

ELECTRONICS AND TELECOMMUNICATIONS
INDUSTRIES
2016 MANPOWER SURVEY
STATISTICAL REPORT

ELECTRONICS AND TELECOMMUNICATIONS TRAINING BOARD
VOCATIONAL TRAINING COUNCIL

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I. INTRODUCTION

The Training Board

1.1 The Electronics and Telecommunications Training Board of the Vocational Training Council (VTC) is a statutory body appointed by the Government of the Hong Kong Special Administration Region (HKSAR) to be responsible for matters pertaining to manpower training in the electronics and telecommunications industries. The Training Board comprises members nominated by major trade associations, professional bodies, worker unions, training and educational institutions, as well as representatives from government departments. The membership and terms of reference of the Training Board are given in Annexes A and B respectively.

1.2 The Training Board is required by its terms of reference to determine the manpower needs of the electronics and telecommunications industries and to recommend to the VTC the development of vocational education and training facilities to meet such needs.

The Manpower Survey

1.3 The Training Board conducted a survey in April 2016 to collect up-to-date information on the manpower situation of the electronics and telecommunications industries. The survey was conducted with the assistance of the Census and Statistics Department of the HKSAR Government. Follow-up of the fieldwork and data processing were completed in November 2016.

1.4 The following manpower statistics and information were collected from the survey:

- (i) number of employees in various principal jobs at the time of the survey;
- (ii) number of existing vacancies;
- (iii) number of trainees;
- (iv) employers' forecast of the total number of employees by April 2017;
- (v) average monthly income of employees; and
- (vi) employers' views on the preferred education, training mode and training period of employees.

1.5 Employers were also requested to provide other information such as the number of technologists, technicians and craftsmen who had been promoted in the past 12 months, and also those who had been deployed to work for more than 6 months outside Hong Kong during the 12 months prior to the survey, as well as the skills employees needed to enhance.

Scope of Survey

1.6 The survey covered firms, relevant departments in the government and educational institutions in the following six sectors of the electronics and telecommunications industries:

Sector 1: Manufacturing

Manufacturers of :

- (a) Computers and peripheral equipment (HSICs 262000, 281700, 952100);
- (b) Audio and video equipment (HSICs 264000, 953100);
- (c) Communications equipment and cables (HSICs 263000, 273100, 952200);
- (d) Magnetic and optical media, and reproduction of recorded media (HSICs 182000, 268000);
- (e) Electronic parts and components for computer and telecommunication equipment (HSIC 261100);
- (f) Electronic parts and components not elsewhere classified (HSIC 261900);
- (g) Electronic games and toys (HSIC 324500); and
- (h) Electronic industrial apparatus, and measuring testing, navigating and control equipment (HSICs 265100, 331300).

Sector 2: Trading and Services

Establishments of :

- (a) Anti-burglar system, intercommunication system, and telecommunications equipment, installation and maintenance (HSICs 432104, 432105, 432106);
- (b) Imports and exports of:
 - (i) Scientific and professional instruments and apparatus (HSICs 451631, 452631)*;

- (ii) Telecommunications equipment and parts (HSICs 451611, 452611)*;
 - (iii) Electrical goods (HSICs 451452, 452452)*;
 - (iv) Computers and computer peripherals and computer software (HSICs 451601, 451602, 452601, 452602)*;
 - (v) Office appliances and equipment (HSICs 451634, 452634)*;
 - (vi) Electronic parts (HSICs 451613, 452613)*
- (c) Data processing, hosting and related activities (HSICs 620121, 620199, 620200, 620900, 631100)*; and
 - (d) Other electronics engineering services not included in (a) to (c).

Sector 3: Telecommunications Services

Establishments of :

- (a) Telecommunications network operation services (HSIC 611000);
- (b) Other miscellaneous telecommunications activities nowhere else classified (HSIC 619900);
- (c) Internet access services (HSIC 619100); and
- (d) Radio broadcasting, motion picture, video and television programming, and broadcasting activities (HSICs 591100, 601000, 602000).

Sector 4: Wholesale

Establishments of wholesale of :

- (a) Telecommunications equipment and parts (HSIC 460611);
- (b) Electrical goods (excluding machinery, office and telecommunications equipment and appliances) (HSIC 460452);
- (c) Computers and computer peripheral equipment (HSICs 460601, 460602); and
- (d) Office machines, appliances and equipment (excluding computer, furniture and fixtures) (HSIC 460634).

Sector 5: Design Houses and Relevant Departments in Universities and Government

- (a) Electronics design houses;
- (b) Relevant educational institutions; and
- (c) Relevant government departments.

Sector 6: Retail Shops for Electronics Products (10 large shops)

- (a) Large retail shops for electronics products.

Notes: (1) HSIC denotes Hong Kong Standard Industrial Classification

- (2) * *Excluding those establishments with an employment size below 10 as they are unlikely to have a significant number of technical staff.*
- (3) *List of supplementary samples in branch 4, 7 and 8 are presented in Annex G.*

1.7 Prior to the survey, the Census and Statistics Department recorded some 7 529 establishments in the above six sectors of the electronics and telecommunications industries in Hong Kong. A stratified random sampling method was adopted and a total of 704 (2 new discovery cases) samples were selected to be surveyed. The data collected were then processed and scaled up statistically to give an overall picture of the manpower situation of the two industries.

Method of the Survey

1.8 Two weeks before the survey, relevant survey documents including questionnaire (Annex D), explanatory notes (Annex E) and list of principal jobs (Annex F) were mailed to the 704 establishments. Prior publicity was also given through the VTC website and relevant trade and industrial organizations to solicit employers' co-operation in the survey.

1.9 During the survey period, interviewing officers of the Census and Statistics Department visited all 704 establishments to collect the completed questionnaires and, where required, to assist employers in completing them. All returned questionnaires were scrutinized and where necessary, cross checked with the respondents.

Response to the Survey

1.10 Of the 704 establishments, 432 completed the questionnaires and 36 refused to supply information. The remaining 236 establishments had either moved, closed and could not be traced, or no longer engaged in the trade. The effective response rate was 92.3%.

1.11 During the survey, some of the establishments just provided the rough figures of manpower information and did not give details of their employees' monthly income, number of trainees or number of vacancies at the date of survey. The reasons were that they were too busy and/or not willing to provide confidential information of their organizations.

The Report

1.12 After follow-up work and analyzing the data, the Training Board had in December 2016, compiled a statistical report which presented the manpower data collected from the survey. The statistical report was subsequently uploaded on the VTC website for public information.

1.13 In the report, the terms "employees", "workers" and "manpower" refer to the total number of persons employed in the principal jobs at the time of the survey but excluding trainees and apprentices. The term "trainees" means all persons receiving any form of training including those registered apprentices under a contract of apprenticeship.

II. SUMMARY OF SURVEY FINDINGS

Number of Persons Employed

2.1 The survey revealed that in April 2016, a total of 144 985 persons were employed in the electronics and telecommunications industries in Hong Kong. Of them, 63 311 were engaged in the principal jobs of electronics engineering and related disciplines. The following paragraphs present only the manpower statistics of those employees employed in the principal jobs.

Distribution of Employees by Job Level and by Sector

2.2 The distribution of employees by job level and by sector of the electronics and telecommunications industries is shown in Table 2.1, Figure 2.1 and Figure 2.2.

Table 2.1 : Distribution of Employees by Job Level and by Sector

Sector	Job Level				Total (% of Total MP)
	Technologist	Technician	Craftsman	Operative	
1. Manufacturing	792	1 868	610	1 110	4 380 (6.9%)
2. Trading and Services	10 259	24 013	4 735	510	39 517 (62.4%)
3. Telecommunications Services	2 388	4 440	922	305	8 055 (12.7%)
4. Wholesale	339	3 321	291	50	4 001 (6.3%)
5. Design Houses and Relevant Departments in Universities and Government	1 537	2 000	813	53	4 403 (7.0%)
6. Retail Shops for Electronics Products (10 large shops)	25	2 877	53	-	2 955 (4.7%)
Total (Percentage (%) of Total Manpower (MP))	15 340 (24.2%)	38 519 (60.8%)	7 424 (11.7%)	2 028 (3.2%)	63 311 (100%)

Figure 2.1 : Distribution of Employees by Job Level

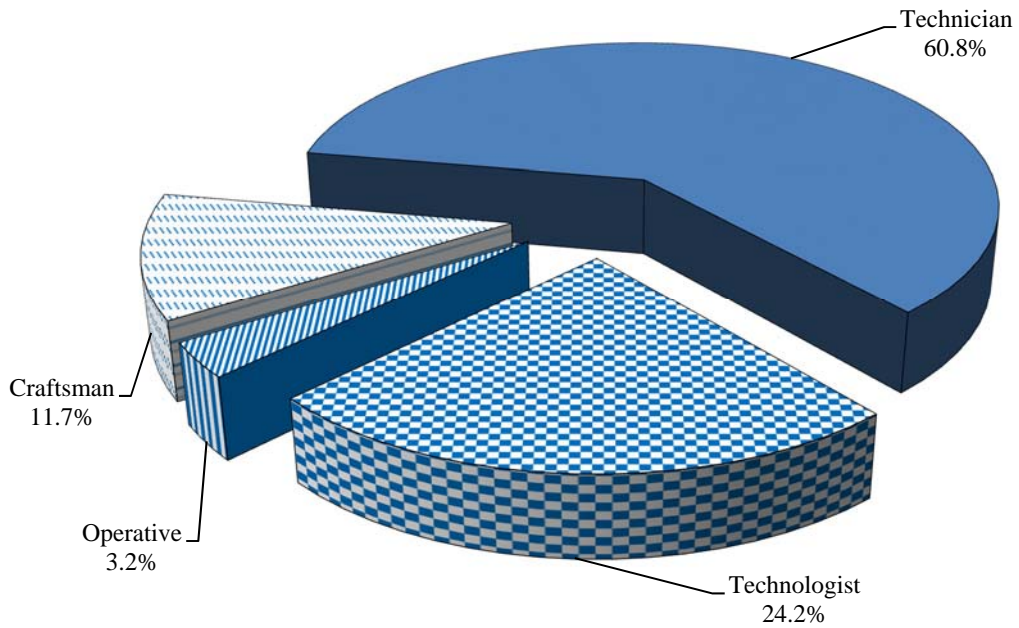
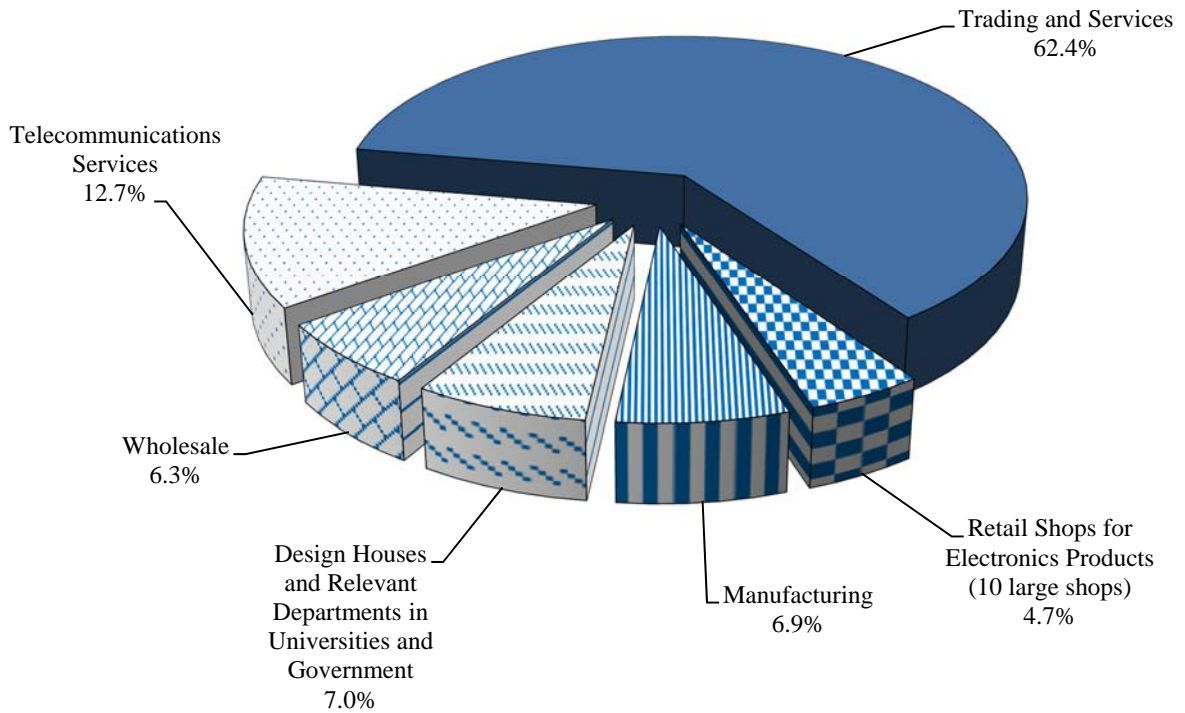


Figure 2.2 : Distribution of Employees by Job Sector



Number of Trainees

2.3 At the time of the survey, there were 1 078 trainees in the electronics and telecommunications industries. Their distribution by job level is shown in Table 2.2:

Table 2.2 : Distribution of Trainees by Job Level

Job Level	No. of Trainees (a)	No. of Employees (b)	Percentage $\frac{(a)}{(b)} \times 100\%$
Technologist	129	15 340	0.8%
Technician	393	38 519	1.0%
Craftsman	556	7 424	7.5%
Operative	0	2 028	0.0%
Total	1 078	63 311	1.7%

Number of Vacancies at Time of Survey and Forecast Manpower by April 2017

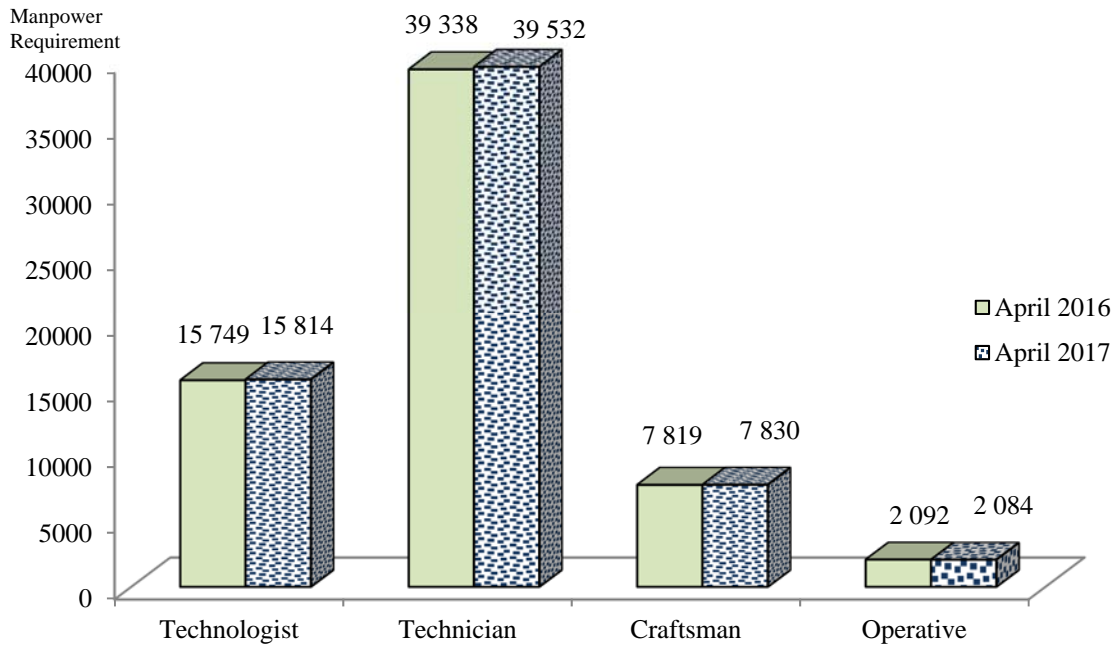
2.4 The total number of job vacancies was 1 687, or 2.7% of the total number employed in the electronics and telecommunications industries at the time of the survey. Employers also forecast that there would be 65 260 employees in the two industries by April 2017, which is 1 949 employees (+3.1%) more than that in April 2016.

2.5 A comparison of the manpower requirement at the time of survey and the employers' forecast of the number of employees by April 2017 are shown in Table 2.3 and Figure 2.3:

Table 2.3 : Comparison of Manpower Requirement by April 2016 and April 2017

Job Level	At Time of Survey (April 2016)			Forecast Total No. of Employees by April 2017	Forecast Increase/Decrease in Manpower Requirement
	No. of Employees	No. of Vacancies	Total Manpower Requirement		
Technologist	15 340	409	15 749	15 814	+0.4%
Technician	38 519	819	39 338	39 532	+0.5%
Craftsman	7 424	395	7 819	7 830	+0.1%
Operative	2 028	64	2 092	2 084	-0.4%
Total	63 311	1 687	64 998	65 260	+0.4%

Figure 2.3 : Comparison of Manpower Requirement by April 2016 and April 2017



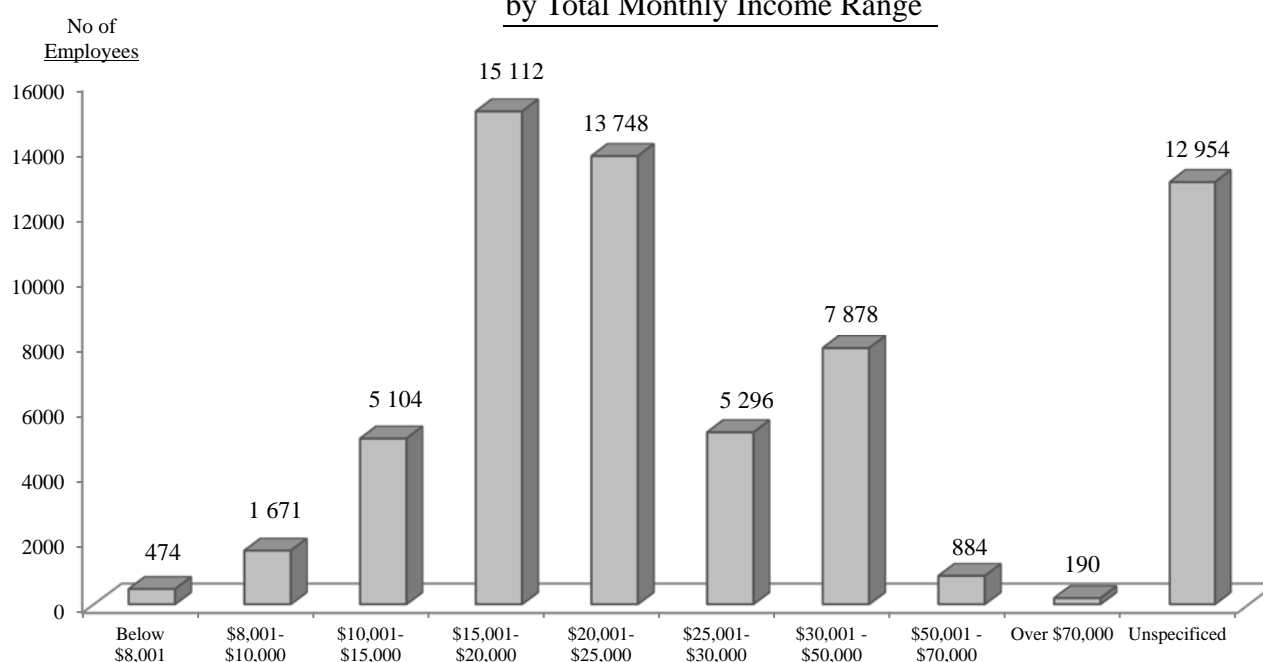
Total Monthly Income Range of Employees

2.6 The distribution of employees by total monthly income range in the electronics and telecommunications industries is shown in Table 2.4 and Figure 2.4:

Table 2.4 : Distribution of Employees by Total Monthly Income Range

Job Level	Below \$8,001	\$8,001-\$10,000	\$10,001-\$15,000	\$15,001-\$20,000	\$20,001-\$25,000	\$25,001-\$30,000	\$30,001-\$50,000	\$50,001-\$70,000	Over \$70,000	Un-specified	Total
Technologist	-	-	3	493	1 750	2 817	5 163	833	190	4 091	15 340
Technician	69	286	3 094	11 031	10 892	2 477	2 715	51	-	7 904	38 519
Craftsman	107	446	1 529	3 588	1 101	2	-	-	-	651	7 424
Operative	298	939	478	-	5	-	-	-	-	308	2 028
Total	474	1 671	5 104	15 112	13 748	5 296	7 878	884	190	12 954	63 311

Figure 2.4 : Distribution of Employees by Total Monthly Income Range



Preferred Education, Mode of Training and Period of Training of Employees

2.7 The majority of employers' views on the preferred education, mode of training and period of training of their technologists, technicians and craftsmen are shown in Table 2.5:

Table 2.5 : Preferred Education, Mode of Training and Period of Training of Employees

Job Level	Preferred Education	Preferred Mode of Training	Preferred Period of Training
Technologist	First degree or equivalent	On-the-job Training	4 years or above
Technician	Higher Certificate; Professional Diploma; Higher Diploma; Associate Degree or equivalent	On-the-job Training	3 to less than 4 years
Craftsman	Secondary 4-6; Hong Kong Diploma of Secondary Education (HKDSE); Diploma of Vocational Education/ Foundation Diploma/Yi Ji; Diploma or equivalent	On-the-job Training	1 to less than 2 years

Internal Promotion

2.8 In the twelve months prior to the survey, a total of 620 employees were promoted to higher level jobs in their own companies. Their distributions in each job level are shown in table 2.6 below:

Table 2.6 : Internal Promotion

Internal Promotion	No. of Employees Promoted (a)	Total No. of Employees at the Promoted Level (b)	Percentage $\frac{(a)}{(b)} \times 100\%$
From Technician to Technologist	304	15 340	2.0%
From Craftsman to Technician	266	38 519	0.7%
From Other Levels to Craftsman	50	7 424	0.7%
Total	620	61 283	1.0%

Employees Deployed to Work Outside Hong Kong

2.9 In Table 2.7, employers reported the following number of employees who had been deployed to work outside Hong Kong for more than 6 months during the period of 12 months prior to the survey:

Table 2.7 : No. of Employees Deployed to Work Outside Hong Kong

Job Level	No. of Employees Deployed to Work Outside Hong Kong (a)	Total No. of Employees at Same Job Level (b)	Percentage $\frac{(a)}{(b)} \times 100\%$
Technologist	326	15 340	2.1%
Technician	135	38 519	0.4%
Craftsman	0	7 424	0%
Total	461	61 283	0.8%

Skills Employees Need to Enhance

2.10 The employers consider that the three most important skills that employees need to enhance are shown in Table 2.8:

Table 2.8 : No. of Employees by Skills Need to Enhance

Job Level	The 3 most important skills that employees need to enhance			
	Order	Code	Skills/ Knowledge/ Attributes	No. of Employees
Technologist	1.	103	Project management	3 084
	2.	401	Problem solving	2 648
	3.	107	Leadership skills	2 557
Technician	1.	401	Problem solving	6 599
	2.	404	Communication skills	5 620
	3.	406	Time management skills	4 411
Craftsman	1.	404	Communication skills	2 313
	2.	413	Ability to learn/adapt new skills/knowledge	1 189
	3.	503	Servicing/Troubleshooting	1 064

Statistical Tables

2.11 Detailed manpower statistics analysed by principal job and by sector of the electronics and telecommunications industries are shown in Appendices 1 to 7. The distribution of employees by their monthly income range is shown in Appendix 8 and the number of employees by skills need to enhance is shown in Appendix 9.

MANPOWER STATISTICS OF THE ELECTRONICS AND TELECOMMUNICATIONS INDUSTRIES

電子業及電訊業人力統計數字

Sector 1: Manufacturing (門類一：製造)

Job Title 職稱	Number of Workers Employed 僱員人數	Number of Trainees 受訓者人數	Number of Vacancies at Date of Survey 調查期間 空缺數目	Forecast of Total Workers by April 2017 預測至 2017 年 4 月時的僱員總數
TECHNOLOGIST LEVEL 技師級				
Electronics Engineer 電子工程師	325	9	15	342
Electrical Engineer 電機工程師	6	-	-	6
Mechanical Engineer 機械工程師	113	9	7	121
Manufacturing/Quality Assurance Engineer 製造/品質保證工程師	230	-	21	252
Chemical Engineer 化學工程師	26	-	-	28
Product/Graphic Designer 產品/平面設計員	22	-	-	22
System Analyst 系統分析員	70	-	-	70
Sub-total 小計	792	18	43	841
TECHNICIAN LEVEL 技術員級				
Electronics Technician 電子技術員	974	-	3	982
Mechanical Technician 機械技術員	152	-	-	153
Draughtsman 繪圖員	2	-	-	2
Manufacturing/Quality Assurance Technician 製造/品質保證技術員	164	-	-	165
Supervisor/Foreman/Leader 監督/管工/組長	248	-	-	253
Programmer 程序編製員	30	-	3	33
Web Developer/Designer 網站開發員/設計員	39	-	-	39
Sales Technician 推銷技術員	259	-	-	259
Sub-total 小計	1 868	0	6	1 886
CRAFTSMAN LEVEL 技工級				
High Speed Data Network & Wireless Data 高速資訊網絡及無線系統技工	20	-	-	20
Electronics Craftsman 電子技工	537	-	17	551
Electrician 電氣技工	17	-	-	17
Mechanic 技工	36	-	-	36
Sub-total 小計	610	0	17	624
OPERATIVE LEVEL 操作工級				
Operator 生產線操作工	1 110	-	28	1 140
Sub-total 小計	1 110	-	28	1 140
GRAND TOTAL 總計	4 380	18	94	4 491

MANPOWER STATISTICS OF THE ELECTRONICS AND TELECOMMUNICATIONS INDUSTRIES

電子業及電訊業人力統計數字

Sector 2: Trading and Services (門類二：貿易及服務)

Job Title 職稱	Number of Workers Employed 僱員人數	Number of Trainees 受訓者人數	Number of Vacancies at Date of Survey 調查期間 空缺數目	Forecast of Total Workers by April 2017 預測至 2017 年 4 月時的僱員總數
TECHNOLOGIST LEVEL 技師級				
Electronics Engineer 電子工程師	5 055	12	75	5 146
Electrical Engineer 電機工程師	1 523	34	48	1 571
Mechanical Engineer 機械工程師	508	20	9	517
Manufacturing/Quality Assurance Engineer 製造／品質保證工程師	749	6	12	774
Chemical Engineer 化學工程師	17	-	-	17
Product/Graphic Designer 產品／平面設計員	358	-	14	385
System Analyst 系統分析員	2 049	-	72	2 125
Sub-total 小計	10 259	72	230	10 535
TECHNICIAN LEVEL 技術員級				
Electronics Technician 電子技術員	6 951	209	214	7 229
Mechanical Technician 機械技術員	1 722	109	71	1 801
Draughtsman 繪圖員	149	-	1	150
Manufacturing/Quality Assurance Technician 製造／品質保證技術員	344	-	5	349
Supervisor/Foreman/Leader 監督／管工／組長	2 309	-	50	2 368
Programmer 程序編製員	4 018	6	98	4 122
Web Developer/Designer 網站開發員／設計員	930	-	41	971
Sales Technician 推銷技術員	7 590	-	44	7 660
Sub-total 小計	24 013	324	524	24 650
CRAFTSMAN LEVEL 技工級				
High Speed Data Network & Wireless Data 高速資訊網絡及無線系統技工	524	35	13	537
Electronics Craftsman 電子技工	3 303	211	242	3 538
Electrician 電氣技工	769	30	29	798
Mechanic 技工	139	11	3	144
Sub-total 小計	4 735	287	287	5 017
OPERATIVE LEVEL 操作工級				
Operator 生產線操作工	510	-	2	512
Sub-total 小計	510	-	2	512
GRAND TOTAL 總計	39 517	683	1 043	40 714

MANPOWER STATISTICS OF THE ELECTRONICS AND TELECOMMUNICATIONS INDUSTRIES

電子業及電訊業人力統計數字

Sector 3: Telecommunications Services (門類三：電訊服務)

Job Title 職稱	Number of Workers Employed 僱員人數	Number of Trainees 受訓者人數	Number of Vacancies at Date of Survey 調查期間 空缺數目	Forecast of Total Workers by April 2017 預測至 2017 年 4 月時的僱員總數
TECHNOLOGIST LEVEL 技師級				
Electronics Engineer 電子工程師	1 970	-	41	2 011
Electrical Engineer 電機工程師	29	-	3	32
Mechanical Engineer 機械工程師	-	-	-	-
Manufacturing/Quality Assurance Engineer 製造／品質保證工程師	29	-	2	31
Chemical Engineer 化學工程師	-	-	-	-
Product/Graphic Designer 產品／平面設計員	49	-	-	49
System Analyst 系統分析員	311	-	15	326
Sub-total 小計	2 388	-	61	2 449
TECHNICIAN LEVEL 技術員級				
Electronics Technician 電子技術員	2 020	-	93	2 113
Mechanical Technician 機械技術員	-	-	-	-
Draughtsman 繪圖員	44	-	-	44
Manufacturing/Quality Assurance Technician 製造／品質保證技術員	-	-	-	-
Supervisor/Foreman/Leader 監督／管工／組長	140	-	-	140
Programmer 程序編製員	434	-	34	468
Web Developer/Designer 網站開發員／設計員	695	-	14	709
Sales Technician 推銷技術員	1 107	-	8	1 115
Sub-total 小計	4 440	-	149	4 589
CRAFTSMAN LEVEL 技工級				
High Speed Data Network & Wireless Data 高速資訊網絡及無線系統技工	1	-	-	1
Electronics Craftsman 電子技工	766	-	41	807
Electrician 電氣技工	152	-	2	154
Mechanic 技工	3	-	-	3
Sub-total 小計	922	-	43	965
OPERATIVE LEVEL 操作工級				
Operator 生產線操作工	305	-	24	329
Sub-total 小計	305	-	24	329
GRAND TOTAL 總計	8 055	-	277	8 332

MANPOWER STATISTICS OF THE ELECTRONICS AND TELECOMMUNICATIONS INDUSTRIES

電子業及電訊業人力統計數字

Sector 4: Wholesale (門類四：批發)

Job Title 職稱	Number of Workers Employed 僱員人數	Number of Trainees 受訓者人數	Number of Vacancies at Date of Survey 調查期間 空缺數目	Forecast of Total Workers by April 2017 預測至 2017 年 4 月時的僱員總數
TECHNOLOGIST LEVEL 技師級				
Electronics Engineer 電子工程師	270	-	8	278
Electrical Engineer 電機工程師	-	-	-	-
Mechanical Engineer 機械工程師	-	-	-	-
Manufacturing/Quality Assurance Engineer 製造/品質保證工程師	20	-	-	20
Chemical Engineer 化學工程師	-	-	-	-
Product/Graphic Designer 產品/平面設計員	-	-	-	-
System Analyst 系統分析員	49	-	-	49
Sub-total 小計	339	-	8	347
TECHNICIAN LEVEL 技術員級				
Electronics Technician 電子技術員	900	-	10	910
Mechanical Technician 機械技術員	6	-	-	6
Draughtsman 繪圖員	-	-	-	-
Manufacturing/Quality Assurance Technician 製造/品質保證技術員	-	-	-	-
Supervisor/Foreman/Leader 監督/管工/組長	280	-	-	280
Programmer 程序編製員	178	-	9	187
Web Developer/Designer 網站開發員/設計員	38	-	-	38
Sales Technician 推銷技術員	1 919	-	21	1 940
Sub-total 小計	3 321	-	40	3 361
CRAFTSMAN LEVEL 技工級				
High Speed Data Network & Wireless Data 高速資訊網絡及無線系統技工	-	-	-	-
Electronics Craftsman 電子技工	231	-	6	237
Electrician 電氣技工	50	-	-	50
Mechanic 技工	10	-	-	10
Sub-total 小計	291	-	6	297
OPERATIVE LEVEL 操作工級				
Operator 生產線操作工	50	-	-	50
Sub-total 小計	50	-	-	50
GRAND TOTAL 總計	4 001	-	54	4 055

MANPOWER STATISTICS OF THE ELECTRONICS AND TELECOMMUNICATIONS INDUSTRIES

電子業及電訊業人力統計數字

Sector 5: Design Houses and Relevant Departments in Universities and Government

(門類五：設計公司、相關院校學系及政府部門)

Job Title 職稱	Number of Workers Employed 僱員人數	Number of Trainees 受訓者人數	Number of Vacancies at Date of Survey 調查期間 空缺數目	Forecast of Total Workers by April 2017 預測至 2017 年 4 月時的僱員總數
TECHNOLOGIST LEVEL 技師級				
Electronics Engineer 電子工程師	1057	19	33	1 080
Electrical Engineer 電機工程師	253	20	16	292
Mechanical Engineer 機械工程師	74	-	5	79
Manufacturing/Quality Assurance Engineer 製造/品質保證工程師	32	-	-	32
Chemical Engineer 化學工程師	33	-	-	33
Product/Graphic Designer 產品/平面設計員	2	-	-	2
System Analyst 系統分析員	86	-	13	99
Sub-total 小計	1 537	39	67	1 617
TECHNICIAN LEVEL 技術員級				
Electronics Technician 電子技術員	895	2	33	936
Mechanical Technician 機械技術員	190	-	5	221
Draughtsman 繪圖員	7	-	-	7
Manufacturing/Quality Assurance Technician 製造/品質保證技術員	14	-	2	16
Supervisor/Foreman/Leader 監督/管工/組長	726	67	24	786
Programmer 程序編製員	143	-	5	147
Web Developer/Designer 網站開發員/設計員	-	-	-	-
Sales Technician 推銷技術員	25	-	2	27
Sub-total 小計	2 000	69	71	2 140
CRAFTSMAN LEVEL 技工級				
High Speed Data Network & Wireless Data 高速資訊網絡及無線系統技工	-	-	-	-
Electronics Craftsman 電子技工	189	28	12	203
Electrician 電氣技工	289	101	7	311
Mechanic 技工	335	140	23	360
Sub-total 小計	813	269	42	874
OPERATIVE LEVEL 操作工級				
Operator 生產線操作工	53	-	10	53
Sub-total 小計	53	-	10	53
GRAND TOTAL 總計	4 403	377	190	4 684

MANPOWER STATISTICS OF THE ELECTRONICS AND TELECOMMUNICATIONS INDUSTRIES

電子業及電訊業人力統計數字

Sector 6: Retail Shops for Electronics Products (10 large shops)

(門類六：零售－10間大型電子產品零售公司)

Job Title 職稱	Number of Workers Employed 僱員人數	Number of Trainees 受訓者人數	Number of Vacancies at Date of Survey 調查期間 空缺數目	Forecast of Total Workers by April 2017 預測至 2017 年 4 月時的僱員總數
TECHNOLOGIST LEVEL 技師級				
Electronics Engineer 電子工程師	25	-	-	25
Electrical Engineer 電機工程師	-	-	-	-
Mechanical Engineer 機械工程師	-	-	-	-
Manufacturing/Quality Assurance Engineer 製造/品質保證工程師	-	-	-	-
Chemical Engineer 化學工程師	-	-	-	-
Product/Graphic Designer 產品/平面設計員	-	-	-	-
System Analyst 系統分析員	-	-	-	-
Sub-total 小計	25	-	-	25
TECHNICIAN LEVEL 技術員級				
Electronics Technician 電子技術員	3	-	-	3
Mechanical Technician 機械技術員	-	-	-	-
Draughtsman 繪圖員	-	-	-	-
Manufacturing/Quality Assurance Technician 製造/品質保證技術員	-	-	-	-
Supervisor/Foreman/Leader 監督/管工/組長	349	-	-	349
Programmer 程序編製員	-	-	-	-
Web Developer/Designer 網站開發員/設計員	-	-	-	-
Sales Technician 推銷技術員	2 525	-	29	2 554
Sub-total 小計	2 877	-	29	2 906
CRAFTSMAN LEVEL 技工級				
High Speed Data Network & Wireless Data 高速資訊網絡及無線系統技工	-	-	-	-
Electronics Craftsman 電子技工	53	-	-	53
Electrician 電氣技工	-	-	-	-
Mechanic 技工	-	-	-	-
Sub-total 小計	53	-	-	53
OPERATIVE LEVEL 操作工級				
Operator 生產線操作工	-	-	-	-
Sub-total 小計	-	-	-	-
GRAND TOTAL 總計	2 955	-	29	2 984

MANPOWER STATISTICS OF THE ELECTRONICS AND TELECOMMUNICATIONS INDUSTRIES (ALL SECTORS)

電子業及電訊業人力統計數字（各門類）

Job Title 職稱	Number of Workers Employed 僱員人數	Number of Trainees 受訓者人數	Number of Vacancies at Date of Survey 調查期間 空缺數目	Forecast of Total Workers by April 2017 預測至 2017 年 4 月時的僱員總數
TECHNOLOGIST LEVEL 技師級				
Electronics Engineer 電子工程師	8 702	40	172	8 882
Electrical Engineer 電機工程師	1 811	54	67	1 901
Mechanical Engineer 機械工程師	695	29	21	717
Manufacturing/Quality Assurance Engineer 製造／品質保證工程師	1 060	6	35	1 109
Chemical Engineer 化學工程師	76	-	-	78
Product/Graphic Designer 產品／平面設計員	431	-	14	458
System Analyst 系統分析員	2 565	-	100	2 669
Sub-total 小計	15 340	129	409	15 814
TECHNICIAN LEVEL 技術員級				
Electronics Technician 電子技術員	11 743	211	353	12 173
Mechanical Technician 機械技術員	2 070	109	76	2 181
Draughtsman 繪圖員	202	-	1	203
Manufacturing/Quality Assurance Technician 製造／品質保證技術員	522	-	7	530
Supervisor/Foreman/Leader 監督／管工／組長	4 052	67	74	4 176
Programmer 程序編製員	4 803	6	149	4 957
Web Developer/Designer 網站開發員／設計員	1 702	-	55	1 757
Sales Technician 推銷技術員	13 425	-	104	13 555
Sub-total 小計	38 519	393	819	39 532
CRAFTSMAN LEVEL 技工級				
High Speed Data Network & Wireless Data 高速資訊網絡及無線系統技工	545	35	13	558
Electronics Craftsman 電子技工	5 079	239	318	5 389
Electrician 電氣技工	1 277	131	38	1 330
Mechanic 技工	523	151	26	553
Sub-total 小計	7 424	556	395	7 830
OPERATIVE LEVEL 操作工級				
Operator 生產線操作工	2 028	-	64	2 084
Sub-total 小計	2 028	-	64	2 084
GRAND TOTAL 總計	63 311	1 078	1 687	65 260

DISTRIBUTION OF EMPLOYEES BY MONTHLY INCOME RANGE (ALL SECTORS)
根據每月總收入幅度的僱員人數分布情況（各門類）

Job Title 職稱	Below \$8,001 以下	\$8,001 - \$10,000	\$10,001 - \$15,000	\$15,001 - \$20,000	\$20,001 - \$25,000	\$25,001 - \$30,000	\$30,001 - \$50,000	\$50,001 - \$70,000	Over \$70,000	Unspecified 未有說明	Total
TECHNOLOGIST LEVEL 技師級											
Electronics Engineer 電子工程師	-	-	3	364	1 398	1 249	2 678	286	181	2 543	8 702
Electrical Engineer 電機工程師	-	-	-	22	62	825	627	226	1	48	1 811
Mechanical Engineer 機械工程師	-	-	-	20	57	131	221	25	-	241	695
Manufacturing/Quality Assurance Engineer 製造／品質保證工程師	-	-	-	24	49	132	512	-	2	341	1 060
Chemical Engineer 化學工程師	-	-	-	4	16	20	28	5	-	3	76
Product/Graphic Designer 產品／平面設計員	-	-	-	18	125	3	214	-	3	68	431
System Analyst 系統分析員	-	-	-	41	43	457	883	291	3	847	2 565
Sub-total 小計	-	-	3	493	1 750	2 817	5163	833	190	4 091	15 340
TECHNICAN LEVEL 技術員級											
Electronics Technician 電子技術員	-	49	1 154	3 626	3 467	517	309	2	-	2 619	11 743
Mechanical Technician 機械技術員	-	-	34	316	1 333	56	183	-	-	148	2 070
Draughtsman 繪圖員	-	2	6	58	19	32	-	-	-	85	202
Manufacturing/Quality Assurance Technician 製造／品質保證技術員	-	13	34	50	50	12	-	-	-	363	522
Supervisor/Foreman/Leader 監督／管工／組長	1	4	97	396	2087	937	162	-	-	368	4 052
Programmer 程序編製員	-	-	279	406	1 315	210	1 148	-	-	1 445	4 803
Web Developer/Designer 網站開發員／設計員	-	-	164	485	167	135	-	-	-	751	1 702
Sales Technician 推銷技術員	68	218	1 326	5 694	2 454	578	913	49	-	2 125	13 425
Sub-total 小計	69	286	3 094	11 031	10 892	2 477	2 715	51	-	7 904	38 519
CRAFTSMAN LEVEL 技工級											
High Speed Data Network & Wireless Data 高速資訊網絡及無線系統 技工	-	50	30	307	1	-	-	-	-	157	545
Electronics Craftsman 電子技工	107	396	1 373	2 395	463	-	-	-	-	345	5 079
Electrician 電氣技工	-	-	104	439	585	-	-	-	-	149	1 277
Mechanic 技工	-	-	22	447	52	2	-	-	-	-	523
Sub-total 小計	107	446	1 529	3 588	1 101	2	-	-	-	651	7 424
Operator 生產線操作工	298	939	478	-	5	-	-	-	-	308	2 028
Sub-total 小計	298	939	478	-	5	-	-	-	-	308	2 028
GRAND TOTAL 總計	474	1 671	5 104	15 112	13 748	5 296	7 878	884	190	12 954	63 311

SKILLS EMPLOYEES NEED TO ENHANCE
僱員需要加強培訓的技能

Skills 技能	No. of Employees 僱員人數			
	Technologist 技師	Technician 技術員	Craftsman 技工	All 總數
Management Skills 管理技能				
101 Production and engineering management 工業生產及工程管理	1 276	981	34	2 291
102 Marketing management 經銷管理	684	367	-	1 051
103 Project management 項目管理	3 084	1 727	-	4 811
104 Quality management 品質管理	1 608	913	5	2 526
105 Purchasing management 採購管理	266	67	-	333
106 People management 人事管理	1 678	68	-	1 746
107 Leadership skills	2 557	2 844	-	5 401
China-related Knowledge and World Vision 有關中國的知識及世界視野				
201 Social and economic development in China 在中國內地的社會和經濟發展	143	143	-	286
202 Laws and regulatory restrictions to China 進入中國市場的法律和規條限制	280	-	-	280
203 Trade practices in the mainland of China 在中國內地的營商常規	-	-	-	-
204 Cross-cultural knowledge 跨文化的知識	-	-	-	-
205 World vision 世界視野	301	140	-	441
Language Skills 語文能力				
301 Spoken English 英語會話	117	328	403	848
302 Written English 英文書寫能力	179	198	15	392
303 Putonghua 普通話	99	164	12	275
304 Written Chinese 中文書寫能力	12	66	28	106
Interpersonal and Intrapersonal Skills for the Workplace 工作間的人際及個人才能				
401 Problem solving 解決問題	2 648	6 599	824	10 071
402 Creativity 創意力	87	820	1 031	1 938
403 Critical thinking 批判思考能力	190	312	4	506
404 Communication skills 溝通技巧	1 613	5 620	2 313	9 546
405 Team building 團隊建立	859	2 619	850	4 328
406 Time management skills 時間管理技巧	772	4 411	530	5 713
407 Optimism/Positive 樂觀/積極	217	1 090	42	1 349
408 Self-esteem 自尊	-	-	-	-
409 Perseverance 毅力	-	1 154	36	1 190
410 Change management skills 變革管理技巧	1 643	5	-	1 648
411 Customer services skills 客戶服務技巧	219	2 731	108	3 058
412 Numerical skills 數學運用技巧	-	1	-	1
413 Ability to learn/adapt new skills/knowledge 學習或適應新科技、新知識的能力	951	1 846	1 189	3 986
Technical Skills				
501 Design	425	59	-	484
502 Production/Manufacturing	356	893	283	1 532
503 Servicing/Troubleshooting	203	2 456	1 064	3 723
Others 其他				
699 Others	589	1 244	150	1 983

Part I 第一部份

(A) Job 工作		(B) Average Monthly Income 每月平均收入		(C) No. of Employees as at 1.4.2016 (excl. trainees) 在2016年4月1日的僱員人數 (受訓者除外)	(D) Forecast of No. of Employees as at April 2017 (excl. trainees) 預計在2017年4月的僱員人數 (受訓者除外)	(E) No. of Vacancies as at 1.4.2016 (excl. trainees) 在2016年4月1日的空缺額 (受訓者除外)	(F) No. of Trainees as at 1.4.2016 在2016年4月1日的受訓者人數	Average Monthly Income 每月平均收入	
Title 職稱	Rec. Type	Job Code 職位編號	Code 編號					Enter in column B employee's average monthly income range according to the following codes. The income should include basic wages, guaranteed year-end bonus, regular overtime pay, cost of living allowance, meal allowance etc. 請將僱員的每月平均收入幅度按照下列類別編號填入B欄內。「每月平均收入」包括底薪固定發放的年終花紅、定期超時工作工資、生活津貼、膳食津貼等。	
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TECHNOLOGIST LEVEL 技師級									
1 Electronics Engineer 電子工程師	2	1 0 1						Average Monthly Income Range Code 每月平均收入幅度 1 Under \$8,001 以下 2 \$8,001 - \$10,000 3 \$10,001 - \$15,000 4 \$15,001 - \$20,000 5 \$20,001 - \$25,000 6 \$25,001 - \$30,000 7 \$30,001 - \$50,000 8 \$50,001 - \$70,000 9 Over \$70,000 以上	
2 Electrical Engineer 電機工程師	2	1 0 2							
3 Mechanical Engineer 機械工程師	2	1 0 3							
4 Manufacturing/Quality Assurance Engineer 製造/品質保證工程師	2	1 0 4							
5 Chemical Engineer 化學工程師	2	1 0 5							
6 Product/Graphic Designer 產品/平面設計員	2	1 0 6							
7 System Analyst 系統分析員	2	1 0 7							
TECHNICIAN LEVEL 技術員級									
8 Electronics Technician 電子技術員	2	2 0 1							
9 Mechanical Technician 機械技術員	2	2 0 2							
10 Draughtsman 繪圖員	2	2 0 3							
11 Manufacturing/Quality Assurance Technician 製造/品質保證技術員	2	2 0 4							
12 Supervisor/Foreman/Leader 監督/管工/組長	2	2 0 5							
13 Programmer 程式編製員	2	2 0 6							
14 Web Developer/Designer 網站開發員/設計員	2	2 0 7							
15 Sales Technician 推銷技術員	2	2 0 8							
CRAFTSMAN LEVEL 技工級									
16 High Speed Data Network & Wireless Data System Integrator 高速資訊網絡及無線系統技工	2	3 0 1							
17 Electronics Craftsman 電子技工	2	3 0 2							
18 Electrician 電氣技工	2	3 0 3							
19 Mechanic 技工	2	3 0 4							
OPERATIVE LEVEL 操作工級									
20 Operator 生產線操作工	2	4 0 1							
21 Others 其他	2								
22	2								
23	2								
24	2								
25	2								

Note 1
附註一

If additional lines are necessary, please tick here and enter on supplementary sheet(s).
如此頁填滿，請先將 (✓) 號填入此 內，然後在附頁繼續填寫。

Note 2
附註二

The term 'trainees' includes all trainees receiving any form of training and apprenticeship under a contract of apprenticeship.
「受訓者」包括正在接受各種訓練的人士，以及簽有學徒合約的登記學徒。

Part II 第二部份

1. **Internal Promotion**
內部晉升

Please fill in the number of internal promotion in the past 12 months
請填寫過去十二個月內，內部晉升的人數

Rec. Type	From Technician to Technologist 由技術員晉升至技師	From Craftsman to Technician 由技工晉升至技術員	From Others to Craftsman 由其他職級晉升至技工
3	8 9 10	11 12 13	14 15 16
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17			

2. **Hong Kong Technical Personnel Dispatched Outside Hong Kong**
過派香港以外的香港技術人員

Please enter below the number of technical personnel paid by Hong Kong who had been dispatched to work for more than half year outside Hong Kong during the 12 months prior to the survey.
請填寫調查前十二個月內，由香港支薪而被派往外地工作超過半年的技術人員數目

Number of Technologists 技師人數	Number of Technicians 技術員人數	Number of Craftsmen 技工人數
18 19 20 21	22 23 24 25	26 27 28 29
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30		

3. **Education and Training an Employee Should Have**
僱員應有的教育及訓練

Technologist 技師	Technician 技術員	Craftsman 技工
Education 教育	Education 教育	Education 教育
31	34	37
Training Mode 訓練方式	Training Mode 訓練方式	Training Mode 訓練方式
32	35	38
Training Period 訓練時間	Training Period 訓練時間	Training Period 訓練時間
33	36	39

Please enter in the boxes the education and training an employee should have according to the following codes:
請將僱員應有的教育及訓練按照下列類別編號填入格內：

Code	Education 教育	Code	Training Mode 訓練方式	Code	Training Period 訓練時間
1	Higher degrees (e.g. master degrees) or equivalent 高等學位 (如碩士學位)，或同等教育程度	1	Graduate traineeship 工科畢業生訓練	1	4 years or above 四年或以上
2	First degree or equivalent 學士學位，或同等教育程度	2	On-the-job training 在職訓練	2	3 to less than 4 years 三年至四年以下
3	Associate Degree; Higher Diploma; Professional Diploma; Higher Certificate or equivalent 副學士、高級文憑、專業文憑、高級證書，或同等教育程度	3	Apprenticeship 學徒訓練	3	2 to less than 3 years 二年至三年以下
4	Diploma; Higher Certificate or equivalent 副學士、高級文憑、專業文憑、高級證書，或同等教育程度	4	Off-the-job training 離職訓練	4	1 to less than 2 years 一年至二年以下
5	Secondary 4-6; Diploma; Hong Kong Diploma of Vocational Education (HKDSE); Diploma of Vocational Education/Foundation Diploma/Yi Ji 中四、中五及中六、文憑、香港中學文憑考試、中專教育文憑/基礎文憑/毅進文憑課程，或同等教育程度	5	Others 其他	5	6 to less than 12 months 六至十二個月以下
6	Secondary 1-3 or equivalent 中一、中二及中三，或同等教育程度	6		6	Below 6 months 六個月以下

Part III 第三部份

1. Recruitment 招聘

(a) Please fill in the number of new recruits in the past 12 months
請填寫過去十二個月內，新招聘的僱員人數

Number of Technologists 技師人數	Number of Technicians 技術員人數	Number of Craftsmen 技工人數	Number of Operatives 操作工人數
40 41 42 43	44 45 46 47	48 49 50 51	52 53 54 55
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

(b) Number of recruits who have performed electronics services related duties in their last jobs from item (a) above
上列(a)項中，在剛離職的工作崗位上曾執行電子業相關職務的人數

Number of Technologists 技師人數	Number of Technicians 技術員人數	Number of Craftsmen 技工人數	Number of Operatives 操作工人數
57 58 59 60	61 62 63 64	65 66 67 68	69 70 71 72
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

2. Employees Left 僱員離職

Please fill in the number of employees who had left your establishment in the past 12 months
請填寫過去十二個月內，離職的僱員人數

Number of Technologists 技師人數	Number of Technicians 技術員人數	Number of Craftsmen 技工人數	Number of Operatives 操作工人數
73 74 75 76	77 78 79 80	81 82 83 84	85 86 87 88
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

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3. Skills an Employee Need to Enhance 僱員需加強培訓的技能

Please indicate the three most important skills that your employees need to enhance.
(Please see the table on the right for the choice of skills.)
你認為 貴機構現有僱員在那三方面技能最需要加強培訓。(請參閱右面的編號表以選擇技能。)

Technologist 技師	Technician 技術員	Craftsman 技工
90 91 92	93 94 95	96 97 98
<input type="text"/>	<input type="text"/>	<input type="text"/>
99 100 101	102 103 104	105 106 107
<input type="text"/>	<input type="text"/>	<input type="text"/>
108 109 110	111 112 113	114 115 116
<input type="text"/>	<input type="text"/>	<input type="text"/>

Code 編號

Types of skills / knowledge / attributes 技能/知識/個人特質的類別

Code 編號	Types of skills / knowledge / attributes 技能/知識/個人特質的類別
Management skills 管理技能	
101	Production and engineering management 工業生產及工程管理
102	Marketing management 經銷管理
103	Project management 計劃管理
104	Quality management 品質管理
105	Purchasing management 採購管理
106	Personnel management 人事管理
107	Leadership skills 領導能力
China-related knowledge and world vision 有關中國的知識及世界視野	
201	Social and economic development in the mainland of China 在中國大陸的社會和經濟發展
202	Laws and regulatory restrictions for access to China's market 進入中國市場的法律和規條限制
203	Trade practices in the mainland of China 在中國大陸的貿易常規
204	Cross-cultural knowledge 跨文化的知識
205	World vision 世界視野
Language skills 語文技能	
301	Spoken English 英語會話
302	Written English 英文書寫能力
303	Puotghua 普通話
304	Written Chinese 中文書寫能力
Interpersonal and intrapersonal skills for the workplace 工作間的人際及個人才能	
401	Problem solving 解決問題
402	Creativity 創意力
403	Critical thinking 批判思考能力
404	Communication skills 溝通技巧
405	Team building 團隊建立
406	Time management skills 時間管理技巧
407	Optimism/Positive attitude/積極樂觀/積極
408	Self-esteem 自尊
409	Perseverance 毅力
Technical Skills 技術技能	
410	Change management skills 變革管理技巧
411	Customer services skills 客戶服務技巧
412	Numerical skills 數學運用技巧
413	Ability to learn/adapt new skills/knowledge 學習或適應新技能、新知識的能力
501	Design 設計
502	Production/ Manufacturing 生產/製造
503	Servicing/ Troubleshooting 維修/故障排除
699	Others * 其他 *

* Please specify if skills code = '699'.
* 若技能編號 = 699，請說明。

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此欄毋須填寫

Est No. _____

The 2016 Manpower Survey of the
Electronics and Telecommunications Industries
電子業及電訊業二零一六年人力調查

Explanatory Note
附註

1. Please ignore the numbers of the row immediately beneath the headings. They are purely for data processing.
每行標題下的號碼只供資料處理用，請毋須理會。
2. Before completing the questionnaire, please read carefully the job titles and job descriptions in Appendix C.
填寫調查表前，請先詳閱附錄 C 所列的職稱與工作說明。
3. Please complete the columns ('A' to 'F') of the questionnaire and insert a zero (0) for any column not applicable to your establishment.
請填寫表內各欄（「A」至「F」），並在不適用於 貴機構的各欄內填入（0）符號。
4. Please fill in information as accurate as possible because the information collected from this survey is vital for determining the manpower requirements of the industry in order that the Electronics and Telecommunications Industry Training Board can make meaningful recommendations to Government on how to meet training needs.
請填入準確資料，因是項資料對於確定本業的人力需求極為重要，而電子業及電訊業訓練委員會亦將以此為根據，向政府提供解決訓練需求的建議。
5. Job Titles - Column 'A'
職稱 —— 「A」欄
 - (a) The job titles and code numbers are pre-printed.
職稱及職務編號已代為印上。
 - (b) Please add in column 'A' titles of any technical jobs not mentioned in Appendix C, and briefly describe them and indicate their skill levels.
如 貴機構另有技術性職務名稱未載於附錄 C 者，請一併填入「A」欄內，並扼要說明其工作性質及技能等級。
 - (c) Please classify an employee according to his/her main duty irrespective of any additional secondary duties he/she may be required to perform (e.g. a technician, who works mainly as an electronics technician but is also required to perform the work of a draughtsman occasionally, should be classified as an electronics technician and not as a draughtsman).
請根據僱員的主要職務分類，而不以其兼任的其他職務分類（例如，一名技術員的主要職務為電子技術員，但有時須擔任繪圖員的工作，則應歸類為電子技術員而非繪圖員）。

6. Average Monthly Income - Column 'B'
 每月平均收入 —— 「B」欄
 Please enter into this column the code for average monthly income range for each type of employees. The income should include basic wages, guaranteed year-end bonus, regular overtime pay, cost of living allowance, meal allowance etc., if any. If you have more than one employee doing the same job, please enter the average figure. (Please refer to the codes in the last column of the questionnaire.)
 請在「B」欄填入每類僱員的每月平均收入編號，這包括底薪固定發放的年終花紅、定期超時工作工資、生活津貼、膳食津貼等。若從事同類工作的僱員多於一名，則請取其平均數字。(請參閱調查表最後一欄的類別編號)
7. Number of Employees as at 1.4.2016 (Excl. Trainees) - Column 'C'
 在 2016 年 4 月 1 日的僱員人數 (受訓者除外) —— 「C」欄
 Please fill in the total number of employees (excluding trainees and apprentices) in your establishment.
 請將 貴機構目前所僱用的全部僱員人數 (受訓者及學徒除外) 填入此欄。
8. Forecast of Number of Employees as at April 2017 (Excl. Trainees) - Column 'D'
 預計在 2017 年 4 月的僱員人數 (受訓者除外) —— 「D」欄
 The forecast number of employed means the likely number of employees (excluding trainees and apprentices) you will be employing 12 months from now.
 預計僱員人數指 貴機構於十二個月後可能僱用的員工總數 (受訓者及學徒除外)。
9. Number of Vacancies as at 1.4.2016 (Excl. Trainees) - Column 'E'
 在 2016 年 4 月 1 日的空缺額 (受訓者除外) —— 「E」欄
 Please fill in the number of existing vacancies (excluding those for trainees and apprentices).
 請填入 貴機構現有的空缺額 (受訓者及學徒的空缺數目除外)。
 'Existing vacancies' refer to those unfilled, immediately available job openings for which the establishment is actively trying to recruit personnel as at survey reference date.
 「現有空缺額」是指該職位在統計日期懸空，須立刻填補，而正積極招聘人員填補。
10. No. of Trainees as at 1.4.2016 - Column 'F'
 在 2016 年 4 月 1 日的受訓者人數 —— 「F」欄
 Please fill in the total number of trainees. The term 'trainees' includes all trainees receiving any form of training and apprentices under a contract of apprenticeship.
 請將正在受訓者人數填入此欄。「受訓者」包括正在接受各種訓練的人士，以及簽有學徒合約的登記學徒。
11. Internal Promotion
 內部晉升
 An internal promotion is the promotion of an employee to a higher level job by virtue of his/her performance or abilities. Please fill in the no. of internal promotion from "Technician to Technologist", from "Craftsman to Technician" and from "Others to Craftsman" in the past 12 months (1.4.2015 to 31.3.2016) in the respective columns.
 內部晉升指一名僱員由於表現良好或具工作才能而獲晉升至較高級職位。請將過去十二個月 (1.4.2015 至 31.3.2016) 貴機構內部由技術員晉升至技師、由技工晉升至技術員，以及由其他職級晉升至技工的人數填入所屬欄內。

12. Hong Kong Technical Personnel Dispatched Outside Hong Kong
遣派香港以外的香港技術人員
Please enter the number of technologists, technicians and craftsmen paid by Hong Kong who had been dispatched to work for more than half year outside Hong Kong in the past 12 months (1.4.2015 to 31.3.2016).
請填寫過去十二個月內 (1.4.2015 至 31.3.2016)，由香港支薪而被遣派往外地，工作超過半年的技師、技術員及技工數目。
13. Education and Training an Employee Should Have
僱員宜有的教育及訓練
The purpose of this column is to solicit your view on the education and training which an employee in a particular job should have if he/she was to carry out his/her work competently. (Please refer to the codes in the same page of the questionnaire.)
此欄目的在調查 貴機構的意見：各類職位的僱員宜具備何種教育及訓練，才能勝任其工作。(請參閱調查表同一頁的類別編號)。
14. Recruitment
招聘
(a) Please enter the number of new recruits in the past 12 months (1.4.2015 to 31.3.2016);
請填寫過去十二個月內 (1.4.2015 至 31.3.2016)， 貴機構新招聘的僱員人數；
(b) and the number of recruits who have performed electronics services related duties in their last jobs from items (a).
及在上列 (a) 項中，入職前是從事電子業相關職務的人數。
15. Employees Left
僱員離職
Please enter the number of employees who had left your establishment in the past 12 months (1.4.2015 to 31.3.2016)
請填寫過去十二個月內 (1.4.2015 至 31.3.2016)， 貴機構離職的僱員人數。
16. Skills an Employee Need to Enhance
僱員需加強培訓的技能
Please indicate the three most important skills that your employees need to enhance. (Please refer to the codes in the same page of the questionnaire.)
此欄目的在調查 貴機構的意見：各類職位的僱員在那三方面技能最需要加強培訓。(請參閱調查表同一頁的類別編號)。
17. Example
例子
To facilitate proper completion, an example is given below for your reference.
為協助閣下填表，現將例子附錄於後，以供參考。

Example 例子

Part I 第一部份

(A) Job 工作		(B) Average Monthly Income 每月平均收入		(C) No. of Employees as at 1.4.2016 (excl. trainees) 在2016年4月1日的僱員人數(受訓者除外)	(D) Forecast of No. of Employees as at April 2017 (excl. trainees) 預計在2017年4月的僱員人數(受訓者除外)	(E) No. of Vacancies as at 1.4.2016 (excl. trainees) 在2016年4月1日的空缺額(受訓者除外)	(F) No. of Trainees as at 1.4.2016 在2016年4月1日的受訓者人數	Average Monthly Income 每月平均收入	
Title 職稱	Rec. Type	Job Code 職位編號	Code 編號					Enter in column B employee's average monthly income range according to the following codes. The income should include basic wages, guaranteed year-end bonus, regular overtime pay, cost of living allowance, meal allowance etc.	
For Official Use Only 此欄毋須填寫		8-10	11	12-15	16-19	20-22	23-25	請將僱員的每月平均收入幅度按照下列類別編號填入B欄內。「每月平均收入」包括底薪固定發放的年終花紅、定期超時工作工資、生活津貼、膳食津貼等。	
TECHNOLOGIST LEVEL 技師級									
1 Electronics Engineer 電子工程師	2	1 0 1	8	5	6	1	1	Average Monthly Income Range 每月平均收入幅度 Code 編號 1 Under \$8,001 以下 2 \$8,001 - \$10,000 3 \$10,001 - \$15,000 4 \$15,001 - \$20,000 5 \$20,001 - \$25,000 6 \$25,001 - \$30,000 7 \$30,001 - \$50,000 8 \$50,001 - \$70,000 9 Over \$70,000 以上 Remark 備註	
2 Electrical Engineer 電機工程師	2	1 0 2	7	2	2	0	1		
3 Mechanical Engineer 機械工程師	2	1 0 3	7	2	2	0	0		
4 Manufacturing/Quality Assurance Engineer 製造/品質保證工程師	2	1 0 4	7	1	1	0	0		
5 Chemical Engineer 化學工程師	2	1 0 5							
6 Product/Graphic Designer 產品/平面設計員	2	1 0 6							
7 System Analyst 系統分析員	2	1 0 7							
TECHNICIAN LEVEL 技術員級									
8 Electronics Technician 電子技術員	2	2 0 1	6	3	4	1	1		
9 Mechanical Technician 機械技術員	2	2 0 2	5	1	1	0	0		
10 Draughtsman 繪圖員	2	2 0 3	4	2	2	0	0		
11 Manufacturing/Quality Assurance Technician 製造/品質保證技術員	2	2 0 4							
12 Supervisor/Foreman/Leader 監督/管工/組長	2	2 0 5							
13 Programmer 程式編製員	2	2 0 6							
14 Web Developer/Designer 網站開發員/設計員	2	2 0 7							
15 Sales Technician 推銷技術員	2	2 0 8							
CRAFTSMAN LEVEL 技工級									
16 High Speed Data Network & Wireless Data System Integrator 高速資訊網絡及無線系統技工	2	3 0 1							
17 Electronics Craftsman 電子技工	2	3 0 2	3	3	4	1	1		
18 Electrician 電氣技工	2	3 0 3	3	1	1	0	0		
19 Mechanic 技工	2	3 0 4							
OPERATIVE LEVEL 操作工級									
20 Operator 生產線操作工	2	4 0 1	2	5 0	5 5	5	0		
21 Others 其他	2								
22	2								
23	2								
24	2								
25	2								

Note 1
附註一

If additional lines are necessary, please tick here and enter on supplementary sheet(s).
如此頁填滿，請先將(✓)號填入此內，然後在附頁繼續填寫。

Note 2
附註二

The term 'trainees' includes all trainees receiving any form of training and apprentices under a contract of apprenticeship.

附註二

「受訓者」包括正在接受各種訓練的人士，以及簽有學徒合約的登記學徒。

JOB DESCRIPTIONS OF PRINCIPAL JOBS IN
THE ELECTRONICS AND TELECOMMUNICATIONS INDUSTRIES

電子業及電訊業主要職務工作說明

Job Code 職位編號	Job Title 職稱	Job Description 工作說明
TECHNOLOGIST LEVEL		技師級
101	<p>Electronics Engineer [Electronics Sales / Support Engineer, Telecommunications Engineer]</p> <p>電子工程師 [電子推銷／支援工程 師，電訊工程師]</p>	<p>Carries out one or more of the following activities: research into electronic engineering / telecommunication engineering problems, design of, technical sales / support, and advice on electronic equipment and systems, components and products, and planning and supervision of their development, production, construction, installation, operation and maintenance. Usually specialises in one or more of the followings:</p> <p>(i) Computer systems; (ii) Consumer electronic products; (iii) Electronic instruments and equipment; (iv) Semiconductor and electronic components; (v) Telecommunication systems; (vi) Multimedia electronics, audio-visual and entertainment systems; (vii) Other electronic engineering fields.</p> <p>擔任下列一項或多項工作：研究電子工程／研究電 訊工程方面的問題；負責電子設備及系統、零件及 產品的設計、技術推銷／支援及顧問工作；策劃及 督導電子設備及系統、零件及產品的發展、生產、 構造、安裝、操作及保養工作。通常與下列專門範 疇有關：</p> <p>(i) 電腦系統； (ii) 電子消費產品； (iii) 電子儀器及設備； (iv) 半導體及電子零件； (v) 電訊系統； (vi) 多媒體電子、影音及娛樂系統； (vii) 電子工程其他方面的工作。</p>

Job Code 職位編號	Job Title 職稱	Job Description 工作說明
TECHNOLOGIST LEVEL (Continued) 技師級 (續)		
102	Electrical Engineer 電機工程師	Designs and advises on electrical equipment and systems, and plans, and supervises their development, construction, installation, operation, maintenance and repair. 設計電器及電機系統，並就該方面提供意見；策劃及監督電器及電機系統的發展、構造、安裝、操作、保養及維修。
103	Mechanical Engineer 機械工程師	Designs and advises on plant, mechanical parts, moulds and equipment, machinery and tools, and plans and supervises their development, construction, installation, operation, maintenance and repair. 設計廠房、機械配件、工模及設備、機器及工具，並就該方面提供意見；策劃與監督其中的發展、構造、安裝、操作、保養及維修。
104	Manufacturing / Quality Assurance Engineer [Industrial Engineer, Quality Control Engineer] 製造／品質保證工程師 [工業工程師，品質控制工程師]	Carries out one or more of the following activities: (i) Plans, directs and supervises all technical aspects of the manufacturing process to ensure the most efficient and economical means of operation and the maintenance of quality standards; (ii) Plans, directs and supervises the quality assurance / control at all phases of manufacturing, including testing and measurement, of incoming materials and parts, work-in-progress, and finished products to ensure compliance with standards, specifications, safety and environmental regulations. 擔任以下一項或多項工作： (i) 策劃、指導及監督製造程序的各種技術工作，確保採用最快捷經濟的生產方式，並且保持品質標準； (ii) 策劃、指導及監督各製造階段的品質保證／控制工作，包括測試及量度交來物料與配件、半製成品及製成品，確保產品符合標準、規格、安全與環保條例。

Job Code 職位編號	Job Title 職稱	Job Description 工作說明
TECHNOLOGIST LEVEL (Continued) 技師級 (續)		
105	Chemical Engineer 化學工程師	<p>Designs and advises on manufacturing processes in which chemical changes occur, and plans and supervises their development, construction, installation, operation and maintenance to ensure compliance with standards, specifications, and safety and environmental regulations.</p> <p>設計能產生化學變化的製造程序，並就該方面提供意見；策劃及監督其發展、構造、安裝、操作及保養，確保符合標準、規格、安全與環保條例。</p>
106	Product / Graphic Designer 產品／平面設計員	<p>Originates and develops ideas to design, create, modify and arrange the form of manufactured products, layouts and containers for the products based on factors such as design-function relationship, knowledge of design, art concepts, market and pricing characteristics, client specifications, method and cost of production to achieve aesthetically pleasing and functional effect for the products.</p> <p>能根據設計與功能的關係、設計知識、美術概念、市場與價格特性、顧客規格、生產方法及成本等因素進行創作，並加以發揮，以便設計、創作、修改及安排製成品的形狀、結構及包裝，務求產品既美觀又實用。</p>
107	System Analyst [Software Engineer] 系統分析員 [軟件工程師]	<p>Carries out one or more of the following activities:</p> <p>(i) Works closely with user personnel to identify problems, review methods and specify and evaluate information technology (IT) solutions;</p> <p>(ii) In accordance with product specifications, designs system firmware / software using high level and/or assembler languages for electronics, microprocessors, microcomputers and embedded systems.</p> <p>擔任以下一項或多項工作：</p> <p>(i) 與用戶部門緊密合作，確定問題、檢討方法、說明和評估資訊科技的解決辦法；</p> <p>(ii) 依據產品規格，使用高階語言及／或匯編語言，為電子、微處理器、微型電腦及嵌入式系統設計軟件及／或系統軟件。</p>

Job Code 職位編號	Job Title 職稱	Job Description 工作說明
TECHNICIAN LEVEL 技術員級		
201	<p>Electronics Technician [Electronics / Maintenance / Service Technician, Telecommunications Technician, Computer / Network Technician, Audio-Visual Technician, Electronic Support Technician]</p> <p>電子技術員 [電子／保養／維修技術 員，電訊技術員，電腦／ 網絡技術員，影音技術 員，電子支援技術員]</p>	<p>Performs technical tasks, normally under the direction and supervision of an electronics / telecommunications engineer, contributory to design, development, manufacture, technical support, construction, installation, operation, maintenance and repair of:</p> <p>(i) Electronic and electrical products, equipment and systems, such as consumer electronics, home appliances, healthcare electronics, toys, and watch / clock;</p> <p>(ii) Telecommunication systems and equipment, such as telephone, digital broadcasting, high-definition electronic media, wireless / microwave / satellite communication, mobile communication and data communication systems;</p> <p>(iii) Computer and multimedia networks, systems and peripherals;</p> <p>(iv) Audio-visual, entertainment and associated equipment and systems.</p> <p>通常在電子／電訊工程師的督導下擔任技術工作，如參與設計、發展、製造、技術支援、構造、安裝、操作、保養、修理：</p> <p>(i) 電子及電機產品、器材及系統，例如消費電子產品、家居電器、保健電子產品、玩具及鐘錶；</p> <p>(ii) 電訊系統及器材，例如電話、數碼廣播、高清電子媒體、無線電／微波／衛星通訊、流動通訊及數據通訊系統；</p> <p>(iii) 電腦及多媒體網絡、系統及周邊設備；</p> <p>(iv) 影音、娛樂及附屬設備與系統。</p>
202	<p>Mechanical Technician</p> <p>機械技術員</p>	<p>Performs technical tasks, normally under the direction and supervision of a mechanical engineer, contributory to design, development, construction, installation, operation, maintenance and repair of plant, mechanical parts and equipment, machinery and tools.</p> <p>通常在機械工程師的督導下擔任技術工作，如參與設計、發展、構造、安裝、操作、保養、修理廠房、機械配件及設備、機器及工具。</p>

Job Code 職位編號	Job Title 職稱	Job Description 工作說明
TECHNICIAN LEVEL (Continued) 技術員級 (續)		
203	Draughtsman 繪圖員	Prepares detail and assembly drawings and circuit diagrams according to design specifications. 按照設計規格繪製明細圖、裝配圖及線路圖。
204	Manufacturing / Quality Assurance Technician [Quality Control Technician] 製造／品質保證技術員 [品質控制技術員]	Performs technical tasks, normally under the direction and supervision of a manufacturing / industrial or a quality assurance / control engineer, contributory to: (i) The efficient and economical operation of the manufacturing process and the maintenance of quality standards; (ii) Quality assurance / control at all phases of manufacturing including testing and measurement of in-coming materials and parts, work-in-progress, and finished products to ensure compliance with standards and specifications, and safety and environmental regulations. 通常在製造／工業或品質保證／控制工程師的監督下擔任： (i) 製造程序中的技術工作，協助以最快捷經濟的方式運作，並且維持產品質素； (ii) 技術工作，協助各製造階段的品質保證／控制事項，包括測試及量度來料與配件、半製成品及製成品，確保產品符合標準、規格、安全與環保條例。
205	Supervisor / Foreman / Leader [Junior Supervisor] 監督／管工／組長 [初級監督]	Performs supervisory duties contributory to the planning and allocation of tasks to workers and trainees, and to the production, inspection, installation, operation, maintenance and repair of components, products, equipment and systems; <u>OR</u> Organises and takes charge of a group or groups of operatives in a section, normally under the direction of a supervisor / foreman. 擔任監督工作，如參與策劃、向工人及受訓者分配工作，以及參與生產、檢查、安裝、操作、保養、修理零件、產品、器材與系統； <u>或</u> 通常在監督／管工指導下，安排及主管部門內一組或多組操作工的工作。

Job Code 職位編號	Job Title 職稱	Job Description 工作說明
TECHNICIAN LEVEL (Continued) 技術員級 (續)		
206	Programmer [Software Technician] 程式編製員 [軟件技術員]	Develops computer programmes and systems to implement embedded systems / software design, normally under the direction and supervision of a software engineer / system analyst. 通常在軟件工程師／系統分析員的督導下研究嵌入式系統／電腦程式，以便推行電腦系統及軟件設計。
207	Web Developer / Designer 網站開發員／設計員	Uses tool set to design and create web pages / sites, 2D / 3D graphics and animation and/or other multimedia contents for integration to IT applications according to business requirement, strategy and direction in the mixed technical and creative works. 按照業務要求、策略及方向，結合科技與創作，使用工具套設計及製作網頁／網站、二維／三維圖像動畫或其他多媒體內容，以便配合電腦應用軟件使用。
208	Sales Technician [Electronic Sales Technician, Electronic Merchandising Technician] 推銷技術員 [電子推銷技術員／電子採購技術員]	Updates / studies / analyses electronic, technical and functional knowledge as well as contemporary trend and development of products, systems, equipment and components from the demands of electronics market, proposes and demonstrates suggestions / follows up orders according to the needs of clients and customers, and liaises with departments and suppliers to provide suitable alternatives in view of the market. Usually involves in one or more of the followings: (i) Consumer electronics, home appliance and healthcare electronics; (ii) Telecommunication systems and equipment; (iii) Computer and multimedia networks, systems and peripherals; (iv) Audio-visual, entertainment and associated equipment and systems. 更新／學習／分析電子、技術及功能知識，以及市面上的潮流時興新穎的產品、系統、設備及零件；因應顧客需要而提供意見、示範產品及跟進訂單；與其他部門及供應商聯繫以提供適當意見。通常會與下列範疇有關： (i) 消費電子產品、家居電器及保健電子產品； (ii) 電訊系統及器材； (iii) 電腦及多媒體網絡、系統及周邊設備； (iv) 影音、娛樂及附屬設備與系統。

Job Code 職位編號	Job Title 職稱	Job Description 工作說明
CRAFTSMAN LEVEL 技工級		
301	High Speed Data Network & Wireless Data System Integrator 高速資訊網絡及無線系統技工	Lays, joints, connects, terminates and maintains underground, submarine, surface and aerial telecommunication cables and wires. 敷設、接駁、端接及保養地底、海底、地面及架空電訊電纜。
302	Electronics Craftsman [Audio Visual, Electronic Servicing, Electronic System Installation, Telecommunications and Surveillance Technical Assistant] 電子技工 [影音、電子維修、電子系統安裝、電訊及監控技術助理]	Carries out one or more of the following activities: (i) Installs, services and maintains consumer electronics, audio-visual products, multimedia and entertainment electronic equipment and systems, In-building Coaxial Cable Distribution System, telecommunications and surveillance systems; (ii) Diagnoses, locates and repairs faults in the maintenance of electronic devices and products, systematically records these faults and recommends changes to minimize such occurrence; (iii) Installs, inspects, tests, repairs, calibrates and maintains electronic, electrical and mechanical instruments, meters, equipment and systems. 擔任以下一項或多項工作： (i) 安裝、保養及及維修消費電子產品、影音產品、多媒體和娛樂電子設備與系統、大廈內同軸電纜分配系統、電訊及監控系統； (ii) 在維修電子裝置及產品的過程中，查出及修理所出現的毛病，有系統地記錄下來，並且建議如何盡量減少毛病出現； (iii) 安裝、查驗、測試、修理、校準及保養電子、電機及機械儀器、儀錶、設備及系統。
303	Electrician 電氣技工	Installs, maintains, tests and repairs electrical wiring, devices and equipment, and building services in buildings and other structures in accordance with regulations and specifications. 按照條例及規格安裝、保養、測試及修理屋宇電線、電器及其他設備。

List of Supplementary Samples for the Electronics and Telecommunications Industries

Branch	Company Name
4	The Hong Kong Jockey Club
4	MTR Corporation Limited
4	Hong Kong Aircraft Engineering Company Limited
4	CLP Power Hong Kong Limited
4	The Hong Kong & China Gas Co Limited
4	The Hongkong Electric Co., Limited
4	Intertek Testing Services Hong Kong Limited
4	SGS Hong Kong Limited
4	Peoplebank Hong Kong Limited
4	Shun Hing Electric Service Centre Limited
4	Ngong Ping 360 Limited
4	Shun Hing Engineering Contracting Company Limited
4	The Hong Kong Standards and Testing Centre Limited
4	Honeywell Limited
4	Global Technology Integrator Limited
4	Rohm Semiconductor Hong Kong Company Limited
4	Evergrand Technologies Limited
4	Telecom Service One Limited
4	Toshiba Hong Kong Limited
4	Hong Kong Science and Technology Parks Corporation - Product Analysis Laboratory
4	Modern Medical Equipment Manufacturing Limited
4	Mad Mobile Application Development Limited
4	HP Enterprise Services (Hong Kong) Limited
4	Allan International Holdings Limited
4	Telefield Medical Devices Limited
7	Vocational Training Council
7	Hong Kong Applied Science and Technology Research Institute Company Limited
7	Solomon Systech Limited
7	Nano and Advanced Materials Institute Limited
7	Hong Kong R&D Centre for Logistics and Supply Chain Management Enabling Technologies Limited
7	Novalux Hong Kong Electronics Limited
7	The Hong Kong Research Institute of Textiles and Apparel Limited
7	Kodec Development Limited
7	Micom Tech Limited

Branch	Company Name
7	Jess Technology Company Limited
7	Integration-Linkage Technology Limited
7	Ocean Unicorn Technology Limited
7	Semic Technology Limited
7	New Spirit Technology Limited
7	Automotive Parts and Accessory Systems R&D Centre Limited
7	The Electronics Engineering Dept., The Chinese University of Hong Kong
7	The Electrical and Electronics Engineering Department, The University of Hong Kong
7	The Electrical & Electronics Eng. Dept., HK University of Science and Technology
7	The Electronics & Information Engineering Department, The Hong Kong Poly University
7	The Electronics Engineering Department, City University of Hong Kong
7	The Technical & Planning Division of The Civil Aviation Department
7	The Electrical & Mechanical Services Department (Electronics Div)
7	The Communications Authority (Past: The Office Of The Telecommunications Authority)
7	The Hong Kong Productivity Council (Electronics Services Division)
7	The Innovation and Technology Commission
7	The Chief Staff Officer Communications Branch
7	The Hong Kong Observatory
7	The Department of Computer Science, Hong Kong Baptist University
8	Fortress
8	Broadway Photo Supply Limited
8	Hongkong Suning Commerce Co., Limited
8	Chung Yuen Electrical Company, Limited
8	Wilson Communications
8	Wellent System Consultants Limited
8	Cheung Mao Kee Electrical Co Limited
8	Centralfield Computer Limited
8	Videocom
8	Foresoon Computer Engineering Company Limited