Manufacturing Technology Training Board
製造科技業訓練委員會

Manufacturing Technology Industry Manpower Survey Report
製造科技業 • 人力調查報告書

2022

The 2022 Manpower Survey Report

The Manufacturing Technology Industry

The Manufacturing Technology Training Board

Vocational Training Council

Contents

Acknowledgement

The Manufacturing Technology Training Board would like to express its gratitude to all respondents of the sampled establishments for providing information required by the survey.

1 Executive Summary

Background

1.1 The Manufacturing Technology Training Board (Training Board) of the Vocational Training Council (VTC) conducted a manpower survey for the Manufacturing Technology Industry from July to September 2022, with the data reference date on 1 July 2022. This report presents the survey findings of the latest manpower situation of the industry and proposes recommendations on the manpower demand and training needs to different stakeholders of the industry, including employers, employees, and training providers by making reference to the business outlook.

Survey Coverage & Methodology

1.2 The survey covered around 11 170 establishments in different branches of the industry. By adopting the stratified random sampling method for selecting establishments from the central registrar of the Census and Statistics Department, and the inclusion of supplementary samples recommended by the Training Board, a total of 1 345 establishments were selected for the survey.

1.3 A pack of survey documents was given to each sampled establishment. The selected establishments were asked to complete a questionnaire, which comprised two parts. Part I collected quantitative manpower information by job levels and by principal jobs, and Part II collected supplementary information related to the industry's manpower situation. The respondents were asked to provide manpower information of their establishments based on a list of principal jobs, which were defined by the Training Board with detailed job descriptions.

1.4 During the fieldwork period between July and September 2022, enumerators assisted the respondents to complete the questionnaire through phone calls or on-site visits. The data collection and enumeration processes were closely monitored and data was verified to ensure quality and accuracy. Among the 820 valid sampled establishments, 729 were successfully enumerated which contributed to an effective response rate of 88.9%[Note].

Manpower Projection Methodology

1.5 By taking into account the historical survey data, Adaptive Filtering Method (AFM) was applied for compiling the manpower projection and the additional annual manpower requirement of the Manufacturing Technology industry for 2023 – 2026. The details of the methodology is shown in **Appendix 8.**

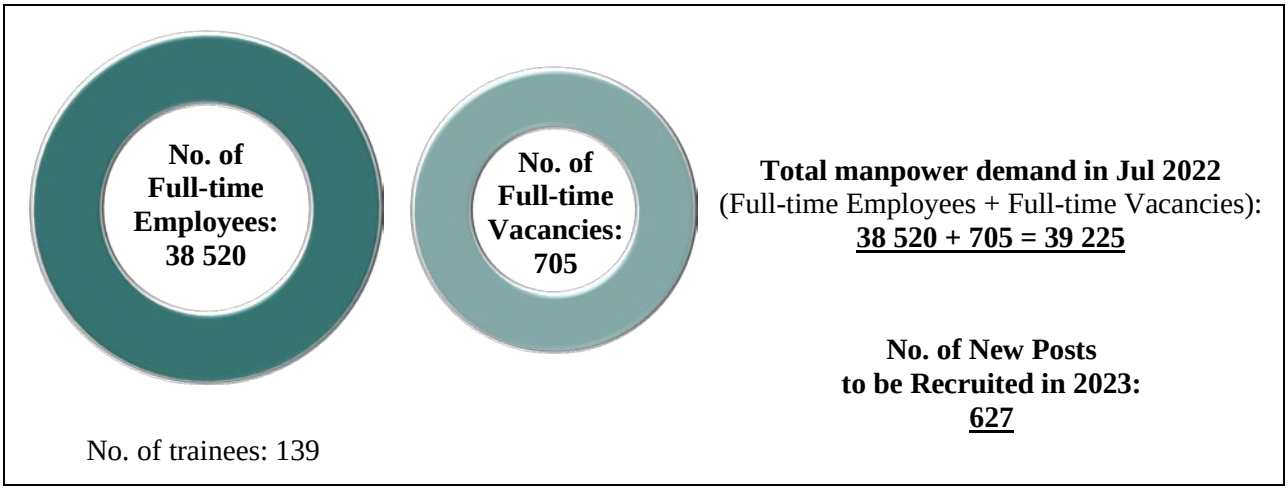
[Note] Sampled establishments which had ceased operation, not employed any staff for manufacturing technology, nil reply to the survey, etc. were classified as invalid samples.

Findings

Overview of Manpower Situation

1.6 The survey revealed that as at 1 July 2022 (i.e. the reference date of the survey), a total of 38 520 full-time employees were engaged in the manufacturing technology industry, and 139 trainees were reported. Aggregating the 38 520 full-time employees and 705 vacancies, there were a total of 39 225 posts. Besides, the employers being surveyed expected that 627 new posts will be recruited in 2023.

Chart 1a Overview of manpower situation

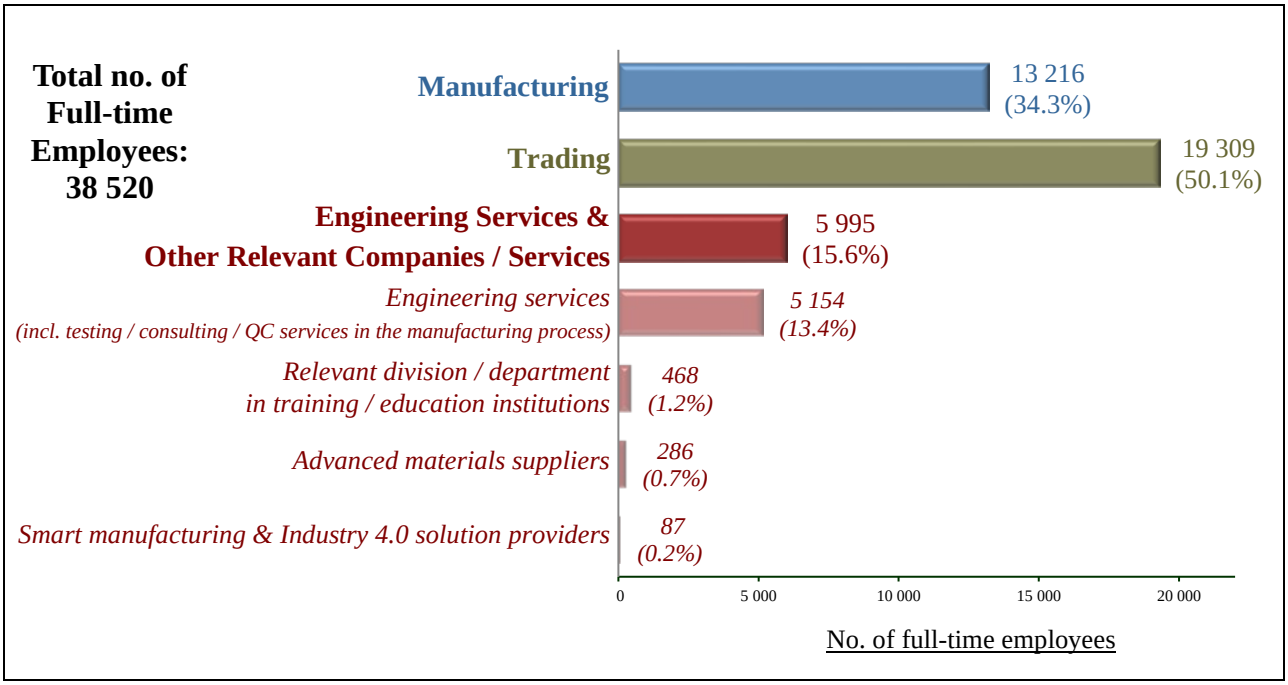


Note: "Vacancies" refer to those unfilled, immediately available job openings for which the establishment is actively trying to recruit personnel as at the survey reference date.

Number of Full-time Employees

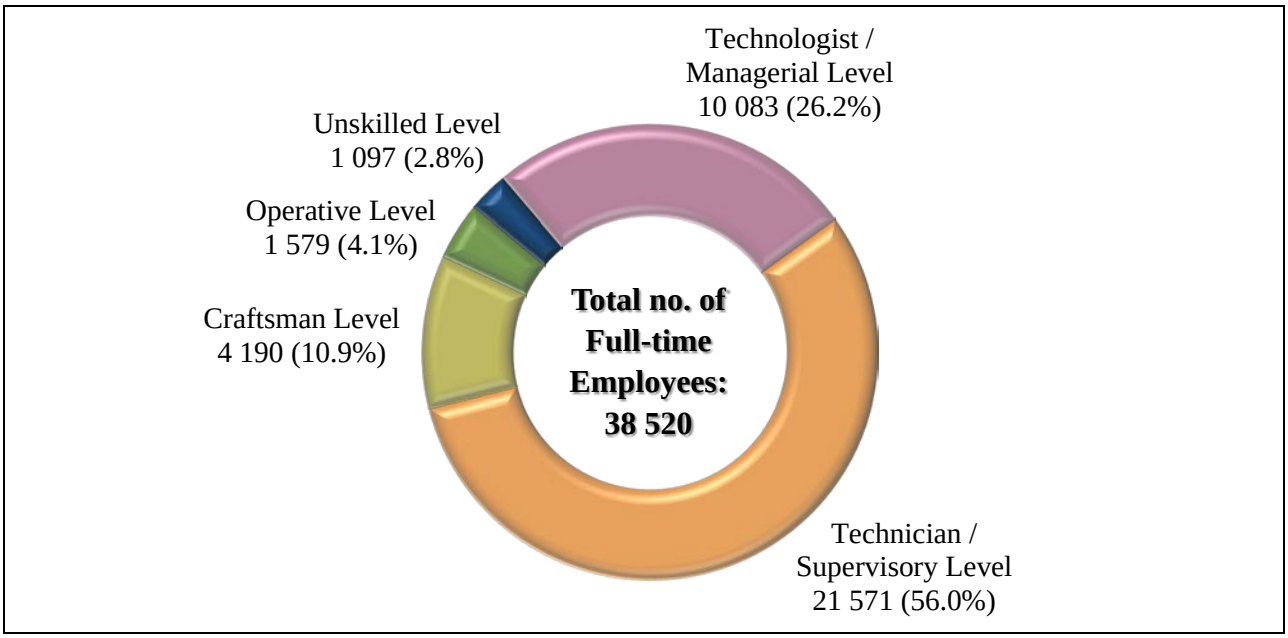
1.7 Among the 38 520 full-time employees, half of them were working in the trading sector (50.1%; 19 309 persons), followed by the manufacturing sector (34.3%; 13 216 persons). Some employees were working in the engineering services and other relevant companies / services sector (15.6%; 5 995 persons), with most of them in engineering services companies (13.4%; 5 154 persons).

Chart 1b Number of full-time employees – by sector and branch



1.8 The largest proportion of full-time employees were working in the technician / supervisory level (56.0%; 21 571 persons), about one-quarter in the technologist / managerial level (26.2%; 10 083 persons), about one-tenth in the craftsman level (10.9%; 4 190 persons), and less than 5% in the operative level (4.1%; 1 579 persons) and unskilled level (2.8%; 1 097 persons).

Chart 1c Number of full-time employees – by job level



1.9 The top 3 prominent principal jobs for the three sectors were listed in the table below. It is obvious that each sector shows a great manpower demand in the technician / supervisory level.

Table 1a Top 3 prominent principal jobs in the respective sectors

Sector	Principal Jobs	No. of full-time employees	% among all full-time employees in the respective sector
Manufacturing (Total: 13 216 full-time employees)	Mechanical Engineering Technician	2 292	17.3%
	Mechanical Fitter	1 076	8.1%
	Electrician	726	5.5%
Trading (Total: 19 309 full-time employees)	Engineering Buyer / Merchandiser	5 532	28.6%
	Technical Sales / Marketing Executive	3 889	20.1%
	Technical Sales / Marketing Manager	2 515	13.0%
Engineering Services & Other Relevant Companies / Services (Total: 5 995 full-time employees)	Laboratory / Materials Technician	1 690	28.2%
	Technical Services Technician	655	10.9%
	Q.C. / Q.A. Supervisor / Technician	643	10.7%

Technologist / Managerial Level Technician / Supervisory Level Craftsman Level

Number of Full-time Vacancies

1.10 As at 1 July 2022, the total number of full-time vacancies was 705, representing a vacancy rate of 1.8% (i.e. vacancies as a percentage of the total number of employees and vacancies). Relatively more vacancies were found in the manufacturing sector (360 vacancies), while a slightly higher vacancy rate was found in the engineering services and other relevant companies / services sector (3.8%).

1.11 A larger number of full-time vacancies were jobs at the technician / supervisory level (335 vacancies), followed by the technologist / managerial level (156 vacancies). In terms of the vacancy rate, slightly higher vacancy rates were found at the operative level (4.6%) and the unskilled level (3.5%).

Table 1b Number of full-time vacancies – by sector and job level

Sector / Job level	OVERALL		Manufacturing		Trading		Engineering Services & Other Relevant Companies / Services	
	No. of vacancies	Vacancy rate	No. of vacancies	Vacancy rate	No. of vacancies	Vacancy rate	No. of vacancies	Vacancy rate
Technologist / Managerial	156	[1.5%]	70	[3.0%]	45	[0.7%]	41	[2.5%]
Technician / Supervisory	335	[1.5%]	99	[1.9%]	59	[0.5%]	177	[4.5%]
Craftsman	97	[2.3%]	83	[2.2%]	1	[0.8%]	13	[2.8%]
Operative	77	[4.6%]	74	[4.7%]	0	-	3	[4.5%]
Unskilled	40	[3.5%]	34	[4.7%]	6	[2.0%]	0	-
Overall:	**705**	**[1.8%]**	**360**	**[2.7%]**	**111**	**[0.6%]**	**234**	**[3.8%]**

$$\text{Vacancy rate} = \frac{\text{No. of vacancies}}{\text{Total no. of posts (no. of employees + no. of vacancies)}}$$ (for the respective job level in the respective sector)

Posts to be Newly Recruited in the Coming Year

1.12 The employers being surveyed expected that 627 new posts will be recruited in the coming year. Most of the new posts were found in the manufacturing sector (58.1%). In terms of job levels, most of the new posts were jobs at the technician / supervisory level (59.6%). Across different sectors, new posts at the technician / supervisory level also accounted for the largest part.

Table 1c Number of posts to be newly recruited in the coming year – by sector and job level

Sector / Job level	OVERALL		Manufacturing		Trading		Engineering Services & Other Relevant Companies / Services	
	No. of new posts	(%)	No. of new posts	(%)	No. of new posts	(%)	No. of new posts	(%)
Technologist / Managerial	95	15.2%	45	12.4%	27	20.0%	23	18.0%
Technician / Supervisory	374	59.6%	178	48.9%	107	79.3%	89	69.5%
Craftsman	67	10.7%	50	13.7%	1	0.7%	16	12.5%
Operative	71	11.3%	71	19.5%	0	-	0	-
Unskilled	20	3.2%	20	5.5%	0	-	0	-
Overall:	**627**	**100.0%**	**364**	**100.0%**	**135**	**100.0%**	**128**	**100.0%**
% among sectors		**100.0%**		**58.1%**		**21.5%**		**20.4%**

1.13 The top 5 prominent new posts were listed in the table below. Manpower in the technician / supervisory level is in great demand.

Principal jobs	No. of new posts
Technical Sales / Marketing Executive	89
Mechanical Engineering Technician	79
Laboratory / Materials Technician	48
Technical Services Technician	48
Semi-skilled Machine Operator	44

Technician / Supervisory Level Operative Level

Hong Kong Technical Staff Stationed / Travelling to Greater Bay Area for Work

1.14 Of all establishments covered in the survey, 5.2% reported that they had Hong Kong technical staff stationed / travelling to Greater Bay Area (GBA) for work. Such percentage was higher in plastic-related trading sector (21.8%).

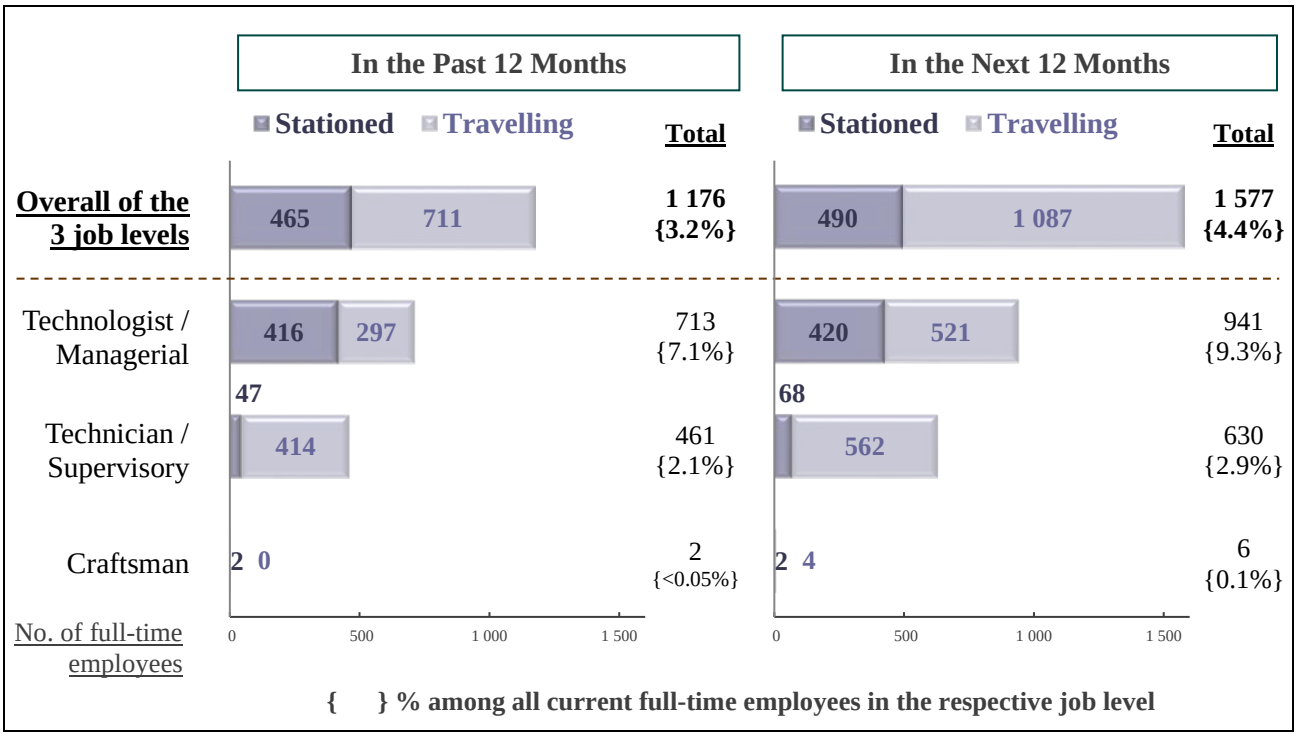
Table 1d Proportion of establishments having Hong Kong technical staff stationed / travelling to GBA for work – by sector

Sector	%
Manufacturing	**2.0%**
Metals	1.5%
Plastic	7.1%
Trading	**5.7%**
Metals	2.6%
Plastic	21.8%
Engineering Services & Other Relevant Companies / Services	**8.8%**
Overall:	**5.2%**

1.15 During the 12 months before enumeration, a total of 1 176 employees engaging in the industry stationed / travelled to GBA for work. They accounted for 3.2% of the current full-time employees for the 3 specified job levels. Of which, relatively more of them travelled to GBA (711 employees). In terms of the job level, relatively more were at the technologist / managerial level (713 employees).

1.16 Employers anticipated that more employees will station / travel to GBA in the next 12 months (from 1 176 to 1 577 employees). The increment was mostly for employees travelling to GBA (1 087 employees).

Chart 1d Number of Hong Kong technical staff stationed / travelling to GBA for work – by job level



Note: Figures reflected the situation during the COVID-19.

Average Monthly Remuneration Package

1.17 The average monthly remuneration package for employees of the technologist / managerial level is in the range of $25,001 - $40,000 (62.9%). It was followed by $15,001 - $25,000 for the technician / supervisory level (79.0%), $15,001 - $20,000 for the craftsman level (65.4%), $20,000 or below for the operative level (98.6%) and $15,000 or below for the unskilled level (94.0%).

Table 1e Average monthly remuneration package – by job level

Job level	Prominent ranges of remuneration package
Technologist / Managerial	$25,001 - $30,000 (29.7%) $30,001 - $40,000 (33.2%)
Technician / Supervisory	$15,001 - $20,000 (36.0%) $20,001 - $25,000 (43.0%)
Craftsman	$15,001 - $20,000 (65.4%)
Operative	$15,000 or below (50.7%) $15,001 - $20,000 (47.9%)
Unskilled	$15,000 or below (94.0%)

Preferred Education Level

1.18 Most of the employees at the technologist / managerial level were required to attain a first degree (66.4%). Sub-degree and diploma / certificate were mostly preferred for employees at the technician / supervisory level (68.2%), while most of those at the craftsman level were only required to attain a diploma / certificate or secondary 4 to 6/7 (75.1%).

Table 1f Preferred education level – by job level

Job level	Prominent preferred education levels
Technologist / Managerial	First degree (66.4%)
Technician / Supervisory	Sub-degree (32.6%) Diploma / certificate (35.6%)
Craftsman	Diploma / certificate (32.7%) Secondary 4 to 6/7 (42.4%)

Preferred Years of Experience

1.19 Employers tended to require employees at the technologist / managerial level to have 3 years to less than 10 years of experience (85.8%). The most preferred years of experience for employees at the technician / supervisory level was 1 year to less than 6 years (84.4%), while most of those at the craftsman level were only required to have 1 year to less than 3 years of experience (60.5%).

Table 1g Preferred years of experience – by job level

Job level	Prominent preferred years of experience
Technologist / Managerial	6 - < 10 years (48.0%) 3 - < 6 years (37.8%)
Technician / Supervisory	3 - < 6 years (43.6%) 1 - < 3 years (40.8%)
Craftsman	1 - < 3 years (60.5%)

Age Groups

1.20 Of all 38 520 full-time employees, 49.9% aged 41 - 56 and 33.1% aged 25 - 40. Employees in the manufacturing sector tended to be older than other sectors. About 25.7% of them aged 57 or above (vs. below 13% in other sectors) and 26.7% aged 25 - 40 (vs. above 30% in other sectors). On the other hand, employees in the engineering services and other relevant companies / services sector tended to be younger. Over half of them (52.5%) aged 25 - 40.

Table 1h Age groups – by sector

Sector	Aged 57 or above	Aged 41 – 56	Aged 25 – 40	Aged 18 – 24	No. of full-time employees
Manufacturing	25.7%	45.4%	26.7%	2.2%	13 216
Trading	10.0%	58.6%	30.8%	0.7%	19 309
Engineering Services & Other Relevant Companies / Services	12.1%	28.7%	52.5%	6.8%	5 995
Overall:	**14.9%**	**49.9%**	**33.1%**	**2.1%**	**38 520**

denotes prominent age groups in the respective sector.

Employees Left and Recruited in the Past 12 Months

1.21 A total of 2 057 employees have left their establishments during the 12 months before enumeration. The turnover rate (i.e. the number of employees left as a percentage of the total number of posts) was 5.4%. Besides, a total of 2 089 full-time employees were recruited. About half of the new recruits (50.8%) had relevant experience.

Table 1i Full-time employees left and recruited in the past 12 months – by job level

Job Level	No. of full-time employees left	Turnover rate	No. of new recruits	% of new recruits having relevant experience
Technologist / Managerial	315	[3.1%]	393	37.7%
Technician / Supervisory	1 361	[6.2%]	1 374	50.6%
Craftsman	245	[5.7%]	214	64.5%
Operative	136	[8.2%]	108	74.1%
Overall:	**2 057**	**[5.4%]**	**2 089**	**50.8%**

$$\text{Turnover rate} = \frac{\text{No. of employees left}}{\text{Total no. of posts (no. of employees + no. of vacancies)}} \quad \text{(for the respective job level)}$$

Recruitment Difficulties in the Past 12 Months

1.22 Of the establishments which had engaged in recruitment exercise for the respective level of employees during the 12 months before enumeration, the percentages of establishments encountering recruitment difficulties were relatively higher for those recruiting the technologist / managerial level (65.1%) and the craftsman level (61.6%), as compared with the technician / supervisory level (52.2%). The commonly mentioned difficulties across all job levels are “lack of candidates with relevant experience” and “unsatisfactory terms of employment”.

Table 1j Recruitment difficulties in the past 12 months before enumeration – by job level

Job level	Technologist / Managerial	Technician / Supervisory	Craftsman
With recruitment difficulties	**65.1%**	**52.2%**	**61.6%**
Lack of candidates with relevant experience	34.9%	33.2%	38.4%
Unsatisfactory terms of employment	26.4%	23.6%	27.9%
Insufficient trained / qualified manpower in the related disciplines	15.1%	24.7%	8.1%
Alternative offers in the job market	27.4%	14.8%	15.1%
Unsatisfactory working environment	5.7%	6.5%	32.6%
Limited career prospects	8.5%	2.1%	2.3%
Competition for manpower from the Mainland / Macao / other cities	5.7%	0.5%	1.2%
Others (e.g. migration wave, shortage of young talents to fill-up senior positions, etc.)	0.9%	0.3%	-
Without recruitment difficulties	**34.9%**	**47.8%**	**38.4%**
No. of establishments with recruitment exercise (% of establishments with recruitment exercise for the respective level of full-time employees)	**106** (1.3%)	**385** (4.6%)	**86** (1.0%)

denotes prominent recruitment difficulties in the respective job level.

Note: Respondents may mention more than one recruitment difficulties.

Application of Smart Manufacturing Technology

1.23 Of all establishments covered in the survey, 2.0% used smart manufacturing technology. Among them, “warehouse management” (59.3%) and “production process” (52.2%) are the most common areas of smart manufacturing models employed. They were followed by “product design and development” (36.7%) and “quality control process” (35.4%).

Expected Change in Business Volume in the Next 12 Months

1.24 Most of the establishments (64.2%) expected that their business volume will remain stable in the next 12 months. Only 0.7% anticipated that it will be better, while 19.0% expected a worsening situation.

Training Areas Required for Employees to Meet the Fast-changing Industrial Trend and Development Needs

1.25 Some technical skills were commonly mentioned by employers of different sectors for different levels of employees, including “human machine interaction”, “robotic process automation”, “artificial intelligence”, “cybersecurity” and “industrial internet of things”.

1.26 In addition, some operational management and soft skills were commonly required for employees in different sectors and job levels, including “problem solving skills”, “interpersonal skills”, “project management”, “supply chain management” and “lean manufacturing”.

Table 1k Top 3 training areas required for employees to meet the fast-changing industrial trend and development needs – by sector and job level

(a) Manufacturing Sector

Training areas	Technologist / Managerial	Technician / Supervisory	Craftsman
A. Technologies			
Artificial Intelligence	*		
Cloud Computing			
Cybersecurity			
Data Mining, Analysis & Visualisation			
Human Machine Interaction	*	*	*
Industrial Internet of Things		*	
Robotic Process Automation	*	*	*
3D Printing			*
B. Operational Management & Soft Skills			
Lean Manufacturing	*	*	*
Project Management			
Supply Chain Management			
Risk Management	*		
Product Design & Development	*		
Interpersonal Skills		*	*
Problem Solving Skills	*	*	*
Design Thinking			

Note: (i) Respondents are invited to indicate the training needs required for (A) Technologies and (B) Operational Management & Soft Skills. The training areas with the highest percentage of respondents regarded as the top 3 are marked with * for each level.

(ii) Respondents may mention at most three items in each training area.

(b) Trading Sector

Training areas	Technologist / Managerial	Technician / Supervisory	Craftsman
A. Technologies			
Artificial Intelligence			
Cloud Computing			
Cybersecurity	*	*	
Data Mining, Analysis & Visualisation	*		
Human Machine Interaction		*	*
Industrial Internet of Things	*	*	*
Robotic Process Automation			*
3D Printing			
B. Operational Management & Soft Skills			
Lean Manufacturing			*
Project Management		*	
Supply Chain Management	*	*	
Risk Management			
Product Design & Development			
Interpersonal Skills	*	*	*
Problem Solving Skills	*		*
Design Thinking			

Notes: (i) Respondents are invited to indicate the training needs required for (A) Technologies and (B) Operational Management & Soft Skills. The training areas with the highest percentage of respondents regarded as the top 3 are marked with * for each level.

(ii) Respondents may mention at most three items in each training area.

(c) Engineering Services & Other relevant companies/services Sector

Training areas	Technologist / Managerial	Technician / Supervisory	Craftsman
A. Technologies			
Artificial Intelligence	*	*	
Cloud Computing	*		
Cybersecurity	*	*	*
Data Mining, Analysis & Visualisation			
Human Machine Interaction			*
Industrial Internet of Things			
Robotic Process Automation		*	*
3D Printing			*
B. Operational Management & Soft Skills			
Lean Manufacturing			*
Project Management	*	*	
Supply Chain Management			
Risk Management		*	
Product Design & Development		*	
Interpersonal Skills	*		*
Problem Solving Skills	*		*
Design Thinking			

Notes: (i) Respondents are invited to indicate the training needs required for (A) Technologies and (B) Operational Management & Soft Skills. The training areas with the highest percentage of respondents regarded as the top 3 are marked with * for each level.

(ii) Respondents may mention at most three items in each training area.

Manpower Analysis

Manpower Changes between 2022 and 2018

Changes in the Number of Full-time Employees

1.27 The total number of full-time employees has slightly decreased from 38 913 in 2018 to 38 520 in 2022, with a decrement of 1.0% (-393 persons). When analysed by sector, there was a decrease in the manufacturing sector (-10.2%; -1 508 persons), while a significant increase was observed for the engineering services and other relevant companies / services sector (+17.7%; +901 persons).

1.28 When analysed by job level, the increase in the number of full-time employees was larger for the technician / supervisory level (+2 241 persons), while a significant decrease was recorded for the craftsman level (-1 814 persons) and the operative level (-1 385 persons).

Table 1l Changes in the number of full-time employees – by sector and job level

	No. of full-time employees		Change in 4 years		Annual change in %
	2022	2018			
By sector					
Manufacturing	13 216	14 724	- 1 508	- 10.2%	- 2.7%
Trading	19 309	19 095	+ 214	+ 1.1%	+ 0.3%
Engineering Services & Other Relevant Companies / Services	5 995	5 094	+ 901	+ 17.7%	+ 4.2%
- Engineering services	*5 154*	*3 804*	*+ 1 350*	*+ 35.5%*	*+ 7.9%*
- Training / education institution	*468*	*643*	*- 175*	*- 27.2%*	*- 7.6%*
- Advanced materials suppliers	*286*	*647*	*- 361*	*- 55.8%*	*- 18.5%*
*- Smart manufacturing & Industry 4.0 solution providers**	*87*	*N/A*	*N/A*	*N/A*	*N/A*
By job level					
Technologist / Managerial	10 083	9 335	+ 748	+ 8.0%	+ 1.9%
Technician / Supervisory	21 571	19 330	+ 2 241	+ 11.6%	+ 2.8%
Craftsman	4 190	6 004	- 1 814	- 30.2%	- 8.6%
Operative	1 579	2 964	- 1 385	- 46.7%	- 14.6%
Unskilled	1 097	1 280	- 183	- 14.3%	- 3.8%
Overall:	**38 520**	**38 913**	**- 393**	**- 1.0%**	**- 0.3%**

**Newly added in the coverage of 2022 survey*

Changes in the Number of Full-time Vacancies

1.29 The total number of full-time vacancies has increased, from 553 in 2018 to 705 in 2022, with an increment of 27.5% (+152 vacancies). The increment was significantly higher in the engineering services and other relevant companies / services sector (+229.6%; +163 vacancies), especially for engineering services (+538.7%; +167 vacancies). Besides, a decrease in the number of full-time vacancies was found in the trading sector (-105 vacancies).

1.30 A larger increase in the number of full-time vacancies was recorded for the technologist / managerial level (+92 vacancies), while a decrease was recorded for the operative level (-16 vacancies).

Table 1m Changes in the number of full-time vacancies – by sector and job level

	No. of full-time vacancies		Change in 4 years		Annual change in %	Vacancy rate	
	2022	2018				2022	2018
By sector							
Manufacturing	360	266	+ 94	+ 35.3%	+ 7.9%	[2.7%]	[1.8%]
Trading	111	216	- 105	- 48.6%	- 15.3%	[0.6%]	[1.1%]
Engineering Services & Other Relevant Companies / Services	234	71	+ 163	+ 229.6%	+ 34.7%	[3.8%]	[1.4%]
- Engineering services	*198*	*31*	*+ 167*	*+ 538.7%*	*+ 59.0%*	*[3.7%]*	*[0.8%]*
- Training / education institution	*21*	*35*	*- 14*	*- 40.0%*	*- 12.0%*	*[4.3%]*	*[5.2%]*
- Advanced materials suppliers	*15*	*5*	*+ 10*	*+ 200.0%*	*+ 31.6%*	*[5.0%]*	*[0.8%]*
*- Smart manufacturing & Industry 4.0 solution providers**	*0*	*N/A*	*N/A*	*N/A*	*N/A*	*[0%]*	*N/A*
By job level							
Technologist / Managerial	156	64	+ 92	+ 143.8%	+ 24.9%	[1.5%]	[0.7%]
Technician / Supervisory	335	321	+ 14	+ 4.4%	+ 1.1%	[1.5%]	[1.6%]
Craftsman	97	69	+ 28	+ 40.6%	+ 8.9%	[2.3%]	[1.1%]
Operative	77	93	- 16	- 17.2%	- 4.6%	[4.6%]	[3.0%]
Unskilled	40	6	+ 34	+ 566.7%	+ 60.7%	[3.5%]	[0.5%]
Overall:	**705**	**553**	**+ 152**	**+ 27.5%**	**+ 6.3%**	**[1.8%]**	**[1.4%]**

**Newly added in the coverage of 2022 survey*

$$\text{Vacancy rate} = \frac{\text{No. of vacancies}}{\text{Total no. of posts (no. of employees + no. of vacancies)}}$$ (for the respective sector & job level in the respective year)

Changes in Average Monthly Remuneration Package

1.31 Compared with the results of the 2018 survey, the common ranges of average monthly remuneration package in 2022 were similar across job levels.

Table 1n Change in average monthly remuneration package – by job level

Job level	Prominent ranges of remuneration package	
	2022	2018
Technologist / Managerial	$25,001 - $30,000 (29.7%) $30,001 - $40,000 (33.2%)	$25,001 - $30,000 (40.0%) $30,001 - $40,000 (27.9%)
Technician / Supervisory	$15,001 - $20,000 (36.0%) $20,001 - $25,000 (43.0%)	$15,001 - $20,000 (44.2%) $20,001 - $25,000 (43.2%)
Craftsman	$15,001 - $20,000 (65.4%)	$15,001 - $20,000 (61.4%)
Operative	$15,000 or below (50.7%) $15,001 - $20,000 (47.9%)	$15,000 or below (36.7%) $15,001 - $20,000 (61.9%)
Unskilled	$15,000 or below (94.0%)	$15,000 or below (94.5%)

Changes in Preferred Education Level

1.32 Compared with the results of the 2018 survey, the common ranges of preferred education level were broadly similar across job levels.

Table 1o Change in preferred education level – by job level

Job level	Prominent preferred education levels	
	2022	2018
Technologist / Managerial	First degree (66.4%)	First degree (63.8%)
Technician / Supervisory	Sub-degree (32.6%) Diploma / certificate (35.6%)	Sub-degree (39.1%) Diploma / certificate (18.8%) Secondary 4 to 6/7 (24.3%)
Craftsman	Diploma / certificate (32.7%) Secondary 4 to 6/7 (42.4%)	Diploma / certificate (42.1%) Secondary 4 to 6/7 (44.6%)

Manpower Projection

1.33 By making reference to the historical manpower information, the manpower trend for 2023 – 2026 shows an upward manpower demand at the technologist / managerial level and the technician and supervisory level, while there is a downward trend at the craftsman level.

Table 1p Manpower Trend in 2023 – 2026

Job level	Number of posts (Annual change of manpower over preceding year)			
Job level	**2023**	**2024**	**2025**	**2026**
Technologist / Managerial	10 451 (2.1%)	10 666 (2.1%)	10 883 (2.0%)	11 102 (2.0%)
Technician / Supervisory	22 417 (2.3%)	22 889 (2.1%)	23 324 (1.9%)	23 724 (1.7%)
Craftsman	3 961 (-7.6%)	3 693 (-6.8%)	3 474 (-5.9%)	3 292 (-5.2%)

Annual Additional Manpower Requirement

1.34 By taking into consideration (i) the projected manpower trend (Table 1p) and (ii) the wastage rate of the industry (i.e. percentage of employees leaving the industry permanently on annual basis), there are annual additional manpower requirements for the technologist / managerial level and the technician / supervisory level. For the craftsman level, a negative manpower growth of 249 is recorded, exceeding the need to fill the manpower gap for industry leavers (95 annually). Therefore, no additional annual manpower is required for this level.

Table 1q Estimated Annual Additional Manpower Requirement

Job Level	Wastage rate of the industry	Additional annual manpower requirement			
		Average manpower growth (a)	Industry leavers (b)	Total (a)+(b)	Range (±10%)
Technologist / Managerial	1.6%	216	174	390	351 – 429
Technician / Supervisory	3%	455	694	1149	1034 – 1264
Craftsman	2.5%	(249)	95	-	-

Manpower Demand and Supply Analysis

1.35 Table 1r shows the estimated number of graduates from government-funded programmes at sub-degree to degree levels in areas of mechanical, manufacturing and industrial engineering. According to the figures, the supply at the technologist / managerial level is deemed sufficient in meeting the estimated demand as shown in Table 1q. However, graduates of these engineering programmes may not join the manufacturing technology industry and contribute to the workforce upon graduation. Therefore, the actual supply contributing to the industry could be less than the figures.

1.36 On the other hand, the industry requires 1 034 - 1 264 additional manpower at the technician

/ supervisory level annually, and the preferred education level is a diploma / certificate (35.6%) or a sub-degree (32.6%). The scarce supply of diploma, certificate and sub-degree graduates at the technician / supervisory level reflects a deteriorating manpower provision. With the Government's promotion of reindustrialisation and the industrial trend towards smart manufacturing, some training institutions have launched new programmes nurturing talents for advanced manufacturing, artificial intelligence, robotics, and Industry 4.0, etc. The VTC also offers one higher diploma programme and one diploma programme in artificial intelligence and robotics. However, the supply is still far below the demand, considering most graduates nowadays aspire to pursue further study rather than entering the workforce. As a result, the training for sub-degree, diploma and certificate levels is in great demand to provide sufficient manpower supply for the technician / supervisory level.

Table 1r Supply of Graduates at the Technologist / Managerial, Technician / Supervisory and Craftsman Levels in Mechanical / Manufacturing / Industrial Engineering Government-funded Programmes

Award	Estimated number of graduates	
	2022/23	2023/24
First Degree	473	384
Sub-degree	132	100
Diploma/ Certificate	62	68

Recommendations

1.37 Based on the manpower supply and demand derived from the survey findings and the industrial trend, the Training Board recommends the following measures to all major stakeholders to meet the industry's manpower demand.

Industry to support business-school cooperation to promote advanced manufacturing and relevant vocational and professional education and training pathway

1.38 With joint effort, the industry and training institutions could organise life and career planning activities for secondary school students, such as industry talks sharing the industry trend and prospect, enterprise talks showcasing the success of local manufacturing enterprises, dialogues with alumni to learn about the career path and prospect, and industrial visits to high-tech smart factories for industry exposure.

1.39 At a higher level, the industry could offer enterprise talks or industrial visits to career counsellors and teachers at secondary schools to imbue a mindset of career planning in the manufacturing industry. Career counsellors and teachers are encouraged to study the Certificate of Vocational and Professional Education and Training (QF Level 4) offered by the VTC to learn about

career planning through the vocational and professional education and training pathway.

Employers to leverage government resources in talent development

1.40 To burgeon the advanced manufacturing talent pool, employers are encouraged to utilise government resources actively on talent development. Examples of funding schemes related to engineering training include:

(a) the Engineering Graduate Training Scheme,
(b) the Reindustrialisation and Technology Training Programme, and
(c) the Pilot Incentive Scheme to Employers providing workplace learning and assessment under the VTC Earn & Learn Scheme.

Employees to leverage government resources to upskill and reskill

1.41 While employers strive for digital transformation of traditional manufacturing, employees are highly recommended to upskill and reskill themselves so to catch up with the industry trend and widen their career path, by making good use of government resources such as the Vplus Engineering subsidy scheme, which subsidises practitioners studying designated professional part-time programmes accredited at QF Level 3 to 5.

Training institutions to provide training programmes, workplace attachment or apprenticeship to equip skills in advanced technologies

1.42 Training institutions are recommended to prepare talents with relevant experience and qualifications as follows:

(a) Offer bite-sized learning programmes in these suggested training areas:
    - Hard skills: human-machine interaction, robotic process automation, artificial intelligence, industrial internet of things, data analysis, cybersecurity, cloud computing, 3D printing, etc.
    - Soft skills: problem solving skills, lean management, product design and development, risk management, supply chain management, project management, interpersonal skills, etc.
(b) Provide internship or workplace attachment in degree programmes to strengthen students' ability of technology application in enterprise settings.
(c) Encourage students to enrol in VTC Earn & Learn Scheme and Apprenticeship Training Scheme, which integrates structured classroom learning with on-the-job training.

2 Introduction

Background

2.1 The Manufacturing Technology Training Board (Training Board) of the Vocational Training Council (VTC) is appointed by the Government of the Hong Kong Special Administrative Region (HKSAR) to analyse the manpower situation and training needs of the Manufacturing Technology Industry. The Training Board comprises members nominated by major trade associations, trade unions, professional bodies, educational and training institutions and Government departments. The Working Party of the manpower survey is formed by selected members of the Training Board. The membership and terms of reference of the Training Board, as well as the members in the Working Party are listed in **Appendices 1, 2 and 3**.

2.2 The manpower survey of the Manufacturing Technology Industry is conducted every four years, followed by two periodic manpower updates supplemented with information collected from focus groups and desk research to better reflect the changing trends of the manpower situation. This manpower survey mainly focused on the analysis of technical manpower, which refers to the personnel who are expected to apply the industrial knowledge and technical skills required to complete the work assigned.

2.3 Manpower data with respect to the survey reference date on 1 July 2022 was collected from July to September 2022. This report presents the survey findings and analysis of the latest manpower situation of the Manufacturing Technology Industry and proposes recommendations on the manpower development to the different stakeholders of the industry, including employers, employees, and training providers by referring to the business outlook.

Objectives

2.4 The objectives of this manpower survey are:

(a) To collect up-to-date manpower information by industry sectors, job levels and principal jobs in the industry;

(b) To assess the technical manpower structure;

(c) To forecast the training requirements in the near future; and

(d) To recommend to the VTC and relevant stakeholders the talent development strategies to meet the manpower needs.

Survey Coverage

2.5 The survey covered the following sectors and branches in the industry:

- Manufacturing Sector

  Metals

  - Manufacture of machinery and equipment
  - Manufacture of medical equipment
  - Manufacture of electrical equipment
  - Manufacture of basic metal elements
  - Manufacture of fabricated metal products (except machinery and equipment) and metal toys
  - Repair and installation of machinery and equipment
  - Plant maintenance section of food and beverage manufacturing industries

  Plastics

  - Development and manufacture of plastic toys
  - Development and manufacture of plastic domestic utensils
  - Development and manufacture of plastic cases and parts
  - Manufacture of polybags (excl. handbags)
  - Manufacture of plastic products not elsewhere classified

- Trading Sector

  Metals

  - Wholesale, import and export of machinery and equipment

  Plastics

  - Import and export of toys
  - Import and export of plastics products

- Engineering Services and Other Relevant Companies / Services Sector
  - Engineering services related to metals industry (incl. materials testing, process development / testing, production line consulting / design and quality control)
  - Advanced materials suppliers
  - Smart manufacturing and Industry 4.0 solution providers
  - Relevant division / department in training / education institutions

3 Methodology

Sample Design

3.1 Based on the Hong Kong Standard Industrial Classification list from the Census and Statistics Department (C&SD) of the HKSAR Government, the survey covered around 11 170 establishments in different branches of the industry. By adopting the stratified random sampling method for selecting establishments from the central registrar of the C&SD and the inclusion of supplementary samples recommended by the Training Board, a total of 1 345 establishments were selected for the survey, comprising 558 in the Manufacturing Sector, 584 in the Trading Sector and 203 in the Engineering Services and Other Relevant Companies / Services Sector.

Questionnaire Design

3.2 The questionnaire designed for the survey comprised two parts. Part I collected quantitative manpower information by job levels and by principal jobs, and Part II collected supplementary information related to the industry's manpower situation. The list of principal jobs was defined by the Training Board with detailed job descriptions given for each job, and was classified into 5 job levels as follows:

(a) Technologist / Managerial Level

(b) Technician / Supervisory Level

(c) Craftsman Level

(d) Operative Level

(e) Unskilled Level

3.3 While job titles adopted in the establishments might vary with the descriptions of the principal jobs, respondents were asked to provide manpower information corresponding to the job descriptions and the skill levels of the principal jobs. The definition of terms and the survey documents including a sample questionnaire, explanatory notes and job descriptions for the principal jobs are given in **Appendices 4 and 5**.

Data Collection

3.4 Data collection was carried out between July and September 2022. A pack of survey documents was given to each sampled establishment. The respondents of the establishments were asked to provide manpower information of their establishments at the time of the survey with the reference date on 1 July 2022. During the fieldwork period, enumerators assisted the respondents to complete the questionnaire through phone calls or on-site visits.

3.5 Various measures were taken to assure the quality of the data collection process. These included prior fieldwork preparation, thorough training of fieldwork staff, monitoring of the fieldwork execution, measures to increase the response rate, checking of the completed questionnaires, double data entry and validation and verification of the collected data. The list of quality control measures is shown in **Appendix 6**.

Data Analysis

3.6 Among the 820 valid sampled establishments, 729 were successfully enumerated which contributed to an effective response rate of 88.9%[Note]. Considering the satisfactory response rate of the individual branches, the satisfactory response rate from a majority of prominent and sizeable establishments, and the grossing-up of the sample results based on the statistically-grounded method, it could be concluded that the survey findings presented in this report contributed to a significant level of representativeness of the Manufacturing Technology Industry. The response rate achieved for individual branches was also adequate to produce a meaningful breakdown by branch. The response profile is shown in **Appendix 7**.

Manpower Projection Methodology

3.7 Referring to the historical survey data, Adaptive Filtering Method (AFM) was applied for compiling the manpower projection and the additional annual manpower requirement of the Manufacturing Technology industry for 2023 – 2026. The details of the methodology are shown in **Appendix 8**.

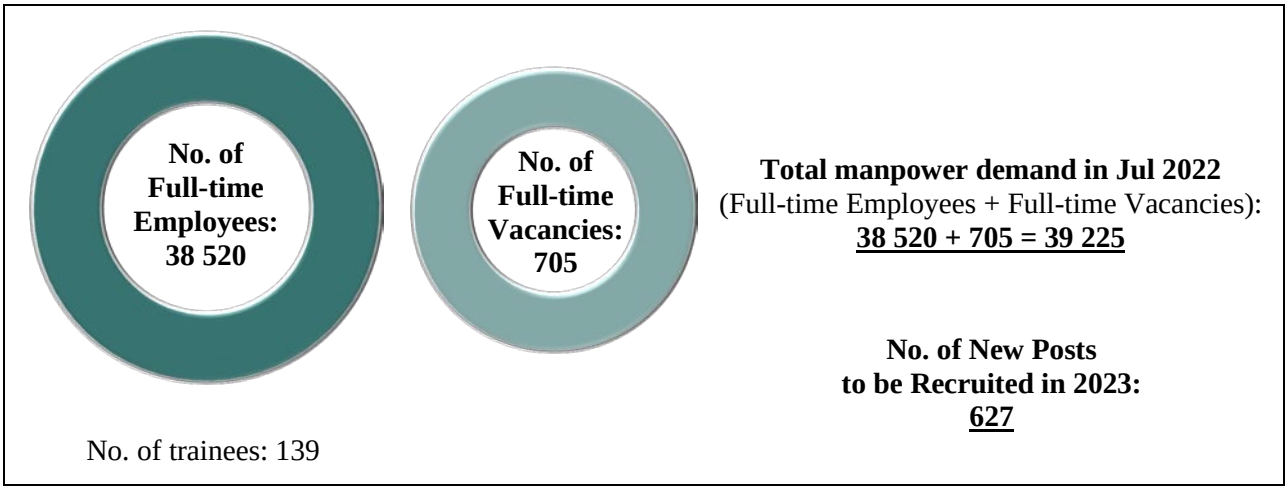
[Note] Sampled establishments which had ceased operation, not employed any staff for manufacturing technology, nil reply to the survey, etc. were classified as invalid samples.

4 Survey Findings

Overview of Manpower Situation

4.1 The survey revealed that as at 1 July 2022 (i.e. the reference date of the survey), a total of 38 520 full-time employees were engaged in the manufacturing technology industry, and 139 trainees were reported. Moreover, there were a total of 705 vacancies. Aggregating the total number of full-time employees and vacancies, it was estimated that there was a total of 39 225 posts. Besides, the employers being surveyed expected that 627 new posts will be recruited in 2023.

Chart 4.1 Overview of manpower situation



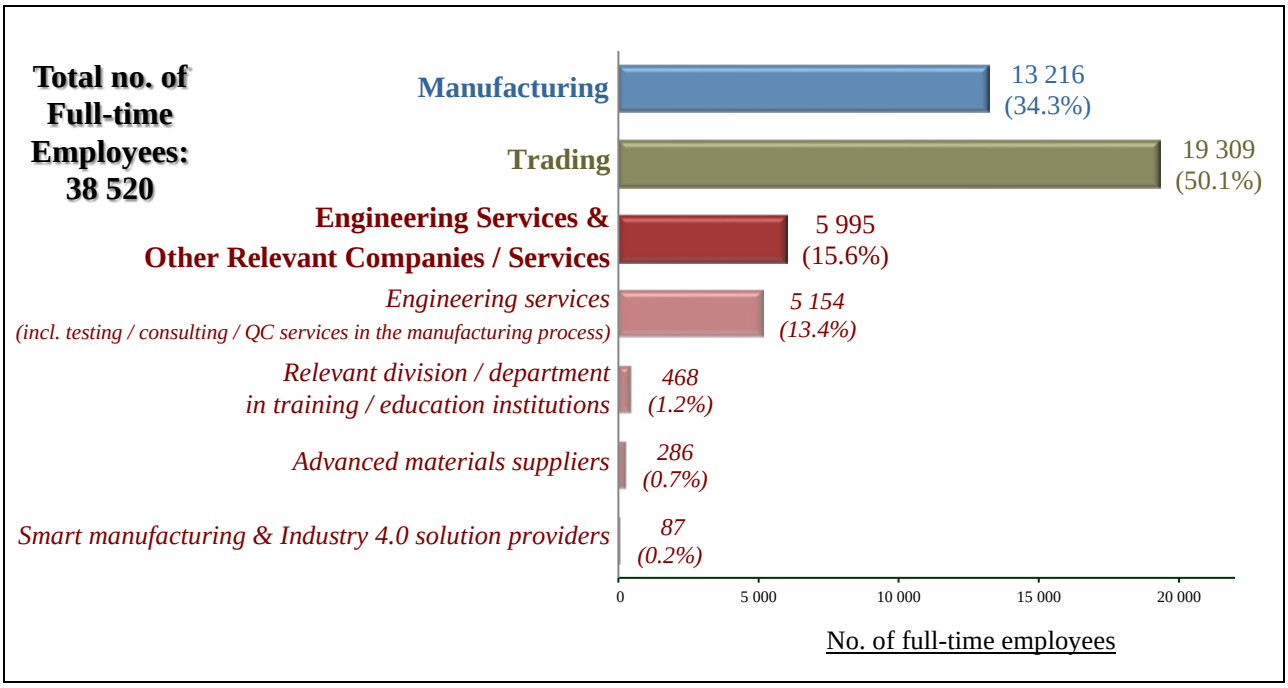
Note: "Vacancies" refer to those unfilled, immediately available job openings for which the establishment is actively trying to recruit personnel as at the survey reference date.

Number of Full-time Employees

By Sector and Branch

4.2 Among the 38 520 full-time employees, half of them were working in the trading sector (50.1%; 19 309 persons), followed by the manufacturing sector (34.3%; 13 216 persons). Some employees were working in the engineering services and other relevant companies / services sector (15.6%; 5 995 persons), with most of them in engineering services companies (13.4%; 5 154 persons).

Chart 4.2a Number of full-time employees – by sector



4.3 Analysing by branch, the highest percentage of full-time employees was found in wholesale, import and export of machinery and equipment (32.8%), followed by repair and installation of machinery and equipment (17.5%), engineering services (13.4%) and import and export of toys (13.3%).

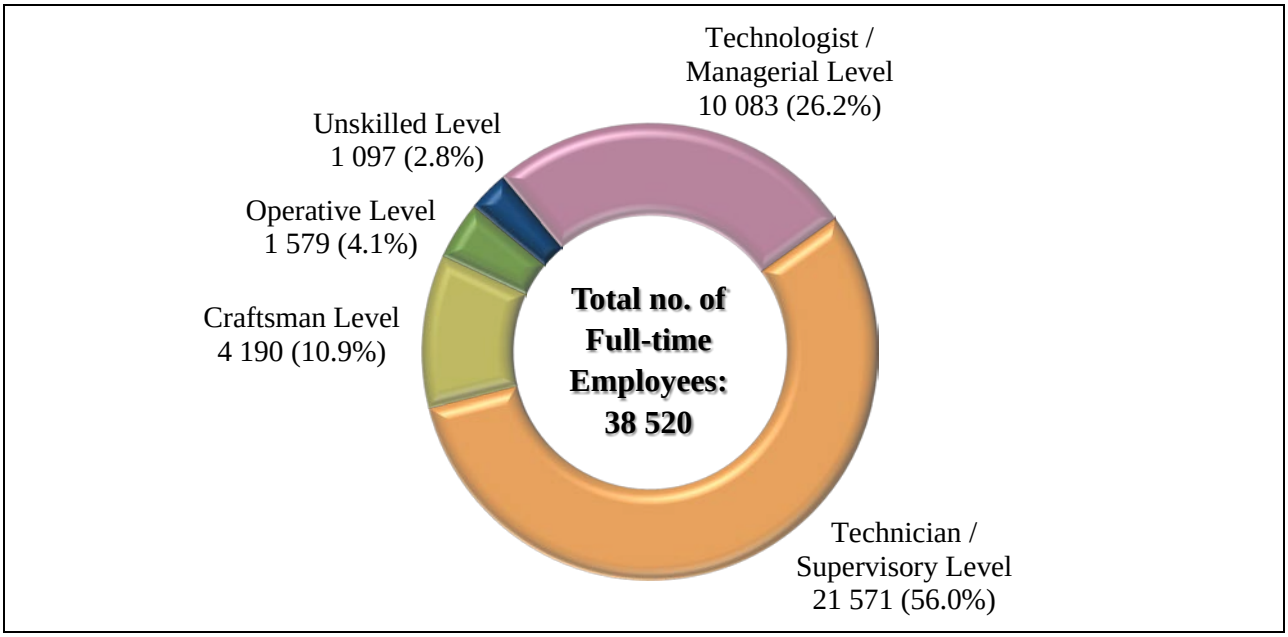
Table 4.1 Number of full-time employees – by branch

	No. of full-time employees	(%)
Manufacturing	**13 216**	**34.3%**
Metals	11 897	30.9%
- Repair and installation of machinery and equipment	*6 740*	*17.5%*
- Manufacture of fabricated metal products (except machinery and equipment) and metal toys	*1 313*	*3.4%*
- Manufacture of medical equipment	*966*	*2.5%*
- Plant maintenance section of food and beverage manufacturing industries	*861*	*2.2%*
- Manufacture of machinery and equipment	*803*	*2.1%*
- Manufacture of electrical equipment	*774*	*2.0%*
- Manufacture of basic metal elements	*440*	*1.1%*
Plastic	1 319	3.4%
- Manufacture of plastic products not elsewhere classified	*604*	*1.6%*
- Development and manufacture of plastic toys	*345*	*0.9%*
- Manufacture of polybags (excl. handbags)	*149*	*0.4%*
- Development and manufacture of plastic cases and parts	*111*	*0.3%*
- Development and manufacture of plastic domestic utensils	*110*	*0.3%*
Trading	**19 309**	**50.1%**
Metals	12 650	32.8%
- Wholesale, import and export of machinery and equipment	*12 650*	*32.8%*
Plastic	6 659	17.3%
- Import and export of toys	*5 109*	*13.3%*
- Import and export of plastics products	*1 550*	*4.0%*
Engineering Services & Other Relevant Companies / Services	**5 995**	**15.6%**
- Engineering services	*5 154*	*13.4%*
- Training / education institution	*468*	*1.2%*
- Advanced materials suppliers	*286*	*0.7%*
- Smart manufacturing & Industry 4.0 solution providers	*87*	*0.2%*
Overall:	**38 520**	**100.0%**

By Sector and Job Level

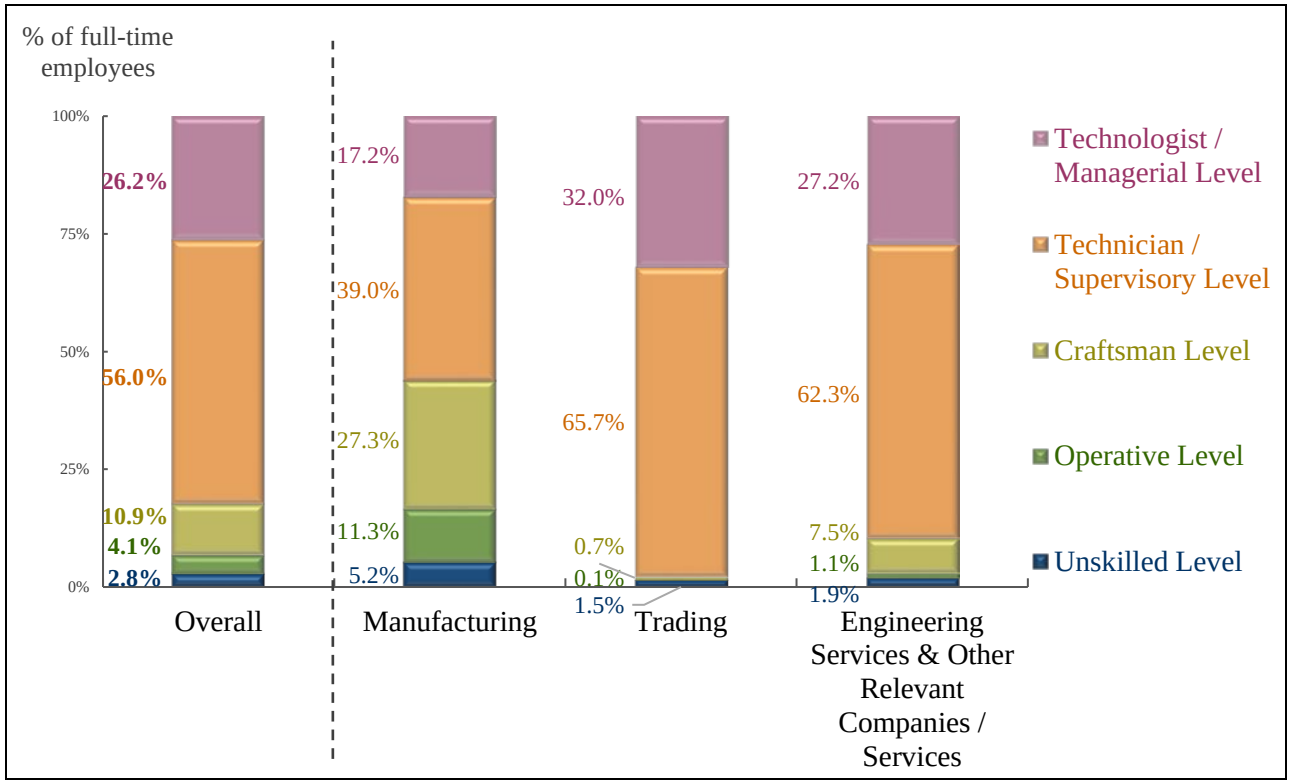
4.4 The largest proportion of full-time employees were working in the technician / supervisory level (56.0%; 21 571 persons), about one-quarter in the technologist / managerial level (26.2%; 10 083 persons), about one-tenth in the craftsman level (10.9%; 4 190 persons), and less than 5% in the operative level (4.1%; 1 579 persons) and unskilled level (2.8%; 1 097 persons).

Chart 4.2b Number of full-time employees – by job level



4.5 Analysing by sector, the percentages of the technician / supervisory level as well as the technologist / managerial level were significantly higher in the trading sector (65.7% and 32.0% respectively) and engineering services and other relevant companies / services sector (62.3% and 27.2% respectively), as compared with the manufacturing sector (39.0% and 17.2% respectively). The percentage of the craftsman level was relatively higher in the manufacturing sector (27.3%), as compared with their counterparts (below 8% respectively).

Chart 4.2c Distribution of full-time employees – by sector and job level



Prominent Principal Jobs

4.6 In the trading sector, the most prominent principal job was Engineering Buyer / Merchandiser (28.6%), followed by Technical Sales / Marketing Executive (20.1%) and Technical Sales / Marketing Manager (13.0%). For the manufacturing sector, Mechanical Engineering Technician (17.3%) was the top prominent principal job, followed by Mechanical Fitter (8.1%) and Electrician (5.5%). For the engineering services and other relevant companies / services sector, the top 3 prominent principal jobs were at the technician / supervisory level, namely Laboratory / Materials Technician (28.2%), Technical Services Technician (10.9%) and Q.C. / Q.A. Supervisor / Technician (10.7%).

Table 4.2 Top 3 prominent principal jobs – by sector and job level

Sector	Principal Jobs	No. of full-time employees	% among all full-time employees in the respective sector
Manufacturing (Total: 13 216 full-time employees)	Technical Services Engineer	534	4.0%
	Mechanical Engineer	406	3.1%
	Production Manager	165	1.2%
	Mechanical Engineering Technician	2 292	17.3%
	Technical Services Technician	611	4.6%
	Manufacturing / Production / Industrial Engineering Technician	550	4.2%
	Mechanical Fitter	1 076	8.1%
	Electrician	726	5.5%
	Fixture Fabricator	283	2.1%
	Semi-skilled Machine Operator	573	4.3%
	Assembler	491	3.7%
	Injection Moulding Machine Operator	120	0.9%
Trading (Total: 19 309 full-time employees)	Technical Sales / Marketing Manager	2 515	13.0%
	Merchandising / Purchasing Manager	1 704	8.8%
	Logistics Manager	519	2.7%
	Engineering Buyer / Merchandiser	5 532	28.6%
	Technical Sales / Marketing Executive	3 889	20.1%
	Logistics Executive / Supervisor	1 384	7.2%
	Fixture Fabricator	61	0.3%
	Electrician	31	0.2%
	Pattern / Model / Prototype Maker	14	0.1%
	Assembler	18	0.1%
	Quality Control Operator	5	< 0.05%
	Semi-skilled Machine Operator	4	< 0.05%
Engineering Services & Other Relevant Companies / Services (Total: 5 995 full-time employees)	Technical Services Engineer	434	7.2%
	Q.C. / Q.A. Manager / Engineer	401	6.7%
	Mechanical Engineer	237	4.0%
	Laboratory / Materials Technician	1 690	28.2%
	Technical Services Technician	655	10.9%
	Q.C. / Q.A. Supervisor / Technician	643	10.7%
	Quality Control Inspector	367	6.1%
	Machinist	49	0.8%
	Electrician	15	0.3%
	Quality Control Operator	34	0.6%
	Other Plastics Processing Machine Operator	16	0.3%
	Semi-skilled Machine Operator	11	0.2%

Technologist / Managerial Level Technician / Supervisory Level Craftsman Level
Operative Level Unskilled Level

Number of Trainees

4.7 Among a total of 139 trainees, nearly three-fifths were employed in the manufacturing sector (58.3%; 81 persons), followed by the engineering services and other relevant companies / services sector (36.7%; 51 persons). Only a few were employed in the trading sector (5.0%; 7 persons).

4.8 More than nine-tenths of the trainees were working at the technician / supervisory level (55.4%; 77 persons) and the craftsman level (36.0%; 50 persons).

Table 4.3 Number of trainees – by sector and job level

Job level	OVERALL		Manufacturing		Trading		Engineering Services & Other Relevant Companies / Services	
	No. of trainees	(%)	No. of trainees	(%)	No. of trainees	(%)	No. of trainees	(%)
Technologist / Managerial	9	6.5%	9	11.1%	0	-	0	-
Technician / Supervisory	77	55.4%	20	24.7%	6	85.7%	51	100.0%
Craftsman	50	36.0%	49	60.5%	1	14.3%	0	-
Operative	3	2.2%	3	3.7%	0	-	0	-
Unskilled	0	-	0	-	0	-	0	-
Overall:	**139**	**100.0%**	**81**	**100.0%**	**7**	**100.0%**	**51**	**100.0%**
% among sectors		**100.0%**		**58.3%**		**5.0%**		**36.7%**

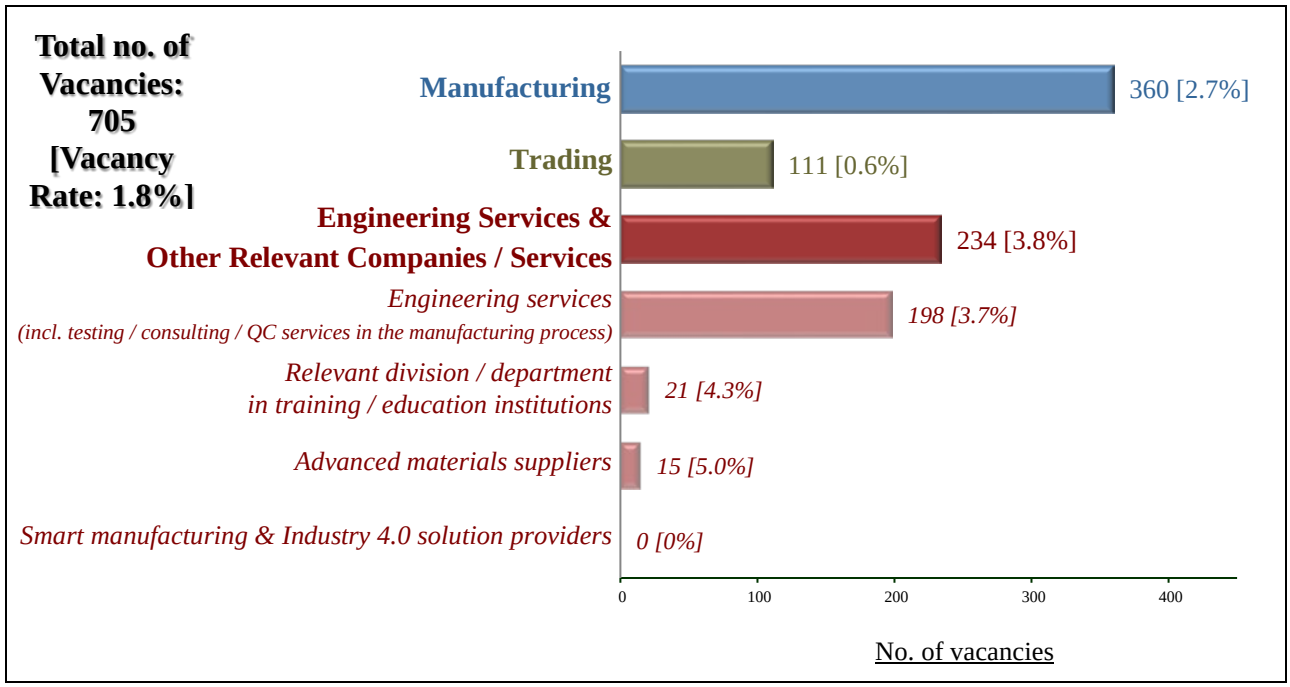
Number of Full-time Vacancies

By Sector

4.9 As at 1 July 2022, the total number of full-time vacancies was 705, representing a vacancy rate of 1.8% (i.e. vacancies as a percentage of the total number of employees and vacancies).

4.10 Different from the distribution of full-time employees, relatively more vacancies were found in the manufacturing sector (360 vacancies). Among the 3 sectors, a slightly higher vacancy rate was found in the engineering services and other relevant companies / services sector (3.8%).

Chart 4.3a Number of full-time vacancies – by sector



$$\text{Vacancy rate} = \frac{\text{No. of vacancies}}{\text{Total no. of posts (no. of employees + no. of vacancies)}} \quad \text{(for the respective sector / branch)}$$

By Job Level

4.11 A larger number of full-time vacancies were jobs at the technician / supervisory level (335 vacancies), followed by the technologist / managerial level (156 vacancies). In terms of the vacancy rate, slightly higher vacancy rates were found for the operative level (4.6%) and the unskilled level (3.5%).

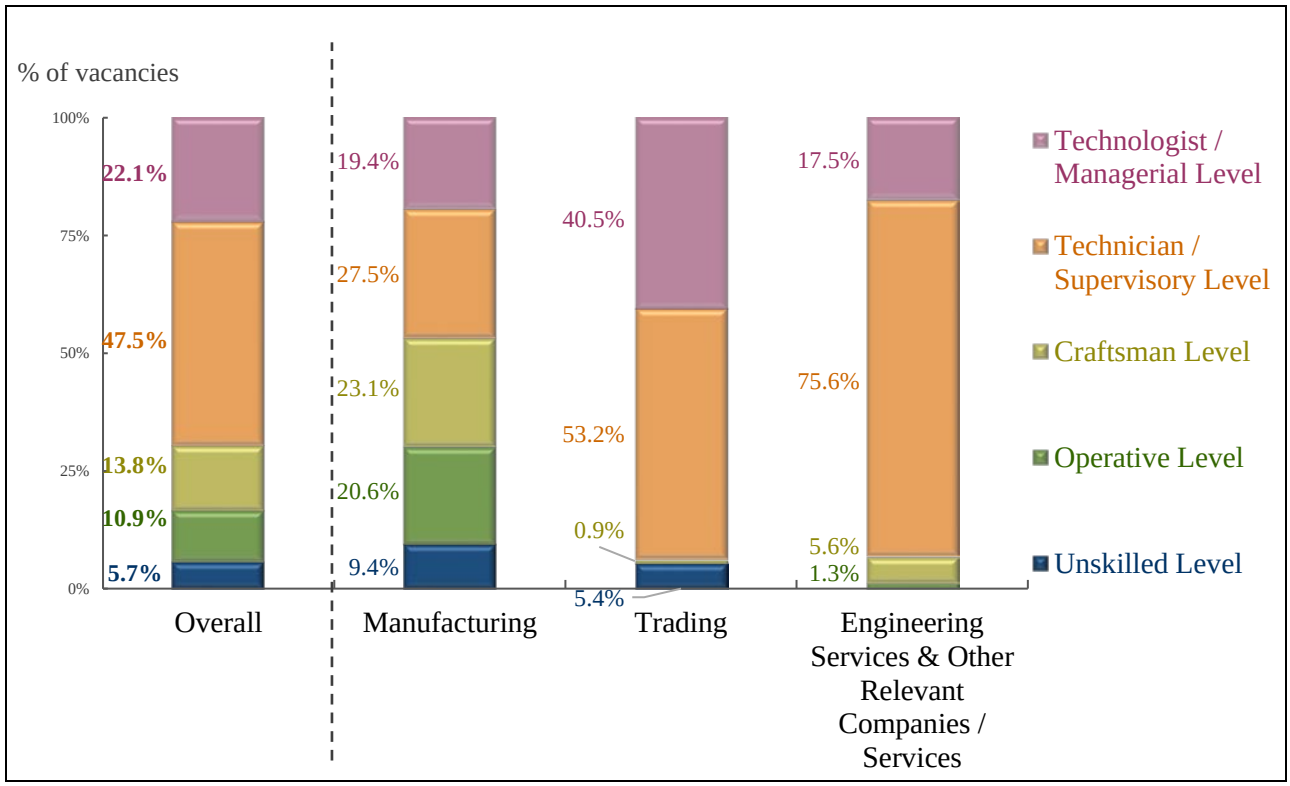
Table 4.4a Number of full-time vacancies – by sector and job level

Job level	OVERALL		Manufacturing		Trading		Engineering Services & Other Relevant Companies / Services	
	No. of vacancies	Vacancy rate	No. of vacancies	Vacancy rate	No. of vacancies	Vacancy rate	No. of vacancies	Vacancy rate
Technologist / Managerial	156	[1.5%]	70	[3.0%]	45	[0.7%]	41	[2.5%]
Technician / Supervisory	335	[1.5%]	99	[1.9%]	59	[0.5%]	177	[4.5%]
Craftsman	97	[2.3%]	83	[2.2%]	1	[0.8%]	13	[2.8%]
Operative	77	[4.6%]	74	[4.7%]	0	-	3	[4.5%]
Unskilled	40	[3.5%]	34	[4.7%]	6	[2.0%]	0	-
Overall:	**705**	**[1.8%]**	**360**	**[2.7%]**	**111**	**[0.6%]**	**234**	**[3.8%]**

$$\text{Vacancy rate} = \frac{\text{No. of vacancies}}{\text{Total no. of posts (no. of employees + no. of vacancies)}}$$ (for the respective job level in the respective sector)

4.12 Across sectors, the percentage of technician / supervisory level was significantly higher in the engineering services and other relevant companies / services sector (75.6%), while the percentage of technologist / managerial level was significantly higher in the trading sector (40.5%).

Chart 4.3b Distribution of full-time vacancies – by sector and job level



Prominent Vacancies

4.13 The top prominent vacancies in the respective sectors were one of the top 3 prominent principal jobs, including Electrician in the manufacturing sector (42 vacancies), Technical Sales / Marketing Executive in the trading sector (37 vacancies) and Laboratory / Materials Technician in the engineering services and other relevant companies / services sector (92 vacancies).

Table 4.4b Top 3 prominent vacancies – by sector

Sector	Top 3 prominent vacancies	No. of vacancies	Vacancy rate
Manufacturing (Total: 360 vacancies)	Electrician	42	[5.5%]
	Semi-skilled Machine Operator	36	[5.9%]
	Assembler	35	[6.7%]
Trading (Total: 111 vacancies)	Technical Sales / Marketing Executive	37	[0.9%]
	Technical Sales / Marketing Manager	28	[1.1%]
	General Worker	6	[2.0%]
	Coordinator	6	[0.7%]
	Engineering Buyer / Merchandiser	6	[0.1%]
Engineering Services & Other Relevant Companies / Services (Total: 234 vacancies)	Laboratory / Materials Technician	92	[5.2%]
	Technical Services Technician	50	[7.1%]
	Technical Sales / Marketing Executive	20	[17.5%]

Technologist / Managerial Level Technician / Supervisory Level Craftsman Level
Operative Level Unskilled Level

$$\text{Vacancy rate} = \frac{\text{No. of vacancies}}{\text{Total no. of posts (no. of employees + no. of vacancies)}}$$ (for the respective principal job)

Posts to be Newly Recruited in the Coming Year

4.14 The employers being surveyed expected that 627 new posts will be recruited in the coming year. Most of the new posts were found in the manufacturing sector (58.1%), and the remaining were about evenly split by the trading sector (21.5%) and engineering services and other relevant companies / services sector (20.4%).

4.15 In terms of job levels, similar to the distribution of vacancies, most of the new posts were jobs at the technician / supervisory level (59.6%). Across sectors, the new posts in the technician / supervisory level also accounted for the largest part: 48.9% for the manufacturing sector, 79.3% for the trading sector and 69.5% for the engineering services and other relevant companies / services sector.

Table 4.5a Number of posts to be newly recruited in the coming year – by sector and job level

Job level	OVERALL		Manufacturing		Trading		Engineering Services & Other Relevant Companies / Services	
	No. of new posts	(%)	No. of new posts	(%)	No. of new posts	(%)	No. of new posts	(%)
Technologist / Managerial	95	15.2%	45	12.4%	27	20.0%	23	18.0%
Technician / Supervisory	374	59.6%	178	48.9%	107	79.3%	89	69.5%
Craftsman	67	10.7%	50	13.7%	1	0.7%	16	12.5%
Operative	71	11.3%	71	19.5%	0	-	0	-
Unskilled	20	3.2%	20	5.5%	0	-	0	-
Overall:	**627**	**100.0%**	**364**	**100.0%**	**135**	**100.0%**	**128**	**100.0%**
% among sectors		**100.0%**		**58.1%**		**21.5%**		**20.4%**

4.16 The most prominent new post was Technical Sales / Marketing Executive (89 new posts), followed by Mechanical Engineering Technician (79 new posts). The average monthly remuneration package for the top 5 prominent new posts is in the range of $30,000 or below.

Table 4.5b Top 5 prominent new posts & their average monthly remuneration package

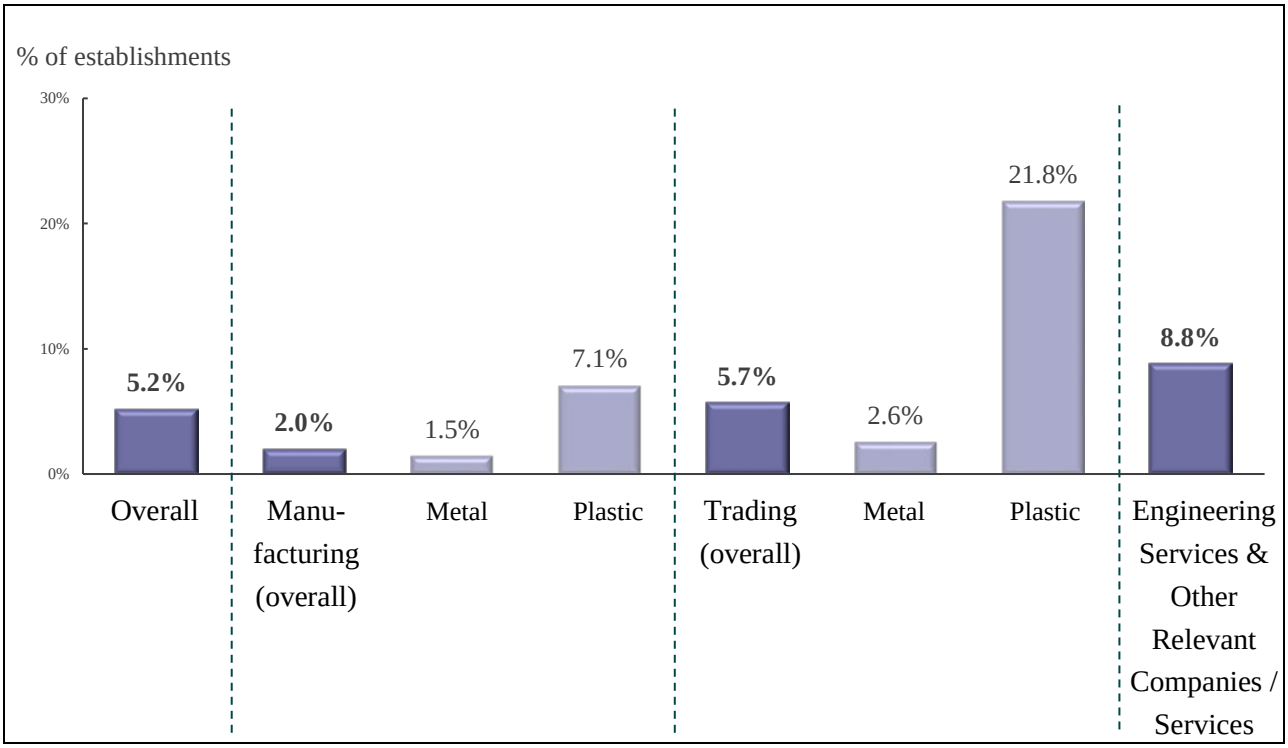
Principal jobs	No. of new posts	$20.001 - $30,000	$15,001 - $20,000	$15,000 or below
Technical Sales / Marketing Executive	89	38.2%	56.2%	5.6%
Mechanical Engineering Technician	79	2.5%	97.5%	-
Laboratory / Materials Technician	48	10.4%	52.1%	37.5%
Technical Services Technician	48	58.3%	37.5%	4.2%
Semi-skilled Machine Operator	44	-	77.3%	22.7%

Technician / Supervisory Level Operative Level

Hong Kong Technical Staff Stationed / Travelling to Greater Bay Area for Work

4.17 Of all establishments covered in the survey, 5.2% reported that they had Hong Kong technical staff stationed / travelling to Greater Bay Area (GBA) for work. Such percentage was higher in plastic-related trading sector (21.8%), followed by engineering services and other relevant companies / services sector (8.8%) and plastic-related manufacturing sector (7.1%).

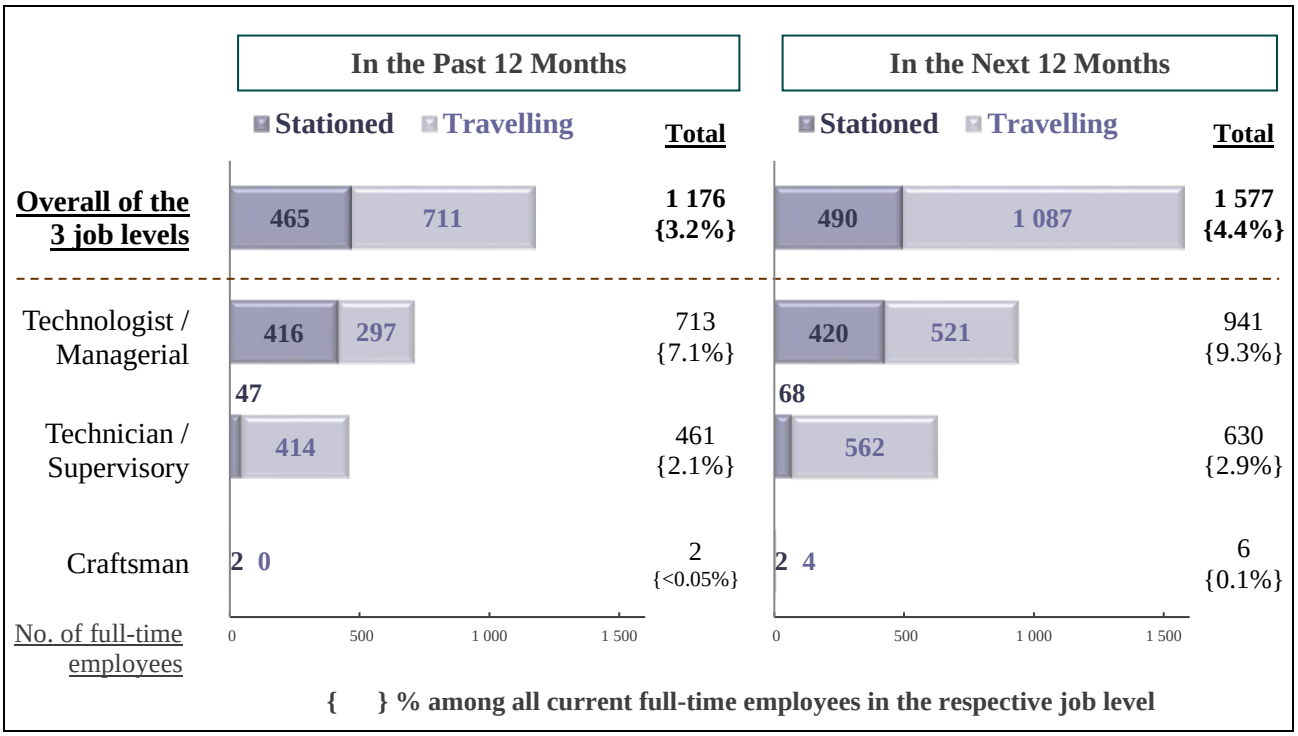
Chart 4.4a Proportion of establishments having Hong Kong technical staff stationed / travelling to GBA for work – by sector



4.18 During the 12 months before enumeration, a total of 1 176 employees engaging in the industry stationed / travelled to GBA for work. They accounted for 3.2% of the current full-time employees for the 3 specified job levels. Of which, relatively more of them travelled to GBA (711 employees), while a smaller proportion (465 employees) stationed in GBA. In terms of job level, relatively more were the technologist / managerial level (713 employees), in which more of them stationed in GBA (416 employees). Besides, another significant part was those of the technician / supervisory level (461 employees), in which a significant number travelled to GBA (414 employees).

4.19 Employers anticipated that more employees will station / travel to GBA in the next 12 months (from 1 176 to 1 577 employees). The increment was mostly for employees travelling to GBA (1 087 employees), for both the technologist / managerial level (521 employees) and the technician / supervisory level (562 employees).

Chart 4.4b Number of Hong Kong technical staff stationed / travelling to GBA for work – by job level



Note: Figures reflected the situation during the COVID-19.

Average Monthly Remuneration Package

4.20 The average monthly remuneration package for employees of the technologist / managerial level is in the range of $25,001 - $40,000 (62.9%). It was followed by $15,001 - $25,000 for the technician / supervisory level (79.0%), $15,001 - $20,000 for the craftsman level, $20,000 or below for the operative level (98.6%) and $15,000 or below for the unskilled level (94.0%).

Table 4.6 Average monthly remuneration package – by job level

Job Level	Above $40,000	$30,001 - $40,000	$25.001 - $30,000	$20,001 - $25,000	$15,001 - $20,000	$15,000 or below	No. of full-time employees
Technologist / Managerial	14.4%	33.2%	29.7%	20.7%	2.0%	-	10 083
Technician / Supervisory	0.4%	5.8%	10.2%	43.0%	36.0%	4.6%	21 571
Craftsman	-	-	1.4%	24.4%	65.4%	8.8%	4 190
Operative	-	-	-	1.4%	47.9%	50.7%	1 579
Unskilled	-	-	-	0.5%	5.5%	94.0%	1 097

denotes prominent ranges of remuneration package in the respective job level.

Preferred Education Level

4.21 Most of the employees at the technologist / managerial level were required to attain a first degree (66.4%). Sub-degree and diploma / certificate were mostly preferred for employees at the technician / supervisory level (68.2%), while most of those at the craftsman level were only required to attain a diploma / certificate or secondary 4 to 6/7 (75.1%).

Table 4.7 Preferred education level – by job level

Job Level	Post-graduate degree	First degree	Sub-degree	Diploma / certificate	Secondary 4 to 6/7	Secondary 3 or below	No. of full-time employees
Technologist / Managerial	1.7%	66.4%	21.8%	10.0%	0.1%	-	10 083
Technician / Supervisory	-	13.8%	32.6%	35.6%	18.1%	-	21 571
Craftsman	-	-	-	32.7%	42.4%	24.8%	4 190

denotes prominent preferred education levels in the respective job level.

Preferred Years of Experience

4.22 Similar to the average monthly remuneration package and preferred education level, the preferred years of experience correlated with job levels. Employers tended to require employees at the technologist / managerial level to have 3 years to less than 10 years of experience (85.8%). The most preferred years of experience for employees at the technician / supervisory level was 1 year to less than 6 years (84.4%), while most of those at the craftsman level were only required to have 1 year to less than 3 years of experience (60.5%).

Table 4.8 Preferred years of experience – by job level

Job Level	10 years or more	6 – < 10 years	3 – < 6 years	1 – < 3 years	< 1 year / no experience required	No. of full-time employees
Technologist / Managerial	14.3%	48.0%	37.8%	-	-	10 083
Technician / Supervisory	-	15.6%	43.6%	40.8%	-	21 571
Craftsman	-	2.3%	0.3%	60.5%	36.9%	4 190

denotes prominent preferred years of experience in the respective job level.

Age Groups

4.23 Of all 38 520 full-time employees, about half of them aged 41 - 56 (49.9%) and one-third aged 25 - 40 (33.1%). Employees in the manufacturing sector tended to be older than other sectors. While about one-quarter of them aged 57 or above (25.7%), the corresponding percentages in other sectors were below 13%. Another quarter aged 25 - 40 (26.7%), whereas the corresponding percentages in other sectors were above 30%. On the other hand, employees in the engineering services and other relevant companies / services sector tended to be younger. More than half of them aged 25 - 40 (52.5%).

Table 4.9 Age groups – by sector

Sector	Aged 57 or above	Aged 41 – 56	Aged 25 – 40	Aged 18 – 24	No. of full-time employees
Manufacturing	25.7%	45.4%	26.7%	2.2%	13 216
Trading	10.0%	58.6%	30.8%	0.7%	19 309
Engineering Services & Other Relevant Companies / Services	12.1%	28.7%	52.5%	6.8%	5 995
Overall:	**14.9%**	**49.9%**	**33.1%**	**2.1%**	**38 520**

denotes prominent age groups in the respective sector.

Employees Left and Recruited in the Past 12 Months

Employees Left

4.24 A total of 2 057 employees have left their establishments during the 12 months before enumeration. The turnover rate (i.e. the number of employees left as a percentage of the total number of posts) was 5.4%. Slightly higher turnover rate was found in operative level (8.2%), followed by technician / supervisory level (6.2%).

Employees Recruited

4.25 During the past 12 months before enumeration, a total of 2 089 full-time employees were recruited. The number of employees left was similar to the number of new recruits.

4.26 About half of the new recruits (50.8%) had relevant experience. Such percentage was relatively higher among the new recruits of operative level (74.1%), followed by craftsman level (64.5%).

Table 4.10 Full-time employees left and recruited in the past 12 months – by job level

Job level	No. of full-time employees left	Turnover rate	No. of new recruits	% of having relevant experience
Technologist / Managerial	315	[3.1%]	393	37.7%
Technician / Supervisory	1 361	[6.2%]	1 374	50.6%
Craftsman	245	[5.7%]	214	64.5%
Operative	136	[8.2%]	108	74.1%
Overall:	**2 057**	**[5.4%]**	**2 089**	**50.8%**

$$\text{Turnover rate} = \frac{\text{No. of employees left}}{\text{Total no. of posts (no. of employees + no. of vacancies)}} \quad \text{(for the respective job level)}$$

Recruitment Difficulties in the Past 12 Months

4.27 Of the establishments which had engaged in recruitment exercises for the respective level of employees during the 12 months before enumeration, the percentages of establishments encountering recruitment difficulties were relatively higher for those recruiting the technologist / managerial level (65.1%) and the craftsman level (61.6%), as compared with the technician / supervisory level (52.2%).

4.28 "Lack of candidates with relevant experience" is the most frequently mentioned difficulty across all levels of employees (about 33% - 38%). Moreover, quite a number of employers said that candidates found the industry offered "unsatisfactory terms of employment" (about 24% - 28%) which made recruitment for all levels more challenging.

4.29 For recruiting the technologist / managerial level, a considerable proportion of employers mentioned that candidates had "alternative offers in the job market" (27.4%) and made the industry less attractive to talents. For the technician / supervisory level, "insufficient trained / qualified manpower in the related disciplines" (24.7%) is also a common challenge. For the craftsman level, "unsatisfactory working environment" (32.6%) is also another key recruitment difficulty.

Table 4.11 Recruitment difficulties in the past 12 months before enumeration – by job level

	Technologist / Managerial	Technician / Supervisory	Craftsman
With recruitment difficulties	**65.1%**	**52.2%**	**61.6%**
• Lack of candidates with relevant experience	34.9%	33.2%	38.4%
• Unsatisfactory terms of employment	26.4%	23.6%	27.9%
• Insufficient trained / qualified manpower in the related disciplines	15.1%	24.7%	8.1%
• Alternative offers in the job market	27.4%	14.8%	15.1%
• Unsatisfactory working environment	5.7%	6.5%	32.6%
• Limited career prospects	8.5%	2.1%	2.3%
• Competition for manpower from the Mainland / Macao / other cities	5.7%	0.5%	1.2%
• Others (e.g. migration wave, shortage of young talents to fill-up senior positions, etc.)	0.9%	0.3%	-
Without recruitment difficulties	**34.9%**	**47.8%**	**38.4%**
No. of establishments with recruitment exercise (% of establishments with recruitment exercise for the respective level of full-time employees)	**106** (1.3%)	**385** (4.6%)	**86** (1.0%)

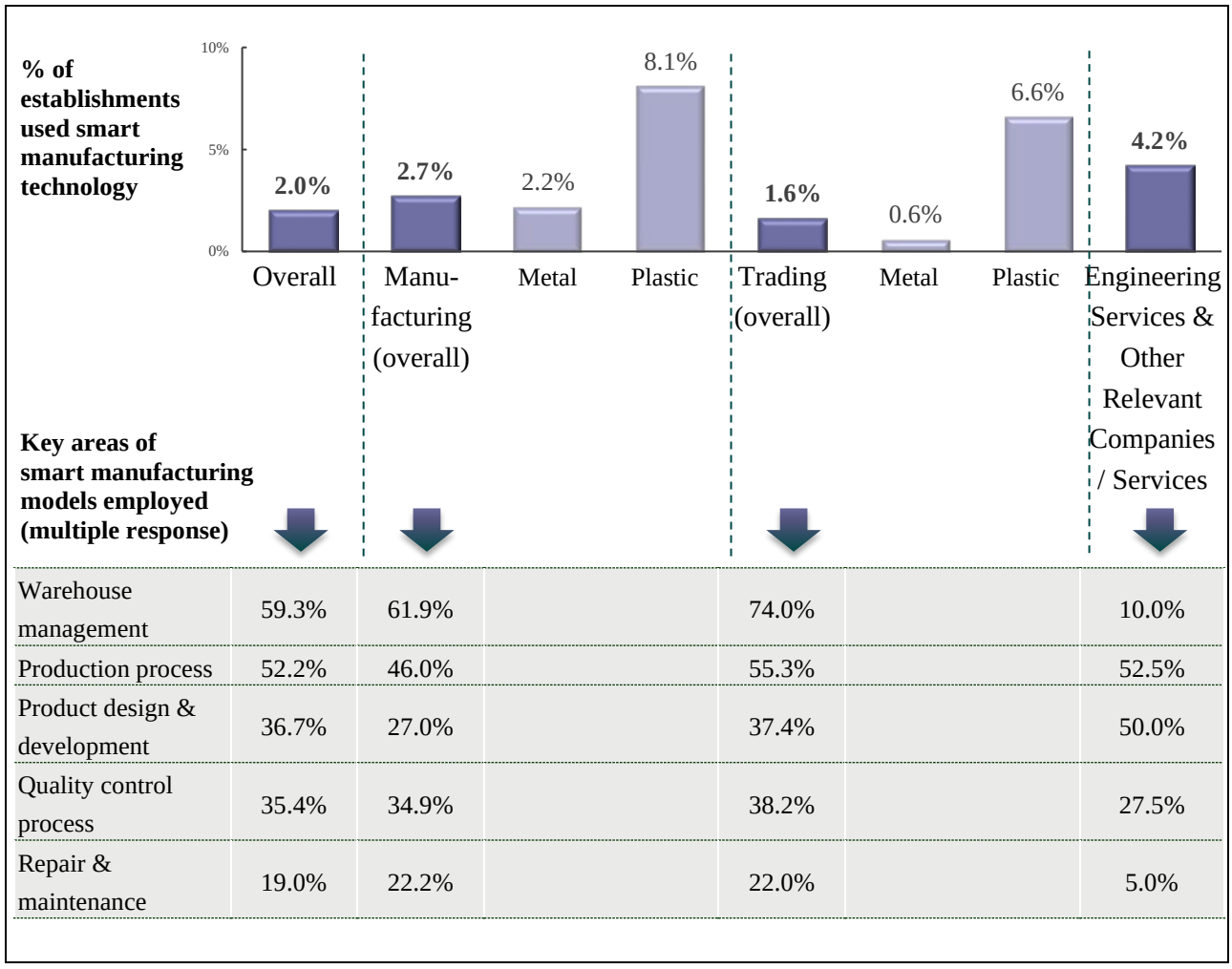
Note: Respondents may mention more than one recruitment difficulties.

Application of Smart Manufacturing Technology

4.30 Of all establishments covered in the survey, 2.0% used smart manufacturing technology to monitor, optimise and predict the manufacturing processes so as to enhance the production efficiency and adapt to the rapidly changing market demand. Such percentage was relatively higher in plastic-related manufacturing (8.1%) and trading (6.6%) sectors.

4.31 Among the establishments which used smart manufacturing technology, "warehouse management" (59.3%) and "production process" (52.2%) are the most common areas of smart manufacturing models employed. They were followed by "product design and development" (36.7%) and "quality control process" (35.4%).

Chart 4.5 Application of smart manufacturing technology – by sector



Warehouse management	59.3%	61.9%		74.0%		10.0%
Production process	52.2%	46.0%		55.3%		52.5%
Product design & development	36.7%	27.0%		37.4%		50.0%
Quality control process	35.4%	34.9%		38.2%		27.5%
Repair & maintenance	19.0%	22.2%		22.0%		5.0%

4.32 Table 4.12 below listed the application of smart manufacturing technology in different branches. For some branches, relevant findings should be interpreted with caution due to the small bases. When excluding them, it was observed that higher percentage of companies engaging in the manufacture of medical equipment (19.8%) applied smart manufacturing technology.

Table 4.12 Application of smart manufacturing technology – by branch

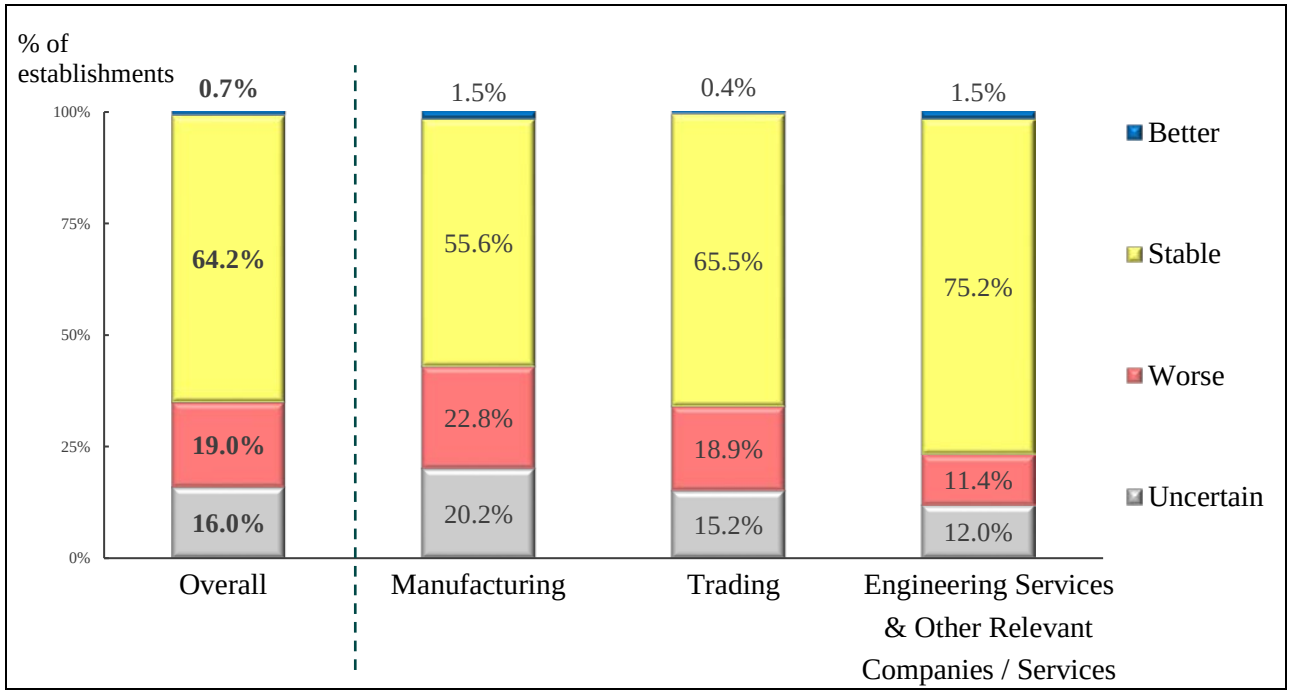
	Yes	No	No. of establishments
Manufacturing	**2.7%**	**97.3%**	**2 372**
Metals	2.2%	97.8%	2 175
- Repair and installation of machinery and equipment	*0.3%*	*99.7%*	*1 130*
- Manufacture of fabricated metal products (except machinery and equipment) and metal toys	*0.3%*	*99.7%*	*398*
- Manufacture of medical equipment	*19.8%*	*80.2%*	*81*
- Plant maintenance section of food and beverage manufacturing industries	*8.9%*	*91.1%*	*250*
- Manufacture of machinery and equipment	*1.2%*	*98.8%*	*167*
- Manufacture of electrical equipment	*2.0%*	*98.0%*	*98*
- Manufacture of basic metal elements	*2.0%*	*98.0%*	*51*
Plastic	8.1%	91.9%	197
- Manufacture of plastic products not elsewhere classified	*7.9%*	*92.1%*	*89*
- Development and manufacture of plastic toys	*4.2%*	*95.8%*	*24**
- Manufacture of polybags (excl. handbags)	*9.3%*	*90.7%*	*54*
- Development and manufacture of plastic cases and parts	-	*100.0%*	*20**
- Development and manufacture of plastic domestic utensils	*30.0%*	*70.0%*	*10**
Trading	**1.6%**	**98.4%**	**7 847**
Metals	0.6%	99.4%	6 582
- Wholesale, import and export of machinery and equipment	*0.6%*	*99.4%*	*6 582*
Plastic	6.6%	93.4%	1 265
- Import and export of toys	*6.9%*	*93.1%*	*859*
- Import and export of plastics products	*6.2%*	*93.8%*	*406*
Engineering Services & Other Relevant Companies / Services	**4.2%**	**95.8%**	**951**
- Engineering services	*2.6%*	*97.4%*	*873*
- Training / education institution	*50.0%*	*50.0%*	*4**
- Advanced materials suppliers	*3.6%*	*96.4%*	*56*
- Smart manufacturing & Industry 4.0 solution providers	*72.2%*	*27.8%*	*18**
Overall:	**2.0%**	**98.0%**	**11 170**

Note: * Due to the small base, relevant findings should be interpreted with caution.

Expected Change in Business Volume in the Next 12 Months

4.33 Most of the establishments (64.2%) expected that their business volume will remain stable in the next 12 months. Only a small proportion (0.7%) anticipated that it will be better. Conversely, about one-fifth (19.0%) expected a worsening situation. Such percentage was lower in the engineering services and other relevant companies / services sector (11.4%).

Chart 4.6 Expected change in business volume in the next 12 months – by sector



4.34 The major reasons for expecting better business volume are:

(a) Anticipated that the COVID-19 pandemic situation will be eased and the economic condition will be recovered;

(b) Observed an increasing trend in own business volume, and anticipated an increase in market demand; and

(c) Expected that the market demand of particular segments will be increased / remained large (e.g. surgical mask, micro-chips, materials testing services, etc.).

4.35 The major reasons for expecting worse business volume are:

(a) Worried about the economic downturn caused by the COVID-19 pandemic which continued to affect the business situation in Hong Kong;

(b) Expected that the market demand of particular segments will be decreased (e.g. plastic bags, toys, etc.); and

(c) Keen competition from the Mainland.

Training Areas Required for Employees to Meet the Fast-changing Industrial

Trend and Development Needs

4.36 When establishments were asked to list out the training areas which were required for employees to meet the fast-changing industrial trend and development needs of the industry, it was noted that some technology skills were commonly mentioned by employers of different sectors for different levels of employee. They include "human machine interaction", "robotic process automation", "artificial intelligence", "cybersecurity" and "industrial internet of things".

4.37 For operational management and soft skills, survey results showed that some training areas were commonly required for employees in different sectors and different job levels, including "problem solving skills", "interpersonal skills", "risk management", "project management", "supply chain management" and "lean manufacturing".

Table 4.13a Top 3 training areas required for employees in the manufacturing sector to meet the fast-changing industrial trend and development needs – by job level

Training areas	Technologist / Managerial	Technician / Supervisory	Craftsman
A. Technologies			
Artificial Intelligence	*		
Cloud Computing			
Cybersecurity			
Data Mining, Analysis & Visualisation			
Human Machine Interaction	*	*	*
Industrial Internet of Things		*	
Robotic Process Automation	*	*	*
3D Printing			*
B. Operational Management & Soft Skills			
Lean Manufacturing	*	*	*
Project Management			
Supply Chain Management			
Risk Management	*		
Product Design & Development	*		
Interpersonal Skills		*	*
Problem Solving Skills	*	*	*
Design Thinking			

Note: (i) Respondents are invited to indicate the training needs required for (A) Technologies and (B) Operational Management & Soft Skills. The training areas with the highest percentage of respondents regarded as the top 3 are marked with * for each level.

(ii) Respondents may mention at most three items in each training area.

Table 4.13b Top 3 training areas required for employees in the trading sector to meet the fast-changing industrial trend and development needs – by job level

Training areas	Technologist / Managerial	Technician / Supervisory	Craftsman
A. Technologies			
Artificial Intelligence			
Cloud Computing			
Cybersecurity	*	*	
Data Mining, Analysis & Visualisation	*		
Human Machine Interaction		*	*
Industrial Internet of Things	*	*	*
Robotic Process Automation			*
3D Printing			
B. Operational Management & Soft Skills			
Lean Manufacturing			*
Project Management		*	
Supply Chain Management	*	*	
Risk Management			
Product Design & Development			
Interpersonal Skills	*	*	*
Problem Solving Skills	*		*
Design Thinking			

Notes: (i) Respondents are invited to indicate the training needs required for (A) Technologies and (B) Operational Management & Soft Skills. The training areas with the highest percentage of respondents regarded as the top 3 are marked with * for each level.

(ii) Respondents may mention at most three items in each training area.

Table 4.13c Top 3 training areas required for employees in the engineering services and other relevant companies / services to meet the fast-changing industrial trend and development needs – by job level

Training areas	Technologist / Managerial	Technician / Supervisory	Craftsman
A. Technologies			
Artificial Intelligence	*	*	
Cloud Computing	*		
Cybersecurity	*	*	*
Data Mining, Analysis & Visualisation			
Human Machine Interaction			*
Industrial Internet of Things			
Robotic Process Automation		*	*
3D Printing			*
B. Operational Management & Soft Skills			
Lean Manufacturing			*
Project Management	*	*	
Supply Chain Management			
Risk Management		*	
Product Design & Development		*	
Interpersonal Skills	*		*
Problem Solving Skills	*		*
Design Thinking			

Notes: (i) Respondents are invited to indicate the training needs required for (A) Technologies and (B) Operational Management & Soft Skills. The training areas with the highest percentage of respondents regarded as the top 3 are marked with * for each level.

(ii) Respondents may mention at most three items in each training area.

5 Manpower Analysis

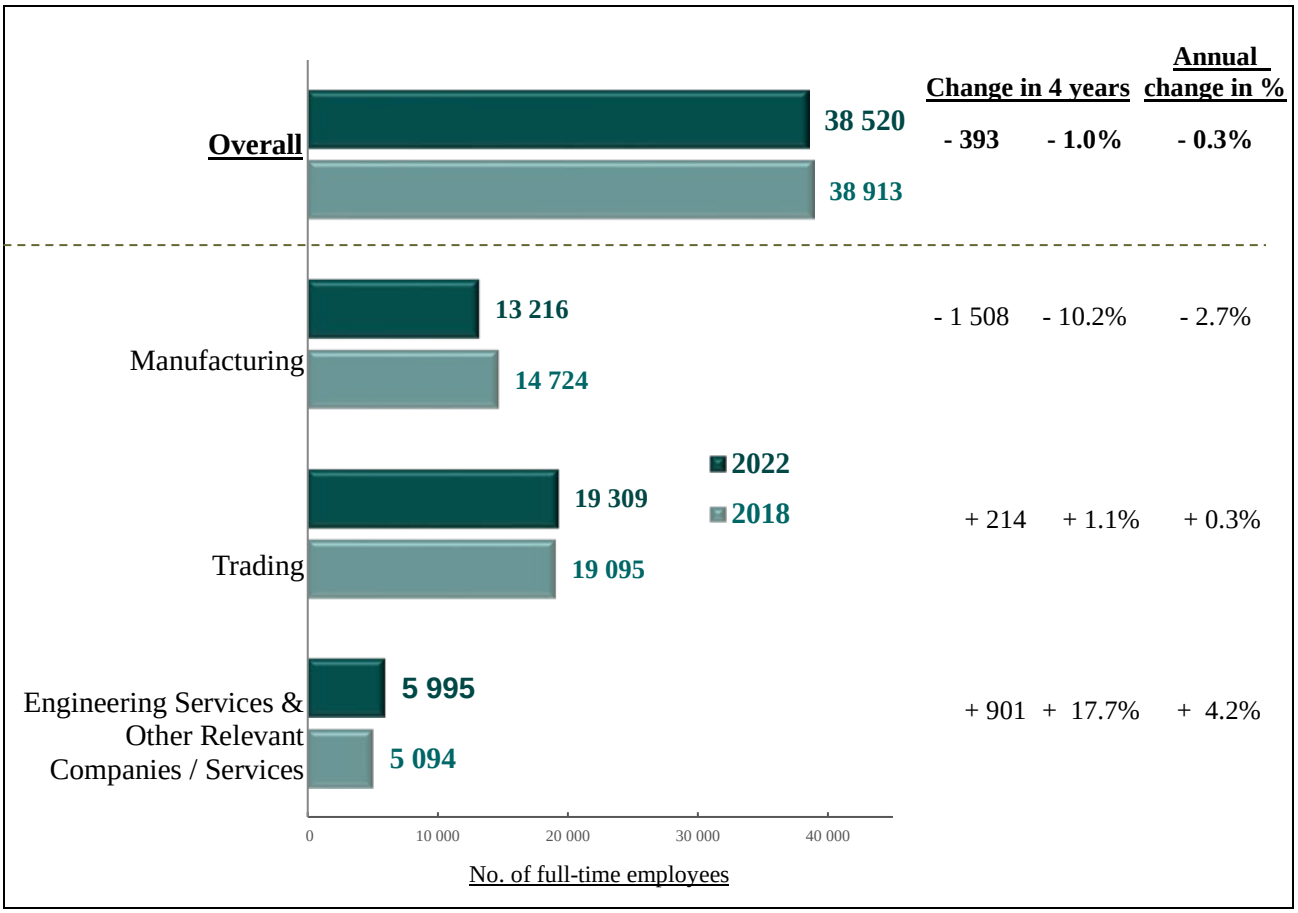
Manpower Changes between 2022 and 2018

Changes in Number of Full-time Employees

By Sector

5.1 The total number of full-time employees has slightly decreased from 38 913 in 2018 to 38 520 in 2022, with a decrement of 1.0% (-393 persons). When analysed by sector, there was a decrease in the manufacturing sector (-10.2%; -1 508 persons), while a significant increase was observed for the engineering services and other relevant companies / services (+17.7%; +901 persons).

Chart 5.1 Changes in number of full-time employees – by sector



By Branch

5.2 When analysed by branch, the largest decrease was found in the repair and installation of machinery and equipment (-671 persons), followed by the manufacture of fabricated metal products

and metal toys (-561 persons) and the manufacture of electrical equipment (-423 persons). On the other hand, the largest increase was found in the engineering services (+1 350 persons), followed by the manufacture of medical equipment (+596 persons) and the development and manufacture of plastic toys (+306 persons).

Table 5.1 Changes in number of full-time employees – by branch

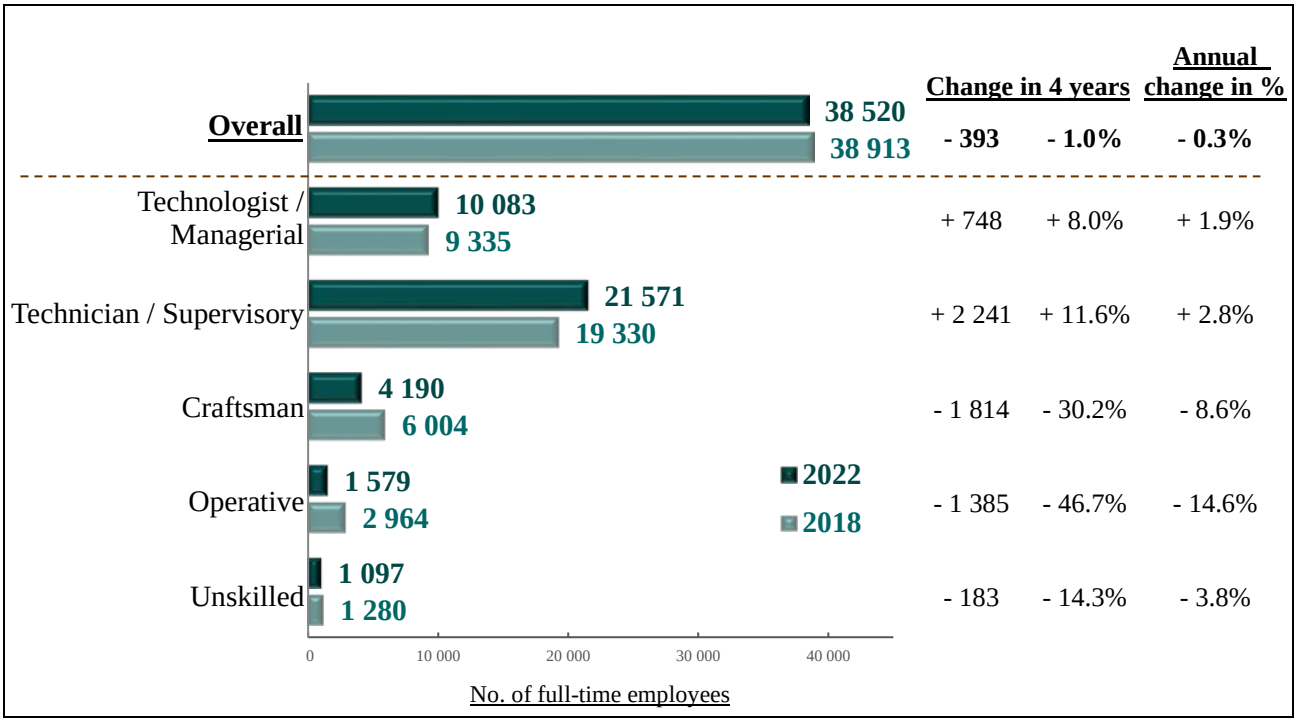
	No. of full-time employees		Change in 4 years		Annual change in %
	2022	2018			
Manufacturing	**13 216**	**14 724**	**- 1 508**	**- 10.2%**	**- 2.7%**
Metals	11 897	13 379	- 1 482	- 11.1%	- 2.9%
- Repair and installation of machinery and equipment	*6 740*	*7 411*	*- 671*	*- 9.1%*	*- 2.3%*
- Manufacture of fabricated metal products (except machinery and equipment) and metal toys	*1 313*	*1 874*	*- 561*	*- 29.9%*	*- 8.5%*
- Manufacture of medical equipment	*966*	*370*	*+ 596*	*+ 161.1%*	*+ 27.1%*
- Plant maintenance section of food and beverage manufacturing industries	*861*	*835*	*+ 26*	*+ 3.1%*	*+ 0.8%*
- Manufacture of machinery and equipment	*803*	*1 069*	*- 266*	*- 24.9%*	*- 6.9%*
- Manufacture of electrical equipment	*774*	*1 197*	*- 423*	*- 35.3%*	*- 10.3%*
- Manufacture of basic metal elements	*440*	*623*	*- 183*	*- 29.4%*	*- 8.3%*
Plastic	1 319	1 345	- 26	- 1.9%	- 0.5%
- Manufacture of plastic products not elsewhere classified	*604*	*843*	*- 239*	*- 28.4%*	*- 8.0%*
- Development and manufacture of plastic toys	*345*	*39*	*+ 306*	*+ 784.6%*	*+ 72.5%*
- Manufacture of polybags (excl. handbags)	*149*	*194*	*- 45*	*- 23.2%*	*- 6.4%*
- Development and manufacture of plastic cases and parts	*111*	*129*	*- 18*	*- 14.0%*	*- 3.7%*
- Development and manufacture of plastic domestic utensils	*110*	*140*	*- 30*	*- 21.4%*	*- 5.9%*
Trading	**19 309**	**19 095**	**+ 214**	**+ 1.1%**	**+ 0.3%**
Metals	12 650	12 463	+ 187	+ 1.5%	+ 0.4%
- Wholesale, import and export of machinery and equipment	*12 650*	*12 463*	*+ 187*	*+ 1.5%*	*+ 0.4%*
Plastic	6 659	6 632	+ 27	+ 0.4%	+ 0.1%
- Import and export of toys	*5 109*	*4 897*	*+ 212*	*+ 4.3%*	*+ 1.1%*
- Import and export of plastics products	*1 550*	*1 735*	*- 185*	*- 10.7%*	*- 2.8%*
Engineering Services & Other Relevant Companies / Services	**5 995**	**5 094**	**+ 901**	**+ 17.7%**	**+ 4.2%**
- Engineering services	*5 154*	*3 804*	*+ 1 350*	*+ 35.5%*	*+ 7.9%*
- Training / education institution	*468*	*643*	*- 175*	*- 27.2%*	*- 7.6%*
- Advanced materials suppliers	*286*	*647*	*- 361*	*- 55.8%*	*- 18.5%*
*- Smart manufacturing & Industry 4.0 solution providers**	*87*	*N/A*	*N/A*	*N/A*	*N/A*
Overall:	**38 520**	**38 913**	**- 393**	**- 1.0%**	**- 0.3%**

**Newly added in the coverage of 2022 survey*

By Job Level

5.3 When analysed by job level, the increase in the number of full-time employees was larger for the technician / supervisory level (+2 241 persons), whilst significant decreases were recorded for the craftsman level (-1 814 persons) and the operative level (-1 385 persons).

Chart 5.2 Changes in number of full-time employees – by job level



Changes in Number of Trainees

5.4 The total number of trainees has decreased, from 181 in 2018 to 139 in 2022, with a decrement of 23.2% (-42 trainees). When analysed by sector, decreases were found in the manufacturing (-34 trainees) and the trading (-26 trainees) sectors, while an increase was observed in the engineering services and other relevant companies / services sector (+18 trainees). When analysed by job level, increase was only found for trainees at the technician / supervisory level (+11 trainees).

Table 5.2 Changes in number of trainees – by sector and job level

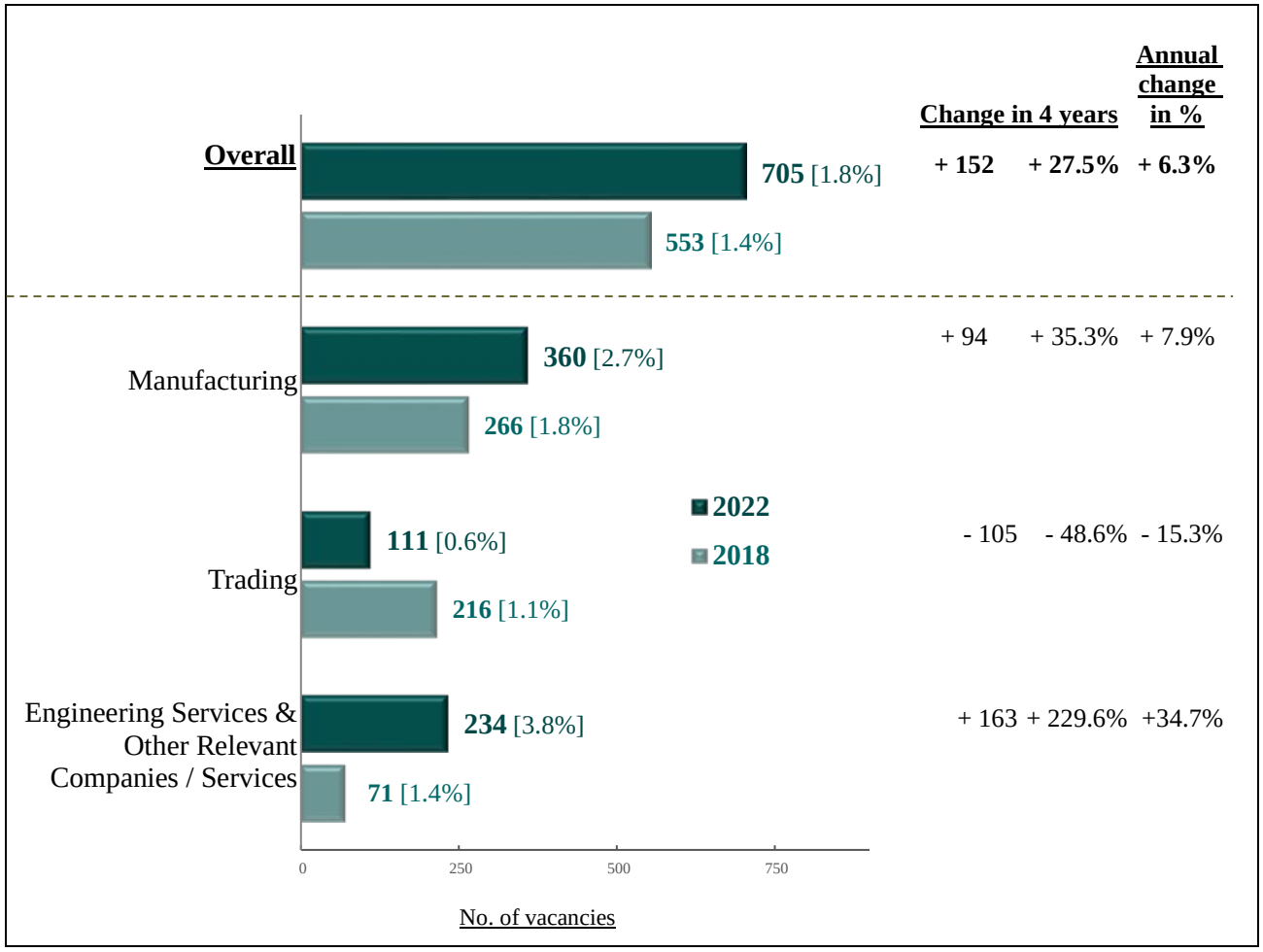
	No. of trainees		Change in 4 years		Annual change in %
	2022	2018			
By Sector					
Manufacturing	81	115	- 34	- 29.6%	- 8.4%
Trading	7	33	- 26	- 78.8%	- 32.1%
Engineering Services & Other Relevant Companies / Services	51	33	+ 18	+ 54.5%	+ 11.5%
By Job Level					
Technologist / Managerial	9	24	- 15	- 62.5%	- 21.7%
Technician / Supervisory	77	66	+ 11	+ 16.7%	+ 3.9%
Craftsman	50	59	- 9	- 15.3%	- 4.1%
Operative	3	32	- 29	- 90.6%	- 44.7%
Unskilled	0	0	-	-	-
Overall:	**139**	**181**	**- 42**	**- 23.2%**	**- 6.4%**

Changes in Number of Full-time Vacancies

By Sector

5.5 The total number of full-time vacancies has increased, from 553 in 2018 to 705 in 2022, with an increment of 27.5% (+152 vacancies). The increment was significantly higher in the engineering services and other relevant companies / services sector (+229.6%; +163 vacancies), especially for the engineering services (+538.7%; +167 vacancies). Besides, decrease in the number of full-time vacancies was found in the trading sector (-105 vacancies).

Chart 5.3 Changes in number of full-time vacancies – by sector

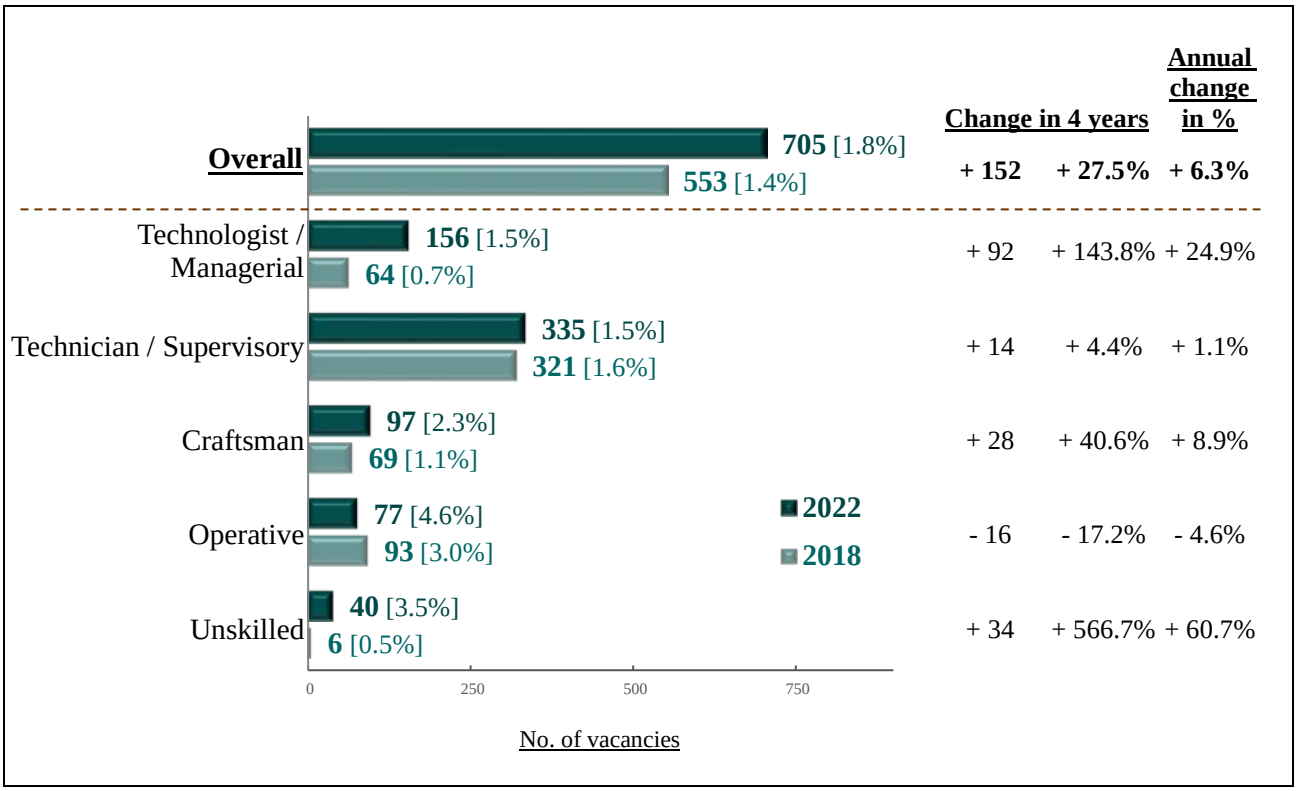


[ ] Vacancy rate = $\frac{\text{No. of vacancies}}{\text{Total no. of posts (no. of employees + no. of vacancies)}}$ (for the respective sector in the respective year)

By Job Level

5.6 A larger increase in the number of full-time vacancies was recorded for the technologist / managerial level (+92 vacancies), while a decrease was recorded for the operative level (-16 vacancies).

Chart 5.4 Changes in number of full-time vacancies – by job level



[ ] Vacancy rate = $\frac{\text{No. of vacancies}}{\text{Total no. of posts (no. of employees + no. of vacancies)}}$ (for the respective job level in the respective year)

Changes in Average Monthly Remuneration Package

5.7 Compared with the results of the 2018 survey, the common ranges of average monthly remuneration package in 2022 were similar across various job levels.

5.8 The remuneration package of the technologist / managerial level tended to increase slightly. The percentage of those ranged $30,001 - $40,000 slightly increased from 27.9% in 2018 to 33.2% in 2022, while those ranged $25,001 - $30,000 decreased from 40.0% to 29.7%. On the other hand, the remuneration package of the operative level tended to decrease slightly. The percentage for $15,001 - $20,000 decreased from 61.9% in 2018 to 47.9% in 2022, whereas the percentage for $15,000 or below increased from 36.7% to 50.7%.

Table 5.3 Changes in average monthly remuneration package – by job level

Job Level	Above $40,000	$30,001 - $40,000	$25.001 - $30,000	$20,001 - $25,000	$15,001 - $20,000	$15,000 or below	No. of full-time employees
2022							
Technologist / Managerial	14.4%	33.2%	29.7%	20.7%	2.0%	-	10 083
Technician / Supervisory	0.4%	5.8%	10.2%	43.0%	36.0%	4.6%	21 571
Craftsman	-	-	1.4%	24.4%	65.4%	8.8%	4 190
Operative	-	-	-	1.4%	47.9%	50.7%	1 579
Unskilled	-	-	-	0.5%	5.5%	94.0%	1 097
2018							
Technologist / Managerial	6.8%	27.9%	40.0%	21.1%	4.1%	0.1%	9 335
Technician / Supervisory	0.4%	0.7%	4.3%	43.2%	44.2%	7.2%	19 330
Craftsman	-	-	-	25.5%	61.4%	13.1%	6 004
Operative	-	-	0.2%	1.2%	61.9%	36.7%	2 964
Unskilled	-	-	-	-	5.5%	94.5%	1 280

denotes prominent ranges of remuneration package in the respective job level.

Changes in Preferred Education Level

5.9 Compared with the results of the 2018 survey, the common ranges of preferred education level were broadly similar across various job levels.

5.10 For employees at the technician / supervisory level, an increased percentage was preferred to attain a diploma / certificate (from 18.8% in 2018 to 35.6% in 2022), whereas there was a decreased preference in the craftsman level (from 42.1% in 2018 to 32.7% in 2022).

Table 5.4 Changes in preferred education level – by job level

Job Level	Post-graduate degree	First degree	Sub-degree	Diploma / certificate	Secondary 4 to 6/7	Secondary 3 or below	No. of full-time employees
2022							
Technologist / Managerial	1.7%	66.4%	21.8%	10.0%	0.1%	-	10 083
Technician / Supervisory	-	13.8%	32.6%	35.6%	18.1%	-	21 571
Craftsman	-	-	-	32.7%	42.4%	24.8%	4 190
2018							
Technologist / Managerial	12.8%	63.8%	19.6%	3.3%	0.5%	-	9 335
Technician / Supervisory	0.1%	17.7%	39.1%	18.8%	24.3%	-	19 330
Craftsman	-	-	-	42.1%	44.6%	13.3%	6 004

denotes prominent preferred education levels in the respective job level.

Business Outlook

The 14th Five-Year Plan for the National Economic and Social Development and the Long-Range Objectives Through the Year 2035

5.11 The 14th Five-Year Plan for the National Economic and Social Development and the Long-Range Objectives Through the Year 2035 (the 14th Five-Year Plan) has laid down a number of policies that are designed to support the development of scientific research and advanced manufacturing. To spur the growth of advanced manufacturing, the Chinese Government will focus on the strategic emerging industries, including smart production and robotics technology, high-end new materials and high-end medical equipment. Hong Kong manufacturers can adopt a more aggressive approach by adopting advanced technologies, accelerating equipment replacement and applying advanced technologies to new products.

2022 Policy Address: International Innovation and Technology Centre

5.12 The 14th Five-Year Plan announced by the Chinese Government in 2021 established Hong Kong's important position as an international innovation and technology centre. Innovation and technology (I&T) is an effective way to drive reindustrialisation and to enhance the high-quality development of Hong Kong. With the solid foundation of Hong Kong's industries and the advantages of Hong Kong's internationalisation position, I&T can support high value-added and high-tech manufacturing processes and production lines to settle in Hong Kong, which helps diversify Hong Kong's economy and create more high-quality employment opportunities.

5.13 As Chief Executive Mr. John Lee said after the release of the 2022 Policy Address, the Hong Kong Government focuses on the development and application of the internet of things, artificial intelligence, new materials and smart production processes so to develop high-end manufacturing industries suitable for Hong Kong, and promote the upgrading and transformation of traditional manufacturing industries.

5.14 To enhance the I&T ecosystem and achieve reindustrialisation, the Hong Kong SAR Government will establish the “Office for Attracting Strategic Enterprises” to attract high-quality enterprises and talents to Hong Kong, primarily focusing on industries such as advanced manufacturing, artificial intelligence and data science, life and health technology as well as new energy technology. The post of Commissioner for Industry will be created to co-ordinate and steer the strategy on reindustrialisation and assist the manufacturing sector in upgrading and transformation by making use of I&T. A sum of $10 billion will be earmarked to launch the “Research, Academic and Industry Sectors One-plus Scheme” to fund at least 100 research teams in universities which have good potential to become start-ups. The Re-industrialisation Funding Scheme subsidises the establishment of more smart production lines in Hong Kong, with the goal of quadrupling the number

of smart production lines from the current 30 to over 130 in five years. The Hong Kong SAR Government will also explore the construction of the second Advanced Manufacturing Centre at the Tai Po InnoPark, with an expected completion by 2027, and the development of San Tin Technopole in the Northern Metropolis will also be accelerated.

Relocation to Hong Kong

5.15 Having high value-added manufacturing activities locally is the most direct way to drive reindustrialisation. The Hong Kong SAR Government implements policies and provides subsidies to attract high value-added manufacturing to relocate to Hong Kong. For example, the Re-industrialisation Funding Scheme aims to help traditional manufacturers to establish automated and smart production lines in Hong Kong. A number of Hong Kong manufacturers, who are in the industrial internet of things (IIoT) and automated production stage, have already set up their production lines locally. The occupancy of the Advanced Manufacturing Centre at the Tseung Kwan O Industrial Estate since its launch in 2022 also indicates that high value-added and technology-intensive manufacturing processes and production lines can be set up in Hong Kong.

5.16 However, in the research, *Made by Hong Kong: The Way Forward for Hong Kong Industries*, released by the Federation of Hong Kong Industries in 2021[1], most respondents shared the challenges they faced in the relocation of production lines to Hong Kong. As a production chain involves a wide variety of production processes, the lack of upstream and downstream manufacturers to form a comprehensive industrial value chain locally becomes a major challenge for manufacturers to pursue advanced and high value-added production in Hong Kong. Another major problem, which hinders the relocation of production lines to Hong Kong, is the insufficient third-party producer services, that include automated production systems, industrial design and product development, advanced product testing and certification, technical training, and centralised logistics and warehouse services. Government policy support is required to enhance the producer services provision in support of advanced manufacturing development.

Smartification of Traditional Manufacturing to Advanced Manufacturing

5.17 The research by FHKI also indicates that 65% of the survey respondents, who were Hong Kong-invested manufacturers, had adopted a mix of traditional and automated production, and only about 13% of them were in the automated production and IIoT phase. It is estimated that most manufacturers were between Industry 2.0 and Industry 3.0 phase. The survey results reflect that although most of the factories had mechanical automation equipment to replace part of the labour force and improve efficiency, they had not yet reached Industry 4.0 in terms of intelligent production with fully integrated human-machine communication and machine-to-machine communication.

[1] The Federation of Hong Kong Industries. (2021). *Made by Hong Kong: The Way Forward for Hong Kong Industries*. Retrieved November 18, 2022, from https://www.industryhk.org/en/info/research-reports/made-by-hong-kong-full-report/

Factories in less advanced industrial phase, i.e. traditional production or the hybrid of traditional and automated production, tend to enhance their capability in product design and brand building, while factories in more advanced industrial phase, i.e. IIoT or automated production phase, tend to strengthen their capability in technological R&D, application of advanced technologies and management innovation through technologies. Smartification of manufacturing production has therefore become an opportunity yet a challenge to manufacturers.

R&D for Innofacturing

5.18 Drawn by the extensive government support and Hong Kong's R&D capabilities, a growing number of manufacturers are setting up production lines in Hong Kong. According to the research by FHKI, more than a third of Hong Kong-invested manufacturers whose factories were in advanced industrial phases had moved their operations or intended to relocate to Hong Kong. Nearly 60% of Hong Kong-invested manufacturers aim to strengthen their technology R&D and product design. In fact, Hong Kong has the conditions required for development of innovative technology and the promotion of manufacturing upgrades. The closer collaboration between industry, academic and research sectors would help industrialise research results into practical applications and functional products within the shortest possible time to maintain competitiveness and return on investment. The research and application of I&T will help manufacturers gain ground in advanced manufacturing, microelectronics, nanotechnology and biotechnology.

Upskilling for Digital Transformation

5.19 The latest technologies, smart manufacturing and R&D for innofacturing are able to revitalise traditional manufacturing industries and support the development of high value-added manufacturing industries that do not require much land and labour. ICT, AI and robotics, data analysis, big data application, IoT and new materials are the core technology fields for the reindustrialisation of Hong Kong. The adoption of the advanced technologies can help manufacturers move towards high technology and high value-added manufacturing models, linking machinery and equipment, personnel, processes and data in operating processes to build capabilities in communication, monitoring, analysis and decision making, and facilitating more flexible and automated manufacturing in response to rapid market changes. However, Hong Kong has a considerable shortage of related engineering talents who possess the digital skills in ICT, AI and robotics, data analysis, big data application, IoT, etc., to drive digital transformation of the manufacturing industry.

Nurturing Future Talents

5.20 According to the figures released by the Census and Statistics Department in August 2022[2], the population slid from 7 413 100 at mid-2021 to 7 291 600 in mid-2022. The decline was sharper than last year's 1.2% decrease. More than 113 000 residents left Hong Kong amid an emigration wave between mid-2021 and mid-2022, contributing to a record of 1.6% drop in the population and marking the second straight annual decline in numbers. The number of departures was nearly 1.3 times higher than the amount recorded in the year before, when 89 200 residents left. Young people in their early 20s have emerged as the main group of citizens who have left the city over the past five years. The city's population fell across almost all age groups since 2017, with the sharpest decline among those aged 20-24, sliding 7% from 312 290 to 290 100, a total of 22 190. Next were children aged 10 to 14, whose numbers fell by about 10 000 to 290 600, a 4% drop.

5.21 The total population is shrinking and so does the manufacturing workforce. While the Boomer generation continues to retire, Millennials, Gen Xers and Gen Zers show very limited interest in entering the manufacturing workforce. In short, Boomers are leaving faster than younger generations that are entering the industry. Together with the lack of required talents to fill the skills gap, the situation of the manufacturing workforce will be more challenging in the years to come. This reflects the need for Vocational and Professional Education and Training (VPET), STEM education, effective on-the-job training programmes and the application of advanced technologies such as automation and robots to automate manufacturing operations.

[2] Census and Statistics Department. (2022, 11 August). Mid-year population for 2022. Census and Statistics Department. Retrieved 2 December, 2022, from https://www.censtatd.gov.hk/en/press_release_detail.html?id=5078

Manpower Projection and Annual Additional Manpower Requirement

Manpower Projection

5.22 By referring to the historical manpower information, the manpower trend for 2023 - 2026 shows an upward manpower demand in the technologist / managerial level and the technician and supervisory level, while there is a downward trend in the craftsman level.

Table 5.5 Manpower Trend in 2023 - 2026

Job level	Number of posts (Annual change of manpower over preceding year)			
	2023	2024	2025	2026
Technologist / Managerial	10 451 (2.1%)	10 666 (2.1%)	10 883 (2.0%)	11 102 (2.0%)
Technician / Supervisory	22 417 (2.3%)	22 889 (2.1%)	23 324 (1.9%)	23 724 (1.7%)
Craftsman	3 961 (-7.6%)	3 693 (-6.8%)	3 474 (-5.9%)	3 292 (-5.2%)

Note: Operative and unskilled levels are excluded

Annual Additional Manpower Requirement

5.23 By taking into consideration (i) the projected manpower trend (Table 5.5) and (ii) the wastage rate of the industry (i.e. percentage of employees leaving the industry permanently on annual basis), there are annual additional manpower requirements for the technologist / managerial level and the technician and supervisory level. For the craftsman level, a negative manpower growth (249 annually) is recorded, exceeding the need to fill the manpower gap for industry leavers (95 annually). Therefore, no additional annual manpower is required for this level.

Table 5.6 Estimated Annual Additional Manpower Requirement

Job level	Wastage rate of the industry	Additional annual manpower requirement			
		Average manpower growth (a)	Industry leavers (b)	Total (a)+(b)	Range (±10%)
Technologist / Managerial	1.6%	216	174	390	351 – 429
Technician / Supervisory	3%	455	694	1149	1034 – 1264
Craftsman	2.5%	(249)	95	-	-

Manpower Demand and Supply Analysis

5.24 As shown in Table 5.6, the industry requires 351 - 429 additional manpower annually for the coming four years at the technologist / managerial level, and the preferred education level is a first degree (66.4%) as shown in Table 4.7. Regarding the manpower supply, the estimated number

of graduates shown in Table 5.7 covers government-funded programmes from sub-degree to degree levels in areas of mechanical, manufacturing and industrial engineering. According to the figures, the supply at the technologist / managerial level is deemed sufficient to meet the demand. However, graduates of these engineering programmes may not join the manufacturing technology industry and contribute to the workforce. Among the programmes the figures reflect, there is only one degree programme in intelligent manufacturing engineering offered by the City University of Hong Kong that is highly relevant to the manufacturing technology industry. Therefore, the actual supply contributing to the industry could be less than the figures show.

5.25 On the other hand, the industry requires 1 034 - 1 264 additional manpower at the technician / supervisory level annually, and the preferred education level is a diploma / certificate (35.6%) or a sub-degree (32.6%). The scarce supply of diploma, certificate and sub-degree graduates at the technician / supervisory level as shown in Table 5.7 reflects a deteriorating manpower provision and is more of the industry's concern. Ever since the northward migration of production lines which has resulted in diminishing demand for manufacturing technicians in Hong Kong, the provision of manufacturing-related training programmes has been dropping. With the Government's promotion of reindustrialisation and the industrial trend towards smart manufacturing, some training institutions have launched new programmes nurturing talents for advanced manufacturing, artificial intelligence, robotics, and Industry 4.0, etc. To respond to the manpower demand, the Vocational Training Council also offers one higher diploma programme and one diploma programme in artificial intelligence and robotics. However, the supply is still far below the demand, considering most graduates nowadays aspire to pursue further study rather than entering the workforce. As a result, the training for sub-degree, diploma and certificate levels is in great demand to provide sufficient manpower supply for the technician / supervisory level.

Table 5.7 Supply of Graduates at the Technologist / Managerial, Technician / Supervisory and Craftsman Levels in Mechanical / Manufacturing / Industrial Engineering Government-funded Programmes

Award	Estimated number of graduates	
	2022/23	2023/24
First Degree	473	384
Sub-degree	132	100
Diploma/ Certificate	62	73

6 Recommendations

Based on the business outlook and the manpower supply and demand situation derived from the survey findings, the Training Board recommends the following measures to all major stakeholders to meet the industry's manpower demand.

Industry to support business-school cooperation to promote advanced manufacturing and relevant vocational and professional education and training pathway

6.1 Young people have low interests in joining and staying in the manufacturing technology industry as the traditional "blue collar" image of a manufacturing career has discouraged them from applying for a job as well as their parents who envisage their children to pursue a career with higher social status instead of a labour intensive work in the manufacturing field. The industry image needs to be rebuilt through business-school cooperation as follows:

6.1.1 To junior and senior secondary school students, the industry and the training institutions could organise life and career planning activities, such as industry talks sharing the industry trend and opportunities, enterprise talks showcasing the success of local manufacturing enterprises, dialogues with alumni to learn about the career prospect, and industrial visits to smart factories.

6.1.2 To career counsellors and teachers of secondary schools, the industry could offer enterprise talks or industrial visits to imbue a mindset of career planning in the manufacturing industry. Career counsellors and secondary school teachers are also encouraged to study the Certificate of Vocational and Professional Education and Training (QF Level 4) offered by the VTC to learn about career planning through the vocational and professional education and training pathway.

Employers to leverage government resources in talent development

6.2 Manpower shortage is an inevitable fact, as shown in the drop of the Hong Kong population as well as the manufacturing workforce. Employers have the responsibility to take an active approach in talent development. The Hong Kong Government has poured in resources, including the following funding schemes, to support employers taking initiative in talent development:

6.2.1 The Engineering Graduate Training Scheme (EGTS) subsidises prospective employers to provide training opportunities for engineering graduates under the

employer's employment to attain professional status from the Hong Kong Institution of Engineers (HKIE). The period for subsidies is up to 18 months.

6.2.2 The Reindustrialisation and Technology Training Programme (RTTP) aims to subsidise local enterprises on a 2(Government):1(enterprise) matching basis to train staff of the enterprise in advanced technologies, especially those related to Industry 4.0. RTTP supports two types of training courses: public courses which are open to the public for enrolment and tailor-made courses which are designed for a particular enterprise.

6.2.3 The Pilot Incentive Scheme to Employers (PISE) offers incentives for employers who provide trainees with workplace learning and assessment under the VTC Earn & Learn Scheme, through which trainees can hone their knowledge and professional skills to meet the specific needs and new opportunities of the industries.

Employees to leverage government resources to upskill and reskill

6.3 Advanced and smart manufacturing is the future industry trend. While employers strive for digital transformation of traditional manufacturing, employees are highly recommended to upskill and reskill themselves, by making good use of government resources as follows, to catch up with the industry trend and for a widen career prospect.

6.3.1 Vplus Engineering is a subsidy scheme supported by the Hong Kong Government for the promotion of lifelong learning. To encourage working adults to pursue higher qualifications geared towards upward mobility while promoting professionalism in the disciplines of construction and engineering, Vplus Engineering subsidises practitioners pursuing the designated VTC professional part-time programmes accredited at QF Level 3 to 5.

Training institutions to provide training programmes, workplace attachment or apprenticeship to equip skills in advanced technologies

6.4 The manufacturing technology industry has been facing industrial talent shortage. The challenge has become more desperate when the emigration wave causes an outflow of professional and technical talents while new blood is scarce in the manufacturing talent pool. Training institutions are recommended to prepare talents with relevant experience and qualifications in the following ways:

6.4.1 Offer bite-sized learning programmes, which break down learning content into digestible chunks, to make the learning more focused and easier for learners to work through at a pace that suits them. The bite-sized learning programmes can also be accumulated for recognizable qualifications. Training areas may cover the following suggestions by employers in the manpower survey:

a. Hard skills: human-machine interaction, robotic process automation, artificial intelligence, industrial internet of things, data analysis, cybersecurity, cloud computing, 3D printing, etc.
b. Soft skills: problem solving skills, lean management, product design and development, risk management, supply chain management, project management, interpersonal skills, etc.

6.4.2 Provide the opportunity of internship or workplace attachment in degree programmes so as to strengthen students' ability of technology application in enterprise settings.

6.4.3 Encourage students to enrol in VTC Earn & Learn Scheme and Apprenticeship Training Scheme, which integrates structured classroom learning with on-the-job training to equip students' understanding of advanced manufacturing and the skills required by the industry.

Appendix 1

Membership of Manufacturing Technology Training Board

Chairman

Mr CHEUNG Tat-choi Stanley

Members

Mr AU Kit-ho Alfred

Mr CHEUNG Chi-fai

Mr CHOI Chun-kit Felix

Ir CHOW Hon-kong John

Ms Martha HAO

Prof George Q. HUANG

Mr KONG Hon-po Vincent

Mr LAI Chun-yu Frankie

Mr LEE Siu-wah Edward

Mr LEE Yuen-fat

Mr NG Ping-hong

Ir SUEN Kwok-wai Samson

Mr SUN Yung-liang Warren

Dr TSUI Chi-pong Gary

Ir Prof YOUNG Meng-cheung Andrew

Mr HO Cheurk-lam Alex *(Since 26 January 2023)*

Ms LUNG Po-ning *(Up to 25 January 2023)*

Miss TJHIA Wing Chi Ruby *(Since 18 July 2022)*

Mr Teric WONG *(Up to 17 July 2022)*

Ir LAI Chi-fai *(Since 10 October 2022)*

Ir Dr LI Kam-hing, Keith *(Up to 9 October 2022)*

Secretary

Ms LAI Wing-chi Jackie

Appendix 2

Terms of Reference of
Manufacturing Technology Training Board

1. To determine the manpower demand of the industry, including the collection and analysis of relevant manpower and student/trainee statistics and information on socio-economic, technological and labour market developments.
2. To assess and review whether the manpower supply for the industry matches with the manpower demand.
3. To recommend to the Vocational Training Council (the Council) the development of vocational and professional education and training (VPET) facilities to meet the assessed manpower demand.
4. To advise the Council on the strategic development and quality assurance of its programmes in the relevant disciplines.
5. To prescribe job specifications for the principal jobs in the industry defining the skills and knowledge and advise on relevant training programme specifying the time a trainee needs to spend on each skill element.
6. To tender advice in respect of skill assessments, trade tests and certification for in-service workers, apprentices and trainees, for the purpose of ascertaining that the specified skill standards have been attained.
7. To advise on the conduct of skill competitions in key trades in the industry for the promotion of VPET as well as participation in international competitions.
8. To liaise with relevant bodies, including employers, employers' associations, trade unions, professional institutions, training and educational institutions and government departments, on matters pertaining to the development and promotion of VPET in the industry.
9. To organise seminars/conferences/symposia on VPET for the industry.
10. To advise on the publicity relating to the activities of the Training Board and relevant VPET programmes of the Council.
11. To submit to the Council an annual report on the Training Board's work and its recommendations on the strategies for programmes in the relevant disciplines.
12. To undertake any other functions delegated by the Council in accordance with Section 7 of the Vocational Training Council Ordinance.

Appendix 3

Membership of Working Party on Manpower Survey

Convenor

Mr CHEUNG Tat-choi Stanley

Members

Mr AU Kit-ho Alfred

Mr CHEUNG Chi-fai

Mr CHOI Chun-kit Felix

Prof George Q. HUANG

Mr LAI Chun-yu Frankie

Mr LEE Siu-wah Edward

Mr NG Ping-hong

Ir SUEN Kwok-wai Samson

Ir Prof. YOUNG Meng-cheung Andrew

Mr YEUNG Shiu-hin Winston *(Since 11 November 2022)*

Dr TANG Shung-tse Alan *(Up to 10 November 2022)*

Mr WAN Siu-chung

Secretary

Ms LAI Wing-chi Jackie

Appendix 4

Definition of Terms

Employees	"Employees" refers to persons who are under the payroll of the sampled establishment / company for the specified job, disregarding whether the employees are deployed to work in other places (including the mainland of China).
Trainees	"Trainees" includes all trainees receiving any form of training and apprentices under a contract of apprenticeship.
Vacancies	"Vacancies" refers to those unfilled, immediately available job openings for which the establishment is actively trying to recruit personnel at the time of survey.
Turnover Rate	"Turnover rate" refers to the number of employees left as a percentage of the total number of employees and vacancies.
Average Monthly Remuneration Package	"Average monthly remuneration package" refers to the average monthly remuneration package during the past 12 months before enumeration, including basic salary, overtime pay, cost of living allowance, meal allowance, housing allowance, travel allowance, commission and bonus. It is an average figure among employees engaging in the same principal job.
Postgraduate Degree	"Postgraduate degree" refers to a higher degree(s) (e.g. master degree) offered by local or non-local education institutions, or equivalent.
First Degree	"First degree" refers to the first degree(s) offered by local or non-local education institutions, or equivalent.
Sub-degree	"Sub-degree" refers to the Associate Degree, Higher Diploma, Professional Diploma, Higher Certificate, Endorsement Certificate, Associateship or equivalent programmes offered by local or non-local institutions.

Diploma / Certificate	"Diploma / Certificate" refers to technical and vocational education programmes, including Diploma / Certificate courses, Diploma of Foundation Studies, Diploma of Vocational Education and programmes at the craft level or equivalent.
Secondary 4 to 6/7	"Secondary 4 to 6/7" refers to the education programmes under the Hong Kong Certificate of Education Examination (HKCEE), the Hong Kong Diploma of Secondary Education (HKDSE) Examination, Diploma Yi Jin, or equivalent.

Appendix 5

CONFIDENTIAL WHEN ENTERED WITH DATA	填 入 數 據 後 即 成 機 密 文 件

VOCATIONAL TRAINING COUNCIL
職 業 訓 練 局

THE 2022 MANPOWER SURVEY OF THE MANUFACTURING TECHNOLOGY INDUSTRY
製 造 科 技 業 2022 年 人 力 調 查

The 2022 Manpower Survey of the Manufacturing Technology Industry (MT) aims at collecting manpower information of the industry concerned for formulating recommendations on future manpower training. Please kindly provide the information of your establishment as at **1 July 2022** by answering the questionnaire. Thank you.

製造科技業2022年人力調查旨在蒐集業內人力情況的最新資料，並按此為未來人力訓練制訂適當建議。懇請 貴機構根據**2022年7月1日**的人力情況填寫此問卷。多謝合作。

Establishment Information
機構資料

NATURE OF BUSINESS: _____ (For official use) Industry Code _____
業 務 性 質

TOTAL NO. OF PERSONS ENGAGED: _____
僱 員 總 人 數

Details of Contact Person*
聯絡人資料*

NAME OF PERSON TO CONTACT: _____ POSITION: ___
聯 絡 人 姓 名 職 位

TEL. NO. : _____-_____ FAX NO. : _____
電 話 圖 文 傳 真

E-MAIL : _____
電 郵

* *The information provided will be used for the purpose of this and subsequent manpower surveys.*
所提供資料將用作是次及日後人力調查之用。

Part I － Manpower Information
第一部份 － 人力情況

Survey Reference Date : 1 July 2022
統計日期 ：2022 年7月1日

For each principal job, please fill in the total number of employees as at survey reference date. The employees **include all those under Hong Kong company's payroll, disregarding whether the employees are deployed to work in other places (including the Mainland)**.
請填寫 貴機構於統計日期僱用的每個主要職務的僱員總數，僱員**包括 貴公司在香港人事編制內的所有僱員，不論是否有派駐往其他地方工作（包括中國內地）**。

Please complete columns 'B' to 'F' of the questionnaire according to the list of principal jobs by referring to Appendix B for job description of individual job.
請根據列表中的主要職務，並參考附錄B有關各種職務的工作說明來填寫表內各'B' 至 'F' 欄。

Principal Jobs 主要職務

Please refer to Appendix A for column explanations. 請參考附錄A內各欄的說明。

Job Code 職位編號	(A) Principal Job 主要職務 (See Appendix B) （參閱附錄 B）	(B) No. of **full-time** Employees as at Survey Reference Date (Excl. trainees#) 在統計日期的**全職**僱員人數（受訓者#除外）	(C) No. of Vacancies as at Survey Reference Date (Excl. trainees#) 在統計日期的空缺額（受訓者#除外）	(D) No. of Trainees# as at Survey Reference Date 在統計日期的受訓者#人數	(E) No. of **Posts to be Newly Recruited** in the Coming Year (Excl. trainees#) 預計在未來一年的**新增職位**人數（受訓者#除外）	(F) Average Monthly Remuneration Package 每月平均薪酬 Code 編號: 1 $12,000 or below 或以下; 2 $12,001 - $15,000; 3 $15,001 - $20,000; 4 $20,001 - $25,000; 5 $25,001 - $30,000; 6 $30,001 - $40,000; 7 Over $40,000 以上	
		Please enter a zero '0' in the box if there is no employee/vacancy/trainee. 如沒有僱員／空缺／受訓者，請在方格內填入 '0'。				Current Employees 現職僱員 *(Column B)* *（B欄）*	New Posts 新增職位 *(Column E)* *（E欄）*
e.g: 例子:	**Job Title A (3 employees, 1 trainee and 2 vacancies) 職位甲 (3名僱員, 1名受訓者及2個空缺)**	**3**	**2**	**1**	**1**	**5**	**5**
	Technologist / Managerial Level 技師／經理級 A technologist/manager is a person who has the qualification and experience equivalent to that required for corporate membership of a professional institution. He/She should be competent in analysing and solving a wide range of technical problems, and be able to assume personal responsibility for the development and application of engineering principles, to exercise original thought and judgment, to keep abreast of and apply the latest technology and techniques as appropriate, and to supervise/develop sub-ordinates. 技師／經理級人士須具備相當於有關專業學會正式會員所需的資歷及經驗，並能分析及解決各類技術上的問題，負責發展及應用工程原理，具創見和判斷力；了解並應用最新科技和技術，以及督導和培訓下屬。						
101	Mechanical Engineer 機械工程師						
102	Manufacturing/ Production/ Industrial Engineer 製造／生產／工業工程師						
103	Electrical Engineer 電機工程師						
104	Electronics Engineer 電子工程師						
105	Project Engineer 項目工程師						
106	Technical Services Engineer 技術支援工程師						
107	Product Engineer 產品工程師						
108	Q.C./ Q.A. Manager/ Engineer 品質控制／保證經理／工程師						
109	CAD, CAM or CAE Engineer 電腦輔助設計、電腦輔助生產或電腦輔助工程工程師						
110	Materials Engineer 物料工程師						

The term "trainees" includes all trainees receiving any form of training and apprentices **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。

Please refer to Appendix A for column explanations. 請參考附錄A內各欄的說明。

Job Code 職位編號	(A) Principal Job 主要職務 (See Appendix B) （參閱附錄 B）	(B) No. of **full-time** Employees as at Survey Reference Date (Excl. trainees#) 在統計日期的**全職**僱員人數（受訓者#除外）	(C) No. of Vacancies as at Survey Reference Date (Excl. trainees#) 在統計日期的空缺額（受訓者#除外）	(D) No. of Trainees# as at Survey Reference Date 在統計日期的受訓者#人數	(E) No. of **Posts to be Newly Recruited** in the Coming Year (Excl. trainees#) 預計在未來一年的**新增職位**人數（受訓者#除外）	(F) Average Monthly Remuneration Package 每月平均薪酬 Code 編號: 1 $12,000 or below 或以下; 2 $12,001 - $15,000; 3 $15,001 - $20,000; 4 $20,001 - $25,000; 5 $25,001 - $30,000; 6 $30,001 - $40,000; 7 Over $40,000 以上	
		Please enter a zero '0' in the box if there is no employee/vacancy/trainee. 如沒有僱員／空缺／受訓者，請在方格內填入 '0'。				Current Employees 現職僱員 *(Column B)* *（B欄）*	New Posts 新增職位 *(Column E)* *（E欄）*
	Technologist / Managerial Level (Continued) 技師／經理級（續）						
111	Costing Engineer 成本工程師						
112	Processing Engineer 加工工程師						
113	Engineering Manager 工程經理						
114	Technical Sales/ Marketing Manager 技術營銷／市務經理						
115	Logistics Manager 物流經理						
116	Merchandising Manager/ Purchasing Manager 採購經理						
117	Factory Manager 工廠經理						
118	Production Manager 生產部經理						
119	Product/ Graphic Designer 產品／平面設計師						
120	Training Manager 培訓經理						
121	Production Planning and Material Control Manager 生產計劃與物料控制經理						
122	IT Project Manager 資訊科技項目經理						
123	Systems Development Manager 系統開發經理						
124	Research and Development Engineer 研發工程師						
	Technician / Supervisory Level 技術員／督導級 A technician/supervisor is a person who occupies a position between the technologist/manager and the craftsman. His/Her education, training and practical experience enable him/her to apply proven techniques and procedures to carry out technical tasks, normally under the guidance of a technologist/manager. 技術員／督導的職級介乎技師／經理級人士與技工之間，須具備相當學歷、工作經驗及曾接受訓練，一般可在技師／經理級人士的督導下，運用已確立的技術和方法完成工作。						
201	Mechanical Draftsman 機械繪圖員						
202	Manufacturing/ Production/ Industrial Engineering Technician 製造／生產／工業工程技術員						
203	Mechanical Engineering Technician 機械工程技術員						
204	Electrical Engineering Technician 電機工程技術員						
205	Electronics Technician 電子技術員						

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Please refer to Appendix A for column explanations. 請參考附錄A內各欄的說明。

Job Code 職位編號	(A) Principal Job 主要職務 (See Appendix B) （參閱附錄 B）	(B) No. of **full-time** Employees as at Survey Reference Date (Excl. trainees#) 在統計日期的**全職**僱員人數（受訓者#除外）	(C) No. of Vacancies as at Survey Reference Date (Excl. trainees#) 在統計日期的空缺額（受訓者#除外）	(D) No. of Trainees# as at Survey Reference Date 在統計日期的受訓者#人數	(E) No. of **Posts to be Newly Recruited** in the Coming Year (Excl. trainees#) 預計在未來一年的**新增職位**人數（受訓者#除外）	(F) Average Monthly Remuneration Package 每月平均薪酬 Code 編號 1 $12,000 or below 或以下 2 $12,001 - $15,000 3 $15,001 - $20,000 4 $20,001 - $25,000 5 $25,001 - $30,000 6 $30,001 - $40,000 7 Over $40,000 以上	
		Please enter a zero '0' in the box if there is no employee/vacancy/trainee. 如沒有僱員／空缺／受訓者，請在方格內填入 '0'。				Current Employees 現職僱員 *(Column B)* *（B欄）*	New Posts 新增職位 *(Column E)* *（E欄）*
	Technician / Supervisory Level (Continued) 技術員／督導級（續）						
206	Technical Services Technician 支援技術員						
207	Technical Sales/ Marketing Executive 技術營銷／市務主任						
208	Foreman/ Supervisor 管工／監督						
209	Coordinator 協理員／聯絡員						
210	Logistics Executive/ Supervisor 物流主任						
211	Engineering Buyer/ Merchandiser 工程採購員						
212	Production Supervisor 生產主管						
213	Q.C./ Q.A. Supervisor/ Technician 品質管制／保證主管／技術員						
214	Research and Development Technician 研究及發展技術員						
215	Product/ Packaging Development Technician 產品／包裝發展技術員						
216	Laboratory/ Materials Technician 實驗室／材料技術員						
217	Tooling Technician 工具工模技術員						
218	CAD or CAM Technician (Tooling/3D Printing) 電腦輔助設計或電腦輔助生產技術員（工模／立體打印)						
219	Production Planning and Material Controller 生產計劃與物料控制員						
220	Training Officer 訓練主任						
221	Systems Developer 系統開發員						
222	Programmer 程式編製員 (incl. Software Developer, Application Developer, etc) (包括：軟件開發員、應用開發員等)						

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		Please enter a zero '0' in the box if there is no employee/vacancy/trainee. 如沒有僱員／空缺／受訓者，請在方格內填入 '0'。				Current Employees 現職僱員 *(Column B)* *（B欄）*	New Posts 新增職位 *(Column E)* *（E欄）*
	Craftsman Level 技工級 A craftsman is a skilled worker who is able to apply his/her skills to a wide range of jobs within the trade, under minimum direction and supervision. A craftsman possesses not only practical skills but also related theoretical knowledge which enables him/her to adapt to new technologies. 技工是指熟練工人，能在有限度的指示及督導下，應用各種技能執行行業職務。技工除須具備實際技能，亦需有相關的理論知識，以便適應日新月異的科技發展。						
301	Machinist 機床工						
302	Precision Machinist 精密加工機床工						
303	Machine Setter 機器調校工						
304	Mould/ Die and Tool Maker 製模及工具技工						
305	Fixture Fabricator 夾具製造工						
306	Electrician 電器技工						
307	Mechanical Fitter 機械打磨裝配工						
308	Electric Arc and Gas Welder 電焊氣焊工						
309	Sheet Metal Fabricator 鈑金構造工						
310	Steel Fabricator 鋼板構造工						
311	Plumber and Pipe Fitter 喉管工						
312	Pattern/ Model/ Prototype Maker 樣辦／模型／生產原型製造工						
313	Electroplating and Metal Coating Worker 電鍍及金屬塗層工						
314	Painter 噴漆及髹漆工						
315	Metal Printing Craftsman 金屬印製技工						
316	Rolling Mill/ Extrusion Press Craftsman 輥壓／擠壓技工						
317	Plastics Injection Machine Setter 注塑機調機技工						
318	Quality Control Inspector 品質檢查工						

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		Please enter a zero '0' in the box if there is no employee/vacancy/trainee. 如沒有僱員／空缺／受訓者，請在方格內填入 '0'。				Current Employees 現職僱員 *(Column B)* *（B欄）*	New Posts 新增職位 *(Column E)* *（E欄）*
	Operative Level 操作工級 An operative worker is a worker who performs tasks in the assembly of products in accordance with the predetermined job instructions or operates machine(s) which have been set up by other persons. 操作工是指那些能按照既定的工作指示裝配配件使成為製成品，或操作已由他人校妥機床之工人。						
401	Semi-skilled Machine Operator 機器操作工						
402	Polishing Worker 磨光工						
403	Stamping Machine Operator 沖床操作工						
404	Quality Control Operator 品質控制操作工						
405	Assembler 裝配工						
406	Injection Moulding Machine Operator 注塑機操作工						
407	Crane Operator 起重機操作工						
408	Film Blowing Machine Operator 吹膜機工						
409	Other Plastics Processing Machine Operator 其他塑膠加工機操作工						
410	Printing Operator 印刷工						
	Unskilled Level 非技術工人級 Unskilled worker is normally assigned to perform repetitive work requiring only a narrow range of skills and short period of training. 非技術工人通常獲指派擔任性質重複的工作，要求的技能較少，訓練時間亦較短。						
501	General Worker 雜工						
	Other Relevant Manufacturing Technology Staff 其他相關製造科技人員						

For Official Use				

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Part II
第二部份

Application of Smart Manufacturing Technology
智能製造技術的應用

1. (a) Does your company use smart manufacturing technology such as the Internet of Things, big data, cloud computing, artificial intelligence, etc. to monitor/optimize/predict the process, so as to enhance the production efficiency and adapt to the rapidly changing market demand?
貴公司有否使用物聯網、大數據、雲計算、人工智能等智能製造技術對製造過程進行監控/優化/預測，從而提高生產效率，適應瞬息萬變的市場需求？

☐ Yes 有 ☐ No 沒有 ➔ **Please go to Question 2 請跳至第2題**

(b) In which of the following areas does your company employ smart manufacturing models? (You may tick "✓"one or more options)
貴公司在以下哪方面採用智能製造模式？（可剔"✓"選多於一項）

☐ Product Design and Development
產品設計與開發

☐ Production Process
生產流程

☐ Quality Control Process
質量控制流程

☐ Warehouse Management
倉庫管理

☐ Repair and Maintenance
維修和保養

☐ Others (please specify)
其他（請說明）_____

Business Environment
行業概況

2. Please indicate your views on the expected change in business volume of your establishment in the next 12 months (please tick in the box as appropriate) and indicate the reasons leading to the better or the worse.
請指出 貴機構在未來十二個月業務額的預期變化 (請在適當的格內填上"✓"號)及引起較佳或較差的原因。

☐ Better 較佳 (Please state reasons) (請說明原因) _____

☐ Stable 穩定

☐ Worsen 較差 (Please state reasons) (請說明原因) _____

☐ Uncertain 不肯定

New Recruitment
新聘僱員

3. Number of full-time employees newly recruited in the past 12 months.
過去十二個月內 ，貴機構新招聘的全職僱員人數。

	Technologist/ Managerial Level 技師／經理級	Technician/ Supervisory Level 技術員／督導級	Craftsman Level 技工級	Operative Level 操作工級
(a) Total new recruits 新招聘總人數				
(b) Number of new recruits **with** the experience in manufacturing technology 新招聘僱員中，**具**製造科技的相關經驗				

Employees Leaving the Establishment
僱員離職

4. Number of employees left in the past 12 months:
過去十二個月內離職的僱員人數：

(a) Technologist/ Managerial Level 技師／經理級 ☐
(b) Technician/ Supervisory Level 技術員／督導級 ☐
(c) Craftsman Level 技工級 ☐
(d) Operative Level 操作工級 ☐

Hong Kong Technical Staff Posted to Greater Bay Area
往大灣區任職的香港技術員工

5. (a) Are there any employees of your company stationed/travelling to the Greater Bay Area (GBA) for work?
貴公司是否有員工長駐／往大灣區任職？

☐ Yes 有 ☐ No 沒有 ➔ **Please go to Question 6 請跳至第6題**

(b) Number of employees who had been/will be stationed/travel to the Greater Bay Area (GBA) in the **past and next 12 months**.
過去及未來十二個月內，長駐／往大灣區任職的僱員人數。

Job Level 技能等級	In the past 12 months 過去十二個月內		In the next 12 months 未來十二個月內	
	Stationed in GBA * 長駐大灣區	Travelling to GBA 往大灣區出差	Stationed in GBA * 長駐大灣區	Travelling to GBA 往大灣區出差
(i) Number of Technologist/Managerial Level 技師／經理級人數				
(ii) Number of Technician/Supervisory Level 技術員／督導級人數				
(iii) Number of Craftsman Level 技工級人數				

* Employees who stay in the Greater Bay Area for 50% or above of the working time.
僱員逗留在大灣區的工作時間佔總工時的百分之五十或以上。

Major Difficulties Encountered in Recruitment
主要招聘困難

6. Please indicate the difficulties encountered in recruitment of full-time employees of your establishment in past 12 months.
請指出　貴機構在過去十二個月招聘全職僱員時所遇到的困難。

Reasons 原因	Technologist/ Managerial Level 技師／經理級	Technician/ Supervisory Level 技術員／督導級	Craftsman Level 技工級
(a) No recruitment was taken place 沒有招聘	☐	☐	☐
(b) Recruitment was taken place and did not encounter difficulties in recruitment 有招聘 ，並沒有遇到招聘困難	☐	☐	☐
(c) Recruitment was taken place and the difficulties encountered were: (You may tick "✓" one or more options.) 有招聘，所遇到的困難是：（可剔"✓"選多於一項。）			
(i) Lack of candidates with relevant experience 缺乏具相關經驗求職者	☐	☐	☐
(ii) Unsatisfactory terms of employment 聘用條件不理想	☐	☐	☐
(iii) Unsatisfactory working environment 工作環境不理想	☐	☐	☐
(iv) Limited career prospects 晉升機會有限	☐	☐	☐
(v) Insufficient trained/qualified manpower in the related disciplines 缺乏具相關訓練／資歷的人力資源	☐	☐	☐
(vi) Competition for manpower from the Mainland/Macao/other cities 源自內地／澳門／其他城市之人手競爭	☐	☐	☐
(vii) Alternative offers in the market 市場上有其他選擇	☐	☐	☐
(viii) Others (please specify) 其他（請說明）_____	☐	☐	☐

Preferred Education Level and Years of Experience of Employees
僱員宜有的教育程度及相關年資

7. Please choose preferred Education Level and Years of Experience of Employees.
請選擇僱員宜有的教育程度及相關年資。

Job level 職級	Technologist/ Managerial Level 技師／經理級	Technician/ Supervisory Level 技術員／督導級	Craftsman Level 技工級
(a) Education Level (Please tick "✓" **1 box** for each job level) **教育程度**（每職級請剔"✓" 選**一項**）			
(i) Postgraduate Degree 研究生學位	☐	☐	☐
(ii) First Degree 學士學位	☐	☐	☐
(iii) Sub-degree (e.g. Higher Diploma) 副學位 (例如高級文憑）	☐	☐	☐
(iv) Diploma/Certificate 文憑／證書	☐	☐	☐
(v) Secondary 4 to 6/7 中四至中六／七	☐	☐	☐
(vi) Secondary 3 or below 中三或以下	☐	☐	☐
(b) Years of Experience (Please tick "✓" **1 box** for each job level) **相關年資**（每職級請剔"✓" 選**一項**）			
(i) 10 years or more 十年或以上	☐	☐	☐
(ii) 6 years to less than 10 years 六年至十年以下	☐	☐	☐
(iii) 3 years to less than 6 years 三年至六年以下	☐	☐	☐
(iv) 1 year to less than 3 years 一年至三年以下	☐	☐	☐
(v) Less than 1 year 一年以下	☐	☐	☐
(vi) No experience 無經驗	☐	☐	☐

No such level of staff 沒有相關職級員工	☐	☐	☐

Training Needs
培訓需要

8. Please indicate the top 3 training items from each training area to meet the fast-changing industrial trend and development needs.
請從以下每個培訓範疇選出 3 個培訓項目，以配合行業的新興趨勢及發展需要。

Training Area 培訓範疇	Technologist/ Managerial Level 技師／經理級	Technician/ Supervisory Level 技術員／督導級	Craftsman Level 技工級
A. Technologies 科技			
(i) Artificial Intelligence 人工智能	☐	☐	☐
(ii) Cloud Computing 雲端運算	☐	☐	☐
(iii) Cybersecurity 網絡安全	☐	☐	☐
(iv) Data Mining, Analysis & Visualisation 數據探勘、分析及可視化	☐	☐	☐
(v) Human Machine Interaction 人機互動	☐	☐	☐
(vi) Industrial Internet of Things 工業物聯網	☐	☐	☐
(vii) Robotic Process Automation 機器人流程自動化	☐	☐	☐
(viii) 3D Printing 3D打印	☐	☐	☐
(ix) Others (please specify) 其他（請說明）_____	☐	☐	☐
B. Operational Management & Soft Skills 營運管理及軟技巧			
(i) Lean Manufacturing 精益生產	☐	☐	☐
(ii) Project Management 項目管理	☐	☐	☐
(iii) Supply Chain Management 供應鏈管理	☐	☐	☐
(iv) Risk Management 風險管理	☐	☐	☐
(v) Product Design & Development 產品設計與開發	☐	☐	☐
(vi) Interpersonal Skills 人際溝通技巧	☐	☐	☐
(vii) Problem Solving Skills 解難能力	☐	☐	☐
(viii) Design Thinking 設計思維	☐	☐	☐
(ix) Others (please specify) 其他（請說明）_____	☐	☐	☐

No such level of staff 沒有相關職級員工	☐	☐	☐

Percentage of Employees According to Age Group
受僱的員工按年齡分佈

9. Please provide the percentage distribution of employees according to the age group.
請提供僱員年齡分佈百分比。

(a) Aged 18 – 24 年齡介乎18 – 24歲	%
(b) Aged 25 – 40 年齡介乎25 – 40歲	%
(c) Aged 41 – 56 年齡介乎41 –56歲	%
(d) Aged 57 or above 年齡介乎57或以上	%

End of Questionnaire. Thank You for Your Co-operation.
問卷完，多謝合作。

The 2022 Manpower Survey of the
Manufacturing Technology Industry
製造科技業2022年人力調查

Explanatory Notes
附　註

1. Principal Jobs – Column 'A'
主要職務 —— 'A' 欄

(a) Please go through column 'A' and mark those principal jobs applicable to your establishment. For detailed job descriptions, please refer to Appendix B.
請瀏覽 'A' 欄，選取適用於　貴機構的主要職務。有關詳細的工作說明，請參閱附錄 B。

(b) Please add in column 'A' titles of any principal jobs not mentioned in job descriptions (Appendix B); briefly describe them in respect of the appropriate job categories.
如　貴機構另有技術性主要職務未載於工作說明（附錄 B），請一併填入 'A' 欄內，並簡述其所屬的職務類別及等級。

(c) The job titles may not be the same as those adopted by your company, but if the description of a certain job in your company is the same or substantially the same as the job description of, for example, Technical Services Engineer, then for the purpose of this survey you should regard the job holder as a Technical Services Engineer regardless of his/her actual title in your company.
調查表所列的職稱可能與　貴公司所採用的有別，但如　貴公司某職務的工作性質與調查表所載職務（例如「技術支援工程師」）相同或相近，則擔任該職務者不論在　貴公司的實際職稱為何，在是次調查中亦應歸類為「技術支援工程師」。

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(d) In the event where an employee's duties in your company are split between two or more job titles, please use the job title that best describes his/her principal responsibility.
如　貴公司有員工身兼多項職責，請選用最能反映其主要職責的職稱。

2. Number of Full-time Employees as at Survey Reference Date (Excl. trainees) – Column 'B'
在統計日期的全職僱員人數（受訓者除外）—— 'B' 欄

For each principal job, please fill in the total number of employees (excluding trainees) as at survey reference date. The employees include all those under Hong Kong company's payroll, disregarding whether the employees are deployed to work in other places (including the mainland of China).
請填寫　貴機構於統計日期僱用的每個主要職務的僱員總數（受訓者除外）。僱員包括　貴公司在香港人事編制內的所有僱員，不論是否有派駐往其他地方工作（包括中國內地）。

3. Number of Vacancies as at Survey Reference Date (Excl. trainees) – Column 'C'
在統計日期的空缺額（受訓者除外）—— 'C' 欄

Please fill in the total number of existing vacancies (excluding trainees) as at survey reference date. "Existing Vacancies" refer to those unfilled, immediately available job openings for which the company is actively trying to recruit personnel as at survey reference date.
請填上在統計日期每一主要職務的空缺額（受訓者除外）。「統計日期的空缺額」是指該職位於統計日期仍懸空，須立刻填補，而現正積極招聘人員填補。

4. Number of Trainees as at Survey Reference Date – Column 'D'
在統計日期的受訓者人數 —— 'D' 欄

Please fill in the number of employees undergoing training for each type of jobs as at survey reference date.
請填寫於統計日期正在接受訓練的僱員人數。

The term 'trainees' includes all trainees receiving any form of training and apprentices 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。

5. Number of Posts To be Newly Recruited in the Coming Year (Excl. trainees) – Column 'E'
預計在未來一年的新增職位人數（受訓者除外）—— 'E' 欄

For each principal job, please fill in the number of posts to be newly recruited in the coming year (excl. trainees) . "N" shoule be entered if no change or contraction is expected.
請填寫 貴機構預計於未來一年每個主要職務新增的職位人數（受訓者除外）。如估計屆時業務維持不變或將會收縮，請填上"N"。

6. Average Monthly Remuneration Package – Column 'F'
每月平均薪酬 —— 'F' 欄

For each principal job, please enter the corresponding code of the monthly remuneration package of (i) current employees during the past 12 months (1.7.2021 - 30.6.2022) and (ii) new posts that will be newly recruited in the coming 12 months (1.7.2022 - 30.6.2023). The monthly remuneration package should include basic wages, regular overtime pay, cost of living allowance, meal allowance, average monthly amount of year end bonus, etc., if any. If you have more than one employee doing the same job, please enter the average figure.
就每個主要職務，請分別填入(i) 僱員過去十二個月（指二○二一年七月一日至二○二二年六月三十日期間）及 (ii) 未來十二個月（指二○二二年七月一日至二○二三年六月三十日期間）新招聘僱員之每月平均薪酬的編號，每月平均薪酬包括底薪、定期超時工作工資、生活津貼、膳食津貼、每月平均之年終花紅等。若從事同類工作的僱員多於一名，則請取其平均收入。

7. No. of Hong Kong Technical Staff Posted to Greater Bay Area
被派駐往大灣區任職的香港技術員工

Greater Bay Area (except Hong Kong) comprises:
大灣區（香港 除外）包括：
Special Administrative Region of Macao, and the nine municipalities of Guangzhou, Shenzhen, Zhuhai, Foshan, Huizhou, Dongguan, Zhongshan, Jiangmen and Zhaoqing in Guangdong Province.
澳門特別行政區，及廣東省廣州、深圳、珠海、佛山、惠州、東莞、中山、江門、肇慶九市。

8. Preferred Education Level of Full Time Employees
全職僱員宜有的教育程度

Definition of Preferred Level of Education:
宜有教育程度的定義：

- "Postgraduate Degree" refers to higher degrees (e.g. master degrees) offered by local or non-local education institutions, or equivalent.
  「研究生學位」是指本地或非本地教育機構提供的高等學位（如碩士學位），或同等教育程度。
- "First Degree" refers to first degrees offered by local or non-local education institutions, or equivalent.
  「學士學位」是指本地或非本地教育機構提供的學士學位，或同等教育程度。
- "Sub-degree" refers to Associate Degrees, Higher Diplomas, Professional Diplomas, Higher Certificates, Endorsement Certificates, Associateship or equivalent programmes offered by local or non-local education institutions.
  「副學位」 是指本地或非本地教育機構提供的副學士、高級文憑、專業文憑、高級證書、增修證書、院士銜或同等課程。
- "Diploma/Certificate" refers to technical and vocational education programmes including Diploma/Certificate courses, Diploma of Foundation Studies, Diploma of Vocational Education and programmes at the craft level, or equivalent.
  「文憑／證書」是指技術及職業教育課程之文憑／證書、基礎課程文憑、職專文憑及技工程度的課程，或同等教育程度。
- "Secondary 4 to 6/7" refers to Secondary 4-6/7, covering the education programmes in relation to the Hong Kong Certificate of Education Examination (HKCEE), the Hong Kong Diploma of Secondary Education (HKDSE) Examination, Diploma Yi Jin, or equivalent.
  「中四至中六／七」是指中四至中六／七（包括與香港中學會考、香港中學文憑考試、毅進文憑等相關的教育課程）或同等教育程度。
- "Secondary 3 or below" refers to Secondary 3 or below, or equivalent.
  「中三或以下」是指中三或以下，或同等教育程度。

Job Descriptions of Principal Jobs in the Manufacturing Technology Industry
製造科技業主要職務工作說明

Job Code 職稱編號	Principal Job Title 主要職稱	Job Description 工作說明
TECHNOLOGIST / MANAGERIAL LEVEL 技師／經理級		
101	Mechanical Engineer 機械工程師	Researches on mechanical engineering problems; advises on plant engineering (installation and maintenance), tooling design and manufacture; Responsible for product analysis, design and development, quality assurance, and sales and technical services. 研究機械工程問題，建議廠房裝置工程（安裝與保養）、工具工模設計與製造；負責產品分析、設計與發展、品質測試、營銷及技術支援等工作。
102	Manufacturing/ Production/ Industrial Engineer 製造／生產／工業工程師	Designs, monitors and operates manufacturing/ production systems in industrial plants to ensure efficient use of resources which includes the layout and design of plant and services; the choice of tooling, production equipment, materials, and fabrication/ assembly methods; application of automation/ system management; the provision of services such as manufacturing capability study, production scheduling, work study, quality assurance, and cost control. 設計、監督及操作工廠內的製造／生產系統，以確保資源得以有效運用。工作包括安排及設計廠房裝置與服務；選擇工具、生產設備、物料及構製／裝配方法；自動化/ 作業系統應用及管理；並提供服務，如生產力研究、生產調度、工作研究、品質控制及成本控制。
103	Electrical Engineer 電機工程師	Designs and advises on electrical equipment and systems, and plans and supervises equipment installation, operation and maintenance; suggest electrical components and devices to be used in products. 負責設計電氣設備及系統；策劃與監督設備安裝、操作和保養；並就產品建議所需用的電氣零件及配件。
104	Electronics Engineer 電子工程師	Designs and advises on electronic equipment and systems; and plans and supervises equipment installation, operation and maintenance; suggest electronic components and devices to be used in products. 負責設計電子設備及系統；策劃與監督設備安裝、操作和保養；並就產品建議所需的電子配件及部件。
105	Project Engineer 項目工程師	Plans and coordinates product development throughout the design, costing, scheduling, tooling, debugging and production stages; investigate manufacturing technology to improve plant productivity, quality consistency, operational flexibility, and supply chain resiliency, etc; liaises with customers and coordinates with various departments and suppliers/vendors to ensure the project could meet target requirement. 策劃及統籌產品的開發工作，包括由項目設計至成本會計、生產排期、模具開發、產品試產以至大量生產等；研究新的製造技術以提高工廠生產力、質量一致性、運營靈活性和供應鏈彈性等；亦與客人研商及與各部門及供應商聯絡以確保工作能符合要求。

Job Code 職稱編號	Principal Job Title 主要職稱	Job Description 工作說明
TECHNOLOGIST / MANAGERIAL LEVEL (CONTINUED) 技師／經理級（續）		
106	Technical Services Engineer 技術支援工程師	Provides professional technical services to a specific machinery/ equipment/ apparatus including the application of the software/hardware and related customer training; installation, commissioning, testing, repair and maintenance; the application of plastics resins and additives; and the application of relevant technologies for processing and testing. 為機器／設備／儀器提供以下的技術支援服務，包括使用軟件／硬件的說明及客戶培訓；安裝、啟動、測試及維修服務；塑膠原料及添加劑的應用；以及應用有關科技加工及測試。
107	Product Engineer 產品工程師	Directs the design, modification and development of products, to meet clients' specifications on technical, aesthetic and economic factors. 指導產品設計、修改及發展工作，以符合顧客在技術、美觀及經濟等方面的要求。
108	Q.C./ Q.A. Manager/ Engineer 品質控制／保證經理／工程師	Review design for new products; plans and monitors the Q.C./Q.A. work, including testing and measurement of incoming materials and parts, work-in-progress and finished products to ensure compliance with standards and specifications, and in conformance with safety regulations. 檢討新產品設計；策劃及監督品質控制／保證工作，包括測試及量度交來物料與配件、半製成品及製成品的品質，使產品能符合標準、規格及安全條例。
109	CAD, CAM or CAE Engineer 電腦輔助設計、 電腦輔助生產或 電腦輔助工程工程師	Plans and supervises the use of CAD, CAM or CAE tools to design and manufacture moulds and dies for production of metals/plastics products and related components; examines and prepares cost estimates on tools, jigs and fixtures, moulds and dies for manufacture of metals/plastics products and related components. 策劃及督導電腦輔助設計、電腦輔助生產或電腦輔助工程設備的應用，以設計及製造工模作生產金屬／塑膠產品及其配件之用。研究與設計製造金屬／塑膠及附屬產品的工具、夾具及工模，並提出意見以及編製成本預算。
110	Materials Engineer 物料工程師	Provides expert views on the design, quality assurance and production by advising on the materials choice for use in the products and processes; testing materials properties, both incoming and during production; advising on the process specification such as temperature, composition, pressure, time, quenching media, etc. for production processes such as rolling, heat treatment, foundry, die-casting and plastic processing; and investigating production problems and product defects. 在設計、產品品質及生產過程方面提供專門服務，包括：就選擇產品及工序所用的物料提供意見；對輸入及生產進行中的物料性質進行測試；就各種生產工序如輾壓、熱處理、鑄造、鑄模及塑膠加工等提供有關生產工序規格的意見，例如溫度、組合、壓力、時間、驟冷劑等；以及調查生產問題及產品缺陷。
111	Costing Engineer 成本工程師	Studies and prepares cost estimates for the manufacture of products and related components; makes recommendations on changes in part design, materials and production methods to reduce product cost; examines manufacturing costs and provides updates on cost data. 研究與編製生產產品及其配件的成本預算;就產品設計、材料及生產工序方面提供建議以減低產品成本；研究製作成本及為成本數據提供最新資料。

Job Code 職稱編號	Principal Job Title 主要職稱	Job Description 工作說明
TECHNOLOGIST / MANAGERIAL LEVEL (CONTINUED) 技師／經理級（續）		
112	Processing Engineer 加工工程師	Performs technical tasks related to the application of moulding/ processing technology for the manufacture of parts; optimises moulding systems and moulding /processing conditions to achieve quality requirements; identifies technical problems related to moulding and performs trouble-shooting to solve problems on moulding/ processing defects; applies advanced technologies to improve the quality and efficiency on moulding/ processing. 應用模塑／加工科技，製造零件；善用模塑／加工系統和調校條件，力求達至高品質水平；找出技術問題，並解決模塑／加工上的次品問題；以及應用先進技術，改進模塑／加工工作的品質與效益。
113	Engineering Manager 工程經理	Plans and monitors the engineering activities of the company including product development, procurement, installation, maintenance and servicing of mechanical, electrical, electronic equipment and systems. 策劃及督導公司內各項與工程有關的工作，包括產品發展、採購、機械、電氣、電子裝備和系統的安裝和維修。
114	Technical Sales/ Marketing Manager 技術營銷／市務經理	Plans, organises, and monitors technical sales, marketing and promotional activities for professional equipment and products; coordinates with research and development, production control and shipping departments in identifying and fulfilling market and customer needs; reviews performance analysis for forecasting future technical market situation. 策劃、籌辦、及監督專業技術儀器／產品的市務推廣、營業及宣傳工作；協調機構內的研究開發、生產控制、貨運等部門，以預測及滿足市場及客戶需求；檢討業績分析，預測未來產品市場狀況。
115	Logistics Manager 物流經理	Takes charge of the overall operation of the supply chain management and establish cost effective strategy to support the business needs; plans and monitors the materials procurement activities of the company to meet in-house or customer's just-in-time requirement. 負責公司供應鏈管理的一切運作並制定策略以配合業務需求，以達到成本效益；策劃及督導公司物料採購工作，以符合內部或客戶對悉時付運的要求。
116	Merchandising Manager/ Purchasing Manager 採購經理	Keeps abreast of the up-to-date design and quality requirements of the machinery/ parts and component market; leads the merchandising team to negotiate with buyers/ clients through sample and quotation presentation; oversees buyers'/ clients' orders and liaises with vendors, sub-contractors, and appropriate departments to ensure prompt shipment. 留意市場對機械、零部件設計及品質上的最新要求；領導採購員配合樣辦及報價過程與客戶／買家商談；統籌客戶／買家的訂單，並與供應商、承判商及有關部門協作確保準時付運。
117	Factory Manager 工廠經理	Takes charge of the overall operation of the factory; manages staff and workers in the factory; enforces fire, safety and other government regulations; supervises factory activities such as plant layout, assembly and delivery of finished products. 負責工廠運作的一切事務；管理工廠內職員及工人；執行防火、安全及其他有關的政府規例；監督工廠內各項工作，例如廠房佈置、製成品的收發等。

Job Code 職稱編號	Principal Job Title 主要職稱	Job Description 工作說明
TECHNOLOGIST / MANAGERIAL LEVEL (CONTINUED)　技師／經理級（續）		
118	Production Manager 生產部經理	Plans and monitors the production activities of the company; takes charge of the overall production programmes to ensure the specified standards of quality, efficiency and economy are met. 策劃及督導公司內的生產工作；負責管理生產計劃，以確保其符合品質、效率及經濟等指標。
119	Product/ Graphic Designer 產品／平面設計師	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. 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、設計、修改及安排製成品的形狀、結構及包裝。
120	Training Manager 培訓經理	Plans, implements and coordinates training for pre-employment and in-service technical personnel. 策劃、推行及統籌職前及在職技術培訓。
121	Production Planning and Material Control Manager 生產計劃與物料控制經理	Formulates and monitors production plans, analyse inventory levels to production capacity, and update the forecast and need of materials to relevant departments to ensure timely and quality delivery. 策劃及監察生產計劃，按生產量分析庫存水平，並向相關部門更新材料預測和需求，以確保優質生產並及時交付。
122	IT Project Manager 資訊科技項目經理	Manages IT development projects based on the user/ customer requirements to ensure the implementation is on schedule and within budget; designs processes that enable the management and user/ customer groups are satisfactory. 根據用戶／客戶要求，管理電腦開發項目，確保項目如期推行及不會超出預算；設計工序，確保服務令公司及用戶／客戶滿意。
123	Systems Development Manager 系統開發經理	Analyses business/ customers' requirements, designs, develops, implements, tests, enhances, documents application systems for manufacturing; conducts systems integration test and user acceptance test; manages production systems. 分析用戶需求；設計、開發、實施、測試、升級和文書與製造相關的應用系統；主持系統集成測試及用戶顏收測試，並管理已投產的應用系統。
124	Research and Development Engineer 研發工程師	Study the latest technology trends and applications for the manufacturing industry to identify potential solutions for smart manufacturing, including product development, process improvement, quality enhancement, etc. 研究製造業的最新技術趨勢和應用，並建議合適的智能製造方案，包括產品開發、流程改進、質量提升等。

Job Code 職稱編號	Principal Job Title 主要職稱	Job Description 工作說明
TECHNICIAN / SUPERVISORY LEVEL　技術員／督導級		
201	Mechanical Draftsman 機械繪圖員	Prepares arrangement, assembly and detailed drawings of machines, machine parts, tools, other mechanical equipment and manufactured products from sketches, specifications and existing parts. 依據草圖、規格及現有零件，繪製機器、機件、工具、其他機械設備及製成品的排列圖、組裝圖及明細圖。
202	Manufacturing/ Production/ Industrial Engineering Technician 製造／生產／工業工程技術員	Performs technical tasks contributory to production process, planning and control, plant layouts and assurance of quality standards, and provide proper management of machinery and human resources to achieve efficient and economical production, either independently or under the direction of a qualified engineer. 獨自或在合資格工程師指導下，擔任技術工作，如生產工序、策劃及管制、廠房佈置及品質標準保證，以及正確管理機器及人力資源，以提高生產效能。
203	Mechanical Engineering Technician 機械工程技術員	Performs technical tasks contributory to design, fabrication, construction, automation, installation, operation, maintenance and repair of mechanical plant and equipment, either independently or under the direction of a qualified engineer. 獨自或在合資格工程師指導下，擔任技術工作，如從事設計、構製、建造、自動操作、安裝、操作、維修機械廠房和設備。
204	Electrical Engineering Technician 電機工程技術員	Performs technical tasks contributory to design, development, manufacture, installation, operation, maintenance and repair of electrical systems and equipment, either independently or under the direction of a qualified engineer. 獨自或在合資格工程師指導下，擔任技術工作，如從事設計、發展、製造、安裝、操作及維修電氣系統和設備。
205	Electronics Technician 電子技術員	Performs technical tasks, contributory to design, development, manufacture, installation, operation, maintenance and repairs of electronic components, equipment and systems, either independently or under the direction of a qualified engineer. 獨自或在合資格工程師的指導下，擔任技術工作，如從事設計、發展、製造、安裝、操作、維修電子配件、設備和系統。
206	Technical Services Technician 支援技術員	Performs technical tasks contributory to the application of the software/ hardware and related customer training, installation, commissioning, testing, repair and maintenance services, and calibration of equipment, quality control and assurance of process, parts and products at satellite/ sub-contractor's plant, normally under the direction and supervision of the Technical Services Engineer. 在技術支援工程師的指導及監督下，負責軟件／硬件的使用及相關客戶培訓；擔任安裝、啟動、測試及維修服務，以及儀器校準，品質控制及保證，使分廠及分包商的生產加工、零部件及成品符合規格。
207	Technical Sales/ Marketing Executive 技術營銷／市務主任	Assists the Technical Sales/ Marketing Manager in soliciting business, preparing marketing and sales plans and promotional activities; monitors market conditions and reflect customer's changing requirements. 協助技術營銷／市務經理招攬生意，製訂市務、推廣、營銷計劃及活動；監察市場動態，及時反映客戶需求的變化。

Job Code 職稱編號	Principal Job Title 主要職稱	Job Description 工作說明
TECHNICIAN / SUPERVISORY LEVEL (CONTINUED) 技術員／督導級（續）		
208	Foreman/ Supervisor 管工／監督	Manages craftsmen and workers to maintain production at expected standard, workers with desired discipline and the plant with safety standard; maintain communication between management and workers; supervise manufacture, inspection, installation, operation, maintenance and repair of plants and products. 管理技工及工人，使產品達到預定的品質標準；維持管理部門與工人之間的溝通，以及工場內的紀律及安全；監督廠房內的製造、檢查、安裝、操作、保養及修理等工作。
209	Coordinator 協理員／聯絡員	Carries out process planning for jobs and estimates the time requirement for operations, devise work flow and schedule to ensure timely and cost-effective production and close communication with clients. 估計每項職務的操作程序及所需時間，制定流程及進度表，確保工作能依期及有效使用資源地完成，並與客戶密切聯繫。
210	Logistics Executive/ Supervisor 物流主任	Assists the Logistics Manager in following up the operation of the supply chain management; coordinates the material procurement and flow of goods activities with suppliers, shipping companies, production control and shipping departments and customer to ensure smooth production. 協助物流經理跟進供應鏈管理上各項事宜；與供應商、貨運商、生產控制及船務部門，及客戶協調，保持材料採購至產品付運的流程暢順。
211	Engineering Buyer/ Merchandiser 工程採購員	Assists the Merchandising Manager to negotiate with buyers/ clients/ customers, prepare quotations and handle production samples and orders; follows up on buyers' order including liaising with other departments on the quality requirements and tracing the production progress to ensure timely shipment. 協助採購經理；買賣商談及報價工作，處理生產訂單及樣辦製作；跟進客戶訂單，包括與其他部門協調品質要求、生產進度以確保依期付運。
212	Production Supervisor 生產主管	Works independently or under the direction of the Production Manager to set up and carry out production programmes. 獨立或在生產經理的督導下設立及推行生產計劃。
213	Q.C./ Q.A. Supervisor/ Technician 品質管制／保證主管／技術員	Performs technical tasks, normally under the direction and supervision of a quality control/ quality assurance engineer, contributory to quality control assurance of incoming materials and parts, work-in-progress, and finished products to ensure compliance with standards and specifications, and in conformance with safety regulations. 通常在品質管制／保證工程師的督導下擔任技術工作，如參與來料與配件、半製成品及製成品的品質管制／保證工作，使產品能符合標準及規格，並安全條例。
214	Research and Development Technician 研究及發展技術員	Performs technical tasks contributory to research of market trend and new technologies/ solutions, development of new products and improvement of process efficiency, either independently or under the direction of a qualified engineer. 獨自或在合資格工程師指導下，擔任技術工作，如市場研究、產品開發及流程改善。

Job Code 職稱編號	Principal Job Title 主要職稱	Job Description 工作說明
TECHNICIAN / SUPERVISORY LEVEL (CONTINUED) 技術員／督導級（續）		
215	Product/ Packaging Development Technician 產品／包裝發展技術員	Assists in product design, development and packaging, including product preparation, package drawings, materials specifications, and the use of 3D printing technology in product development, to meet technical, aesthetic and economic features. 協助產品或包裝設計及開發，包括編製產品、包裝圖樣、物料規格，並用立體打印技術協助產品發展，以符合技術、美觀及經濟等要求。
216	Laboratory/ Materials Technician 實驗室／材料技術員	Assists in material testing and quality assessment through laboratory analysis in accordance with specifications. 協助製備材料，按照規格於實驗室內分析及測試樣本，以評估品質。
217	Tooling Technician 工具工模技術員	Performs technical tasks, normally under the direction and supervision of a tooling engineer, contributory to the design, development, manufacture and operation of jigs and fixtures, press tools, and moulds and dies for manufacture of products and related components. 通常在工具工模工程師指導下擔任技術工作，如從事設計、發展、製造及操作夾具及裝置工模作生產產品及其配件。
218	CAD or CAM Technician (Tooling/3D Printing) 電腦輔助設計或 電腦輔助生產技術員 (工模／立體打印)	Performs technical tasks, normally under the direction and supervision of a CAD or CAM Engineer/ Tooling Engineer, contributory to the design and manufacture of moulds and dies, and 3D printing prototype for production of plastics products and related components using CAD/ CAM facilities. 通常在電腦輔助設計或電腦輔助生產工程師／工具工模工程師的督導下擔任技術工作，應用電腦輔助設計／電腦輔助生產設備以設計及製造塑膠工模及立體打印原型作生產塑膠產品及其配件之用。
219	Production Planning and Material Controller 生產計劃與物料控制員	Assist the Production Planning and Material Control Manager to implement production schedules and monitor progress of supplied materials/ parts to meet delivery targets; negotiates with suppliers/ vendors on delivery, price and quality of supplied materials/parts. 根據資源制訂生產計劃，協助生產計劃與物料控制經理推行及監察生產進度，並物料或零件的供應，以確保產品能於交貨期內完成；並就物料或零件的交貨期、價格及品質事宜，與供應商聯絡。
220	Training Officer 訓練主任	Provides training for pre-employment and in-service technical personnel. 提供職前及在職技術培訓。
221	Systems Developer 系統開發員	Assists in gathering, studying and analysing business/ user's requirements; assists in designing applications for manufacturing; develops, enhances, tests and documents applications; maintains production system; conducts user training. 協助搜集、閱讀和分析業務／客戶需求；協助系統設計；開發、升級、測試和文書與製造相關的應用系統；維護已投產的應用系統；培訓用戶。
222	Programmer 程式編製員 (incl. Software Developer, Application Developer, etc) (包括：軟件開發員、應用開發員等)	Develops and tests computer programs to meet business/ customers' needs according to the requirements laid down by the functional and systems specifications; applies appropriate system and programming tools, and hardware to deliver solutions for smart manufacturing. 根據功能及系統規格，開發及測試電腦程式，應付業務／客戶需要；應用合適的系統、程式編製工具及硬件，提供智能製造方案。

Job Code 職稱編號	Principal Job Title 主要職稱	Job Description 工作說明
CRAFTSMAN LEVEL 技工級		
301	Machinist 機床工	Sets up and operates common machine tools such as lathe, milling machine and surface grinding machine to produce components according to drawings and specifications. 裝設及操作一般機床，例如車床、銑床及平面磨床，並按照圖則及規格，製造配件。
302	Precision Machinist 精密加工機床工	Sets up and operates precision and CNC machine tools, such as jig boring/ grinding machine, EDM wire-cut/ die-sinking machine, CNC milling machine and CNC lathe, to produce components according to drawings and specifications. 裝設及操作精密及電腦數控機床，例如座標鏜床／磨床、火花線切機／火花電蝕機、電腦數控銑床及電腦數控車床，並按照圖則及規格，製造配件。
303	Machine Setter 機器調校工	Sets up for others to operate metal working machines such as stamping machines, automatic lathes, and other fixtures to produce components according to drawings and specifications. 裝設金屬加工機床，例如沖床、自動車床及其它夾具設備，供其他工人操作，以生產符合圖則及規格的配件。
304	Mould/ Die and Tool Maker 製模及工具技工	Marks out, machines, fits, assembles and finishes metal parts to make, test, and repair moulds/ dies and special tools according to drawings and specifications. 按照圖則及規格，劃線、機械加工、打磨、裝配及處理金屬配件，以製造、測試及修理塑膠模／五金模具及特別工具。
305	Fixture Fabricator 夾具製造工	Inspects, tests, repairs, calibrates and maintains mechanical/ electrical instruments including the making of replacement fixtures and parts. 檢查、測試、修理、標正及保養機械／電氣儀器，包括製造所需的夾具和替換零件。
306	Electrician 電器技工	Installs electrical wiring of all types at low voltage (i.e. not exceeding 1 000 Volts) and tests, maintains and repairs low voltage fixed electrical installation in accordance with regulations and specifications under the direction of a supervisory grade of employee; installs, tests, services and repairs electrical systems/electronic devices of machinery and equipment; undertakes maintenance of a plant's electrical wiring systems. 在管理級人員指導下，按照規例及規格敷設各類不超過 1 000 伏特低電壓的電氣佈線，並測試及維修低壓固定電力裝置；安裝、測試、保養及修理機器與廠房設備的電氣系統／電子裝置；負責維修廠房的電線系統。
307	Mechanical Fitter 機械打磨裝配工	Fits, assembles, erects, installs, services, repairs and tests mechanical plant, machinery and parts according to drawings and specifications and keeps records of work. 按照圖則及規格，打磨、裝配、安裝、維修及測試廠房機械裝置、機器及零件，並保存工作記錄。
308	Electric Arc and Gas Welder 電焊氣焊工	Joins, cuts and deposits metals by electric-arc or flame of oxy-acetylene or other gases, or by other welding and brazing processes. 使用電弧、氧乙炔焰、其他氣體、其他焊接法或黃銅焊接法，以接合、割切金屬及補焊。

Job Code 職稱編號	Principal Job Title 主要職稱	Job Description 工作說明
CRAFTSMAN LEVEL (CONTINUED)　技工級（續）		
309	Sheet Metal Fabricator 鈑金構造工	Makes sheet metal articles of thickness not exceeding 10 s.w.g. (or 3.2 mm) such as containers, ducts, ornaments either by hand or machine; assembles, joins and repairs components by welding, brazing, soldering and riveting according to specifications. 按照規格，利用手工具或機器製造厚度不超過 10 s.w.g.（或 3.2 毫米）的薄金屬片器具，如容器、槽管及裝飾品；使用溶焊、銅焊、錫焊及鉚釘技術裝配、接合及修理該等器具。
310	Steel Fabricator 鋼板構造工	Constructs, assembles, inspects and repairs boilers, tanks, and articles of heavy steel sections above 10 s.w.g. (or 3.2 mm thick). 建造、裝配、查驗及修理超過 10 s.w.g.（或 3.2 毫米）鋼板製成的鍋爐、水箱及其他重型鋼件。
311	Plumber and Pipe Fitter 喉管工	Assembles, installs and maintains pipes, fittings and fixtures for supplying air, gas, steam, water and other fluids. 裝配、安裝及保養喉管、配件及夾具，以供應空氣、氣體、蒸氣、水及其他流體。
312	Pattern/ Model/ Prototype Maker 樣辦／模型／生產原型製造工	Sets up and operates metal working and other processing machines to cut, shape and fit parts to fabricate or modify models, patterns or prototypes of plastics and other products from drawings and specifications. 按照圖則及規格，調校及操作金屬製造及其他加工機床以切割、鉋削及打磨配件，以便構造或修改塑料製品及其他產品的模型、樣辦或生產原型。
313	Electroplating and Metal Coating Worker 電鍍及金屬塗層工	Carries out surface treatment of objects using electro-chemical and chemical processes, including deposition of common metals by electrolysis, electro-chemical polishing, galvanizing, etching and anodising; and metal spraying. 使用電化及化學程序將一般金屬沉積，包括電解、電化磨光、鍍鋅、腐蝕及陽極氧化，並以噴鍍金屬方法對物體進行表面處理。
314	Painter 噴漆及髹漆工	Prepares and mixes paint suitable for the surface to be painted and prepares surfaces for painting; applies paint by spraying or brushing. 配製及混合各類塗料以配合工件的材質，並作出合適的表面處理；用噴油法或手掃法塗漆。
315	Metal Printing Craftsman 金屬印製技工	Sets, controls and operates printing machines for printing on metals and related products. Prints metal and related products by operating printing machines such as pad printer, silk screen printing machines etc. 調校、控制與操作金屬印製機，以便在金屬及有關產品上進行印刷。操作移印機、絲網印刷機等機器，以印金屬件及有關產品。
316	Rolling Mill/ Extrusion Press Craftsman 輾壓／擠壓技工	Sets, controls and operates rolling mill or extrusion press. 調校、控制與操作輾壓機或擠壓機。

Job Code 職稱編號	Principal Job Title 主要職稱	Job Description 工作說明
CRAFTSMAN LEVEL (CONTINUED)　技工級（續）		
317	Plastics Injection Machine Setter 注塑機調機技工	Sets up various plastics processing machines such as injection moulding machines, blow moulding machines, film blowing machines, etc., to produce parts to specified tolerances, colour and finish. 調校各種塑膠加工機，例如注塑機、吹塑機、吹膜機等，使加工機能生產符合規定公差、顏色及光潔度的配件。
318	Quality Control Inspector 品質檢查工	Inspects plastics products and related components according to the specified instructions to comply with quality requirement. 依照指示檢查塑膠產品及其配件以保證符合品質要求。
OPERATIVE LEVEL　操作工級		
401	Semi-skilled Machine Operator 機器操作工	Operates the following machines: drilling machine, capstan (turret) lathe, sawing machine, shearing machine, punching machine, rolling machine, grinding machine, or automatic machine which have been set up by other persons. 操作下列已由他人校妥的機床：鑽床、六角車床、鋸床、剪床、打孔機、轉轆機、磨床或自動機床。
402	Polishing Worker 磨光工	Buffs and polishes metal. 磨光金屬製品。
403	Stamping Machine Operator 沖床操作工	Operates the stamping machine to produce sheet metal component parts. 操作沖床，壓製金屬各類薄片配件及製品。
404	Quality Control Operator 品質控制操作工	Assists in the routine examination of components or finished products according to predetermined standards. 協助日常的檢查工作，以確定配件或製成品符合既定標準。
405	Assembler 裝配工	Assembles components into finished products accordance to specific job instructions. 按既定工作指示，裝配配件成製成品。
406	Injection Moulding Machine Operator 注塑機操作工	Operates a plastic injection moulding machine to produce plastic components. 操作塑膠注塑機以生產塑膠零件。
407	Crane Operator 起重機操作工	Operates a crane to lift, move and position equipment, machinery or materials. 使用起重機吊起、搬運及安放設備、機械或物料。
408	Film Blowing Machine Operator 吹膜機工	Operates a film blowing machine. 操作塑膠吹膜機。

Job Code 職稱編號	Principal Job Title 主要職稱	Job Description 工作說明
OPERATIVE LEVEL (CONTINUED)　操作工級 （續）		
409	Other Plastics Processing Machine Operator 其他塑膠加工機操作工	Operates the following plastics processing machines: extrusion, calendaring, compression moulding, laminating, preheating and drying, tumbling, granulating machine etc., or makes Glass Reinforced Plastics (GRP) parts and products by hand lay-up or spraying method. 操作下列塑膠加工機器，例如壓擠機、軋光機、壓塑機、積層壓製機、預熱及烘乾機、混色機及製粒（碎料）機等；或運用手工敷層或噴塗法製造玻璃纖維配件及成品。
410	Printing Operator 印刷工	Prints plastics and related products by operating printing machines such as pad printer, gravure printer, screen printing machines etc. 操作移印機、凹版機、絲網印刷機等機器，以印刷塑膠及有關產品。
UNSKILLED LEVEL　非技術工人級		
501	General Worker 雜工	Undertakes general cleaning work, removal of industrial waste from machines and light material handling, or other manual work such as loading and unloading goods, sprue removal, stamping, packing etc. 擔任各類清潔工作，清理機床上的工業廢料及運送輕物料，或擔任粗重工作或雜務，如上落貨物、剪水口、打印及包裝等。

Appendix 6

Quality Control Measures

Prior to fieldwork preparation

- Collect contact information of the sampled establishments
- Group sampled establishments to the same business organisation

Thorough training of fieldwork staff

- Industry briefing workshop by VTC
- Intensive briefing and training session by survey company in consultation with VTC

Monitoring of the fieldwork execution

- Well-trained enumerators who are experienced in conducting establishment surveys
- Closely monitor fieldwork progress and work of enumerators
- Debriefing sessions twice a week

Measures to increase the response rate

- Strategic directions given by VTC
- Assistance from the Training Board and trade associations, etc.

Checking of the completed questionnaires

- Sample check of completed questionnaires by an independent team of QC checkers
- 100% vetting of the completed questionnaires by VTC

Double data entry and data validation

- Double data entry system
- Validation of collected data via computer programming and systems

Data analysis by VTC

- Comparison of survey findings with last round
- Benchmarking with relevant manpower information (if deemed appropriate)

Appendix 7

Response Profile

	(a) No. of valid cases*	(b) No. of establishments successfully enumerated	(b) / (a) Effective response rate
Manufacturing	325	296	91.1%
Trading	383	334	87.2%
Engineering Services & Other Relevant Companies / Services	112	99	88.4%
- Engineering services	*64*	*55*	*85.9%*
- Training / education institution	*35*	*33*	*94.3%*
- Advanced materials suppliers	*9*	*7*	*77.8%*
- Smart manufacturing & Industry 4.0 solution providers	*4*	*4*	*100.0%*
Total :	**820**	**729**	**88.9%**

Note: * Invalid cases were referred as those establishments which had been ceased operation, closed, had not employed any staff for manufacturing technology, nil reply to the survey, etc.

Appendix 8

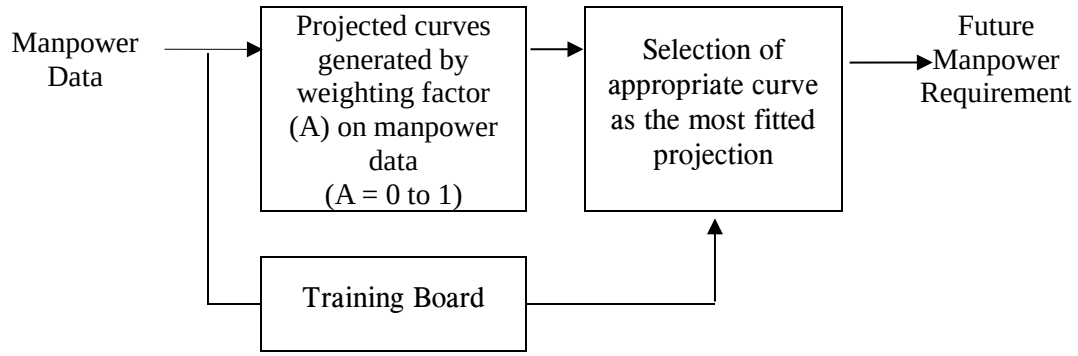
Manpower Projection Methodology

The ‘Adaptive Filtering Method’ (AFM) is a forecasting method which rested on the principle of “Weighted Exponential Smoothing”. In this method, past manpower data are weighted. Heavier weightings are given to the data from more recent surveys.

Thus, the forecast is more dependent on the more recent manpower information. The degree of emphasis on the more recent survey data can however be varied by adjusting the weighting factor (A). The higher the value of ‘A’, the heavier the weightings of the more recent data are.

Finally the forecast may also be optimised to suit decisions by training boards based on factors such as market trends, technological development, social-economical factors, future expectations and so on. The method is illustrated in *Figure 1 below*

Figure 1 *Adaptive Filtering Method*



Manpower statistics by Job Level (Overall)
按職級劃分的人力統計（總計）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Number of Employees as at Survey Reference Date 在統計日期的僱員人數	Number of Trainees as at Survey Reference Date 在統計日期的受訓者人數	Number of Vacancies as at Survey Reference Date 在統計日期的空缺額	Number of Posts to be Newly Recruited in the Coming Year 預計在未來一年的新增職位人數
Technologist / Managerial Level 技師／經理級	101	Mechanical Engineer 機械工程師	727	8	13	7
	102	Manufacturing/ Production/ Industrial Engineer 製造／生產／工業工程師	160	0	2	2
	103	Electrical Engineer 電機工程師	170	0	7	1
	104	Electronics Engineer 電子工程師	68	0	6	3
	105	Project Engineer 項目工程師	302	0	16	11
	106	Technical Services Engineer 技術支援工程師	1 149	0	3	6
	107	Product Engineer 產品工程師	135	0	2	0
	108	Q.C./ Q.A. Manager/ Engineer 品質控制／保證經理／工程師	627	1	21	17
	109	CAD, CAM or CAE Engineer 電腦輔助設計、電腦輔助生產或電腦輔助工程工程師	80	0	0	0
	110	Materials Engineer 物料工程師	81	0	13	1
	111	Costing Engineer 成本工程師	64	0	3	1
	112	Processing Engineer 加工工程師	10	0	0	0
	113	Engineering Manager 工程經理	292	0	9	12
	114	Technical Sales/ Marketing Manager 技術營銷／市務經理	2 727	0	35	16
	115	Logistics Manager 物流經理	571	0	2	2
	116	Merchandising Manager/ Purchasing Manager 採購經理	1 814	0	2	2
	117	Factory Manager 工廠經理	138	0	0	0
	118	Production Manager 生產部經理	235	0	0	4
	119	Product/ Graphic Designer 產品／平面設計師	344	0	8	6
	120	Training Manager 培訓經理	6	0	0	0
	121	Production Planning and Material Control Manager 生產計劃與物料控制經理	109	0	0	0
	122	IT Project Manager 資訊科技項目經理	66	0	0	0
	123	Systems Development Manager 系統開發經理	46	0	0	0
	124	Research and Development Engineer 研發工程師	162	0	14	4
	Sub-Total 小計		**10 083**	**9**	**156**	**95**
Technician / Supervisory Level 技術員／督導級	201	Mechanical Draftsman 機械繪圖員	14	0	3	3
	202	Manufacturing/ Production/ Industrial Engineering Technician 製造／生產／工業工程技術員	587	1	15	1
	203	Mechanical Engineering Technician 機械工程技術員	2 686	8	12	79
	204	Electrical Engineering Technician 電機工程技術員	307	1	7	16
	205	Electronics Technician 電子技術員	120	4	3	4
	206	Technical Services Technician 支援技術員	1 290	27	75	48
	207	Technical Sales/ Marketing Executive 技術營銷／市務主任	4 091	6	64	89
	208	Foreman/ Supervisor 管工／監督	759	0	14	16
	209	Coordinator 協理員／聯絡員	977	0	12	31
	210	Logistics Executive/ Supervisor 物流主任	1 556	0	14	15
	211	Engineering Buyer/ Merchandiser 工程採購員	5 840	0	7	1
	212	Production Supervisor 生產主管	83	0	0	2
	213	Q.C./ Q.A. Supervisor/ Technician 品質管制／保證主管／技術員	1 029	1	13	9
	214	Research and Development Technician 研究及發展技術員	33	0	0	1
	215	Product/ Packaging Development Technician 產品／包裝發展技術員	195	0	0	0
	216	Laboratory/ Materials Technician 實驗室／材料技術員	1 697	29	92	48
	217	Tooling Technician 工具工模技術員	15	0	0	0
	218	CAD or CAM Technician (Tooling/3D Printing) 電腦輔助設計或電腦輔助生產技術員 (工模／立體打印)	43	0	0	2
	219	Production Planning and Material Controller 生產計劃與物料控制員	171	0	3	3
	220	Training Officer 訓練主任	24	0	1	3
	221	Systems Developer 系統開發員	17	0	0	0
	222	Programmer 程式編製員 (incl. Software Developer, Application Developer, etc) (包括：軟件開發員、應用開發員等)	37	0	0	3
	223	Fiber Technician 光纖技術員	0	0	0	0
	Sub-Total 小計		**21 571**	**77**	**335**	**374**

Manpower statistics by Job Level (Overall)
按職級劃分的人力統計（總計）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Number of Employees as at Survey Reference Date 在統計日期的僱員人數	Number of Trainees as at Survey Reference Date 在統計日期的受訓者人數	Number of Vacancies as at Survey Reference Date 在統計日期的空缺額	Number of Posts to be Newly Recruited in the Coming Year 預計在未來一年的新增職位人數
Craftsman Level 技工級	301	Machinist 機床工	285	0	12	8
	302	Precision Machinist 精密加工機床工	65	0	0	0
	303	Machine Setter 機器調校工	93	0	2	0
	304	Mould/ Die and Tool Maker 製模及工具技工	209	0	4	0
	305	Fixture Fabricator 夾具製造工	344	0	0	0
	306	Electrician 電器技工	772	45	46	20
	307	Mechanical Fitter 機械打磨裝配工	1 088	0	13	20
	308	Electric Arc and Gas Welder 電焊氣焊工	236	0	2	0
	309	Sheet Metal Fabricator 鈑金構造工	92	0	8	6
	310	Steel Fabricator 鋼板構造工	120	0	0	0
	311	Plumber and Pipe Fitter 喉管工	92	0	0	0
	312	Pattern/ Model/ Prototype Maker 樣辦／模型／生產原型製造工	171	0	0	0
	313	Electroplating and Metal Coating Worker 電鍍及金屬塗層工	109	0	0	0
	314	Painter 噴漆及髹漆工	9	0	0	0
	315	Metal Printing Craftsman 金屬印製技工	28	0	0	0
	316	Rolling Mill/ Extrusion Press Craftsman 轆壓／擠壓技工	18	0	0	0
	317	Plastics Injection Machine Setter 注塑機調機技工	34	0	2	2
	318	Quality Control Inspector 品質檢查工	399	0	8	11
	319	Fiber mechanic 光纖技工	22	5	0	0
	399	Other Craftsman staff 其他技工級員工	4	0	0	0
	Sub-Total 小計		**4 190**	**50**	**97**	**67**
Operative Level 操作工級	401	Semi-skilled Machine Operator 機器操作工	588	1	36	44
	402	Polishing Worker 磨光工	19	0	0	0
	403	Stamping Machine Operator 沖床操作工	98	0	2	2
	404	Quality Control Operator 品質控制操作工	103	0	0	0
	405	Assembler 裝配工	509	1	35	24
	406	Injection Moulding Machine Operator 注塑機操作工	122	0	1	0
	407	Crane Operator 起重機操作工	26	0	0	0
	408	Film Blowing Machine Operator 吹膜機工	37	1	0	1
	409	Other Plastics Processing Machine Operator 其他塑膠加工機操作工	47	0	3	0
	410	Printing Operator 印刷工	30	0	0	0
	Sub-Total 小計		**1 579**	**3**	**77**	**71**
Unskilled Level 非技術工人級	501	General Worker 雜工	1 097	0	40	20
	Sub-Total 小計		**1 097**	**0**	**40**	**20**
Total 總數			**38 520**	**139**	**705**	**627**

Manpower statistics by Job Level (Manufacturing Sector)
按職級劃分的人力統計（製造業）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Number of Employees as at Survey Reference Date 在統計日期的僱員人數	Number of Trainees as at Survey Reference Date 在統計日期的受訓者人數	Number of Vacancies as at Survey Reference Date 在統計日期的空缺額	Number of Posts to be Newly Recruited in the Coming Year 預計在未來一年的新增職位人數
Technologist / Managerial Level 技師／經理級	101	Mechanical Engineer 機械工程師	406	8	6	3
	102	Manufacturing/ Production/ Industrial Engineer 製造／生產／工業工程師	76	0	0	0
	103	Electrical Engineer 電機工程師	82	0	5	0
	104	Electronics Engineer 電子工程師	31	0	4	1
	105	Project Engineer 項目工程師	59	0	11	0
	106	Technical Services Engineer 技術支援工程師	534	0	1	4
	107	Product Engineer 產品工程師	84	0	2	0
	108	Q.C./ Q.A. Manager/ Engineer 品質控制／保證經理／工程師	88	1	2	4
	109	CAD, CAM or CAE Engineer 電腦輔助設計、電腦輔助生產或電腦輔助工程工程師	56	0	0	0
	110	Materials Engineer 物料工程師	15	0	13	1
	111	Costing Engineer 成本工程師	8	0	2	1
	112	Processing Engineer 加工工程師	4	0	0	0
	113	Engineering Manager 工程經理	161	0	8	10
	114	Technical Sales/ Marketing Manager 技術營銷／市務經理	148	0	4	11
	115	Logistics Manager 物流經理	42	0	2	2
	116	Merchandising Manager/ Purchasing Manager 採購經理	77	0	2	2
	117	Factory Manager 工廠經理	72	0	0	0
	118	Production Manager 生產部經理	165	0	0	0
	119	Product/ Graphic Designer 產品／平面設計師	94	0	5	5
	120	Training Manager 培訓經理	5	0	0	0
	121	Production Planning and Material Control Manager 生產計劃與物料控制經理	13	0	0	0
	122	IT Project Manager 資訊科技項目經理	14	0	0	0
	123	Systems Development Manager 系統開發經理	4	0	0	0
	124	Research and Development Engineer 研發工程師	34	0	3	1
	Sub-Total 小計		**2 272**	**9**	**70**	**45**
Technician / Supervisory Level 技術員／督導級	201	Mechanical Draftsman 機械繪圖員	14	0	3	3
	202	Manufacturing/ Production/ Industrial Engineering Technician 製造／生產／工業工程技術員	550	1	15	1
	203	Mechanical Engineering Technician 機械工程技術員	2 292	8	12	77
	204	Electrical Engineering Technician 電機工程技術員	129	1	4	11
	205	Electronics Technician 電子技術員	94	4	3	2
	206	Technical Services Technician 支援技術員	611	5	25	36
	207	Technical Sales/ Marketing Executive 技術營銷／市務主任	108	0	7	7
	208	Foreman/ Supervisor 管工／監督	503	0	9	16
	209	Coordinator 協理員／聯絡員	108	0	5	5
	210	Logistics Executive/ Supervisor 物流主任	141	0	9	15
	211	Engineering Buyer/ Merchandiser 工程採購員	261	0	1	1
	212	Production Supervisor 生產主管	71	0	0	0
	213	Q.C./ Q.A. Supervisor/ Technician 品質管制／保證主管／技術員	187	1	4	0
	214	Research and Development Technician 研究及發展技術員	3	0	0	1
	215	Product/ Packaging Development Technician 產品／包裝發展技術員	4	0	0	0
	216	Laboratory/ Materials Technician 實驗室／材料技術員	4	0	0	0
	217	Tooling Technician 工具工模技術員	15	0	0	0
	218	CAD or CAM Technician (Tooling/3D Printing) 電腦輔助設計或電腦輔助生產技術員 (工模／立體打印)	11	0	0	0
	219	Production Planning and Material Controller 生產計劃與物料控制員	25	0	1	1
	220	Training Officer 訓練主任	15	0	1	1
	221	Systems Developer 系統開發員	5	0	0	0
	222	Programmer 程式編製員 (incl. Software Developer, Application Developer, etc) (包括：軟件開發員、應用開發員等)	3	0	0	1
	223	Fiber Technician 光纖技術員	0	0	0	0
	Sub-Total 小計		**5 154**	**20**	**99**	**178**

Manpower statistics by Job Level (Manufacturing Sector)
按職級劃分的人力統計（製造業）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Number of Employees as at Survey Reference Date 在統計日期的僱員人數	Number of Trainees as at Survey Reference Date 在統計日期的受訓者人數	Number of Vacancies as at Survey Reference Date 在統計日期的空缺額	Number of Posts to be Newly Recruited in the Coming Year 預計在未來一年的新增職位人數
Craftsman Level 技工級	301	Machinist 機床工	227	0	9	2
	302	Precision Machinist 精密加工機床工	64	0	0	0
	303	Machine Setter 機器調校工	88	0	0	0
	304	Mould/ Die and Tool Maker 製模及工具技工	208	0	4	0
	305	Fixture Fabricator 夾具製造工	283	0	0	0
	306	Electrician 電器技工	726	44	42	19
	307	Mechanical Fitter 機械打磨裝配工	1 076	0	13	20
	308	Electric Arc and Gas Welder 電焊氣焊工	233	0	2	0
	309	Sheet Metal Fabricator 鈑金構造工	92	0	8	6
	310	Steel Fabricator 鋼板構造工	120	0	0	0
	311	Plumber and Pipe Fitter 喉管工	92	0	0	0
	312	Pattern/ Model/ Prototype Maker 樣辦／模型／生產原型製造工	156	0	0	0
	313	Electroplating and Metal Coating Worker 電鍍及金屬塗層工	109	0	0	0
	314	Painter 噴漆及髹漆工	6	0	0	0
	315	Metal Printing Craftsman 金屬印製技工	28	0	0	0
	316	Rolling Mill/ Extrusion Press Craftsman 軋壓／擠壓技工	18	0	0	0
	317	Plastics Injection Machine Setter 注塑機調機技工	31	0	2	2
	318	Quality Control Inspector 品質檢查工	26	0	3	1
	319	Fiber mechanic 光纖技工	22	5	0	0
	399	Other Craftsman staff 其他技工級員工	4	0	0	0
	Sub-Total 小計		**3 609**	**49**	**83**	**50**
Operative Level 操作工級	401	Semi-skilled Machine Operator 機器操作工	573	1	36	44
	402	Polishing Worker 磨光工	19	0	0	0
	403	Stamping Machine Operator 沖床操作工	98	0	2	2
	404	Quality Control Operator 品質控制操作工	64	0	0	0
	405	Assembler 裝配工	491	1	35	24
	406	Injection Moulding Machine Operator 注塑機操作工	120	0	1	0
	407	Crane Operator 起重機操作工	26	0	0	0
	408	Film Blowing Machine Operator 吹膜機工	37	1	0	1
	409	Other Plastics Processing Machine Operator 其他塑膠加工機操作工	31	0	0	0
	410	Printing Operator 印刷工	30	0	0	0
	Sub-Total 小計		**1 489**	**3**	**74**	**71**
Unskilled Level 非技術工人級	501	General Worker 雜工	692	0	34	20
	Sub-Total 小計		**692**	**0**	**34**	**20**
Total 總數			**13 216**	**81**	**360**	**364**

Manpower statistics by Job Level (Trading Sector)
按職級劃分的人力統計（貿易業）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Number of Employees as at Survey Reference Date 在統計日期的僱員人數	Number of Trainees as at Survey Reference Date 在統計日期的受訓者人數	Number of Vacancies as at Survey Reference Date 在統計日期的空缺額	Number of Posts to be Newly Recruited in the Coming Year 預計在未來一年的新增職位人數
Technologist / Managerial Level 技師／經理級	101	Mechanical Engineer 機械工程師	84	0	4	4
	102	Manufacturing/ Production/ Industrial Engineer 製造／生產／工業工程師	70	0	1	2
	103	Electrical Engineer 電機工程師	48	0	1	1
	104	Electronics Engineer 電子工程師	15	0	0	2
	105	Project Engineer 項目工程師	203	0	4	11
	106	Technical Services Engineer 技術支援工程師	181	0	0	0
	107	Product Engineer 產品工程師	39	0	0	0
	108	Q.C./ Q.A. Manager/ Engineer 品質控制／保證經理／工程師	138	0	3	2
	109	CAD, CAM or CAE Engineer 電腦輔助設計、電腦輔助生產或電腦輔助工程工程師	9	0	0	0
	110	Materials Engineer 物料工程師	0	0	0	0
	111	Costing Engineer 成本工程師	56	0	1	0
	112	Processing Engineer 加工工程師	4	0	0	0
	113	Engineering Manager 工程經理	105	0	0	0
	114	Technical Sales/ Marketing Manager 技術營銷／市務經理	2 515	0	28	1
	115	Logistics Manager 物流經理	519	0	0	0
	116	Merchandising Manager/ Purchasing Manager 採購經理	1 704	0	0	0
	117	Factory Manager 工廠經理	49	0	0	0
	118	Production Manager 生產部經理	57	0	0	0
	119	Product/ Graphic Designer 產品／平面設計師	238	0	3	1
	120	Training Manager 培訓經理	1	0	0	0
	121	Production Planning and Material Control Manager 生產計劃與物料控制經理	84	0	0	0
	122	IT Project Manager 資訊科技項目經理	27	0	0	0
	123	Systems Development Manager 系統開發經理	0	0	0	0
	124	Research and Development Engineer 研發工程師	34	0	0	3
	Sub-Total 小計		**6 180**	**0**	**45**	**27**
Technician / Supervisory Level 技術員／督導級	201	Mechanical Draftsman 機械繪圖員	0	0	0	0
	202	Manufacturing/ Production/ Industrial Engineering Technician 製造／生產／工業工程技術員	13	0	0	0
	203	Mechanical Engineering Technician 機械工程技術員	349	0	0	2
	204	Electrical Engineering Technician 電機工程技術員	137	0	3	5
	205	Electronics Technician 電子技術員	12	0	0	2
	206	Technical Services Technician 支援技術員	24	0	0	0
	207	Technical Sales/ Marketing Executive 技術營銷／市務主任	3 889	6	37	61
	208	Foreman/ Supervisor 管工／監督	13	0	0	0
	209	Coordinator 協理員／聯絡員	822	0	6	26
	210	Logistics Executive/ Supervisor 物流主任	1 384	0	5	0
	211	Engineering Buyer/ Merchandiser 工程採購員	5 532	0	6	0
	212	Production Supervisor 生產主管	6	0	0	2
	213	Q.C./ Q.A. Supervisor/ Technician 品質管制／保證主管／技術員	199	0	0	1
	214	Research and Development Technician 研究及發展技術員	5	0	0	0
	215	Product/ Packaging Development Technician 產品／包裝發展技術員	101	0	0	0
	216	Laboratory/ Materials Technician 實驗室／材料技術員	3	0	0	0
	217	Tooling Technician 工具工模技術員	0	0	0	0
	218	CAD or CAM Technician (Tooling/3D Printing) 電腦輔助設計或電腦輔助生產技術員 (工模／立體打印)	31	0	0	2
	219	Production Planning and Material Controller 生產計劃與物料控制員	139	0	2	2
	220	Training Officer 訓練主任	0	0	0	2
	221	Systems Developer 系統開發員	12	0	0	0
	222	Programmer 程式編製員 (incl. Software Developer, Application Developer, etc) (包括：軟件開發員、應用開發員等)	11	0	0	2
	223	Fiber Technician 光纖技術員	0	0	0	0
	Sub-Total 小計		**12 682**	**6**	**59**	**107**

Manpower statistics by Job Level (Trading Sector)
按職級劃分的人力統計（貿易業）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Number of Employees as at Survey Reference Date 在統計日期的僱員人數	Number of Trainees as at Survey Reference Date 在統計日期的受訓者人數	Number of Vacancies as at Survey Reference Date 在統計日期的空缺額	Number of Posts to be Newly Recruited in the Coming Year 預計在未來一年的新增職位人數
Craftsman Level 技工級	301	Machinist 機床工	9	0	0	0
	302	Precision Machinist 精密加工機床工	0	0	0	0
	303	Machine Setter 機器調校工	0	0	0	0
	304	Mould/ Die and Tool Maker 製模及工具技工	1	0	0	0
	305	Fixture Fabricator 夾具製造工	61	0	0	0
	306	Electrician 電器技工	31	1	1	1
	307	Mechanical Fitter 機械打磨裝配工	2	0	0	0
	308	Electric Arc and Gas Welder 電焊氣焊工	2	0	0	0
	309	Sheet Metal Fabricator 鈑金構造工	0	0	0	0
	310	Steel Fabricator 鋼板構造工	0	0	0	0
	311	Plumber and Pipe Fitter 喉管工	0	0	0	0
	312	Pattern/ Model/ Prototype Maker 樣辦／模型／生產原型製造工	14	0	0	0
	313	Electroplating and Metal Coating Worker 電鍍及金屬塗層工	0	0	0	0
	314	Painter 噴漆及髹漆工	3	0	0	0
	315	Metal Printing Craftsman 金屬印製技工	0	0	0	0
	316	Rolling Mill/ Extrusion Press Craftsman 軋壓／擠壓技工	0	0	0	0
	317	Plastics Injection Machine Setter 注塑機調機技工	0	0	0	0
	318	Quality Control Inspector 品質檢查工	6	0	0	0
	319	Fiber mechanic 光纖技工	0	0	0	0
	399	Other Craftsman staff 其他技工級員工	0	0	0	0
	Sub-Total 小計		**129**	**1**	**1**	**1**
Operative Level 操作工級	401	Semi-skilled Machine Operator 機器操作工	4	0	0	0
	402	Polishing Worker 磨光工	0	0	0	0
	403	Stamping Machine Operator 沖床操作工	0	0	0	0
	404	Quality Control Operator 品質控制操作工	5	0	0	0
	405	Assembler 裝配工	18	0	0	0
	406	Injection Moulding Machine Operator 注塑機操作工	0	0	0	0
	407	Crane Operator 起重機操作工	0	0	0	0
	408	Film Blowing Machine Operator 吹膜機工	0	0	0	0
	409	Other Plastics Processing Machine Operator 其他塑膠加工機操作工	0	0	0	0
	410	Printing Operator 印刷工	0	0	0	0
	Sub-Total 小計		**27**	**0**	**0**	**0**
Unskilled Level 非技術工人級	501	General Worker 雜工	291	0	6	0
	Sub-Total 小計		**291**	**0**	**6**	**0**
Total 總數			**19 309**	**7**	**111**	**135**

Manpower statistics by Job Level (Engineering Services and other relevant companies/services[#])
按職級劃分的人力統計（工程服務及其他相關公司／服務[#]）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Number of Employees as at Survey Reference Date 在統計日期的僱員人數	Number of Trainees as at Survey Reference Date 在統計日期的受訓者人數	Number of Vacancies as at Survey Reference Date 在統計日期的空缺額	Number of Posts to be Newly Recruited in the Coming Year 預計在未來一年的新增職位人數
Technologist / Managerial Level 技師／經理級	101	Mechanical Engineer 機械工程師	237	0	3	0
	102	Manufacturing/ Production/ Industrial Engineer 製造／生產／工業工程師	14	0	1	0
	103	Electrical Engineer 電機工程師	40	0	1	0
	104	Electronics Engineer 電子工程師	22	0	2	0
	105	Project Engineer 項目工程師	40	0	1	0
	106	Technical Services Engineer 技術支援工程師	434	0	2	2
	107	Product Engineer 產品工程師	12	0	0	0
	108	Q.C./ Q.A. Manager/ Engineer 品質控制／保證經理／工程師	401	0	16	11
	109	CAD, CAM or CAE Engineer 電腦輔助設計、電腦輔助生產或電腦輔助工程工程師	15	0	0	0
	110	Materials Engineer 物料工程師	66	0	0	0
	111	Costing Engineer 成本工程師	0	0	0	0
	112	Processing Engineer 加工工程師	2	0	0	0
	113	Engineering Manager 工程經理	26	0	1	2
	114	Technical Sales/ Marketing Manager 技術營銷／市務經理	64	0	3	4
	115	Logistics Manager 物流經理	10	0	0	0
	116	Merchandising Manager/ Purchasing Manager 採購經理	33	0	0	0
	117	Factory Manager 工廠經理	17	0	0	0
	118	Production Manager 生產部經理	13	0	0	4
	119	Product/ Graphic Designer 產品／平面設計師	12	0	0	0
	120	Training Manager 培訓經理	0	0	0	0
	121	Production Planning and Material Control Manager 生產計劃與物料控制經理	12	0	0	0
	122	IT Project Manager 資訊科技項目經理	25	0	0	0
	123	Systems Development Manager 系統開發經理	42	0	0	0
	124	Research and Development Engineer 研發工程師	94	0	11	0
	Sub-Total 小計		**1 631**	**0**	**41**	**23**
Technician / Supervisory Level 技術員／督導級	201	Mechanical Draftsman 機械繪圖員	0	0	0	0
	202	Manufacturing/ Production/ Industrial Engineering Technician 製造／生產／工業工程技術員	24	0	0	0
	203	Mechanical Engineering Technician 機械工程技術員	45	0	0	0
	204	Electrical Engineering Technician 電機工程技術員	41	0	0	0
	205	Electronics Technician 電子技術員	14	0	0	0
	206	Technical Services Technician 支援技術員	655	22	50	12
	207	Technical Sales/ Marketing Executive 技術營銷／市務主任	94	0	20	21
	208	Foreman/ Supervisor 管工／監督	243	0	5	0
	209	Coordinator 協理員／聯絡員	47	0	1	0
	210	Logistics Executive/ Supervisor 物流主任	31	0	0	0
	211	Engineering Buyer/ Merchandiser 工程採購員	47	0	0	0
	212	Production Supervisor 生產主管	6	0	0	0
	213	Q.C./ Q.A. Supervisor/ Technician 品質管制／保證主管／技術員	643	0	9	8
	214	Research and Development Technician 研究及發展技術員	25	0	0	0
	215	Product/ Packaging Development Technician 產品／包裝發展技術員	90	0	0	0
	216	Laboratory/ Materials Technician 實驗室／材料技術員	1 690	29	92	48
	217	Tooling Technician 工具工模技術員	0	0	0	0
	218	CAD or CAM Technician (Tooling/3D Printing) 電腦輔助設計或電腦輔助生產技術員 (工模／立體打印)	1	0	0	0
	219	Production Planning and Material Controller 生產計劃與物料控制員	7	0	0	0
	220	Training Officer 訓練主任	9	0	0	0
	221	Systems Developer 系統開發員	0	0	0	0
	222	Programmer 程式編製員 (incl. Software Developer, Application Developer, etc) (包括：軟件開發員、應用開發員等)	23	0	0	0
	223	Fiber Technician 光纖技術員	0	0		0
	Sub-Total 小計		**3 735**	**51**	**177**	**89**

Manpower statistics by Job Level (Engineering Services and other relevant companies/services[#])
按職級劃分的人力統計（工程服務及其他相關公司／服務[#]）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Number of Employees as at Survey Reference Date 在統計日期的僱員人數	Number of Trainees as at Survey Reference Date 在統計日期的受訓者人數	Number of Vacancies as at Survey Reference Date 在統計日期的空缺額	Number of Posts to be Newly Recruited in the Coming Year 預計在未來一年的新增職位人數
Craftsman Level 技工級	301	Machinist 機床工	49	0	3	6
	302	Precision Machinist 精密加工機床工	1	0	0	0
	303	Machine Setter 機器調校工	5	0	2	0
	304	Mould/ Die and Tool Maker 製模及工具技工	0	0	0	0
	305	Fixture Fabricator 夾具製造工	0	0	0	0
	306	Electrician 電器技工	15	0	3	0
	307	Mechanical Fitter 機械打磨裝配工	10	0	0	0
	308	Electric Arc and Gas Welder 電焊氣焊工	1	0	0	0
	309	Sheet Metal Fabricator 鈑金構造工	0	0	0	0
	310	Steel Fabricator 鋼板構造工	0	0	0	0
	311	Plumber and Pipe Fitter 喉管工	0	0	0	0
	312	Pattern/ Model/ Prototype Maker 樣辦／模型／生產原型製造工	1	0	0	0
	313	Electroplating and Metal Coating Worker 電鍍及金屬塗層工	0	0	0	0
	314	Painter 噴漆及髹漆工	0	0	0	0
	315	Metal Printing Craftsman 金屬印製技工	0	0	0	0
	316	Rolling Mill/ Extrusion Press Craftsman 輾壓／擠壓技工	0	0	0	0
	317	Plastics Injection Machine Setter 注塑機調機技工	3	0	0	0
	318	Quality Control Inspector 品質檢查工	367	0	5	10
	319	Fiber mechanic 光纖技工	0	0	0	0
	399	Other Craftsman staff 其他技工級員工	0	0	0	0
	Sub-Total 小計		**452**	**0**	**13**	**16**
Operative Level 操作工級	401	Semi-skilled Machine Operator 機器操作工	11	0	0	0
	402	Polishing Worker 磨光工	0	0	0	0
	403	Stamping Machine Operator 沖床操作工	0	0	0	0
	404	Quality Control Operator 品質控制操作工	34	0	0	0
	405	Assembler 裝配工	0	0	0	0
	406	Injection Moulding Machine Operator 注塑機操作工	2	0	0	0
	407	Crane Operator 起重機操作工	0	0	0	0
	408	Film Blowing Machine Operator 吹膜機工	0	0	0	0
	409	Other Plastics Processing Machine Operator 其他塑膠加工機操作工	16	0	3	0
	410	Printing Operator 印刷工	0	0	0	0
	Sub-Total 小計		**63**	**0**	**3**	**0**
Unskilled Level 非技術工人級	501	General Worker 雜工	114	0	0	0
	Sub-Total 小計		**114**	**0**	**0**	**0**
Total 總數			**5 995**	**51**	**234**	**128**

Full-time employees by Job Level (Manufacturing Sector - Metal)
按門類不同技能等級劃分的全職僱員（製造業）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Manufacturing Sector 製造業						
			Machinery and equipment 機械及設備	Medical equipment 醫療設備	Electrical equipment 電器設備	Basic metal elements 金屬元件	Fabricated metal products (except machinery and equipment) and metal toys 金屬製品（不包括機械及設備）及金屬玩具	Repair and installation of machinery 機械及設備的維修及安裝	Plant manintennace section of food and beverage 食品及飲品的廠房保養部門
Technologist / Managerial Level 技師／經理級	101	Mechanical Engineer 機械工程師	42	4	10	6	1	318	21
	102	Manufacturing/ Production/ Industrial Engineer 製造／生產／工業工程師	19	19	0	2	5	23	0
	103	Electrical Engineer 電機工程師	0	0	23	4	3	37	12
	104	Electronics Engineer 電子工程師	2	4	6	0	0	8	7
	105	Project Engineer 項目工程師	5	3	20	0	6	13	0
	106	Technical Services Engineer 技術支援工程師	7	4	2	1	0	438	82
	107	Product Engineer 產品工程師	0	5	2	0	14	41	0
	108	Q.C./ Q.A. Manager/ Engineer 品質控制／保證經理／工程師	32	6	5	9	0	23	0
	109	CAD, CAM or CAE Engineer 電腦輔助設計、電腦輔助生產或電腦輔助工程工程師	5	0	1	0	15	0	0
	110	Materials Engineer 物料工程師	2	12	0	0	0	1	0
	111	Costing Engineer 成本工程師	0	0	1	0	0	0	0
	112	Processing Engineer 加工工程師	0	0	0	0	0	0	0
	113	Engineering Manager 工程經理	50	5	16	1	3	56	14
	114	Technical Sales/ Marketing Manager 技術營銷／市務經理	8	14	5	23	37	33	0
	115	Logistics Manager 物流經理	4	3	3	2	1	19	0
	116	Merchandising Manager/ Purchasing Manager 採購經理	10	6	16	8	10	16	0
	117	Factory Manager 工廠經理	13	21	8	1	21	1	0
	118	Production Manager 生產部經理	37	15	1	13	28	26	0
	119	Product/ Graphic Designer 產品／平面設計師	0	8	6	0	0	4	0
	120	Training Manager 培訓經理	1	0	0	0	0	4	0
	121	Production Planning and Material Control Manager 生產計劃與物料控制經理	0	1	0	0	0	0	0
	122	IT Project Manager 資訊科技項目經理	0	1	1	0	0	3	0
	123	Systems Development Manager 系統開發經理	0	1	0	0	0	0	0
	124	Research and Development Engineer 研發工程師	2	2	0	0	0	2	0
	Sub-Total 小計		**239**	**134**	**126**	**70**	**144**	**1 066**	**136**

Full-time employees by Job Level (Manufacturing Sector - Metal)
按門類不同技能等級劃分的全職僱員（製造業）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Manufacturing Sector 製造業						
			Machinery and equipment 機械及設備	Medical equipment 醫療設備	Electrical equipment 電器設備	Basic metal elements 金屬元件	Fabricated metal products (except machinery and equipment) and metal toys 金屬製品（不包括機械及設備）及金屬玩具	Repair and installation of machinery 機械及設備的維修及安裝	Plant manintennace section of food and beverage 食品及飲品的廠房保養部門
Technician / Supervisory Level 技術員／督導級	201	Mechanical Draftsman 機械繪圖員	5	6	2	0	0	0	0
	202	Manufacturing/ Production/ Industrial Engineering Technician 製造／生產／工業工程技術員	53	81	15	16	29	314	0
	203	Mechanical Engineering Technician 機械工程技術員	118	10	40	20	20	2 027	50
	204	Electrical Engineering Technician 電機工程技術員	0	5	32	7	0	78	7
	205	Electronics Technician 電子技術員	17	0	13	5	1	3	53
	206	Technical Services Technician 支援技術員	12	63	1	0	0	358	155
	207	Technical Sales/ Marketing Executive 技術營銷／市務主任	11	17	9	9	20	6	0
	208	Foreman/ Supervisor 管工／監督	11	21	11	15	69	285	57
	209	Coordinator 協理員／聯絡員	6	5	0	1	8	68	0
	210	Logistics Executive/ Supervisor 物流主任	1	11	0	3	57	39	0
	211	Engineering Buyer/ Merchandiser 工程採購員	9	22	7	12	42	136	0
	212	Production Supervisor 生產主管	3	30	2	8	8	0	0
	213	Q.C./ Q.A. Supervisor/ Technician 品質管制／保證主管／技術員	3	97	11	12	8	3	0
	214	Research and Development Technician 研究及發展技術員	0	2	0	0	0	0	0
	215	Product/ Packaging Development Technician 產品／包裝發展技術員	0	0	3	0	0	0	0
	216	Laboratory/ Materials Technician 實驗室／材料技術員	0	0	0	3	0	0	0
	217	Tooling Technician 工具工模技術員	0	0	0	2	0	0	0
	218	CAD or CAM Technician (Tooling/3D Printing) 電腦輔助設計或電腦輔助生產技術員 (工模／立體打印)	0	5	0	0	0	0	0
	219	Production Planning and Material Controller 生產計劃與物料控制員	0	0	2	2	2	0	0
	220	Training Officer 訓練主任	1	0	0	0	0	14	0
	221	Systems Developer 系統開發員	0	0	0	0	0	0	0
	222	Programmer 程式編製員 (incl. Software Developer, Application Developer, etc.) (包括：軟件開發員、應用開發員等)	0	0	2	0	1	0	0
	223	Fiber Technician 光纖技術員	0	0	0	0	0	0	0
	Sub-Total 小計		**250**	**375**	**150**	**115**	**265**	**3 331**	**322**

Full-time employees by Job Level (Manufacturing Sector - Metal)
按門類不同技能等級劃分的全職僱員（製造業）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Manufacturing Sector 製造業						
			Machinery and equipment 機械及設備	Medical equipment 醫療設備	Electrical equipment 電器設備	Basic metal elements 金屬元件	Fabricated metal products (except machinery and equipment) and metal toys 金屬製品（不包括機械及設備）及金屬玩具	Repair and installation of machinery 機械及設備的維修及安裝	Plant manintennace section of food and beverage 食品及飲品的廠房保養部門
Craftsman Level 技工級	301	Machinist 機床工	38	0	2	20	138	21	8
	302	Precision Machinist 精密加工機床工	28	0	0	0	36	0	0
	303	Machine Setter 機器調校工	0	3	0	2	11	66	4
	304	Mould/ Die and Tool Maker 製模及工具技工	125	5	0	1	73	0	0
	305	Fixture Fabricator 夾具製造工	0	0	0	10	7	212	54
	306	Electrician 電器技工	0	7	169	16	7	260	263
	307	Mechanical Fitter 機械打磨裝配工	20	2	32	0	85	872	65
	308	Electric Arc and Gas Welder 電焊氣焊工	21	0	2	25	35	141	9
	309	Sheet Metal Fabricator 鈑金構造工	0	0	12	0	12	68	0
	310	Steel Fabricator 鋼板構造工	0	0	0	0	0	120	0
	311	Plumber and Pipe Fitter 喉管工	0	0	0	8	0	84	0
	312	Pattern/ Model/ Prototype Maker 樣辦／模型／生產原型製造工	14	1	5	7	125	0	0
	313	Electroplating and Metal Coating Worker 電鍍及金屬塗層工	0	0	0	42	67	0	0
	314	Painter 噴漆及髹漆工	0	0	6	0	0	0	0
	315	Metal Printing Craftsman 金屬印製技工	1	0	20	0	6	0	0
	316	Rolling Mill/ Extrusion Press Craftsman 轆壓／擠壓技工	0	0	2	16	0	0	0
	317	Plastics Injection Machine Setter 注塑機調機技工	0	0	0	0	0	0	0
	318	Quality Control Inspector 品質檢查工	0	13	4	0	4	0	0
	319	Fiber mechanic 光纖技工	0	0	22	0	0	0	0
	399	Other Craftsman staff 其他技工級員工	0	0	0	0	0	0	0
	Sub-Total 小計		**247**	**31**	**276**	**147**	**606**	**1 844**	**403**

Full-time employees by Job Level (Manufacturing Sector - Metal)
按門類不同技能等級劃分的全職僱員（製造業）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Manufacturing Sector 製造業						
			Machinery and equipment 機械及設備	Medical equipment 醫療設備	Electrical equipment 電器設備	Basic metal elements 金屬元件	Fabricated metal products (except machinery and equipment) and metal toys 金屬製品（不包括機械及設備）及金屬玩具	Repair and installation of machinery 機械及設備的維修及安裝	Plant manintennace section of food and beverage 食品及飲品的廠房保養部門
Operative Level 操作工級	401	Semi-skilled Machine Operator 機器操作工	0	150	91	21	54	198	0
	402	Polishing Worker 磨光工	10	0	0	0	9	0	0
	403	Stamping Machine Operator 沖床操作工	9	0	4	34	51	0	0
	404	Quality Control Operator 品質控制操作工	0	34	0	20	6	4	0
	405	Assembler 裝配工	48	138	118	0	53	0	0
	406	Injection Moulding Machine Operator 注塑機操作工	0	0	0	0	0	0	0
	407	Crane Operator 起重機操作工	0	0	0	20	0	6	0
	408	Film Blowing Machine Operator 吹膜機工	0	0	0	0	0	0	0
	409	Other Plastics Processing Machine Operator 其他塑膠加工機操作工	0	0	0	0	0	0	0
	410	Printing Operator 印刷工	0	0	0	0	0	0	0
	Sub-Total 小計		**67**	**322**	**213**	**95**	**173**	**208**	**0**
Unskilled Level 非技術工人級	501	General Worker 雜工	0	104	9	13	125	291	0
	Sub-Total 小計		**0**	**104**	**9**	**13**	**125**	**291**	**0**
Total 總數			**803**	**966**	**774**	**440**	**1 313**	**6 740**	**861**

Full-time employees by Job Level (Manufacturing Sector - Plastic) (Continued)
按門類不同技能等級劃分的全職僱員（製造業）（續）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Manfacturing Sector 製造業				
			Plastic toys 塑膠玩具	Plastic domestic utensils 塑膠家庭用具	Plastic cases and parts 塑膠外殼及零件	Polybags (except handbags) 塑膠袋（手袋除外）	Plastic producs n.e.c. 其他塑膠製品
Technologist / Managerial Level 技師／經理級	101	Mechanical Engineer 機械工程師	0	0	3	1	0
	102	Manufacturing/ Production/ Industrial Engineer 製造／生產／工業工程師	2	0	2	3	1
	103	Electrical Engineer 電機工程師	0	0	0	0	3
	104	Electronics Engineer 電子工程師	4	0	0	0	0
	105	Project Engineer 項目工程師	6	1	3	2	0
	106	Technical Services Engineer 技術支援工程師	0	0	0	0	0
	107	Product Engineer 產品工程師	13	2	0	0	7
	108	Q.C./ Q.A. Manager/ Engineer 品質控制／保證經理／工程師	7	0	1	2	3
	109	CAD, CAM or CAE Engineer 電腦輔助設計、電腦輔助生產或電腦輔助工程工程師	27	0	0	0	8
	110	Materials Engineer 物料工程師	0	0	0	0	0
	111	Costing Engineer 成本工程師	4	0	1	0	2
	112	Processing Engineer 加工工程師	1	3	0	0	0
	113	Engineering Manager 工程經理	12	0	0	0	4
	114	Technical Sales/ Marketing Manager 技術營銷／市務經理	10	3	3	5	7
	115	Logistics Manager 物流經理	5	0	3	2	0
	116	Merchandising Manager/ Purchasing Manager 採購經理	4	0	2	3	2
	117	Factory Manager 工廠經理	4	0	0	1	2
	118	Production Manager 生產部經理	30	2	2	0	11
	119	Product/ Graphic Designer 產品／平面設計師	74	1	0	0	1
	120	Training Manager 培訓經理	0	0	0	0	0
	121	Production Planning and Material Control Manager 生產計劃與物料控制經理	11	0	0	0	1
	122	IT Project Manager 資訊科技項目經理	9	0	0	0	0
	123	Systems Development Manager 系統開發經理	2	0	0	0	1
	124	Research and Development Engineer 研發工程師	28	0	0	0	0
	Sub-Total 小計		**253**	**12**	**20**	**19**	**53**

Full-time employees by Job Level (Manufacturing Sector - Plastic) (Continued)
按門類不同技能等級劃分的全職僱員（製造業）（續）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Manfacturing Sector 製造業				
			Plastic toys 塑膠玩具	Plastic domestic utensils 塑膠家庭用具	Plastic cases and parts 塑膠外殼及零件	Polybags (except handbags) 塑膠袋（手袋除外）	Plastic producs n.e.c. 其他塑膠製品
Technician / Supervisory Level 技術員／督導級	201	Mechanical Draftsman 機械繪圖員	0	0	1	0	0
	202	Manufacturing/ Production/ Industrial Engineering Technician 製造／生產／工業工程技術員	1	0	1	6	34
	203	Mechanical Engineering Technician 機械工程技術員	0	1	4	0	2
	204	Electrical Engineering Technician 電機工程技術員	0	0	0	0	0
	205	Electronics Technician 電子技術員	2	0	0	0	0
	206	Technical Services Technician 支援技術員	6	0	0	0	16
	207	Technical Sales/ Marketing Executive 技術營銷／市務主任	12	2	2	10	10
	208	Foreman/ Supervisor 管工／監督	3	7	5	0	19
	209	Coordinator 協理員／聯絡員	4	0	7	5	4
	210	Logistics Executive/ Supervisor 物流主任	16	1	2	2	9
	211	Engineering Buyer/ Merchandiser 工程採購員	14	2	8	7	2
	212	Production Supervisor 生產主管	7	2	1	0	10
	213	Q.C./ Q.A. Supervisor/ Technician 品質管制／保證主管／技術員	0	1	7	2	43
	214	Research and Development Technician 研究及發展技術員	1	0	0	0	0
	215	Product/ Packaging Development Technician 產品／包裝發展技術員	0	1	0	0	0
	216	Laboratory/ Materials Technician 實驗室／材料技術員	0	0	0	0	1
	217	Tooling Technician 工具工模技術員	0	5	7	0	1
	218	CAD or CAM Technician (Tooling/3D Printing) 電腦輔助設計或電腦輔助生產技術員 (工模／立體打印)	0	1	1	0	4
	219	Production Planning and Material Controller 生產計劃與物料控制員	10	0	2	0	7
	220	Training Officer 訓練主任	0	0	0	0	0
	221	Systems Developer 系統開發員	2	0	0	0	3
	222	Programmer 程式編製員 (incl. Software Developer, Application Developer, etc) (包括：軟件開發員、應用開發員等)	0	0	0	0	0
	223	Fiber Technician 光纖技術員					
	Sub-Total 小計		**78**	**23**	**48**	**32**	**165**

Full-time employees by Job Level (Manufacturing Sector - Plastic) (Continued)
按門類不同技能等級劃分的全職僱員（製造業）（續）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Manfacturing Sector 製造業				
			Plastic toys 塑膠玩具	Plastic domestic utensils 塑膠家庭用具	Plastic cases and parts 塑膠外殼及零件	Polybags (except handbags) 塑膠袋（手袋除外）	Plastic producs n.e.c. 其他塑膠製品
Craftsman Level 技工級	301	Machinist 機床工	0	0	0	0	0
	302	Precision Machinist 精密加工機床工	0	0	0	0	0
	303	Machine Setter 機器調校工	0	0	0	2	0
	304	Mould/ Die and Tool Maker 製模及工具技工	0	0	4	0	0
	305	Fixture Fabricator 夾具製造工	0	0	0	0	0
	306	Electrician 電器技工	1	2	0	0	1
	307	Mechanical Fitter 機械打磨裝配工	0	0	0	0	0
	308	Electric Arc and Gas Welder 電焊氣焊工	0	0	0	0	0
	309	Sheet Metal Fabricator 鈑金構造工	0	0	0	0	0
	310	Steel Fabricator 鋼板構造工	0	0	0	0	0
	311	Plumber and Pipe Fitter 喉管工	0	0	0	0	0
	312	Pattern/ Model/ Prototype Maker 樣辦／模型／生產原型製造工	1	0	0	0	3
	313	Electroplating and Metal Coating Worker 電鍍及金屬塗層工	0	0	0	0	0
	314	Painter 噴漆及髹漆工	0	0	0	0	0
	315	Metal Printing Craftsman 金屬印製技工	0	0	0	1	0
	316	Rolling Mill/ Extrusion Press Craftsman 輾壓／擠壓技工	0	0	0	0	0
	317	Plastics Injection Machine Setter 注塑機調機技工	3	4	0	6	18
	318	Quality Control Inspector 品質檢查工	0	2	2	0	1
	319	Fiber mechanic 光纖技工	0	0	0	0	0
	399	Other Craftsman staff 其他技工級員工	0	0	0	0	4
	Sub-Total 小計		**5**	**8**	**6**	**9**	**27**
Operative Level 操作工級	401	Semi-skilled Machine Operator 機器操作工	2	0	0	9	48
	402	Polishing Worker 磨光工	0	0	0	0	0
	403	Stamping Machine Operator 沖床操作工	0	0	0	0	0
	404	Quality Control Operator 品質控制操作工	0	0	0	0	0
	405	Assembler 裝配工	0	7	5	0	122
	406	Injection Moulding Machine Operator 注塑機操作工	0	22	17	5	76
	407	Crane Operator 起重機操作工	0	0	0	0	0
	408	Film Blowing Machine Operator 吹膜機工	0	8	0	29	0
	409	Other Plastics Processing Machine Operator 其他塑膠加工機操作工	1	2	2	11	15
	410	Printing Operator 印刷工	0	0	0	6	24
	Sub-Total 小計		**3**	**39**	**24**	**60**	**285**
Unskilled Level 非技術工人級	501	General Worker 雜工	6	28	13	29	74
	Sub-Total 小計		**6**	**28**	**13**	**29**	**74**
Total 總數			**345**	**110**	**111**	**149**	**604**

Full-time employees by Job Level (Trading Sector)
按門類不同技能等級劃分的全職僱員（貿易業）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Trading Sector 貿易業		
			Mechinery and equipment 機械及設備	Toys 玩具	Plastic products 塑膠製品
Technologist / Managerial Level 技師／經理級	101	Mechanical Engineer 機械工程師	81	1	2
	102	Manufacturing/ Production/ Industrial Engineer 製造／生產／工業工程師	0	53	17
	103	Electrical Engineer 電機工程師	45	0	3
	104	Electronics Engineer 電子工程師	6	9	0
	105	Project Engineer 項目工程師	19	156	28
	106	Technical Services Engineer 技術支援工程師	173	5	3
	107	Product Engineer 產品工程師	2	32	5
	108	Q.C./ Q.A. Manager/ Engineer 品質控制／保證經理／工程師	1	129	8
	109	CAD, CAM or CAE Engineer 電腦輔助設計、電腦輔助生產或電腦輔助工程工程師	0	8	1
	110	Materials Engineer 物料工程師	0	0	0
	111	Costing Engineer 成本工程師	0	53	3
	112	Processing Engineer 加工工程師	0	4	0
	113	Engineering Manager 工程經理	14	79	12
	114	Technical Sales/ Marketing Manager 技術營銷／市務經理	1 670	562	283
	115	Logistics Manager 物流經理	213	212	94
	116	Merchandising Manager/ Purchasing Manager 採購經理	1 051	523	130
	117	Factory Manager 工廠經理	7	20	22
	118	Production Manager 生產部經理	0	31	26
	119	Product/ Graphic Designer 產品／平面設計師	1	228	9
	120	Training Manager 培訓經理	0	1	0
	121	Production Planning and Material Control Manager 生產計劃與物料控制經理	1	72	11
	122	IT Project Manager 資訊科技項目經理	2	21	4
	123	Systems Development Manager 系統開發經理	0	0	0
	124	Research and Development Engineer 研發工程師	1	24	9
	Sub-Total 小計		**3 287**	**2 223**	**670**

Full-time employees by Job Level (Trading Sector)
按門類不同技能等級劃分的全職僱員（貿易業）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Trading Sector 貿易業		
			Mechinery and equipment 機械及設備	Toys 玩具	Plastic products 塑膠製品
Technician / Supervisory Level 技術員／督導級	201	Mechanical Draftsman 機械繪圖員	0	0	0
	202	Manufacturing/ Production/ Industrial Engineering Technician 製造／生產／工業工程技術員	0	1	12
	203	Mechanical Engineering Technician 機械工程技術員	348	0	1
	204	Electrical Engineering Technician 電機工程技術員	137	0	0
	205	Electronics Technician 電子技術員	12	0	0
	206	Technical Services Technician 支援技術員	20	0	4
	207	Technical Sales/ Marketing Executive 技術營銷／市務主任	3 208	477	204
	208	Foreman/ Supervisor 管工／監督	6	7	0
	209	Coordinator 協理員／聯絡員	579	165	78
	210	Logistics Executive/ Supervisor 物流主任	748	494	142
	211	Engineering Buyer/ Merchandiser 工程採購員	4 072	1 221	239
	212	Production Supervisor 生產主管	0	6	0
	213	Q.C./ Q.A. Supervisor/ Technician 品質管制／保證主管／技術員	80	104	15
	214	Research and Development Technician 研究及發展技術員	0	0	5
	215	Product/ Packaging Development Technician 產品／包裝發展技術員	0	101	0
	216	Laboratory/ Materials Technician 實驗室／材料技術員	0	3	0
	217	Tooling Technician 工具工模技術員	0	0	0
	218	CAD or CAM Technician (Tooling/3D Printing) 電腦輔助設計或電腦輔助生產技術員 (工模／立體打印)	0	31	0
	219	Production Planning and Material Controller 生產計劃與物料控制員	0	76	63
	220	Training Officer 訓練主任	0	0	0
	221	Systems Developer 系統開發員	4	6	2
	222	Programmer 程式編製員 (incl. Software Developer, Application Developer, etc) (包括：軟件開發員、應用開發員等)	4	7	0
	223	Fiber Technician 光纖技術員	0	0	0
	Sub-Total 小計		**9 218**	**2 699**	**765**

Full-time employees by Job Level (Trading Sector)
按門類不同技能等級劃分的全職僱員（貿易業）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Trading Sector 貿易業		
			Mechinery and equipment 機械及設備	Toys 玩具	Plastic products 塑膠製品
Craftsman Level 技工級	301	Machinist 機床工	2	0	7
	302	Precision Machinist 精密加工機床工	0	0	0
	303	Machine Setter 機器調校工	0	0	0
	304	Mould/ Die and Tool Maker 製模及工具技工	1	0	0
	305	Fixture Fabricator 夾具製造工	60	0	1
	306	Electrician 電器技工	29	0	2
	307	Mechanical Fitter 機械打磨裝配工	2	0	0
	308	Electric Arc and Gas Welder 電焊氣焊工	2	0	0
	309	Sheet Metal Fabricator 鈑金構造工	0	0	0
	310	Steel Fabricator 鋼板構造工	0	0	0
	311	Plumber and Pipe Fitter 喉管工	0	0	0
	312	Pattern/ Model/ Prototype Maker 樣辦／模型／生產原型製造工	0	0	14
	313	Electroplating and Metal Coating Worker 電鍍及金屬塗層工	0	0	0
	314	Painter 噴漆及髹漆工	3	0	0
	315	Metal Printing Craftsman 金屬印製技工	0	0	0
	316	Rolling Mill/ Extrusion Press Craftsman 輾壓／擠壓技工	0	0	0
	317	Plastics Injection Machine Setter 注塑機調機技工	0	0	0
	318	Quality Control Inspector 品質檢查工	0	6	0
	319	Fiber mechanic 光纖技工	0	0	0
	399	Other Craftsman staff 其他技工級員工	0	0	0
	Sub-Total 小計		**99**	**6**	**24**
Operative Level 操作工級	401	Semi-skilled Machine Operator 機器操作工	4	0	0
	402	Polishing Worker 磨光工	0	0	0
	403	Stamping Machine Operator 沖床操作工	0	0	0
	404	Quality Control Operator 品質控制操作工	0	5	0
	405	Assembler 裝配工	0	0	18
	406	Injection Moulding Machine Operator 注塑機操作工	0	0	0
	407	Crane Operator 起重機操作工	0	0	0
	408	Film Blowing Machine Operator 吹膜機工	0	0	0
	409	Other Plastics Processing Machine Operator 其他塑膠加工機操作工	0	0	0
	410	Printing Operator 印刷工	0	0	0
	Sub-Total 小計		**4**	**5**	**18**
Unskilled Level 非技術工人級	501	General Worker 雜工	42	176	73
	Sub-Total 小計		**42**	**176**	**73**
Total 總數			**12 650**	**5 109**	**1 550**

Full-time employees by Job Level (Engineering Services and other relevant companies/services[#])
按門類不同技能等級劃分的全職僱員（工程服務及其他相關公司／服務[#]）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Engineering Services and other relevant companies/services 工程服務及其他相關公司／服務			
			Engineering services 工程服務	Advanced material suppliers 先進物料供應商	Smart manufacturing and Industry 4.0 solution providers 智能製造及工業4.0的解決服務提供者	Relevant division / department in training/education institution 提供相關培訓的教育機構／學系
Technologist / Managerial Level 技師／經理級	101	Mechanical Engineer 機械工程師	166	3	3	65
	102	Manufacturing/ Production/ Industrial Engineer 製造／生產／工業工程師	0	7	0	7
	103	Electrical Engineer 電機工程師	12	1	0	27
	104	Electronics Engineer 電子工程師	0	0	0	22
	105	Project Engineer 項目工程師	19	3	0	18
	106	Technical Services Engineer 技術支援工程師	414	12	7	1
	107	Product Engineer 產品工程師	11	1	0	0
	108	Q.C./ Q.A. Manager/ Engineer 品質控制／保證經理／工程師	401	0	0	0
	109	CAD, CAM or CAE Engineer 電腦輔助設計、電腦輔助生產或電腦輔助工程工程師	0	3	9	3
	110	Materials Engineer 物料工程師	59	1	0	6
	111	Costing Engineer 成本工程師	0	0	0	0
	112	Processing Engineer 加工工程師	0	0	0	2
	113	Engineering Manager 工程經理	9	0	3	14
	114	Technical Sales/ Marketing Manager 技術營銷／市務經理	16	32	6	10
	115	Logistics Manager 物流經理	1	9	0	0
	116	Merchandising Manager/ Purchasing Manager 採購經理	17	16	0	0
	117	Factory Manager 工廠經理	6	6	3	2
	118	Production Manager 生產部經理	10	0	0	3
	119	Product/ Graphic Designer 產品／平面設計師	9	0	3	0
	120	Training Manager 培訓經理	0	0	0	0
	121	Production Planning and Material Control Manager 生產計劃與物料控制經理	6	0	6	0
	122	IT Project Manager 資訊科技項目經理	15	0	6	4
	123	Systems Development Manager 系統開發經理	3	0	5	34
	124	Research and Development Engineer 研發工程師	6	0	19	69
	Sub-Total 小計		**1 180**	**94**	**70**	**287**

Full-time employees by Job Level (Engineering Services and other relevant companies/services[#])
按門類不同技能等級劃分的全職僱員（工程服務及其他相關公司／服務[#]）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Engineering Services and other relevant companies/services 工程服務及其他相關公司／服務			
			Engineering services 工程服務	Advanced material suppliers 先進物料供應商	Smart manufacturing and Industry 4.0 solution providers 智能製造及工業4.0的解決服務提供者	Relevant division / department in training/education institution 提供相關培訓的教育機構／學系
Technician / Supervisory Level 技術員／督導級	201	Mechanical Draftsman 機械繪圖員	0	0	0	0
	202	Manufacturing/ Production/ Industrial Engineering Technician 製造／生產／工業工程技術員	3	4	0	17
	203	Mechanical Engineering Technician 機械工程技術員	13	2	0	30
	204	Electrical Engineering Technician 電機工程技術員	23	0	0	18
	205	Electronics Technician 電子技術員	3	0	0	11
	206	Technical Services Technician 支援技術員	647	0	6	2
	207	Technical Sales/ Marketing Executive 技術營銷／市務主任	48	34	2	10
	208	Foreman/ Supervisor 管工／監督	234	2	0	7
	209	Coordinator 協理員／聯絡員	28	8	0	11
	210	Logistics Executive/ Supervisor 物流主任	10	21	0	0
	211	Engineering Buyer/ Merchandiser 工程採購員	16	31	0	0
	212	Production Supervisor 生產主管	5	1	0	0
	213	Q.C./ Q.A. Supervisor/ Technician 品質管制／保證主管／技術員	640	3	0	0
	214	Research and Development Technician 研究及發展技術員	14	0	0	11
	215	Product/ Packaging Development Technician 產品／包裝發展技術員	90	0	0	0
	216	Laboratory/ Materials Technician 實驗室／材料技術員	1 668	5	0	17
	217	Tooling Technician 工具工模技術員	0	0	0	0
	218	CAD or CAM Technician (Tooling/3D Printing) 電腦輔助設計或電腦輔助生產技術員 (工模／立體打印)	0	1	0	0
	219	Production Planning and Material Controller 生產計劃與物料控制員	3	4	0	0
	220	Training Officer 訓練主任	1	0	0	8
	221	Systems Developer 系統開發員	0	0	0	0
	222	Programmer 程式編製員 (incl. Software Developer, Application Developer, etc.) (包括：軟件開發員、應用開發員等)	12	0	9	2
	223	Fiber Technician 光纖技術員	0	0	0	0
	Sub-Total 小計		**3 458**	**116**	**17**	**144**

Full-time employees by Job Level (Engineering Services and other relevant companies/services[#])
按門類不同技能等級劃分的全職僱員（工程服務及其他相關公司／服務[#]）

Job Level 職級	Job Code 職務編號	Job Title 職稱	Engineering Services and other relevant companies/services 工程服務及其他相關公司／服務			
			Engineering services 工程服務	Advanced material suppliers 先進物料供應商	Smart manufacturing and Industry 4.0 solution providers 智能製造及工業4.0的解決服務提供者	Relevant division / department in training/education institution 提供相關培訓的教育機構／學系
Craftsman Level 技工級	301	Machinist 機床工	27	0	0	22
	302	Precision Machinist 精密加工機床工	1	0	0	0
	303	Machine Setter 機器調校工	0	5	0	0
	304	Mould/ Die and Tool Maker 製模及工具技工	0	0	0	0
	305	Fixture Fabricator 夾具製造工	0	0	0	0
	306	Electrician 電器技工	12	3	0	0
	307	Mechanical Fitter 機械打磨裝配工	7	3	0	0
	308	Electric Arc and Gas Welder 電焊氣焊工	1	0	0	0
	309	Sheet Metal Fabricator 鈑金構造工	0	0	0	0
	310	Steel Fabricator 鋼板構造工	0	0	0	0
	311	Plumber and Pipe Fitter 喉管工	0	0	0	0
	312	Pattern/ Model/ Prototype Maker 樣辦／模型／生產原型製造工	1	0	0	0
	313	Electroplating and Metal Coating Worker 電鍍及金屬塗層工	0	0	0	0
	314	Painter 噴漆及髹漆工	0	0	0	0
	315	Metal Printing Craftsman 金屬印製技工	0	0	0	0
	316	Rolling Mill/ Extrusion Press Craftsman 輾壓／擠壓技工	0	0	0	0
	317	Plastics Injection Machine Setter 注塑機調機技工	0	3	0	0
	318	Quality Control Inspector 品質檢查工	339	28	0	0
	319	Fiber mechanic 光纖技工	0	0	0	0
	399	Other Craftsman staff 其他技工級員工	0	0	0	0
	Sub-Total 小計		**388**	**42**	**0**	**22**
Operative Level 操作工級	401	Semi-skilled Machine Operator 機器操作工	7	4	0	0
	402	Polishing Worker 磨光工	0	0	0	0
	403	Stamping Machine Operator 沖床操作工	0	0	0	0
	404	Quality Control Operator 品質控制操作工	34	0	0	0
	405	Assembler 裝配工	0	0	0	0
	406	Injection Moulding Machine Operator 注塑機操作工	0	2	0	0
	407	Crane Operator 起重機操作工	0	0	0	0
	408	Film Blowing Machine Operator 吹膜機工	0	0	0	0
	409	Other Plastics Processing Machine Operator 其他塑膠加工機操作工	0	16	0	0
	410	Printing Operator 印刷工	0	0	0	0
	Sub-Total 小計		**41**	**22**	**0**	**0**
Unskilled Level 非技術工人級	501	General Worker 雜工	87	12	0	15
	Sub-Total 小計		**87**	**12**	**0**	**15**
Total 總數			**5 154**	**286**	**87**	**468**

Distribution of Average Monthly Remuneration Package of full-time employees (Current and to be Newly Recruited in coming year)
按每月平均收入幅度劃分的僱員分佈（現職僱員及未來一年的新增職位）

Job Code 職務編號	Principal Job 主要職務	$12,000 or below 或以下	$12,001 - $15,000	$15,001 - $20,000	$20,001 - $25,000	$25,001 - $30,000	$30,001 - $40,000	Over $40,000 以上	Overall 總計	Total number of full-time employees 全職僱員人數	Total number of New posts to be recruited 新增職位人數
Technologist / Managerial Level 技師／經理級											
101	Mechanical Engineer 機械工程師	0.0%	0.0%	0.0%	29.0%	3.2%	49.5%	18.3%	100.0%	727	7
		0.0%	0.0%	0.0%	0.0%	57.1%	14.3%	28.6%	100.0%		
102	Manufacturing/ Production/ Industrial Engineer 製造／生產／工業工程師	0.0%	0.0%	4.5%	12.6%	27.0%	42.3%	13.5%	100.0%	160	2
		0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%		
103	Electrical Engineer 電機工程師	0.0%	0.0%	0.0%	3.7%	48.8%	28.7%	18.9%	100.0%	170	1
		0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%		
104	Electronics Engineer 電子工程師	0.0%	0.0%	0.0%	14.9%	16.4%	34.3%	34.3%	100.0%	68	3
		0.0%	0.0%	0.0%	66.7%	0.0%	33.3%	0.0%	100.0%		
105	Project Engineer 項目工程師	0.0%	0.0%	2.8%	13.5%	29.9%	38.2%	15.6%	100.0%	302	11
		0.0%	0.0%	0.0%	72.7%	0.0%	27.3%	0.0%	100.0%		
106	Technical Services Engineer 技術支援工程師	0.0%	0.0%	2.5%	25.0%	14.2%	57.7%	0.6%	100.0%	1 149	6
		0.0%	0.0%	33.3%	0.0%	0.0%	66.7%	0.0%	100.0%		
107	Product Engineer 產品工程師	0.0%	0.0%	0.8%	4.9%	41.5%	50.4%	2.4%	100.0%	135	0
		-	-	-	-	-	-	-	-		
108	Q.C./ Q.A. Manager/ Engineer 品質控制／保證經理／工程師	0.0%	0.0%	0.9%	2.4%	65.5%	23.0%	8.3%	100.0%	627	17
		0.0%	0.0%	35.3%	11.8%	0.0%	47.1%	5.9%	100.0%		
109	CAD, CAM or CAE Engineer 電腦輔助設計、電腦輔助生產或電腦輔助工程工程師	0.0%	0.0%	8.0%	16.0%	65.3%	0.0%	10.7%	100.0%	80	0
		-	-	-	-	-	-	-	-		
110	Materials Engineer 物料工程師	0.0%	0.0%	40.5%	15.2%	19.0%	8.9%	16.5%	100.0%	81	1
		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%		
111	Costing Engineer 成本工程師	0.0%	0.0%	6.9%	5.2%	56.9%	31.0%	0.0%	100.0%	64	1
		0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%		
112	Processing Engineer 加工工程師	0.0%	0.0%	16.7%	33.3%	0.0%	16.7%	33.3%	100.0%	10	0
		-	-	-	-	-	-	-	-		
113	Engineering Manager 工程經理	0.0%	0.0%	0.0%	2.5%	12.2%	16.0%	69.3%	100.0%	292	12
		0.0%	0.0%	0.0%	25.0%	66.7%	0.0%	8.3%	100.0%		
114	Technical Sales/ Marketing Manager 技術營銷／市務經理	0.0%	0.0%	0.5%	11.4%	38.1%	35.9%	14.0%	100.0%	2 727	16
		0.0%	0.0%	0.0%	6.3%	0.0%	56.3%	37.5%	100.0%		
115	Logistics Manager 物流經理	0.0%	0.0%	7.9%	16.4%	22.5%	32.8%	20.4%	100.0%	571	2
		0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%		
116	Merchandising Manager/ Purchasing Manager 採購經理	0.0%	0.0%	1.4%	44.4%	29.9%	16.7%	7.6%	100.0%	1 814	2
		0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	50.0%	100.0%		
117	Factory Manager 工廠經理	0.0%	0.0%	4.0%	17.6%	12.0%	26.4%	40.0%	100.0%	138	0
		-	-	-	-	-	-	-	-		
118	Production Manager 生產部經理	0.0%	0.0%	0.9%	38.0%	12.0%	37.5%	11.6%	100.0%	235	4
		0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%		
119	Product/ Graphic Designer 產品／平面設計師	0.0%	0.0%	3.8%	22.8%	41.1%	19.8%	12.4%	100.0%	344	6
		0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%		
120	Training Manager 培訓經理	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%	80.0%	100.0%	6	0
		-	-	-	-	-	-	-	-		
121	Production Planning and Material Control Manager 生產計劃與物料控制經理	0.0%	0.0%	0.9%	15.9%	4.7%	19.6%	58.9%	100.0%	109	0
		-	-	-	-	-	-	-	-		
122	IT Project Manager 資訊科技項目經理	0.0%	0.0%	0.0%	1.5%	28.8%	28.8%	40.9%	100.0%	66	0
		-	-	-	-	-	-	-	-		
123	Systems Development Manager 系統開發經理	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	93.0%	100.0%	46	0
		-	-	-	-	-	-	-	-		
124	Research and Development Engineer 研發工程師	0.0%	0.0%	0.0%	5.7%	25.8%	54.1%	14.5%	100.0%	162	4
		0.0%	0.0%	0.0%	0.0%	25.0%	75.0%	0.0%	100.0%		
Sub-Total 小計		**0.0%**	**0.0%**	**2.0%**	**20.7%**	**29.7%**	**33.2%**	**14.4%**	100.0%	**10 083**	**95**
		0.0%	**0.0%**	**8.4%**	**16.8%**	**25.3%**	**36.8%**	**12.6%**	100.0%		

Distribution of Average Monthly Remuneration Package of full-time employees (Current and to be Newly Recruited in coming year)
按每月平均收入幅度劃分的僱員分佈 (現職僱員及未來一年的新增職位)

Job Code 職務編號	Principal Job 主要職務	$12,000 or below 或以下	$12,001 - $15,000	$15,001 - $20,000	$20,001 - $25,000	$25,001 - $30,000	$30,001 - $40,000	Over $40,000 以上	Overall 總計	Total number of full-time employees 全職僱員人數	Total number of New posts to be recruited 新增職位人數
Technician / Supervisory Level **技術員／督導級**											
201	Mechanical Draftsman 機械繪圖員	0.0%	0.0%	35.7%	64.3%	0.0%	0.0%	0.0%	100.0%	14	3
		0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%		
202	Manufacturing/ Production/ Industrial Engineering Technician 製造／生產／工業工程技術員	0.0%	0.9%	14.1%	45.5%	36.8%	2.3%	0.4%	100.0%	587	1
		0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%		
203	Mechanical Engineering Technician 機械工程技術員	0.0%	0.0%	8.1%	88.7%	1.8%	0.0%	1.4%	100.0%	2 686	79
		0.0%	0.0%	97.5%	0.0%	2.5%	0.0%	0.0%	100.0%		
204	Electrical Engineering Technician 電機工程技術員	0.0%	0.0%	49.8%	35.9%	7.5%	0.7%	6.1%	100.0%	307	16
		0.0%	0.0%	75.0%	0.0%	25.0%	0.0%	0.0%	100.0%		
205	Electronics Technician 電子技術員	0.0%	14.5%	11.1%	61.5%	3.4%	0.0%	9.4%	100.0%	120	4
		0.0%	0.0%	25.0%	25.0%	50.0%	0.0%	0.0%	100.0%		
206	Technical Services Technician 支援技術員	0.0%	3.9%	18.7%	28.9%	48.1%	0.3%	0.0%	100.0%	1 290	48
		0.0%	4.2%	37.5%	0.0%	58.3%	0.0%	0.0%	100.0%		
207	Technical Sales/ Marketing Executive 技術營銷／市務主任	0.0%	8.4%	28.8%	48.9%	9.1%	4.7%	0.0%	100.0%	4 091	89
		0.0%	5.6%	56.2%	1.1%	37.1%	0.0%	0.0%	100.0%		
208	Foreman/ Supervisor 管工／監督	0.0%	19.8%	12.8%	18.8%	42.9%	5.1%	0.7%	100.0%	759	16
		0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%		
209	Coordinator 協理員／聯絡員	0.0%	6.6%	33.7%	14.8%	3.9%	40.9%	0.1%	100.0%	977	31
		0.0%	0.0%	64.5%	16.1%	19.4%	0.0%	0.0%	100.0%		
210	Logistics Executive/ Supervisor 物流主任	0.0%	4.3%	32.6%	43.5%	18.6%	1.1%	0.0%	100.0%	1 556	15
		0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%		
211	Engineering Buyer/ Merchandiser 工程採購員	0.0%	1.9%	49.8%	39.4%	2.0%	7.0%	0.0%	100.0%	5 840	1
		0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%		
212	Production Supervisor 生產主管	0.0%	0.0%	20.6%	63.5%	14.3%	1.6%	0.0%	100.0%	83	2
		0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%		
213	Q.C./ Q.A. Supervisor/ Technician 品質管制／保證主管／技術員	0.0%	0.5%	60.0%	24.6%	6.5%	7.7%	0.7%	100.0%	1 029	9
		0.0%	0.0%	0.0%	33.3%	33.3%	33.3%	0.0%	100.0%		
214	Research and Development Technician 研究及發展技術員	0.0%	3.0%	6.1%	42.4%	42.4%	6.1%	0.0%	100.0%	33	1
		0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%		
215	Product/ Packaging Development Technician 產品／包裝發展技術員	0.0%	0.0%	26.7%	52.4%	1.0%	20.0%	0.0%	100.0%	195	0
		-	-	-	-	-	-	-	-		
216	Laboratory/ Materials Technician 實驗室／材料技術員	0.0%	9.5%	72.4%	16.0%	2.1%	0.0%	0.0%	100.0%	1 697	48
		0.0%	37.5%	52.1%	0.0%	10.4%	0.0%	0.0%	100.0%		
217	Tooling Technician 工具工模技術員	0.0%	0.0%	46.2%	7.7%	46.2%	0.0%	0.0%	100.0%	15	0
		-	-	-	-	-	-	-	-		
218	CAD or CAM Technician (Tooling/3D Printing) 電腦輔助設計或電腦輔助生產技術員 (工模／立體打印)	0.0%	0.0%	0.0%	94.4%	5.6%	0.0%	0.0%	100.0%	43	2
		0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%		
219	Production Planning and Material Controller 生產計劃與物料控制員	0.0%	0.0%	38.6%	49.7%	11.7%	0.0%	0.0%	100.0%	171	3
		0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%		
220	Training Officer 訓練主任	0.0%	0.0%	0.0%	4.3%	52.2%	39.1%	4.3%	100.0%	24	3
		0.0%	0.0%	0.0%	66.7%	0.0%	33.3%	0.0%	100.0%		
221	Systems Developer 系統開發員	0.0%	0.0%	0.0%	29.4%	35.3%	35.3%	0.0%	100.0%	17	0
		-	-	-	-	-	-	-	-		
222	Programmer 程式編製員 (incl. Software Developer, Application Developer, etc) (包括：軟件開發員、應用開發員等)	0.0%	0.0%	24.3%	48.6%	13.5%	13.5%	0.0%	100.0%	37	3
		0.0%	0.0%	33.3%	0.0%	66.7%	0.0%	0.0%	100.0%		
223	Fiber Technician 光纖技術員	-	-	-	-	-	-	-	-	0	0
		-	-	-	-	-	-	-	-		
Sub-Total 小計		**0.0%**	**4.6%**	**36.0%**	**43.0%**	**10.2%**	**5.8%**	**0.4%**	100.0%	**21 571**	374
		0.0%	**6.8%**	**57.3%**	**3.8%**	**31.5%**	**0.5%**	**0.0%**	100.0%		

Distribution of Average Monthly Remuneration Package of full-time employees (Current and to be Newly Recruited in coming year)
按每月平均收入幅度劃分的僱員分佈（現職僱員及未來一年的新增職位）

Job Code 職務編號	Principal Job 主要職務	$12,000 or below 或以下	$12,001 - $15,000	$15,001 - $20,000	$20,001 - $25,000	$25,001 - $30,000	$30,001 - $40,000	Over $40,000 以上	Overall 總計	Total number of full-time employees 全職僱員人數	Total number of New posts to be recruited 新增職位人數
Craftsman Level **技工級**											
301	Machinist 機床工	4.6%	9.3%	43.6%	42.5%	0.0%	0.0%	0.0%	100.0%	285	8
		0.0%	0.0%	75.0%	25.0%	0.0%	0.0%	0.0%	100.0%		
302	Precision Machinist 精密加工機床工	0.0%	10.8%	50.8%	38.5%	0.0%	0.0%	0.0%	100.0%	65	0
		-	-	-	-	-	-	-	-		
303	Machine Setter 機器調校工	0.0%	2.3%	92.0%	2.3%	3.4%	0.0%	0.0%	100.0%	93	0
		-	-	-	-	-	-	-	-		
304	Mould/ Die and Tool Maker 製模及工具技工	21.0%	3.4%	64.7%	10.9%	0.0%	0.0%	0.0%	100.0%	209	0
		-	-	-	-	-	-	-	-		
305	Fixture Fabricator 夾具製造工	0.0%	31.4%	48.5%	20.1%	0.0%	0.0%	0.0%	100.0%	344	0
		-	-	-	-	-	-	-	-		
306	Electrician 電器技工	0.0%	5.1%	69.3%	24.5%	1.1%	0.0%	0.0%	100.0%	772	20
		0.0%	0.0%	65.0%	35.0%	0.0%	0.0%	0.0%	100.0%		
307	Mechanical Fitter 機械打磨裝配工	0.0%	1.8%	85.5%	11.0%	1.7%	0.0%	0.0%	100.0%	1 088	20
		0.0%	75.0%	25.0%	0.0%	0.0%	0.0%	0.0%	100.0%		
308	Electric Arc and Gas Welder 電焊氣焊工	5.6%	6.1%	55.4%	32.9%	0.0%	0.0%	0.0%	100.0%	236	0
		-	-	-	-	-	-	-	-		
309	Sheet Metal Fabricator 鈑金構造工	0.0%	10.9%	15.2%	73.9%	0.0%	0.0%	0.0%	100.0%	92	6
		0.0%	33.3%	0.0%	66.7%	0.0%	0.0%	0.0%	100.0%		
310	Steel Fabricator 鋼板構造工	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	120	0
		-	-	-	-	-	-	-	-		
311	Plumber and Pipe Fitter 喉管工	0.0%	0.0%	19.6%	80.4%	0.0%	0.0%	0.0%	100.0%	92	0
		-	-	-	-	-	-	-	-		
312	Pattern/ Model/ Prototype Maker 樣辦／模型／生產原型製造工	0.0%	14.1%	68.7%	17.2%	0.0%	0.0%	0.0%	100.0%	171	0
		-	-	-	-	-	-	-	-		
313	Electroplating and Metal Coating Worker 電鍍及金屬塗層工	7.3%	0.0%	92.7%	0.0%	0.0%	0.0%	0.0%	100.0%	109	0
		-	-	-	-	-	-	-	-		
314	Painter 噴漆及髹漆工	0.0%	44.4%	22.2%	33.3%	0.0%	0.0%	0.0%	100.0%	9	0
		-	-	-	-	-	-	-	-		
315	Metal Printing Craftsman 金屬印製技工	0.0%	4.8%	0.0%	95.2%	0.0%	0.0%	0.0%	100.0%	28	0
		-	-	-	-	-	-	-	-		
316	Rolling Mill/ Extrusion Press Craftsman 輾壓／擠壓技工	0.0%	0.0%	11.1%	88.9%	0.0%	0.0%	0.0%	100.0%	18	0
		-	-	-	-	-	-	-	-		
317	Plastics Injection Machine Setter 注塑機調機技工	0.0%	32.4%	41.2%	26.5%	0.0%	0.0%	0.0%	100.0%	34	2
		0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%		
318	Quality Control Inspector 品質檢查工	2.0%	4.7%	80.9%	3.7%	8.7%	0.0%	0.0%	100.0%	399	11
		0.0%	9.1%	90.9%	0.0%	0.0%	0.0%	0.0%	100.0%		
319	Fiber mechanic 光纖技工	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	22	0
		-	-	-	-	-	-	-	-		
399	Other Craftsman staff 其他技工級員工	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	4	0
		-	-	-	-	-	-	-	-		
Sub-Total 小計		**1.7%**	**7.2%**	**65.4%**	**24.4%**	**1.4%**	**0.0%**	**0.0%**	100.0%	**4 190**	67
		0.0%	**29.9%**	**50.7%**	**19.4%**	**0.0%**	**0.0%**	**0.0%**	100.0%		

Distribution of Average Monthly Remuneration Package of full-time employees (Current and to be Newly Recruited in coming year)
按每月平均收入幅度劃分的僱員分佈（現職僱員及未來一年的新增職位）

Job Code 職務編號	Principal Job 主要職務	$12,000 or below 或以下	$12,001 - $15,000	$15,001 - $20,000	$20,001 - $25,000	$25,001 - $30,000	$30,001 - $40,000	Over $40,000 以上	Overall 總計	Total number of full-time employees 全職僱員人數	Total number of New posts to be recruited 新增職位人數
Operative Level **操作工級**											
401	Semi-skilled Machine Operator 機器操作工	0.0%	37.4%	62.6%	0.0%	0.0%	0.0%	0.0%	100.0%	588	44
		0.0%	22.7%	77.3%	0.0%	0.0%	0.0%	0.0%	100.0%		
402	Polishing Worker 磨光工	42.1%	0.0%	57.9%	0.0%	0.0%	0.0%	0.0%	100.0%	19	0
		-	-	-	-	-	-	-	-		
403	Stamping Machine Operator 沖床操作工	0.0%	16.1%	83.9%	0.0%	0.0%	0.0%	0.0%	100.0%	98	2
		0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%		
404	Quality Control Operator 品質控制操作工	0.0%	62.8%	37.2%	0.0%	0.0%	0.0%	0.0%	100.0%	103	0
		-	-	-	-	-	-	-	-		
405	Assembler 裝配工	27.1%	47.3%	24.0%	1.6%	0.0%	0.0%	0.0%	100.0%	509	24
		4.2%	58.3%	37.5%	0.0%	0.0%	0.0%	0.0%	100.0%		
406	Injection Moulding Machine Operator 注塑機操作工	1.7%	22.2%	73.5%	2.6%	0.0%	0.0%	0.0%	100.0%	122	0
		-	-	-	-	-	-	-	-		
407	Crane Operator 起重機操作工	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	26	0
		-	-	-	-	-	-	-	-		
408	Film Blowing Machine Operator 吹膜機工	0.0%	44.4%	55.6%	0.0%	0.0%	0.0%	0.0%	100.0%	37	1
		0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%		
409	Other Plastics Processing Machine Operator 其他塑膠加工機操作工	9.5%	26.2%	42.9%	21.4%	0.0%	0.0%	0.0%	100.0%	47	0
		-	-	-	-	-	-	-	-		
410	Printing Operator 印刷工	16.7%	73.3%	6.7%	3.3%	0.0%	0.0%	0.0%	100.0%	30	0
		-	-	-	-	-	-	-	-		
Sub-Total 小計		**10.6%**	**40.1%**	**47.9%**	**1.4%**	**0.0%**	**0.0%**	**0.0%**	100.0%	**1 579**	71
		1.4%	**36.6%**	**62.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	100.0%		
Unskilled Level **非技術工人級**											
501	General Worker 雜工	11.5%	82.5%	5.5%	0.5%	0.0%	0.0%	0.0%	100.0%	1 097	20
		65.0%	35.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%		
Sub-Total 小計		**11.5%**	**82.5%**	**5.5%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	100.0%	**1 097**	20
		65.0%	**35.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	100.0%		
GRAND TOTAL 總計		**0.9%**	**7.3%**	**29.8%**	**32.3%**	**13.7%**	**12.0%**	**4.0%**	100.0%	**38 520**	**627**
		2.3%	**12.6%**	**47.8%**	**6.9%**	**22.5%**	**6.0%**	**1.9%**	100.0%		

Note:
As a percentage of total number of employees by corresponding job level
註：
佔該行業僱員總數百分率