2004 MANPOWER STATISTICAL REPORT

OF THE

ELECTRONICS INDUSTRY

ELECTRONICS AND TELECOMMUNICATIONS TRAINING BOARD

VOCATIONAL TRAINING COUNCIL

Contents

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579

(i)		(HSIC 3822)
(ii)		(HSIC 3831)
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(v)		(HSIC 3834)
(vi)		(HSIC 3840)
(vii)		(HSIC 3852)
(viii)		(HSIC 3868)
(ix)		(HSIC 3873)

(d)   (HSIC 611824)

(e)   (HSIC 611825)

34

(a)

(b)

(c)

(1)   HSIC —

(2)   +   10

_____

1.4   4 210
636

1.5   636

1.6

_____

1.7   636   448   18   170
96.1%

_____

1.8

1.9

2.1   111 143   46 594

2.2

1	1 086	2 268	496	5 835	9 685
2	10 551	12 329	3 211	438	26 529
3	2 101	3 958	720	131	6 910
4	506	929	84	68	1 587
5	524	1 072	276	11	1 883
	14 768	**20 556**	**4 787**	**6 483**	**46 594**
	31.70%	**44.12%**	**10.27%**	**13.91%**	**100%**

2.3   415   1 040
0.89%   2.23%

	14 768	31	0.21%	347	2.35%
	20 556	153	0.74%	465	2.26%
	4 787	231	4.83%	90	1.88%
	6 483	0	0%	138	2.13%
46 594	**415**	**0.89%**	**1 040**	**2.23%**

2.4   48 238

3.53% (1 644   )

	14 768	15 315	3.70%
	20 556	21 304	3.64%
	4 787	4 977	3.97%
	6 483	6 642	2.45%
	46 594	48 238	3.53%

2.5

1   6   7

I. INTRODUCTION

The Training Board

1.1   The Electronics and Telecommunications Training Board of the Vocational Training Council appointed by the Government of the Hong Kong Special Administrative Region is required by its terms of reference to determine the manpower and training needs of the electronics industry and to make recommendations to the Council for the development of training facilities to meet such needs. The Training Board comprises members nominated by major trade associations, professional bodies, training and educational institutions and government departments.

Purpose of the Survey

1.2   The survey was conducted by the Training Board during the period from 28th May to 30th June 2004. The aim of the survey is to collect up-to-date manpower information in the principal jobs of the electronics industry.

Scope of the Survey

1.3   The survey covered firms, relevant educational institutions and government departments in the following five sectors:

<u>Sector 1: Manufacturing (579 Establishments)</u>

Manufacturers of

   (i)   computing machinery and equipment (HSIC 3822),

   (ii)   transistorized radios (HSIC 3831),

   (iii)   television receivers and communications equipment (HSIC 3832),

   (iv)   sound reproducing and recording equipment and apparatus (HSIC 3833),

   (v)   gramophone, records and magnetic tapes (HSIC 3834),

   (vi)   electronic parts and components (HSIC 3840),

   (vii)   electronic toys (HSIC 3852),

   (viii) electronic industrial apparatus (HSIC 3868), and

   (ix)   electronic products, not elsewhere classified (HSIC 3873).

Sector 2: Trading and Services (2 183 Establishments)

Establishments of

(a)   Burglar alarm/intercommunication system installation (HSIC 5516),

(b)   Imports and exports of:

(i)   scientific and professional instruments and apparatus (HSIC 631805),+

(ii)   telephone system (HSIC 631821),+

(iii)   telecommunications services (HSIC 631822),+

(iv)   electrical goods (HSIC 631823),+

(v)   computer, computer peripherals and software packages (HSIC 631824),+

(vi)   office machines, appliances and equipment (HSIC 631825), +

(c)   Data processing and tabulating services (HSIC 8333), + and

(d)   Other electronics engineering services not included in (a) to (c).

Sector 3: Telecommunication Services (145 Establishments)

Establishments of

(a)   Wireline based fixed telecommunications network services (HSIC 732101),

(b)   Fixed telecommunications network services, nowhere else classified (HSIC 732199),

(c)   Radio paging services (HSIC 7322),

(d)   Mobile Communications Services (HSIC 732901),

(e)   Internet access services (HSIC 732902),

(f)   Satellite communications services (HSIC 732903), and

(g)   Radio and television stations and studios (HSIC 9411)

<u>Sector 4: Wholesale (1 269 Establishments)</u>

Establishments of wholesale of

   (a)   Telephone system (HSIC 611821),

   (b)   Telecommunications equipment (excluding telephone system) (HSIC 611822),

   (c)   Electrical goods (excluding machinery, office and telecommunications equipment and appliances) (HSIC 611823),

   (d)   Computer, computer peripherals and software packages (HSIC 611824),

   (e)   Office machines, appliances and equipment (excluding computer, furniture and fixtures) (HSIC 611825).

Sector 5: Design houses and Relevant Departments in
          <u>Universities and the Government (34 Establishments)</u>

   (a)   Electronics design houses,

   (b)   Relevant educational institutions, and

   (c)   Relevant government departments.

Notes:

   (1)   HSIC - Hong Kong Standard Industrial Classification.

   (2)   + The number excludes those establishments with an employment size below 10 as they are unlikely to have a significant number of technical staff.

Method of the Survey

1.4   In view of the limited resources, a stratified random sampling method was adopted to select 636 samples out of 4 210 establishments in the specified frame.

1.5   During the survey period, interviewing officers of the Census & Statistics Department visited all 636 establishments to collect the completed questionnaires and, where required, assisted employers in completing them.

1.6   All returned questionnaires were scrutinized, where necessary, checked with the respondents. Data collected were then processed and statistically scaled up by the Census & Statistics Department to give an overall picture of the manpower situation of the electronics industry.

Responses

1.7   Of the 636 establishments selected for the survey, 448 had completed the questionnaires and 18 refused to supply any information. The remaining 170 establishments had either moved, closed or not engaged in the trade. The effective response rate was 96.1%.

Statistical Data

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

1.9   Thus, this report aims at presenting the vital manpower data collected from the fieldwork. These statistics should be read with due care as they are initial data without in-depth analysis. The Training Board will further analyse the data together with other findings of the survey in another report to be published at a later stage.

II. SUMMARY OF SURVEY FINDINGS

Number of Persons/Workers Engaged/Employed

2.1   The survey revealed that in June 2004, a total of 111 143 persons were employed in the Hong Kong electronics industry. Of the 111 143 employees, 46 594 were employed in the principal jobs of electronics engineering and related disciplines in the electronics industry.

2.2   The distribution of workers employed in the principal jobs of electronics engineering and related disciplines by sector according to job level is as follow:

Sector	Technologist	Technician	Craftsman	Operative	Total
1 Manufacturing	1 086	2 268	496	5 835	9 685
2 Trading and Services	10 551	12 329	3 211	438	26 529
3 Telecommunications Services	2 101	3 958	720	131	6 910
4 Wholesale	506	929	84	68	1 587
5 Design Houses and Relevant Departments in Universities and Government	524	1 072	276	11	1 883
Total	**14 768**	**20 556**	**4 787**	**6 483**	**46 594**
Percentage of Total Manpower	**31.70%**	**44.12%**	**10.27%**	**13.91%**	**100%**

Trainees and Vacancies

2.3   At the time of the survey, employers reported a total of 415 trainees and 1 040 vacancies, representing 0.89% and 2.23% respectively of the workforce. Their distribution is as shown below:

Job Level	Number of Workers	Number of Trainees	Percentage of Workers Employed at the Same Job Level	Number of Vacancies	Percentage of Workers Employed at the Same Job Level
Technologist	14 768	31	0.21%	347	2.35%
Technician	20 556	153	0.74%	465	2.26%
Craftsman	4 787	231	4.83%	90	1.88%
Operative	6 483	0	0%	138	2.13%
Total	**46 594**	**415**	**0.89%**	**1 040**	**2.23%**

Employers' Forecast Manpower Demand by June 2005

2.4   Employers forecasted that the industry would require 48 238 workers by June 2005, an increase of 3.53% (1 644) over the number of existing manpower, as shown below:

Skill Level	No. of Workers Employed at Time of Survey	Employers' Forecast of Total No. of Workers by June 2005	Percentage of Change of Manpower
Technologist	14 768	15 315	3.70%
Technician	20 556	21 304	3.64%
Craftsman	4 787	4 977	3.97%
Operative	6 483	6 642	2.45%
Total	46 594	48 238	3.53%

Statistical Tables

2.5   Detailed manpower statistics analyzed by principal jobs and by sector in electronics engineering and related disciplines including number of vacancies are tabulated at Appendixes 1 to 6. The distribution of monthly income ranges of employees by principal jobs is shown at Appendix 7.

MANPOWER STATISTICS OF THE ELECTRONICS INDUSTRY

Sector 1: Manufacturing (   )

Job Title	Number of Workers Employed	Number of Trainees	Number of Vacancies at Date of Survey	Forecast of Total Workers by June 2005
TECHNOLOGIST LEVEL				
Electronics Engineer	424	-	18	442
Electrical Engineer	73	-	2	75
Mechanical Engineer	136	-	6	142
Manufacturing/Quality Assurance Engineer	365	-	19	384
Chemical Engineer	9	-	1	10
Product/Graphic Designer	35	-	4	39
System Analyst	44	-	2	46
Sub-total	1 086	-	52	1 138
TECHNICIAN LEVEL				
Electronics Technician	824	-	12	836
Mechanical Technician	489	-	-	489
Draughtsman	32	-	5	37
Manufacturing/Quality Assurance Technician	438	-	4	442
Supervisor/Foreman/Leader	426	-	3	412
Programmer	58	-	3	61
Web Developer/Designer	1	-	-	1
Sub-total	2 268	-	27	2 278
CRAFTSMAN LEVEL				
Cable Jointer/Wireman	-	-	-	-
Electronics Craftsman	301	-	15	316
Electrician	41	-	-	41
Mechanic	154	-	1	155
Sub-total	496	-	16	512
OPERATIVE LEVEL				
Operator	5 835	-	94	5 949
Sub-total	5 835	-	94	5 949
GRAND TOTAL	**9 685**	**-**	**189**	**9 877**

MANPOWER STATISTICS OF THE ELECTRONICS INDUSTRY

Sector 2: Trading and Services (   )

Job Title	Number of Workers Employed	Number of Trainees	Number of Vacancies at Date of Survey	Forecast of Total Workers by June 2005
TECHNOLOGIST LEVEL				
Electronics Engineer	4 347	2	153	4 545
Electrical Engineer	306	-	-	306
Mechanical Engineer	576	-	25	601
Manufacturing/Quality Assurance Engineer	789	-	11	810
Chemical Engineer	89	-	-	89
Product/Graphic Designer	587	-	21	608
System Analyst	3 857	-	54	4 054
Sub-total	10 551	2	264	11 013
TECHNICIAN LEVEL				
Electronics Technician	6 676	108	128	6 921
Mechanical Technician	407	-	24	431
Draughtsman	40	-	-	40
Manufacturing/Quality Assurance Technician	504	-	2	516
Supervisor/Foreman/Leader	503	-	-	503
Programmer	3 663	-	169	3 976
Web Developer/Designer	536	-	28	554
Sub-total	12 329	108	351	12 941
CRAFTSMAN LEVEL				
Cable Jointer/Wireman	71	-	-	71
Electronics Craftsman	2 665	150	13	2 780
Electrician	165	-	-	165
Mechanic	310	-	-	310
Sub-total	3 211	150	13	3 326
OPERATIVE LEVEL				
Operator	438	-	44	483
Sub-total	438	-	44	483
GRAND TOTAL	**26 529**	**260**	**672**	**27 763**

MANPOWER STATISTICS OF THE ELECTRONICS INDUSTRY

Sector 3: Telecommunications Services (   )

Job Title	Number of Workers Employed	Number of Trainees	Number of Vacancies at Date of Survey	Forecast of Total Workers by June 2005
TECHNOLOGIST LEVEL				
Electronics Engineer	1 419	-	8	1 424
Electrical Engineer	32	-	-	32
Mechanical Engineer	15	-	-	15
Manufacturing/Quality Assurance Engineer	3	-	-	3
Chemical Engineer	-	-	-	-
Product/Graphic Designer	22	-	4	26
System Analyst	610	-	2	612
Sub-total	2 101	-	14	2 112
TECHNICIAN LEVEL				
Electronics Technician	3 567	-	6	3 564
Mechanical Technician	18	-	-	18
Draughtsman	11	-	-	11
Manufacturing/Quality Assurance Technician	25	-	-	25
Supervisor/Foreman/Leader	122	-	2	124
Programmer	179	-	5	184
Web Developer/Designer	36	-	1	37
Sub-total	3 958	-	14	3 963
CRAFTSMAN LEVEL				
Cable Jointer/Wireman	10	-	2	12
Electronics Craftsman	670	-	54	724
Electrician	38	-	3	41
Mechanic	2	-	-	2
Sub-total	720	-	59	779
OPERATIVE LEVEL				
Operator	131	-	-	131
Sub-total	131	-	-	131
GRAND TOTAL	**6 910**	**-**	**87**	**6 985**

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MANPOWER STATISTICS OF THE ELECTRONICS INDUSTRY

Sector 4: Wholesale (   )

Job Title	Number of Workers Employed	Number of Trainees	Number of Vacancies at Date of Survey	Forecast of Total Workers by June 2005
TECHNOLOGIST LEVEL				
Electronics Engineer	294	-	13	307
Electrical Engineer	12	-	-	12
Mechanical Engineer	34	-	-	34
Manufacturing/Quality Assurance Engineer	4	-	-	4
Chemical Engineer	-	-	-	-
Product/Graphic Designer	4	-	-	4
System Analyst	158	-	1	159
Sub-total	506	-	14	520
TECHNICIAN LEVEL				
Electronics Technician	650	12	60	720
Mechanical Technician	-	-	-	34
Draughtsman	2	-	-	2
Manufacturing/Quality Assurance Technician	34	-	-	34
Supervisor/Foreman/Leader	14	-	2	16
Programmer	157	-	1	158
Web Developer/Designer	72	-	-	72
Sub-total	929	12	63	1 036
CRAFTSMAN LEVEL				
Cable Jointer/Wireman	-	-	-	-
Electronics Craftsman	72	-	2	74
Electrician	12	-	-	12
Mechanic	-	-	-	-
Sub-total	84	-	2	86
OPERATIVE LEVEL				
Operator	68	-	-	68
Sub-total	68	-	-	68
GRAND TOTAL	**1 587**	**12**	**79**	**1 710**

MANPOWER STATISTICS OF THE ELECTRONICS INDUSTRY

Sector 5: Design Houses, and Relevant Departments in Universities and the Government (   )

Job Title	Number of Workers Employed	Number of Trainees	Number of Vacancies at Date of Survey	Forecast of Total Workers by June 2005
TECHNOLOGIST LEVEL				
Electronics Engineer	435	29	3	443
Electrical Engineer	32	-	-	32
Mechanical Engineer	10	-	-	10
Manufacturing/Quality Assurance Engineer	1	-	-	1
Chemical Engineer	2	-	-	2
Product/Graphic Designer	3	-	-	3
System Analyst	41	-	-	41
Sub-total	524	29	3	532
TECHNICIAN LEVEL				
Electronics Technician	870	32	7	877
Mechanical Technician	21	-	-	21
Draughtsman	4	-	-	4
Manufacturing/Quality Assurance Technician	14	-	1	15
Supervisor/Foreman/Leader	114	-	-	114
Programmer	48	-	2	54
Web Developer/Designer	1	1	-	1
Sub-total	1 072	33	10	1 086
CRAFTSMAN LEVEL				
Cable Jointer/Wireman	-	-	-	-
Electronics Craftsman	248	81	-	246
Electrician	-	-	-	-
Mechanic	28	-	-	28
Sub-total	276	81	-	274
OPERATIVE LEVEL				
Operator	11	-	-	11
Sub-total	11	-	-	11
GRAND TOTAL	**1 883**	**143**	**13**	**1 903**

MANPOWER STATISTICS OF THE ELECTRONICS INDUSTRY (ALL SECTORS)

Job Title	Number of Workers Employed	Number of Trainees	Number of Vacancies at Date of Survey	Forecast of Total Workers by June 2005
TECHNOLOGIST LEVEL				
Electronics Engineer	6 919	31	195	7 161
Electrical Engineer	455	-	2	457
Mechanical Engineer	771	-	31	802
Manufacturing/Quality Assurance Engineer	1 162	-	30	1 202
Chemical Engineer	100	-	1	101
Product/Graphic Designer	651	-	29	680
System Analyst	4 710	-	59	4 912
Sub-total	14 768	31	347	15 315
TECHNICIAN LEVEL				
Electronics Technician	12 587	152	213	12 918
Mechanical Technician	935	-	24	993
Draughtsman	89	-	5	94
Manufacturing/Quality Assurance Technician	1 015	-	7	1 032
Supervisor/Foreman/Leader	1 179	-	7	1 169
Programmer	4 105	-	180	4 433
Web Developer/Designer	646	1	29	665
Sub-total	20 556	153	465	21 304
CRAFTSMAN LEVEL				
Cable Jointer/Wireman	81	-	2	83
Electronics Craftsman	3 956	231	84	4 140
Electrician	256	-	3	259
Mechanic	494	-	1	495
Sub-total	4 787	231	90	4 977
OPERATIVE LEVEL				
Operator	6 483	-	138	6 642
Sub-total	6 483	-	138	6 642
GRAND TOTAL	**46 594**	**415**	**1 040**	**48 238**

DISTRIBUTION OF EMPLOYEES BY MONTHLY INCOME RANGE (ALL SECTORS)

Job Title	Unspecified	Below $6,001	$6,001 - $8,000	$8,001 - $10,000	$10,001 - $15,000	$15,001 - $20,000	$20,001 - $25,000	$25,001 - $30,000	Over $30,000
TECHNOLOGIST LEVEL									
Electronics Engineer	1 429	-	-	34	387	1 104	1 314	698	1 953
Electrical Engineer	58	-	-	-	56	74	131	21	115
Mechanical Engineer	129	-	-	-	68	226	164	98	86
Manufacturing/Quality Assurance Engineer	115	-	-	-	125	239	303	199	181
Chemical Engineer	-	-	-	-	7	83	2	-	8
Product/Graphic Designer	79	-	-	-	95	221	61	54	141
System Analyst	1 396	-	-	2	479	473	663	763	934
Sub-total	3 206	-	-	36	1 217	2 420	2 638	1 833	3 418
TECHNICIAN LEVEL									
Electronics Technician	2 952	30	281	1 445	3 632	2 198	594	1 157	298
Mechanical Technician	11	-	5	411	172	161	143	24	8
Draughtsman	9	-	13	39	21	-	7	-	-
Manufacturing/Quality Assurance Technician	54	-	4	301	348	275	33	-	-
Supervisor/Foreman/Leader	78	-	-	163	330	428	49	131	-
Programmer	908	-	-	256	949	1 072	668	252	-
Web Developer/Designer	46	-	-	34	440	80	38	-	8
Sub-total	4 058	30	303	2 649	5 892	4 214	1 532	1 564	314
CRAFTSMAN LEVEL									
Cable Jointer/Wireman	-	-	10	71	-	-	-	-	-
Electronics Craftsman	57	11	780	1 467	1 540	101	-	-	-
Electrician	-	-	6	59	173	18	-	-	-
Mechanic	8	-	30	105	351	-	-	-	-
Sub-total	65	11	826	1 702	2 064	119	-	-	-
OPERATIVE LEVEL									
Operator	125	1 746	3 513	1 074	25	-	-	-	-
Sub-total	125	1 746	3 513	1 074	25	-	-	-	-
GRAND TOTAL	**7 454**	**1 787**	**4 642**	**5 461**	**9 198**	**6 753**	**4 170**	**3 397**	**3 732**