of years required to double your capital can be calculated by dividing the interest rate into 72.

e.g. If interest rate = 10% p.a.

Then $72 \div 10 = 7.2$ years

It will take approximately 7.2 years to double your capital if it is invested at 10% p.a.



FINANCIAL FORMULAE

Future value of \$1	$FV = PV (1 + i)^n$
Future value of \$1 per period	$FV = PMT [((1+i)^n - 1) \div i]$
Sinking fund (the amount required to be put away periodically to realise some future sum)	$PMT = FV [i \div ((1 + i)^n - 1)]$
Present value of \$1	$PV = FV [1 \div (1+i)^n]$
Present value of \$1 per period	$PV = PMT [((1+i)^n - 1) \div (i(1+i)^n)]$
Annuity with a PV of \$1 (mortgage bond formula)	$PMT = PV [i (1+i)^n \div ((1+i)^n - 1)]$

PV = present value

FV = future value

PMT = payment amount

n = period (e.g. 10 years with monthly payments, $n = 10 \times 12 = 120$)

i = interest rate per period
(e.g. 12% p.a. compounded monthly;
 $i = 12\% \div 12 \text{ months} = 1\% \text{ per period}$)

Refer to www.hkifa.org.hk for further information.

MORTGAGE REPAYMENT TABLE

Based on :

- 1,000 units of currency
- Interest compounded monthly
- Equal monthly repayments

INTEREST p.a.	REPAYMENT (years)			
	10	15	20	25
1%	8.76	5.98	4.60	3.77
2%	9.20	6.44	5.06	4.24
3%	9.66	6.91	5.55	4.74
4%	10.12	7.40	6.06	5.28
5%	10.61	7.91	6.60	5.85
6%	11.10	8.44	7.16	6.44
7%	11.61	8.99	7.75	7.07
8%	12.13	9.56	8.36	7.72
9%	12.67	10.14	9.00	8.40
10%	13.22	10.75	9.65	9.09
11%	13.78	11.37	10.32	9.80
12%	14.35	12.00	11.01	10.53
13%	14.93	12.65	11.72	11.28
14%	15.53	13.32	12.44	12.04
15%	16.13	14.00	13.17	12.81

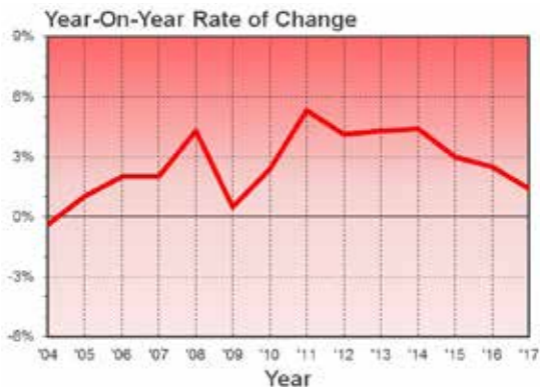
Example:

Borrow \$1,000,000 to be repaid monthly at 5% p.a. over 20 years.

$$\begin{aligned} \text{Repayments} &= 1,000,000 \div 1,000 \times \$6.60 \\ &= \$6,600 \text{ per month} \end{aligned}$$

Refer to www.hkmc.com.hk for an online mortgage calculator.

COMPOSITE CPI



YEAR	INDEX	% CHANGE
2004	72.6	-0.4%
2005	73.2	1.0%
2006	74.7	2.0%
2007	76.2	2.0%
2008	79.5	4.3%
2009	80.0	0.5%
2010	81.8	2.4%
2011	86.1	5.3%
2012	89.6	4.1%
2013	93.5	4.3%
2014	97.7	4.4%
2015	100.6	3.0%
2016	103.0	2.4%
2017*	104.3	1.4%

Note:

* 1/17 to 9/17 only

The base index (100) applies to the period from October 2014 to September 2015.

Source : Census and Statistics Department, Hong Kong, SAR
Refer to www.censtatd.gov.hk for further information.

PRIME RATES

PRIME RATES AND BASE LENDING RATES AS AT 4TH QUARTER 2017.

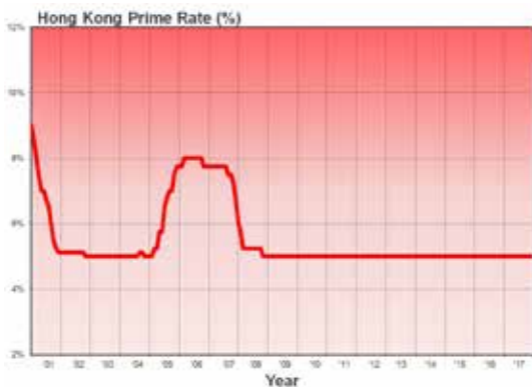
COUNTRY	RATE (%)
Brunei	5.50
China**	4.75
Hong Kong	5.00
India	9.55
Indonesia	5.00
Macau	5.25
Malaysia ^{^^^}	4.35
Philippines	4.14
Singapore	5.28
Thailand [#]	7.00
United Kingdom	0.50
United States of America	4.50
Vietnam ^{##}	9.00

China** = 5-year Benchmark Lending Rate

Malaysia^{^^^} = Indicative Effective Lending Rate

Thailand[#] = Minimum Loan Rate % per annum (avg based on local bank)

Vietnam^{##} = Min and in VND per year



CHANGES IN HONG KONG PRIME RATES

DATE	%	DATE	%
08 Jan 2001	9.00	05 Jul 2005	6.25
05 Feb 2001	8.50	22 Jul 2005	6.50
26 Mar 2001	8.00	11 Aug 2005	6.75
23 Apr 2001	7.50	23 Sep 2005	7.00
21 May 2001	7.00	03 Nov 2005	7.50
03 Jul 2001	6.75	15 Dec 2005	7.75
24 Aug 2001	6.50	30 Mar 2006	8.00
19 Sep 2001	6.00	07 Nov 2006	7.75
04 Oct 2001	5.50	20 Sep 2007	7.50
08 Nov 2001	5.25	02 Nov 2007	7.25
13 Dec 2001	5.125	12 Nov 2007	7.00
08 Nov 2002	5.00	13 Dec 2007	6.75
23 Sep 2004	5.125	24 Jan 2008	6.00
12 Nov 2004	5.00	01 Feb 2008	5.75
21 Mar 2005	5.25	20 Mar 2008	5.25
23 May 2005	5.75	10 Nov 2008	5.00

Source : Hong Kong Monetary Authority

Refer to www.info.gov.hk/hkma for further information.

EXCHANGE RATES

Approximate rates prevailing on 8 December 2017.

COUNTRY	CURRENCY	HK\$1	US\$1
Australia	Dollar	0.17	1.33
Brunei	Dollar	0.17	1.35
Canada	Dollar	0.16	1.28
China	Renminbi	0.84	6.62
EU (Euro Zone)	Euro	0.11	0.85
Hong Kong	Dollar	1.00	7.80
India	Rupee	8.26	64.48
Indonesia	Rupiah	1,735	13,548
Japan	Yen	14.54	113.49
Macau	Pataca	1.03	8.06
Malaysia	Ringgit	0.52	4.09
New Zealand	Dollar	0.19	1.46

Source : www.exchange-rates.org

Refer also : www.xe.com

COUNTRY	CURRENCY	HK\$1	US\$1
Philippines	Peso	6.48	50.56
Qatar	Riyal	0.47	3.64
Saudi Arabia	Riyal	0.48	3.75
Singapore	Dollar	0.17	1.35
South Korea	Won	140.06	1,093.60
Switzerland	Franc	0.13	1.00
Taiwan	NT Dollar	3.84	30.00
Thailand	Baht	4.18	32.65
United Arab Emirates	Dirham	0.47	3.67
United Kingdom	Pound	0.09	0.74
United States of America	Dollar	0.13	1.00
Vietnam	Dong	2,909	22,713

Source : www.exchange-rates.org

Refer also : www.xe.com

CURRENCY CHARTS

STERLING POUND



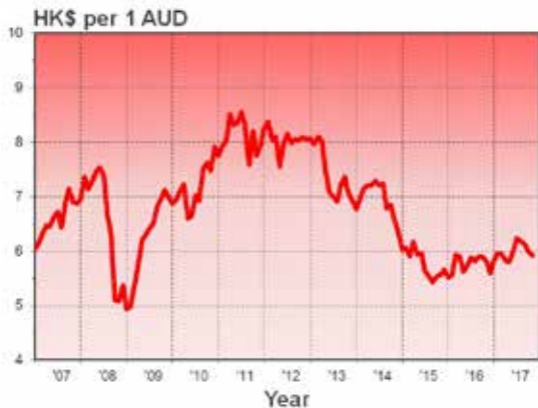
EURO



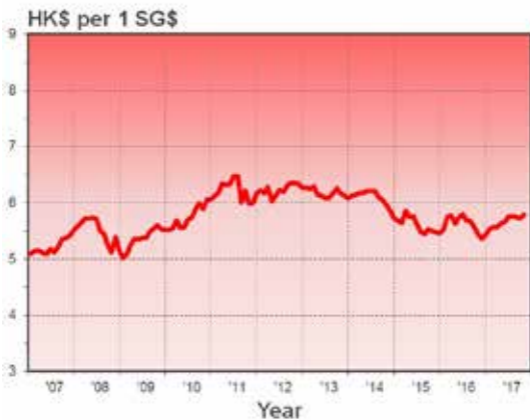
Source : Hong Kong Monetary Authority
 Refer to www.info.gov.hk/hkma for further information

Refer also : www.xe.com ; www.exchange-rates.org

AUSTRALIAN DOLLAR



SINGAPORE DOLLAR



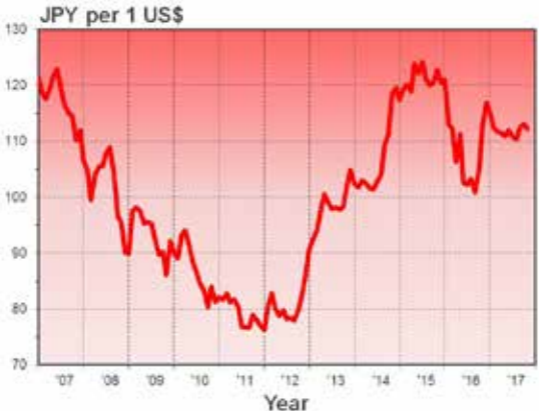
Source : Hong Kong Monetary Authority
Refer to www.info.gov.hk/hkma for further information

Refer also : www.xe.com ; www.exchange-rates.org

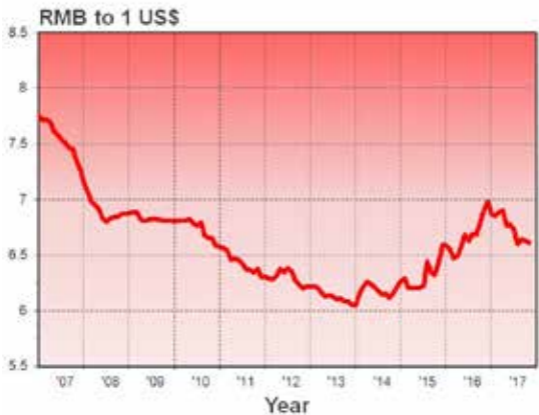
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CURRENCY CHARTS

JAPANESE YEN

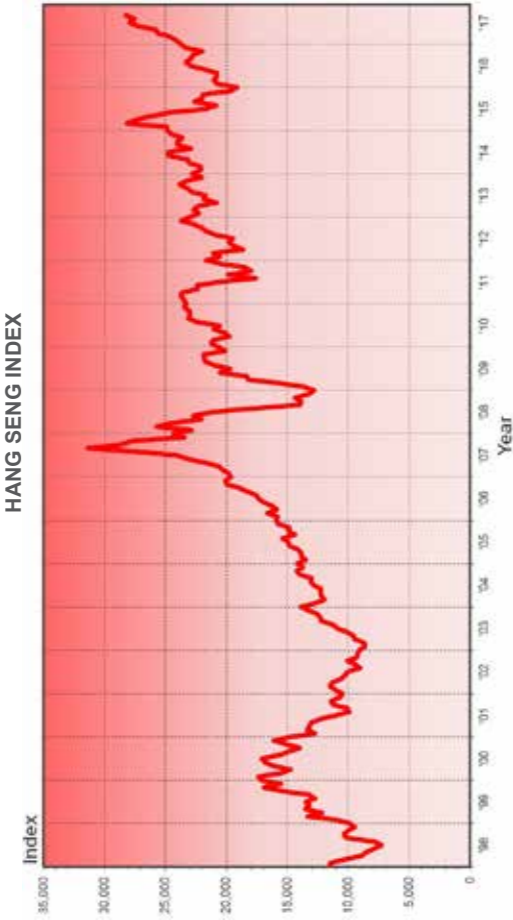


RENMINBI



Source : Hong Kong Monetary Authority
Refer to www.info.gov.hk/hkma for further information
Refer also : www.xe.com ; www.exchange-rates.org

HANG SENG INDEX



Refer to www.aastocks.com for further information.

Utility Costs for Selected Asian Cities

Key City Indicators

Conversion Factors

IDD Codes and Time Differences

Public Holidays

Arcadis Asia Leadership Team

Arcadis Asia Sectors

Arcadis Asia Services

Directory of Offices

Health & Safety Management System

Quality Management System

Environmental Management System

Telephone Directory

UTILITY COSTS FOR SELECTED ASIAN CITIES

CITY	EXCHANGE RATE	ELECTRICITY	
		DOMESTIC	COMMERCIAL/ INDUSTRIAL
	US\$1=	US\$/kWh	US\$/kWh
Hong Kong	HK\$ 7.80	0.11	0.13
Macau	MOP8.03	0.17	0.17
Shanghai	RMB 6.60	0.093(peak) / 0.047(normal)	0.160(peak) / 0.079(normal)
Beijing	RMB 6.60	0.07 - 0.119	0.23(peak) / 0.133(normal)
Guangzhou	RMB 6.60	0.10	0.14
Chongqing	RMB 6.60	0.08	0.13

The above costs are at **4th Quarter 2017** levels.

Basis of Charges in Hong Kong, China

- **Electricity** (Based on tariff scheme of CLP Holdings Limited)

Domestic (bi-monthly consumption) :

0 - 400kWh = US\$ 0.11/kWh; 400 - 1,000kWh = US\$ 0.12/kWh;
 1,000 - 1,800kWh = US\$ 0.14/kWh; 1,800 - 2,600kWh = US\$ 0.18/kWh;
 2,600 - 3,400kWh = US\$ 0.21/kWh; 3,400 - 4,200kWh = US\$ 0.23/kWh;
 Above 4,200kWh = US\$ 0.23/kWh

- **Water**

Domestic :

0 - 12m³ = Free of charge; 12 - 43m³ = US\$ 0.53/m³;
 43 - 62m³ = US\$ 0.83/m³; Above 62m³ = US\$ 1.16/m³

Basis of Charges in Macau, China

- **Electricity**

Electricity tariffs are a composition of demand charges, consumption charges, fuel clause adjustment and government tax.

- **Water**

Domestic :

Consumption charge = US\$ 0.56/m³ for 28m³ or below; US\$0.65/m³ for 29m³ to 60m³; US\$0.75/m³ for 61m³ to 79m³ and US\$0.91/m³ for 80m³ or above.

Other charges (Depending on meter size 15mm - 200mm) :

Meter rental = US\$0.34 - 57.64/month

Commercial/ Industrial :

Charges for ordinary users (e.g. Business, government buildings, schools, associations, hospitals and others) only. Special users (e.g. gaming industries, hotels, saunas, golf courses, construction, public infrastructure and other temporary consumption) are excluded.

WATER		FUEL		
DOMESTIC	COMMERCIAL/ INDUSTRIAL	DIESEL	LEADED	UNLEADED
US\$/m ³	US\$/m ³	US\$/litre	US\$/litre	US\$/litre
0.83	0.59	1.57	N/A	1.99
0.56 - 0.91	0.75	1.54	N/A	1.28
0.53 - 0.88	0.72	0.93	N/A	1.05
0.758 - 1.364	1.364 - 1.439	0.92	N/A	1.04
0.44	0.74	0.94	N/A	1.06
0.53	0.69	0.86	N/A	0.98

Basis of Charges in Shanghai, China

○ Electricity

Domestic (Charge on yearly consumption) :

0 - 3,120kWh = US\$ 0.093/kWh (peak) / US\$ 0.047/kWh (normal);

3,120 - 4,800kWh = US\$ 0.1/kWh (peak) / US\$ 0.051/kWh (normal);

Above 4,800kWh = US\$ 0.148/kWh (peak) / US\$ 0.074/kWh (normal)

Commercial/Industrial (Charge on yearly consumption) :

Charges on consumption less than 1,000kWh per month for summer period only. Refer to www.shdrc.gov.cn for detailed charges for different tiers and charges for non-summer period.

○ Water

Domestic :

0 - 220m³ = US\$ 0.53/m³; 220 - 300m³ = US\$ 0.73/m³;

Above 300m³ = US\$ 0.88/m³

○ Unleaded Fuel = Unleaded fuel rate is for Unleaded 95#

Basis of Charges in Beijing and Guangzhou, China

○ Unleaded fuel rate is for Unleaded gasoline 97.

○ Electricity

Domestic (bi-monthly consumption) :

1 - 240kWh = US\$0.073/kWh; 241 - 400 kWh = US\$0.82/kWh;

○ Water

Domestic (Charge on yearly consumption) :

1-180m³ = US\$0.758/kWh; 181-260m³ = US\$1.061/kWh

Above 261m³ = US\$1.364

Commercial/ Industrial :

Central Districts: US\$1.439; Other Districts= US\$1.364

○ Unleaded = Gasoline 97

Basis of Charges in Chongqing, China

○ Unleaded Fuel

93# = US\$0.93/litre; 97# = US\$0.98/litre

(Cont'd)

UTILITY COSTS FOR SELECTED ASIAN CITIES

CITY	EXCHANGE RATE	ELECTRICITY	
		DOMESTIC	COMMERCIAL/ INDUSTRIAL
	US\$1=	US\$/kWh	US\$/kWh
Singapore	S\$ 1.36	0.15	0.15
Kuala Lumpur	RM 4.08	0.053 - 0.140	0.093 - 0.108
Bangkok	THB 32.39	0.072 - 0.136	0.097 - 0.099
Manila	PHP 50.50	0.21 - 0.22	0.15
Brunei	B\$ 1.39	0.009 - 0.13	0.065 - 0.182
Jakarta	IDR 13,570	0.108	0.108
Ho Chi Minh	VND 22,700	0.11	0.09 - 0.14 / 0.06 - 0.11
Bangalore	INR 65.00	0.050 - 0.114	0.130 - 0.132
New Delhi	INR 65.00	0.063 - 0.132	0.141 - 0.164

The above costs are at **4th Quarter 2017** levels.

Basis of Charges in Singapore (All rates are nett of GST)

- Electricity tariff is based on low tension power supply.
- Domestic water tariff effective from 1 July 2017 to 30 June 2018. Rate includes water conservation tax, water-borne fee, sanitary appliance fee and is an average for the 1st 40m³
- Domestic water tariff effective from 1 July 2018. Rate includes water conservation tax, water borne fee, sanitary appliance fee and is an average for the 1st 40m³
- Non-domestic water tariff effective from 1 July to 30 June 2018. Rate includes water conservation tax, water-borne fee, and sanitary appliance fee
- Non-domestic water tariff effective from 1 July 2018. Rate includes water conservation tax, water-borne fee, and sanitary appliance fee
As at 2 November 2017
- 98 Unleaded petrol as at 2 November 2017

Basis of Charges in Kuala Lumpur, Malaysia

- Unleaded petrol Ron 95.

Basis of Charges in Bangkok, Thailand

- Unleaded = Gasohol 95
- For normal tariff with consumption not exceeding 150 kwh per month

WATER		FUEL		
DOMESTIC	COMMERCIAL/ INDUSTRIAL	DIESEL	LEADED	UNLEADED
US\$/m ³	US\$/m ³	US\$/litre	US\$/litre	US\$/litre
1.76/2.01	1.76/2.01	1.10	N/A	1.75
0.252 - 0.490	0.507 - 0.559	0.539	N/A	0.551
0.262 - 0.446	0.293 - 0.488	0.814	N/A	0.859
0.48 - 0.80	1.12	0.600	N/A	0.900
0.099 - 0.398	0.552 - 0.596	0.343	0.461	0.479
0.077 - 0.549	0.503 - 1.080	0.538	N/A	0.608
0.27 - 0.57	0.79/0.48	0.64	N/A	0.80 - 0.83
0.400 - 0.692	1.358	0.908	N/A	1.077
0.288 - 1.037	1.318 - 5.886	0.896	N/A	1.074

Basis of Charges in Brunei

- **Electricity (Domestic)** : Tariff effective from 1st Jan 2012. 1-10 kWh 10c, 11-60 kWh 8c, 61-100kWh 12c, above 100kWh 15c

Basis of Charges in Ho Chi Minh, Vietnam (All rates are VAT inclusive)

- Domestic electricity rates are applied to the 301 KW above wards
- Diesel fuel D.O - 0.05%
- 92 and 95 Unleaded petrol as at October 2012.

Basis of Charges in Manila, Philippines

Actual billing include miscellaneous charges such as Environmental Charge, Currency Exchange Rate Adjustment (CERA), VAT, etc.

- **Electricity**
 - Domestic : 190kWh - 860kWh
 - Commercial/Industrial : 150,000kWh
- **Water**
 - Domestic : 29m³ - 41m³/month
 - Commercial/Industrial : 4,030m³/month

KEY CITY INDICATORS

	HONG KONG	MACAU
GDP (output) * +	US\$ 319 bn	US\$ 45 bn
Real GDP growth per annum Ω	3.8%	-2.1%
Population	7.35M	0.65M
GDP/capita *	US\$ 43,437	US\$ 69,372
City size	1,106 km ²	31 km ²
Population density	6,790/km ² @	21,400/km ²

Unless otherwise stated, the above figures are as at year-end 2016, and are preliminary / provisional / revised figures which will be subject to updates before finalisation.

* Exchange Rate : 1 US\$ = 6.60 RMB = 7.80 HK\$ = 8.03 MOP

+ All figures are at current market prices.

Ω All figures are relative to 2015 prices.

@ Excluding marine population and area reservoirs, figure as at mid-year 2016

£ Derived figure.

BEIJING	SHANGHAI	CHONGQING	GUANGZHOU
US\$ 377 bn	US\$ 416 bn	US\$ 266 bn	US\$ 296 bn
6.7%	6.8%	10.7%	8.2%
21.73M	24.15M	33.76M	14.04M
US\$ 17,795	US\$ 17,230	US\$ 7,890	US\$ 21,382
16,411 km ²	6,341 km ²	82,400 km ²	7,434 km ²
1,324/km ²	3,809/km ²	410/km ² £	1,889/km ²

Source : Census and Statistics Department, Hong Kong, SAR - www.censtatd.gov.hk

Statistics and Census Department, Macau, SAR - www.dsec.gov.mo

Beijing Statistical Information - www.bjstats.gov.cn

Shanghai Statistical Bureau - www.stats-sh.gov.cn

Chongqing Statistics - www.cqjtj.gov.cn

Guangzhou Statistics - www.gzstats.gov.cn

CONVERSION FACTORS

UNIT	
LENGTH	
10 mm = 1 cm	12 in = 1 ft
100 cm = 1 m	3 ft = 1 yd
1,000 m = 1 km	1,760 yd = 1 mile
AREA	
10,000 m ² = 1 ha	9 ft ² = 1 yd ²
100 ha = 1 km ²	4,840 yd ² = 1 acre
640 acre = 1 mile ²	
VOLUME	
1,000 ml = 1 l	(UK) 8 pt = (UK) 1 gal
(US) 8 pt = (US) 1 gal	
1,000 l = 1 m ³	
MASS	
1,000 g = 1 kg	16 oz = 1 lb
1,000 kg = 1 tonne	2,240 lb = 1 ton
16 tael = 1 catty	
POWER	
TEMPERATURE	

Refer to www.online-unit-converter.com, www.dimensionconverter.com for further information.



(APPROX)	(APPROX)
1 in = 25.400 mm 1 ft = 30.480 cm 1 yd = 0.914 m 1 mile = 1.609 km	1 cm = 0.394 in 1 m = 3.281 ft 1 m = 1.094 yd 1 km = 0.621 mile
1 ft ² = 0.093 m ² 1 yd ² = 0.836 m ² 1 acre = 0.405 ha 1 mile ² = 2.590 km ²	1 m ² = 10.764 ft ² 1 m ² = 1.196 yd ² 1 ha = 2.471 acres 1 km ² = 0.386 mile ²
(UK) 1 pt = 0.568 l (US) 1 pt = 0.473 l (UK) 1 gal = 4.546 l (US) 1 gal = 3.785 l	(UK) 1 l = 1.760 pt (US) 1 l = 2.113 pt (UK) 1 l = 0.220 gal (US) 1 l = 0.264 gal
1 oz = 28.350 g 1 lb = 0.454 kg 1 ton = 1.016 tonne 1 catty = 0.605 kg	1 gram = 0.035 oz 1 kg = 2.205 lb 1 tonne = 0.984 ton
1 hp = 0.746 kw	1 kw = 1.341 hp
$(^{\circ}\text{F} - 32) \times 5/9$	$(^{\circ}\text{C} \times 9/5) + 32$

IDD CODES AND TIME DIFFERENCES

LOCATION	IDD COUNTRY CODE	AREA CODE	TIME DIFFERENCE (Hours)*
Australia:			
Melbourne	61	3	+3
Perth	61	8	0
Sydney	61	2	+3
Bahrain	973	-	-5
Bangladesh (Dhaka)	880	2	-2
Bhutan (Thimphu)	975	2	-2
Brunei:			
Bandar Seri Begawan	673	2	0
Kuala Belait	673	3	0
Cambodia (Phnom Penh)	855	23	-1
Canada:			
Toronto (Metropolitan)	1	416	-13
Vancouver	1	604	-16
China:			
Beijing	86	10	0
Guangzhou	86	20	0
Hong Kong	852	-	0
Macau	853	-	0
Shanghai	86	21	0
Shenzhen	86	755	0
France (Paris)	33	1	-7
India:			
Bangalore	91	80	-2.5
Chennai	91	44	-2.5
New Delhi	91	11	-2.5
Mumbai	91	22	-2.5
Indonesia:			
Bali	62	36	0
Jakarta	62	21	-1
Ireland:			
Cork	353	21	-8
Dublin	353	1	-8
Japan:			
Tokyo	81	3	+1
Osaka	81	6	+1
Korea (Seoul)	82	2	+1
Korea (Pyongyang)	850	2	+1
Laos (Vientiane)	856	21	+0.5

Source: www.worldtimeserver.com ; www.worldtimezone.com
www.timeanddate.com

LOCATION	IDD COUNTRY CODE	AREA CODE	TIME DIFFERENCE (Hours)*
Malaysia:			
Johor Bahru	60	7	0
Kota Kinabalu	60	88	0
Kuala Lumpur	60	3	0
Kuching	60	82	0
Penang	60	4	0
Mongolia (Ulaanbaatar)	976	11	0
Myanmar (Yangon)	95	1	-1.5
Nepal (Kathmandu)	977	1	-2.25
Netherlands:			
Amsterdam	31	20	-7
New Zealand:			
Auckland	64	9	+5
Wellington	64	4	+5
Pakistan (Karachi)	92	21	-3
Philippines (Manila)	63	2	0
Qatar	974	-	-5
Singapore	65	-	0
South Africa:			
Johannesburg	27	11	-6
Cape Town	27	21	-6
Sri Lanka (Colombo)	94	11	-2.5
Russia (Moscow)	7	495	-5
Taiwan (Taipei)	886	2	0
Thailand:			
Bangkok	66	2	-1
Phuket	66	76	-1
United Arab Emirates:			
Abu Dhabi	971	2	-4
Dubai	971	4	-4
United Kingdom:			
London	44	20	-8
Edinburgh	44	131	-8
USA:			
Los Angeles	1	213	-16
New York	1	212	-13
Vietnam:			
Ho Chi Minh City	84	8	-1
Hanoi	84	4	-1

* As compared to Hong Kong. Allowance should be made for seasonal time variations. Time differences above as at 1 January.

PUBLIC HOLIDAYS

	2018
HONG KONG	
The first day of January	01 Jan
Lunar New Year's Day	16 Feb
The 2 nd day of Lunar New Year	17 Feb
The 4 th day of Lunar New Year	19 Feb*
Good Friday	30 Mar
The day following Good Friday	31 Mar
Easter Monday	02 Apr
Ching Ming Festival	05 Apr
Labour Day	01 May
Buddha's Birthday	22 May
Tuen Ng Festival	18 Jun
The day following HKSAR	02 Jul*
Establishment Day	
The day following the Chinese Mid-Autumn Festival	25 Sep
National Day	01 Oct
Chung Yeung Festival	17 Oct
Christmas Day	25 Dec
The 1 st week-day after Christmas Day	26 Dec

* As the third day of Lunar New Year in 2018 falls on a Sunday, the fourth day of Lunar New Year is designated as a general holiday in substitution. In addition, since the Hong Kong Special Administrative Region Establishment Day in 2018 falls on a Sunday, the day following it is designated as a general holiday in substitution.

	2018
CHINA	
New Year's Day	01 Jan
Chinese New Year's Eve	15 Feb
Chinese New Year [▼]	16 Feb
	19 Feb
Tomb-Sweeping Day [▲]	05 Apr
Labour Day [◆]	01 May
Dragon-Boat Festival	18 Jun
Mid-Autumn Festival	24 Sep
National Day ^Ω	01 Oct
	02 Oct
	03 Oct
<p>▼ 16-21 February are holidays. 11 February 2018 and 24 February 2018 are working days.</p> <p>▲ 5 and 6 April 2018 are holidays. 8 April 2018 is working day.</p> <p>◆ 30 Apr - 1 May 2018 are holidays. 28 Apr 2018 is working day.</p> <p>Ω 1 - 7 Oct 2018 are holidays. 29-30 Sep 2018 are working day.</p>	

(Cont'd)

PUBLIC HOLIDAYS

	2018
MACAU	
New Year's Day	01 Jan* #
Lunar New Year's Eve (Afternoon)	15 Feb@
Lunar New Year's Day	16 Feb**
The 2 nd day of Lunar New Year	17 Feb*
The 3 rd day of Lunar New Year	18 Feb*
The 4 th day of Lunar New Year	19 Feb@#
The 5 th day of Lunar New Year	20 Feb@
Good Friday	30 Mar**
The day before Easter	31 Mar*
The 1 st working day after the Day before Easter	02 Apr@#
Ching Ming Festival	05 Apr**
Labour Day	01 May**
The Buddha's Birthday	22 May**
Tung Ng Festival (Dragon Boat Festival)	18 Jun**
Mid-Autumn Festival	25 Sep**
National Day	01 Oct**
The day following National Day	02 Oct*
The first working day after National Day	--
Chung Yeung Festival	17 Oct**
The first working day after Chung Yeung Festival	--
All Soul's Day	02 Nov**
Feast of the Immaculate Conception	08 Dec*
The first working day after Feast of the Immaculate Conception	10 Dec@
Macau SAR Establishment Day	20 Dec**
Winter Solstice	22 Dec*
Christmas Eve	24 Dec**
Christmas Day	25 Dec**
New Year's Day (Afternoon)	31 Dec@
#	<i>Bank's Holiday</i>
*	<i>Obligatory Holiday</i>
@	<i>Special Holiday Granted by Chief Executive for staff in Public Administration</i>

	2018
BRUNEI	
New Year's Day	01 Jan
Chinese New Year	16 Feb
National Day	23 Feb
Israk Miraj	13 Apr
1st Day of Ramadhan	16 May
Royal Brunei Armed Forces Day	31 May
Nuzul Al-Quran	1 Jun
Hari Raya Puasa	15 Jun
Hari Raya Puasa	16 Jun
Hari Raya Puasa	18 Jun
Sultan Birthday	15 Jul
Hari Raya Haji	22 Aug
Christmas Day	25 Dec
INDIA	
New Year's Day	01 Jan
Republic Day	26 Jan
Good Friday	30 Mar
Independence Day	15 Aug
Ganesh Chaturthi	13 Sep
Dusshera	19 Oct
Karnataka Formation Day	01 Nov
Diwali	06 Nov
Christmas Day	25 Dec

(Cont'd)

PUBLIC HOLIDAYS

	2018
INDONESIA	
New Year's Day	01 Jan
Chinese New Year (Imlek)	16 Feb
Hindu Day of Quiet (Nyepi)	17 Mar
Good Friday	30 Mar
Ascension of Prophet Muhammad	13 Apr
International Labour Day	01 May
Ascension Day of Jesus Christ	10 May
Waisak Day	29 May
Pancasila Day	01 Jun
Idul Fitri	15 Jun
	16 Jun
National Independence Day	17 Aug
Idul Adha Day	22 Aug
Hijriyah New Year	11 Sep
Prophet Muhammad's Birthday	20 Nov
Christmas Day	25 Dec
MALAYSIA	
New Year's Day **	01 Jan
Chinese New Year	16 Feb
	17 Feb
Labour Day	01 May
Wesak Day	29 May
Hari Raya Aidilfitri *	15 Jun
	16 Jun
National Day	31 Aug
King/Agong's Birthday	09 Sep [#]
Hari Raya Qurban *	22 Sep
Malaysia Day	16 Sep [#]
Awal Muharam (Maal Hijrah)	11 Sep
Deepavali *	06 Nov
Prophet Muhammad's Birthday	20 Nov
Christmas Day	25 Dec
* <i>Subject to change</i>	
** <i>Except Johor, Kelantan, Kedah, Perlis and Terengganu</i>	
# <i>The following day will be an additional public holiday</i>	

	2018
PHILIPPINES	
New Year's Day	01 Jan*
Chinese New Year	16 Feb#
EDSA People Power Revolution Anniversary	25 Feb#
Maundy Thursday	29 Mar*
Good Friday	30 Mar*
Black Saturday	31 Mar#
Araw ng Kagitingan	09 Apr*
Labor Day	01 May*
Independence Day	12 Jun*
Ninoy Aquino Day	21 Aug#
National Heroes' Day	27 Aug*
All Saint's Day	01 Nov#
Additional Special Non-working Day	02 Nov#
Bonifacio Day	30 Nov*
Additional Special Non-working Day	24 Dec#
Christmas Day	25 Dec*
Rizal Day	30 Dec*
Last Day of the Year	31 Dec#
* <i>Regular Holidays</i>	
# <i>Special Non-Working Days</i>	

(Cont'd)

PUBLIC HOLIDAYS

	2018
SINGAPORE	
New Year's Day	01 Jan
Chinese New Year	16 Feb
	17 Feb
Good Friday	30 Mar
Labour Day	01 May
Vesak Day	29 May
Hari Raya Puasa	15 Jun
National Day	09 Aug
Hari Raya Haji	22 Aug
Deepavali	06 Nov
Christmas Day	25 Dec
SOUTH KOREA	
New Year's Day	01 Jan
Lunar New Year (Seol)	15 Feb
	16 Feb
	17 Feb
Independent Movement Day	01 Mar
Children's Day	05 May
Buddha's Birthday	29 May
Memorial Day	06 Jun
Liberation Day	15 Aug
Full Moon Day (Chuseok)	23 Sep
	24 Sep
	25 Sep
National Foundation Day	03 Oct
Hangeul Proclamation Day	09 Oct
Christmas Day	25 Dec

	2018
TAIWAN	
Founding Day	01 Jan
Lunar New Year's Eve	15 Feb
Lunar New Year's Day	16 Feb
The 2 nd day of Lunar New Year	17 Feb
The 3 rd day of Lunar New Year	18 Feb
The 4 th day of Lunar New Year	19 Feb*
The 5 th day of Lunar New Year	20 Feb*
Peace Memorial Day	28 Feb
Children's Day	04 Apr*
Tomb Sweeping Day	05 Apr
Tomb Sweeping Holiday	06 Apr
Dragon Boat Festival	18 Jun [#]
Mid-Autumn Festival	24 Sep
National Day	10 Oct
Republic Day Holiday	31 Dec
<p>* When the memorial day or holiday falls on a Saturday or Sunday, a deferred day off will be granted. If a memorial day or a holiday falls on a Saturday, the deferred day off is on the preceding workday; if a memorial day or a holiday falls on a Sunday, the deferred day off is on the following workday. However, the deferred days off for Chinese New Year's Eve and Chinese New Year are always on the following workdays.</p> <p># The extra vacation days will have to be made up on the Saturday after the long weekends occur.</p> <p>@ The extra vacation days will have to be made up on the Saturday one week before the long weekends occur.</p>	

(Cont'd)

PUBLIC HOLIDAYS

	2018
THAILAND	
New Year	01 Jan 02 Jan ¹
Makha Bucha Day	01 Mar
Chakri Memorial Day	06 Apr
Songkran Festival	13 Apr 14 Apr 15 Apr ² 16 Apr ²
Labour Day	01 May
Wisakha Bucha Day	29 May
Asarnha Bucha Day	27 Jul
H.M. The King's Birthday	30 Jul ³
H.M. The Queen's Birthday	13 Aug ⁴
The Passing of H.M. the Late King Bhumibol Adulyadej (Rama IX)	15 Oct ⁵
Chulalongkorn Day	23 Oct
H.M. the Late King Bhumibol Adulyadej's Birthday, National Day and National Father's Day	05 Dec
Constitution Day	10 Dec
New Year's Eve	31 Dec

¹ - Substitute for 31 Dec 2017 (Sun)

² - Substitute for 14 Apr 2018 (Sat) and 15 Apr 2018 (Sun)

³ - Substitute for 28 Jul 2018 (Sat)

⁴ - Substitute for 12 Aug 2018 (Sun)

⁵ - Substitute for 13 Oct 2018 (Sat)

	2018
VIETNAM	
Normal Scheduled Holidays	
New Year's Day	01 Jan
Lunar New Year	15 Feb
	16 Feb
	17 Feb
	18 Feb
	19 Feb
	20 Feb [#]
	21 Feb [#]
Liberation Day of Saigon	30 Apr
International Labour Day	01 May
National Day	02 Sep
	03 Sep ^{##}
Christmas Day	24 Dec
	25 Dec
[#] Substitute for 17&18 Feb (Sat, Sun)	
^{##} Substitute for 2 Sep (Sun)	

ARCADIS ASIA LEADERSHIP TEAM



Matt Bennion

Chief Executive Officer, Asia
matt.bennion@arcadis.com



Eric de Kruif

Chief Financial Officer, Asia
eric.dekruif@arcadis.com



John Batten

Regional Sustainable Cities
Leader
john.batten@arcadis.com



Graham Kean

Regional Client Development
Director
graham.kean@arcadis.com



Penny Murphy

Regional Head of Marketing &
Communications
penny.murphy@arcadis.com



Adam Sutton

Regional HR and Change
Director
adam.sutton@arcadis.com



Niek Niens

Regional Operations Director
niek.niens@arcadis.com



Carl Watson

General Counsel, Asia
carl.watson@arcadis.com



Loo Ming Chee

Regional Solutions Leader
mcloo@arcadis.com



Lai Pak Hung

Regional Head of Greater
China
pakhung.lai@arcadis.com



Tim Risbridger

Country Head, Singapore
tim.risbridger@arcadis.com



Francis Au

Country Head, Hong Kong
francis.au@arcadis.com



Justin Teoh

Country Head, Malaysia
justin.teoh@arcadis.com

ARCADIS ASIA SECTORS

AUTOMOTIVE

At the present time we are witnessing a massive shift in the automotive sector. Electric vehicles are rapidly establishing themselves as a credible alternative as their range and performance meets (and exceeds) customer expectation. We are seeing more and more brands developing their own models across the region. In addition, the race for autonomous vehicles is leading to the development of new technologies at a pace that is unprecedented in the sector. We are helping our clients to restructure their manufacturing bases to meet shifting global demand, to remodel production lines for the new models demanded by customers, and to invest in the new supply chain technology.

Automotive retail continues to be fiercely competitive, with digital technology entering this space creating a more immersive buying experience. The race to roll out new retail formats around the globe requires lean and efficient delivery models and global standardization, supply chains and logistics.

AVIATION

The recent successful launches of new airframe technologies has caused airports to rethink how they can service larger passenger planes, and, with the prospect of new routes being enabled by longer range and new airframe formats, we expect to see further expansion and development of airports around the globe.

Domestic air travel and cargo hubs are also among popular areas of investment in aviation sector. Investment in domestic air travel is essential, as passengers demand an experience comparable with the best international airports. New cargo hubs are planned to meet 'same day' delivery expectations from online retailers and logistics firms. We expect to see continued investment and demand for high quality design and engineering solutions in the aviation sector for many years to come.



CHEMICALS & PHARMACEUTICALS

The chemical and pharmaceutical industry faces a diverse range of challenges across globe. Growing and ageing populations have created rising demands for medication and more effective cures for diseases. Asia is no exception, despite Asia having a relatively younger population compared the other regions. It is also important to take note that approximately two thirds of total global demand growth for chemicals is expected to be generated in Asia.

In order to stay ahead of the competition, we work with our clients across Asia to improve their supply chain and secure their pipelines. The chemicals and pharmaceuticals industry will continue to be 'on the move' to Asia with rapid development in the future to fulfill demand coming from Asia and beyond.

COMMERCIAL DEVELOPERS

Commercial developers are a significant proportion of our market in Asia, especially in those countries where the economy is driven by investment in property. In the last 10 years China, for example, has been fuelled by demand for properties as a result of rapid urbanization, and this is also now the case in countries such as Vietnam and the Philippines.

All building types, including commercial offices, residential, leisure, hospitality and retail, are confronted with ever increasing challenges in terms of efficiency of land use, planning compliance, product positioning, cost, quality, impact on communities, sustainability and also market competitiveness. The commercial developer sector will continue to play a key role in all economies across Asia.

(Cont'd)

ARCADIS ASIA SECTORS

FINANCIAL INSTITUTIONS

Driving better investment and asset performance and improving sustainable returns in current challenging markets is the key focus of our sector specialists.

Through utilizing unique market insight, such as our global asset performance benchmarks, our deep technical knowledge, and an unrivalled global track record in working with financial institutions, we are able to define solutions to meet client needs and to enhance their business outcomes.

OIL AND GAS

Rising production costs and unpredictable prices put oil & gas clients under more pressure than ever. Growing complexities of shifting environmental legislation combined with an increased need for asset decommissioning, oil & gas has become a complex and rapidly evolving sector.

We partner with global oil & gas clients to maximize returns on our clients' investments, through better management of project risks and costs, and improvement of opex performance. We work across the asset lifecycle from concept through to decommissioning. We bring together upstream & downstream expertise and understanding from a broad base of capabilities including cost & risk management, environmental management, project management and maintenance strategy.

RAIL

Rapid large scale urbanization, tight budgets and environmental sensitivity require innovative approaches to deliver advanced infrastructure. With our expertise in rail, and our transformational thinking, clients rely on us to improve performance and connect communities across countries and regions.

In Asia, we have been involved in providing engineering design, cost management, contract administration, risk management, business advisory and mobility oriented design for numerous metro and high speed rail projects in Hong Kong, Mainland China, Taiwan, Singapore and Malaysia.



PORTS AND WATERWAYS

Ports are at the heart of globalization, facilitating the spread of trade and prosperity. The rapid growth of Asia has seen a substantial investment in port and logistics infrastructure, but also increasing competition between ports, and a focus on raising productivity and service quality. At the same time, it is increasingly necessary to respond to public concerns about environmental and safety issues.

Delivering sustainable growth is a great challenge and requires know-how and expertise across a broad range of disciplines. We offer governments, port institutions, private terminal operators, investors and shipping lines all the disciplines necessary for an integrated approach and the delivery of successful outcomes, whether in the technical, operational, nautical, environmental, risk, financial or economic arena.

RETAIL & CONGLOMERATES

As the world of retail faces the fiercest competition yet due to a change in the traditional retail landscape and the rapid development of online retail industry, we work with our retail clients to gain a competitive advantage in their market expansion or re-branding. It is essential for us to tailor our services to fit client strengths and needs, to minimize spend and achieve the best solution for each individual company.

With unrivaled experience across all facets of retail development, from luxury and sports fashion to cosmetics, supermarkets and restaurant chains, we help our clients successfully navigate through complex challenges in retail development.

ARCADIS ASIA SERVICES

BUSINESS ADVISORY

From rapid urbanization and pressure on natural resources, to tighter regulation and market consolidation, we live in an increasingly complex world. In Arcadis you have a partner that understands your business challenges and has first-hand experience of the assets you own and operate. We bring unique insights which support you in getting better results with more certainty.

COST MANAGEMENT

Be it a high-rise office building, a state-of-the-art rail station or a large scale industrial development, the need to achieve value for money is central to every investment strategy.

Our people understand the need to accurately advise on costs and procurement at planning stage, ensuring a development or program is both economically and environmentally viable for many years to come.

ENVIRONMENT

We all deserve a clean, safe environment in which to live. Now more than ever, businesses and governments recognize the need to incorporate environmental concerns into their decision making. Arcadis is a global leader in inventive technical and financial approaches, helping some of the world's leading corporates and governments understand their impact on the natural world.



PROJECT & PROGRAMME MANAGEMENT

Organizing the creation of the world's largest, most complex and iconic programs of work in the built and natural environment today is no easy task. Budgets, supply chains, health and safety, timeframes and the large number of parties involved can be daunting.

At Arcadis, we work alongside our clients to create the right strategy, manage and mitigate risk, and assure the outcomes to meet our clients' business objectives and create exceptional value.

WATER

From source to tap and then back to nature, the planet's most precious resource should be cherished.

Thanks to over a century of experience in the water sector, Arcadis' specialist teams around the globe are uniquely positioned to provide safe and secure water technology that is built to withstand the demands of a rapidly changing world.

DIRECTORY OF OFFICES

CHINA

HONG KONG

ARCADIS HONG KONG LIMITED
ARCADIS INVESTMENT SERVICES HK LIMITED

38/F, AIA Kowloon Tower, Landmark East

100 How Ming Street

Kwun Tong, Kowloon

Hong Kong

GPS : 22.3125, 114.2223

Tel : (852) 2830 3500

Fax : (852) 2576 0416

Email : info-hk@arcadis.com

Contact : Francis Au

BEIJING

BEIJING ARCADIS CONSTRUCTION
CONSULTANCY CO., LTD

Suite 1225 - 1242, South Wing

Central Tower, Junefield Plaza

10 Xuan Wu Men Wai Street

Beijing 100052

China

GPS : 39.896738, 116.375676

Tel : (86 10) 6310 1136

Fax : (86 10) 6310 1143

Email : info-cn@arcadis.com

Contact : Andrew Chan

CHANGSHA

ARCADIS CONSULTANCY (SHANGHAI) CO. LTD.
CHANGSHA BRANCH

Room 2315 - 2317, HUAYUAN International Center

No. 36 Section 2

Xiangjiang Middle Road

Tianxin District

Changsha, Hunan Province 410002

China

GPS : 28.195233, 112.976893

Tel : (86 731) 8277 2500

Fax : (86 731) 8971 6736

Email : info-cn@arcadis.com

Contact : Chen Yong

**CHENGDU**

ARCADIS CONSULTANCY (CHENGDU) CO. LTD.

Room 807, Block A

Times Plaza

2 Zongfu Road

Chengdu

Sichuan Province 610016

China

GPS : 30.656666, 104.080567

Tel : (86 28) 8671 8373

Fax : (86 28) 8671 8535

Email : info-cn@arcadis.com

Contact : Gary Lin

CHONGQING

ARCADIS CONSULTANCY (CHENGDU) CO. LTD.

CHONGQING BRANCH

Room 3409 - 3410, International Trade Centre

38 Qing Nian Road

Central District

Chongqing 400010

China

GPS : 29.556331, 106.574332

Tel : (86 23) 8655 1333

Fax : (86 23) 8655 1616

Email : info-cn@arcadis.com

Contact : Gary Lin

DALIAN

BEIJING ARCADIS CONSTRUCTION CONSULTANCY

CO. LTD. DALIAN BRANCH

Unit 07, 32F, Xiwang Tower

136 Zhongshan Road

Zhongshan District

Dalian

Liaoning Province 116001

China

GPS : 38.914864, 121.631245

Tel : (86 411) 8800 8018

Fax : (86 411) 8800 8823

Email : info-cn@arcadis.com

Contact : Kenn Ng

(Cont'd)

DIRECTORY OF OFFICES

FOSHAN

ARCADIS CONSULTANCY (SHENZHEN) CO. LTD.

FOSHAN BRANCH

3/F, Foshan Ling Nan Tian Di

Zu Miao Road Shop Nos. Z01 - Z11

Zu Miao Road

Foshan

Guangdong Province 528000

China

GPS : 23.031224, 113.11278

Tel : (86 757) 8203 0028

Fax : (86 757) 8203 0029

Email : info-cn@arcadis.com

Contact : Dickey Lee

GUANGZHOU

ARCADIS CONSULTANCY (SHENZHEN) CO. LTD.

GUANGZHOU BRANCH

3A10 - 18 Unit, 3A/F

Bank of America Plaza

555 Ren Min Zhong Road

Guangzhou

Guangdong Province 510145

China

GPS : 23.123148, 113.253628

Tel : (86 20) 8130 3813

Fax : (86 20) 8130 3812

Email : info-cn@arcadis.com

Contact : Xu Wei Bin

HAIKOU

ARCADIS CONSULTANCY (SHENZHEN) CO. LTD.

HAIKOU BRANCH

Unit C, 10/F, Times Square

2 Guomao Road

Haikou

Hainan Province 570100

China

GPS : 20.029509, 110.326235

Tel : (86 898) 6652 7818

Fax : (86 898) 6652 7809

Email : info-cn@arcadis.com

Contact : Ricky Ho

HANGZHOU

ARCADIS CONSULTANCY (SHANGHAI) CO. LTD.

HANGZHOU BRANCH

Room 1306, WinNing International

100 Min Xin Road

Hangzhou

Zhejiang Province 310016

China

GPS : 30.251755, 120.218913

Tel : (86 571) 2829 7766

Fax : (86 571) 2829 7622

Email : info-cn@arcadis.com

Contact : Alex Zou

HENGQIN

ARCADIS CONSULTANCY ZHUHAI HENGQIN CO. LTD.

HENGQIN BRANCH

7/F, 156 Nan Shan Ju Road

Hengqin, Zhuhai

Guangdong Province 519031

China

GPS : 22.142774, 113.544438

Tel : (86 756) 868 8986

Fax : (86 756) 868 8969

Email : info-cn@arcadis.com

Contact : Stanley Wan

MACAU

ARCADIS MACAU LIMITED

Avenida da Praia Grande, No. 594

Edificio BCM, 12th Floor

Macau

GPS : 22.192210, 113.541252

Tel : (853) 2833 1710

Fax : (853) 2833 1532

Email : info-mo@arcadis.com

Contact : Katherine Chan

(Cont'd)

DIRECTORY OF OFFICES

NANJING

ARCADIS CONSULTANCY (SHANGHAI) CO. LTD.

NANJING BRANCH

1104 South Tower Jinmao Plaza

201 Zhong Yang Road

Nanjing

Jiangsu Province 210009

China

GPS : 32.071984, 118.783443

Tel : (86 25) 5791 1860

Fax : (86 25) 6698 1860

Email : info-cn@arcadis.com

Contact : Taofen Chen

QINGDAO

ARCADIS CONSULTANCY (SHANGHAI) CO. LTD.

QINGDAO BRANCH

Room 2008, 20/F, HNA Center

234 Yan An San Road

Shinan District

Qingdao

Shangdong Province 266071

China

GPS : 36.060852, 120.375351

Tel : (86 532) 8280 1818

Fax : (86 532) 8280 1881

Email : info-cn@arcadis.com

Contact : Andy Feng

SHANGHAI

ARCADIS CONSULTANCY

(SHANGHAI) CO. LTD.

11th Floor, Building C, The Place

No. 150, Zunyi Road

Changning District

Shanghai 200051

China

GPS : 31.207363, 121.407984

Tel : (86 21) 6026 1300

Fax : (86 21) 6026 1800

Email : info-cn@arcadis.com

Contact : Joe Chan

SHENYANG

BEIJING ARCADIS CONSTRUCTION CONSULTANCY
CO. LTD. SHENYANG BRANCH

Room 3013 - 3015, Office Tower 1

Forum66, 1-1 Qingnian Avenue

Shenhe District

Shenyang

Liaoning Province 110063

China

GPS : 41.799603, 123.433787

Tel : (86 24) 3195 8880

Fax : (86 24) 3128 6983

Email : info-cn@arcadis.com

Contact : Simon Chow

SHENZHEN

ARCADIS CONSULTANCY (SHENZHEN) CO. LTD.

Room 1001, AVIC Centre

1018 Huafu Road

Shenzhen

Guangdong Province 518031

China

GPS : 22.543241, 114.082051

Tel : (86 755) 2598 1841

Fax : (86 755) 2598 1854

Email : info-cn@arcadis.com

Contact : Kenneth Lo

SUZHOU

ARCADIS CONSULTANCY (SHANGHAI) CO. LTD.

SUZHOU BRANCH

Room 906, The Summit

118 Suzhou Avenue West

Suzhou, Jiangsu Province 215021

China

GPS : 31.315966, 120.669099

Tel : (86 512) 8777 5599

Fax : (86 512) 8777 5600

Email : info-cn@arcadis.com

Contact : Zhang Rui

(Cont'd)

DIRECTORY OF OFFICES

TIANJIN

BEIJING ARCADIS CONSTRUCTION
CONSULTANCY CO. LTD. TIANJIN BRANCH
4002, 40/F

Tianjin World Financial Centre Office Tower
2 Dagubei Road
He Ping District
Tianjin 300020
China

GPS : 39.129619, 117.202758

Tel : (86 22) 2329 8611

Fax : (86 22) 2319 3186

Email : info-cn@arcadis.com

Contact : Kenn Ng

WUHAN

ARCADIS CONSULTANCY
(SHANGHAI) CO. LTD. WUHAN BRANCH

Room 1703, Citic Pacific Mansion
No. 1627 Zhongshan Avenue
Jiangan District

Wuhan, Hubei Province 430 010
China

GPS : 30.616813, 114.317276

Tel : (86 27) 5920 9299

Fax : (86 27) 5920 9298

Email : info-cn@arcadis.com

Contact : Wong Chin Ying

XI'AN

ARCADIS CONSULTANCY (SHENZHEN) CO. LTD.
XI'AN BRANCH

Room 1606 - 1607, CapitaMall Office Building
64 South Second Ring Western
Xi'an

Shaanxi Province 710065
China

GPS : 34.230397, 108.934893

Tel : (86 29) 8866 9711

Fax : (86 29) 8866 9760

Email : info-cn@arcadis.com

Contact : Wang Zhu Zhu

BRUNEI**BANDAR SERI BEGAWAN**

ARCADIS (B) SDN BHD
UTAMA CON (B) SDN BHD
Unit 25, BT Complex, Kg. Jaya Setia
Mukim Berakas 'A' BB2713
P.O. Box 313
Bandar Seri Begawan BS8670
Negara Brunei Darussalam
GPS : 4.9394, 114.9377
Tel : (673) 233 2833
Fax : (673) 233 2933
Email : ubsb@utamacon.com.bn
Contact : Shafie Yusof / Shahril Othman

KUALA BELAIT

Unit 18, 1st Floor, Block C
Lot 7563, Kg. Pandan
Kuala Belait, KA 1931
Negara Brunei Darussalam
Tel : (673) 334 7641
Email : ubsb@utamacon.com.bn
Contact : Shafie Yusof / Shahril Othman

INDIA**BANGALORE**

ARCADIS INDIA PRIVATE LIMITED
135, 4th Floor, RMZ Titanium
Old Airport Road, Kodihalli
Bangalore 560017
India
Tel : (91 80) 4123 9141
Fax : (91 80) 4123 8922
Email : info-in@arcadis.com
Contact : Ivan Keogh / Darshan Joshi

(Cont'd)

DIRECTORY OF OFFICES

DELHI

ARCADIS INDIA PRIVATE LIMITED
3rd Floor, Tower B
Logix Techno Park, Sector 127
Uttar Pradesh Noida 201304
India
Tel : (91 120) 436 8400
Email : info-in@arcadis.com
Contact : Ivan Keogh / Darshan Joshi

MUMBAI

ARCADIS INDIA PRIVATE LIMITED
Platinum Techni Park - Offices 802, 803, 804
Plot No. 17 - 18
Sector 30A, Vashi Navi
Mumbai Maharashtra 400705
India
Tel : (91 22) 6464 5591
Email : info-in@arcadis.com
Contact : Ivan Keogh / Darshan Joshi

INDONESIA

BALI

P.T. ARCADIS INDONESIA
Level 2, Alamanda Office
Jalan By Pass Ngurah Rai No. 67
Banjar Pengenderan, Kedonganan
Bali 80361
Indonesia
GPS : 8.7893, 115.2106
Tel : (62 361) 472 5353
Fax : (62 361) 472 5354
Email : info.idbali@arcadis.com
Contact : Ir. Putu Arya Canti

JAKARTA

P.T. ARCADIS INDONESIA
Level 18, Ratu Plaza Office Tower
Jalan Jenderal Sudirman 9
Jakarta 10270
Indonesia
GPS : 6.2271, 106.8008
Tel : (62 21) 739 7550
Fax : (62 21) 739 7846
Email : info.idqs@arcadis.com
info.idpm@arcadis.com
Contact : Peter Robinson / Haelly Hamid
Gary Miles / Natalia Pujiyanti

MALAYSIA**SELANGOR**

ARCADIS (MALAYSIA) SDN BHD
ARCADIS PROJEKS SDN BHD
ARCADIS CONSULTANCY SDN BHD
JUBM SDN BHD
Level 5, Menara TSR
12 Jalan PJU 7/3, Mutiara Damansara
47810 Petaling Jaya
Selangor Darul Ehsan
Malaysia
GPS : 3.1616, 101.6129
Tel : (60 3) 2106 8000
Fax : (60 3) 2106 9090
Email : info-my@arcadis.com
Contact : Loo Ming Chee / Justin Teoh /
Syed Mahadzir Syed Ahmad /
Mohamad Faiz Awang / Nur Aziz Abu Bakar /
Mohd Ali Abd Karim (Non-Executive Chairman)
Yap Sai Hoe / Lim Jit Fung (Jeffrey)
Rozila Abdul Rahman

(Cont'd)

DIRECTORY OF OFFICES

JOHOR

47, Jalan Setia Tropika 1/30

Taman Setia Tropika

81200 Johor Bahru

Johor Darul Takzim

Malaysia

GPS : 1.5422, 103.7111

Tel : (60 7) 232 8300

Fax : (60 7) 232 8232

Email : info-my@arcadis.com

Contact : Syed Mahadzir Syed Ahmad / Tan Pei Ling

PENANG

Suite 3A-3, Level 3A, Wisma Great Eastern

No. 25, Lebuh Light

Penang 10200

Malaysia

GPS : 5.4201, 100.3408

Tel : (60 4) 264 2071 / 264 2072 / 264 2073

Fax : (60 4) 264 2068

Email : info-my@arcadis.com

Contact : Nur Aziz Abu Bakar / Yeng Khiam Jin

SABAH

Suite 8A, 8th Floor, Wisma Pendidikan

Jalan Padang

P.O. Box 11598

88817 Kota Kinabalu, Sabah

Malaysia

GPS : 5.9783, 116.0761

Tel : (60 88) 223 369 / 223 371

Fax : (60 88) 216 537

Email : info-my@arcadis.com

Contact : Mohd Faiz Awang / VK Wong

Lim Jit Fung, Jeffrey

SARAWAK

JUBM SDN BHD

No. 2 (3rd Floor), Jalan Song Thian Cheok
93100 Kuching, Sarawak
Malaysia

GPS : 1.5532, 110.3532

Tel : (60 82) 232 212

Fax : (60 82) 232 198

Email : info-my@arcadis.com

Contact : Nor Azman Bin Baharum

PHILIPPINES**MANILA**

ARCADIS PHILIPPINES INC

25th Floor, Circuit Corporate Center 1

Circuit Makati, A.P. Reyes Street, Bgy Carmona

Makati City 1207

Philippines

GPS : 14.57333, 121.01802

Tel : (63 2) 811 2971

Fax : (63 2) 811 2071

Email : info-ph@arcadis.com

Contact : Darneil Perez / Michael Hearn

CEBU

12F, 2Quad Building

Cardinal Rosales Avenue

Cebu Business Park

Cebu City 6000

Philippines

GPS : 10.3142574, 123.9053502

Tel : (63 32) 232 2200

Fax : (63 32) 260 3699

Email : info-ph@arcadis.com

Contact : Darneil Perez / Michael Hearn

(Cont'd)

DIRECTORY OF OFFICES

SINGAPORE

ARCADIS SINGAPORE PTE LTD

1 Magazine Road

#05-01 Central Mall

Singapore 059567

GPS : 1.288526, 103.842085

Tel : (65) 6222 3888

Fax : (65) 6224 7089

Email : info-sg@arcadis.com

Contact : Tim Risbridger / Khoo Sze Boon /
Lorimer A. Doig

ARCADIS PROJECT MANAGEMENT PTE LTD

1 Magazine Road

#05-01 Central Mall

Singapore 059567

GPS : 1.288526, 103.842085

Tel : (65) 6222 3888

Fax : (65) 6224 7089

Email : pmps@arcadis.sg

Contact : Tim Risbridger / Teoh Wooi Sin

THAILAND

BANGKOK

ARCADIS (THAILAND) LTD

10th Floor, Kian Gwan II Building

140/1 Wireless Road

Lumpini, Pratumwan

Bangkok 10330

Thailand

GPS : 13.734969, 100.545448

Tel : (66 2) 253 1438

Fax : (66 2) 253 4977

Email : info-th@arcadis.com

Contact : Ang Yen Kooi / Wong Soon Bin

VIETNAM

HANOI

ARCADIS VIETNAM CO. LTD.

Level 2, Hoa Binh Tower Building

106 Hoang Quoc Viet Street

Cau Giay District

Hanoi

Vietnam

GPS : 21.046818 105.795193

Tel : (84 24) 3942 7525

Fax : (84 24) 3942 7526

Email : info-vn@arcadis.com

Contact : Mark Olive

HO CHI MINH CITY

L12-03, Level 12, Vincom Center B

72 Le Thanh Ton Street

Ben Nghe ward

District 1

Ho Chi Minh City

Vietnam

GPS : 10.777936, 106.702265

Tel : (84 28) 3823 8297

Fax : (84 28) 3823 8197

Email : info-vn@arcadis.com

Contact : Mark Olive

(Cont'd)

DIRECTORY OF OFFICES

ARCADIS ASIA HEADQUARTERS

HONG KONG

ARCADIS ASIA LIMITED

ARCADIS ASIA REGIONAL HEADQUARTERS LIMITED

38/F, AIA Kowloon Tower, Landmark East

100 How Ming Street

Kwun Tong, Kowloon

Hong Kong

GPS : 22.3125, 114.2223

Tel : (852) 2830 3500

Fax : (852) 2576 0416

Email : asiainfo@arcadis.com

Contact : Matt Bennion, CEO, Asia
Eric De Kruif, CFO Asia

ARCADIS HEADQUARTERS

AMSTERDAM

ARCADIS NV

“Symphony”

Gustav Mahlerplein 97-103

1082 MS Amsterdam

P.O. Box 7895

1008 AB Amsterdam

The Netherlands

Tel : (31 20) 201 1011

Fax : (31 20) 201 1002

Email : info@arcadis.com

Website : www.arcadis.com

Contact : Stephanie Hottenhuis, Executive Board
Member

HEALTH & SAFETY MANAGEMENT SYSTEM

Based on the recognized international standards of OHSAS 18001, We have implemented a Health and Safety Management System which is part of our Arcadis Asia Health, Safety and Environmental Management System. Following the success of our Health & Safety accreditation in Hong



Kong in 2012, we had rolled out the system across China and Macau, where an H&S coordinator is assigned in each of our Arcadis offices to assist in planning, implementing, monitoring and reporting health and safety issues.

Positive decision making and the right behavioural outcomes underpin our approach to Health & Safety, an ethos which is promoted and reinforced across all levels of our organisation as a priority. Being aware of the role as a good steward, our staff are encouraged to proactively identify and address any hazard found in the work-related activities.

Committed to making our business a safe, healthy and sustainable place to work, Arcadis strives to achieve zero incidents in everything we do ensuring the health, safety and well-being of our staff and stakeholders. Based on strong H&S culture within the ARCADIS group companies, we continue to ensure processes, procedures and systems of work are maintained to achieve the highest standards, and continual improvement, in our health and safety performance.

QUALITY MANAGEMENT SYSTEM

The Quality Management System was launched in our Hong Kong office in 1993, and have continually been upgraded since then. The System and the accreditation of ISO 9001 has also been extended to Macau as well as our eighteen China offices. By the end of 2017, our Quality Management System will complete our conversion to the ISO 9001:2015 Standard.



Arcadis has set annual objectives to ensure client's expectations to be met or exceeded. Performance against these objectives is reviewed while carrying out audits quarterly. The quality management documents are also reviewed regularly and shall be updated as necessary to achieve the ongoing effectiveness of the system. To fit for the new version of the ISO9001, the focus of our internal audits has already been shifted from project-based only to the holistic approach that covers the functions of the non-technical sections.

Nowadays an effective Quality Management System is one of the core elements in any kind of business. Arcadis makes every effort to provide not merely quantity surveying services but also the highest quality services to meet our clients' requirements.

ENVIRONMENTAL MANAGEMENT SYSTEM

As a socially responsible company, we have been formally implementing our Environmental Management System in Hong Kong since 2012, when HKQAA certified us to ISO 14001 (Environmental). After running the system in our Macau office in 2014, we have rolled out the same standards across all our China offices.



With work-related environmental protection measures, we have been successful in reducing the impact of our activities on the environment and improving our operating efficiency. Environmental messages have been regularly released via newsletters and training to increase staff's awareness of assuming responsibility towards the working conditions and environment. Green corners are also established in every office to inspire our staff to take environmental actions. In September 2013, we introduced our Document Management System (DMS) in our Hong Kong office with the aim of eventually creating a paperless green office. All incoming drawings and hardcopy documents are scanned and uploaded to our system for instant review by our staff members. This has resulted in reducing paper usage, freeing up more storage space and providing better traceability of documents.

For Arcadis, environmental protection and resource conservation are our high-priority corporate goals. To help transform our workplace into a green office, we continue to measure and record our carbon footprint in order to devise more environment friendly standards and practices.

TELEPHONE DIRECTORY

HONG KONG GOVERNMENT	
Architectural Services Department	
Headquarters Administration Division	2867 3628
Architectural Branch	
Advisory & Statutory Compliance Division	2867 3759
Architectural Drawing Records Unit	2867 3691
Division 1	2867 3935
Division 2	2867 3814
Site Staff (New Works)	2286 3524
Technical Officer (Architectural) Grade Management Unit	2867 3691
Building Services Branch	
Division 1	2867 3538
Division 2	2867 3493
Division 3	2867 3629
Division 4	2867 4156
Property Services Branch	2773 2217
Quantity Surveying Branch	2867 3298/2867 4597
Structural Engineering Branch	2867 3610
Buildings Department	2626 1616
Census and Statistics Department	2582 4807
Civil Engineering and Development Department	2762 5111
Customs and Excise Department	2815 7711
Drainage Services Department	2877 0660
Electrical and Mechanical Services Department	1823
Environmental Protection Department	3509 7636
Fire Services Department	2311 0066
Government Laboratory	2762 3700
Government Property Agency	2594 7604
Highways Department	2926 4111
Housing Department	2712 2712
Labour Department	2717 1771
Lands Department	2231 3294
Planning Department	2231 5000
Rating and Valuation Department	2152 0111
Water Supplies Department	2824 5000

Refer to <http://tel.directory.gov.hk> for further information.

 **ARCADIS ASIA LIMITED**

ARCADIS HONG KONG LIMITED

38/F, AIA Kowloon Tower, Landmark East

100 How Ming Street

Kwun Tong, Kowloon, Hong Kong

Tel: (852) 2830 3500 Fax: (852) 2576 0416

Email: info-hk@arcadis.com

info-cn@arcadis.com

info-mo@arcadis.com

 **FOLLOW US**

[@Arcadis_Asia](https://twitter.com/Arcadis_Asia)

 **JOIN US**

[LinkedIn Arcadis](#)

www.arcadis.com