



# **Report on Manpower Projection to 2018**

**Government of The Hong Kong Special Administrative Region**

**April 2012**

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## **Foreword**

This report presents the findings of the 2010-based Manpower Projection up to 2018 (MP2018) compiled by the Government of the Hong Kong Special Administrative Region.

There are two main components in MP2018 – the Manpower Supply Projection (MSP) and Manpower Requirement Projection (MRP). On the basis of MSP and MRP, the projected Manpower Resource Balance (MRB) is derived to assess whether there may be manpower resource imbalances by education level in Hong Kong up to 2018.

The findings of MP2018 are compiled based on a host of statistics, including the Census and Statistics Department's Population Projections, Labour Force Projections and General Household Survey. We have also conducted statistical studies and surveys in order to derive the manpower data for constructing the projection models of MP2018. The Census and Statistics Department has carried out extensive consultation with industry experts on the outlook of the future manpower requirements of their respective industries up to 2018. The views collected have been suitably incorporated as we compiled the findings of MP2018.

An inter-departmental working group comprising representatives of relevant bureaux/departments and statutory training bodies was set up to steer the projection work. We are grateful to the industry experts who have given us invaluable views and members of the inter-departmental working group for their contributions and suggestions to this report.

The report is divided into four chapters. *Chapter 1* contains introductory remarks and a note on the technical framework of MP2018; *Chapter 2* presents MSP; *Chapter 3* presents MRP; and *Chapter 4* shows the analyses of MRB.

Labour and Welfare Bureau

The Government of the Hong Kong Special Administrative Region

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## **Glossary, Abbreviations and Remarks**

### **Glossary**

***Education attainment/level*** – it refers to the highest level of education completed by a person with no regard to his/her professional qualifications. For instance, a person holding a bachelor's degree in engineering with or without professional qualifications will be classified as having an education attainment at *first degree* level.

***Establishment*** – it is defined as an economic unit which engages, under a single ownership or control, in one or predominantly one kind of economic activity at a single physical location, e.g. an individual factory, a workshop or a retail shop.

***Hong Kong Resident Population*** – according to the Census and Statistics Department's definition, Hong Kong's Resident Population at a given reference time point refers to - (a) Hong Kong's permanent residents who stay in Hong Kong for at least one month during the six months before or after that reference time point, regardless of whether they are in Hong Kong or not at the reference time point; and (b) Hong Kong non-permanent residents who are in Hong Kong at that reference time point.

***Labour force participation rate*** – it refers to the proportion of labour force in the population aged 15 and above. It is a measure of the propensity of the population of working age in the labour force.

***Local manpower supply*** – it refers to the labour force excluding foreign domestic helpers.

***Manpower requirement*** – it generally means the job opportunities in various sectors/industries which are available to Hong Kong residents.

***Manpower resource balance*** – it is the quantitative difference between manpower supply and requirement. The resultant figure provides an indication as to whether there may be any imbalance of manpower

supply and requirement. Manpower resource balance is analysed by specific education attainment. A positive manpower resource balance means an imbalance with manpower supply exceeding manpower requirement. A negative manpower resource balance indicates that manpower supply is less than manpower requirement. If manpower supply is more or less the same as manpower requirement, the manpower situation is said to be in balance.

***Manpower supply*** – it has the same meaning as labour force, which refers to the people in employment and those unemployed but in the process of seeking work. In Hong Kong, a working person must be at least 15 years old. Hence, the labour force is assumed to be aged 15 and above.

***The conventional economic sectors*** – they refer to the following 12 sectors which together make up the whole economy –

- (1) *Agriculture, fishing and quarrying*
- (2) *Manufacturing*
- (3) *Electricity, gas, water and waste management*
- (4) *Construction*
- (5) *Import, export, wholesale and retail trades*
- (6) *Accommodation and food services*
- (7) *Transportation, storage, postal and courier services*
- (8) *Information and communications*
- (9) *Financial services*
- (10) *Real estate*
- (11) *Professional and business services*
- (12) *Social and personal services*

This classification of economic sectors, which is based on the Hong Kong Standard Industrial Classification Version 2.0, is commonly used in publishing labour and economic statistics by the Census and Statistics Department.

***The four pillar industries*** – they refer to the industries which are of paramount importance in propelling Hong Kong's economic growth. In the context of MP2018, they include *Financial services, Trading and logistics, Professional services* as well as *Tourism*.

***The six industries*** – the Task Force on Economic Challenges, which was set up by the Government in October 2008, has identified six industries which are crucial to the development of the Hong Kong economy. These six industries include *Education services, Medical services, Testing and certification services, Environmental industries, Innovation and technology* and *Cultural and creative industries*.

***The strategic sectors*** – they refer to the sectors which are of strategic importance to the long-term competitiveness and economic development of Hong Kong. In the context of MP2018, they include the four pillar industries, the six industries and the *Information technology and information services* sector.

### **Abbreviations**

C&SD – Census and Statistics Department

FDHs – Foreign domestic helpers

GDP – Gross Domestic Product

IFC – International financial centre

MP2018 – Manpower Projection to 2018

MRB – Manpower resource balance

MRP – Manpower requirement projection

MSP – Manpower supply projection

OWPH – One-way permit holders

R&D – Research and development

RMB – Renminbi

VTC – Vocational Training Council

WKCD – West Kowloon Cultural District

“^” means less than 50

“-” means nil

“\*” means that the figure concerned is suppressed owing to small value of the estimate



## **Remarks**

- (a) The findings of MP2018 are made on the basis of certain assumptions and are subject to projection errors, in particular those estimates of small value. Nonetheless, they offer useful reference on the broad trends in the future manpower supply and requirement of our economy, as well as potential manpower mismatch at different education levels.
- (b) The statutory minimum wage had not been implemented when we collected data and information through various sources for constructing the statistical model of MP2018. The findings of MP2018, therefore, have not taken into account the impact of the implementation of the statutory minimum wage since May 2011.
- (c) There may be a slight discrepancy between the sum of individual figures and their corresponding totals in the statistical tables in the report owing to rounding.
- (d) The manpower resource balance at any specific education level is the simple quantitative difference between the manpower supply and requirement at this education level. It assumes perfect cross-sector substitution of workers with the same education attainment. In reality, the substitutability between workers in some occupations, especially the specialised professions, is rather low. Hence, readers should interpret the manpower resource balance by education level with caution.
- (e) We drew on the 2010-based manpower figures of various major economic sectors in making the projections in 2011. These manpower statistics were mainly compiled by the Census and Statistics Department (C&SD). Those of the four pillar industries were rough estimates as the actual figures for 2010 were not available when the projections were made. The actual manpower statistics of the four pillar industries for 2010 were subsequently released by C&SD in early 2012. Hence, there may be some discrepancies between the manpower figures of the four pillar

industries for 2010 presented in this report and the published C&SD's figures for the year.

- (f) For the purpose of MP2018, *Professional services*, which is one component of the four pillar industries, covers, for instance, legal services, accounting, auditing, architecture and engineering activities, management and management consultancy activities, information technology related services and advertising. In addition, *Professional services* under MP2018 also covers “Medical, dental and other medical services”. It excludes *Other producer services* which generally refers to the services consumed by business undertakings, other than those already covered in the industries of *Financial services*, *Trading and logistics*, *Tourism* and *Professional services*. *Other producer services* covers retail trade, food and beverage services, accommodation services, transport, telecommunications, real estate, various social services and various personal services. *Professional services* in MP2018 may thus have a different coverage of trade from that of the same industry in other statistical exercises.
- (g) Owing to the short historical manpower data series for the six industries, statistically reliable projections in respect of the manpower requirement of these industries can only be made up to 2015, instead of 2018 as with other economic sectors. In addition, when the findings of MP2018 were being compiled, the manpower figures of the six industries for 2010 were not available yet. Hence, 2009 has been adopted as the base year for these industries in the projections. We have adopted the 2009 manpower figures of the six industries compiled by C&SD in 2011 in making the projections. These manpower figures were revised by C&SD in early 2012. Thus, there may be some discrepancies between the manpower figures of the six industries for 2009 presented in this report and C&SD's revised figures for the year.

## **Executive Summary**

### **Manpower Supply Projection (MSP)**

#### *Local Manpower Supply*

The local manpower supply in Hong Kong is projected to increase at an average annual rate of 0.6% from 3.42 million in 2010 to 3.58 million in 2018. During the same period, the population<sup>1</sup> is projected to grow at an average annual rate of 0.9% from 6.79 million to 7.27 million.

#### *Local Manpower Supply by Age*

2. As with many other developed economies, Hong Kong experiences ageing in its population. The ageing population is expected to have an impact on the age composition of the manpower supply with notable increases in both the number and proportion of workers in the older age groups during the projection period. Specifically, the local manpower supply aged 55 and above is projected to increase significantly at an average annual rate of 5.1% from 452 800 in 2010 to 672 800 in 2018. The proportion of this labour segment to the overall local manpower supply is expected to grow from 13.2% to 18.8%. During the same period, the local manpower supply aged below 55 is expected to shrink from 2.97 million to 2.91 million, with its share of the local manpower supply decreasing from 86.8% to 81.2%.

3. The overall labour force participation rate of the population is expected to decline steadily from 58.1% in 2010 to 56.3% in 2018, owing in part to the ageing of population as older people tend to participate less in the labour market. In an ageing population, the working population grows slower than the population as a whole. This also explains why the local manpower supply is projected to grow at a slower rate than the population during the projection period.

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<sup>1</sup> Excludes foreign domestic helpers.

### *Local Manpower Supply by Sex*

4. The local female manpower supply is projected to expand at an average annual rate of 1.5% from 1.48 million in 2010 to 1.67 million in 2018. Its share in the overall local manpower supply is expected to grow from 43.3% to 46.7% during the same period. The increase in the local female manpower supply might be attributable to improvement in the education qualifications and late marriage of the female population. The local female labour force participation rate is expected to continue to rise, increasing steadily from 48.4% in 2010 to 49.3% in 2018.

5. The local male manpower supply is expected to decrease marginally at an average annual rate of -0.2% from 1.94 million in 2010 to 1.91 million in 2018. The local male labour force participation rate is projected to edge down from 68.6% in 2010 to 64.3% in 2018. Though the sex ratio of the local manpower supply has all along been tilted towards the male (i.e. more male workers than female workers in the workforce), the gap between the two genders has been narrowing. It is anticipated that the local female manpower supply will continue to grow during the projection period, while the local male manpower supply will reduce slightly.

### *Local Manpower Supply Projection by Education Level*

6. The expansion of education programmes in Hong Kong over the past two decades has led to an improvement in the education qualifications of its population and hence the education profile of the labour force. The education profile of the local manpower supply is projected to improve further during the period from 2010 to 2018 as summarised below –

- (a) it is projected that the local manpower supply with *first degree* or *postgraduate* qualifications will increase significantly at an average annual rate of 3.7% from 788 400 in 2010 to 1 054 600 in 2018. The proportion of this labour segment to the local manpower supply is expected to rise from 23.1% in 2010 to 29.4% in 2018;

- (b) the local manpower supply at *upper secondary* level is projected to diminish marginally at an annual average rate of -0.1% from 1 314 900 in 2010 to 1 303 800 in 2018;
- (c) the local manpower supply with education attainment at *lower secondary and below* will shrink significantly at an average annual rate of -3.0% from 1 017 300 in 2010 to 795 200 in 2018. Its share in the local manpower supply will decline from 29.7% to 22.2%;
- (d) two segments of the local manpower supply will surge in size significantly from 2010 to 2018. First, the labour force with *postgraduate* education is expected to increase at an average annual rate of 7.1% from 155 300 in 2010 to 267 900 in 2018. Secondly, the labour force with *sub-degree* qualification is projected to expand at an average annual rate of 5.1% from 175 200 to 260 600 during the same period;
- (e) the local manpower supply with relatively higher academic qualifications, including workers at *craft, technician, sub-degree, first degree* and *postgraduate* levels, is projected to expand, while that with education at *lower and upper secondary* levels is projected to diminish; and
- (f) the younger workers generally have better education qualifications than their older counterparts. It is projected that in 2018, 70.6% of the local manpower supply aged 40 and above will have *upper secondary and below* qualifications, 4.4% will have *sub-degree* qualifications, while 22.3% will have education at *first degree* or *postgraduate* level. The corresponding figures for their counterparts aged below 40 are projected to be 44.2%, 10.8% and 38.0%.

7. The local manpower supply by education level in 2010 and 2018 is set out in **Figure 1**.

**Figure 1: Local Manpower Supply by Education Profile in 2010 and 2018**

Education level	Actual local manpower supply in 2010		Projected local manpower supply in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	1 017 300	29.7	795 200	22.2	- 222 100	- 3.0
Upper secondary	1 314 900	38.4	1 303 800	36.4	- 11 200	- 0.1
Craft	12 500	0.4	17 700	0.5	+ 5 200	+ 4.4
Technician	111 700	3.3	150 600	4.2	+ 38 800	+ 3.8
Sub-degree	175 200	5.1	260 600	7.3	+ 85 400	+ 5.1
First degree	633 100	18.5	786 600	22.0	+ 153 500	+ 2.8
Postgraduate	155 300	4.5	267 900	7.5	+ 112 600	+ 7.1
All levels	3 420 200	100.0	3 582 400	100.0	+ 162 200	+ 0.6

## Manpower Requirement Projection (MRP)

### *Total Manpower Requirements*

8. The total manpower requirements (excluding foreign domestic helpers (FDHs)) were 3.28 million in 2010 and are projected to increase at an average annual rate of 1.1% to 3.60 million in 2018.

### *Manpower Requirements by Economic Sector*

9. The top three economic sectors anticipated to grow the fastest in terms of manpower requirements during the period from 2010 to 2018 are *Financial services* (at an average annual rate of 2.5%), *Construction* (1.9%) and *Information and communications* (1.9%). The sectors projected to diminish in employment size during the same period include *Manufacturing* (at an average annual rate of -3.1%) and *Agriculture, fishing and quarrying* (-2.6%). In terms of employment size, *Import, export, wholesale and retail trades* and *Social and personal services* were the two largest sectors in 2010 and are projected to remain so by 2018. Statistics on the manpower requirements in 2010 and their projections in 2018 by economic sector are set out in **Figure 2**.

**Figure 2 : Manpower Requirements by Economic Sector in 2010 and 2018**

Economic sector	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Agriculture, fishing and quarrying	3 700	0.1	3 000	0.1	- 700	- 2.6
Manufacturing	121 000	3.7	94 100	2.6	- 27 000	- 3.1
Electricity, gas, water, and waste management	15 200	0.5	17 100	0.5	+ 1 900	+ 1.5
Construction	271 100	8.3	315 200	8.8	+ 44 100	+ 1.9
Import, export, wholesale and retail trades	874 000	26.6	921 800	25.6	+ 47 700	+ 0.7
Accommodation and food services	265 400	8.1	295 300	8.2	+ 29 900	+ 1.3
Transportation, storage, postal and courier services	321 300	9.8	345 800	9.6	+ 24 500	+ 0.9
Information and communications	92 900	2.8	108 100	3.0	+ 15 200	+ 1.9
Financial services	207 000	6.3	253 100	7.0	+ 46 200	+ 2.5
Real estate	119 000	3.6	135 100	3.8	+ 16 100	+ 1.6
Professional and business services	329 000	10.0	370 100	10.3	+ 41 200	+ 1.5
Social and personal services	665 000	20.2	737 600	20.5	+ 72 700	+ 1.3
Total	3 284 600	100.0	3 596 400	100.0	+ 311 800	+ 1.1

### *Manpower Requirements of the Four Pillar Industries and the Six Industries*

10. The manpower requirements of the four pillar industries taken together are projected to increase by an average annual rate of 1.4% during the projection period from 2010 to 2018. Among the four pillar industries, the manpower requirement of *Tourism* is expected to have the fastest growth rate. The manpower requirements of the four pillar industries in 2010 and their projections in 2018 are summarised in **Figure 3**.

**Figure 3 : Manpower Requirements of the Four Pillar Industries in 2010 and 2018**

Four Pillar industries	Actual manpower requirement in 2010	Projected manpower requirement in 2018	Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	Number	Number	%
Financial services	207 000	253 100	+ 46 200	+ 2.5
Trading and logistics	760 600	781 700	+ 21 100	+ 0.3
Professional services <sup>@</sup>	288 700	347 400	+ 58 700	+ 2.3
Tourism	197 500	247 400	+ 49 900	+ 2.9
Total	1 453 800	1 629 600	+ 175 900	+ 1.4

<sup>@</sup> The *Professional services* sector in MP2018 covers a wide spectrum of business activities (such as legal services, as well as accounting, auditing, architectural and engineering activities) and *Human health activities*, but excludes *Other producer services*.

11. The manpower requirements of the six industries are projected only up to 2015 with 2009 taken as the base year<sup>2</sup>. The manpower requirements of the six industries are expected to grow considerably at an average annual rate of 2.8% during the period from 2009 to 2015, which will be much higher than that of the economy as a whole (the average annual growth rate for the whole economy from 2010 to 2018 is projected to be 1.1%). The manpower requirements of the six industries in 2009 and their projections in 2015 are set out in **Figure 4**.

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<sup>2</sup> Owing to the short historical manpower data series for the six industries, statistically reliable projections can only be made up to 2015. When the findings of MP2018 were being compiled, the manpower figures of the six industries for 2010 were not available yet. Hence, 2009 has been adopted as the base year for the projection of the six industries.



**Figure 4 : Manpower Requirements of the Six Industries in 2009 and 2015**

Six industries	Actual manpower requirement in 2009	Projected manpower requirement in 2015	Projected change from 2009 to 2015	Projected average annual change (2009-2015)
	Number	Number	Number	%
Education services	62 200	80 600	+ 18 400	+ 4.4
Medical services	72 000	86 000	+ 14 000	+ 3.0
Testing and certification services	12 600	14 500	+ 1 800	+ 2.3
Environmental industries	32 400	41 700	+ 9 300	+ 4.3
Innovation and technology	27 500	35 800	+ 8 300	+ 4.5
Cultural and creative industries	188 300	207 100	+ 18 800	+ 1.6
Total <sup>@</sup>	395 000 (407 800) <sup>#</sup>	465 600	+ 70 600	+ 2.8

<sup>@</sup> The total manpower requirements of the six industries are only a simple summation of the manpower figures for individual industries. There is some overlapping of manpower requirements between these industries.

<sup>#</sup> The actual manpower figure in 2010.

### *Manpower Requirements by Occupation Group*

12. The occupation pattern of manpower requirements, i.e. distribution of percentage shares of different occupation groups, is projected to change gradually in a way consistent with the transformation of Hong Kong into a knowledge-based, high value-added economy. It is expected that the proportions of *Managers and administrators, Professionals and Associate professionals* will generally increase along with a shifting of manpower requirements towards higher-skilled, more educated workers, whereas the proportions of those lower in the occupational hierarchy such as *Clerks, Craft and related workers, Drivers, plant and machinery operators, and assemblers* and workers in *Elementary occupations* will remain steady or decrease. The manpower requirements of the overall economy by occupation group in 2010 and their projections in 2018 are presented in **Figure 5**.

**Figure 5 : Manpower Requirements by Occupation Group in 2010 and 2018**

Occupation	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Managers and administrators	334 700	10.2	399 800	11.1	+ 65 100	+ 2.2
Professionals	235 400	7.2	294 700	8.2	+ 59 400	+ 2.9
Associate professionals	673 600	20.5	783 500	21.8	+ 109 900	+ 1.9
Clerks	563 300	17.1	565 700	15.7	+ 2 400	+ 0.1
Service workers and shop sales workers	552 700	16.8	630 400	17.5	+ 77 700	+ 1.7
Agricultural and fishery workers	3 800	0.1	3 200	0.1	- 500	- 1.9
Craft and related workers	244 800	7.5	253 300	7.0	+ 8 500	+ 0.4
Drivers, plant and machinery operators, and assemblers	209 700	6.4	211 400	5.9	+ 1 800	+ 0.1
Elementary occupations	466 700	14.2	454 400	12.6	- 12 400	- 0.3
Total	3 284 600	100.0	3 596 400	100.0	+ 311 800	+ 1.1

*Manpower Requirements by Education Level*

13. During the period from 2010 to 2018, it is projected that the manpower requirements of workers with higher education attainment will increase and those at lower education levels will shrink. In particular, the manpower requirements for workers with *postgraduate, first degree* or *sub-degree* qualifications are expected to have notable average annual growth rates ranging from 3.7% to 5.5%, while those with education at *lower secondary and below* are anticipated to decline considerably at an average annual rate of -2.7%. Details are in **Figure 6**.

**Figure 6 : Manpower Requirements by Education Level in 2010 and 2018**

Education level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	983 200	29.9	786 700	21.9	- 196 400	- 2.7
Upper secondary	1 252 200	38.1	1 370 300	38.1	+ 118 100	+ 1.1
Craft	12 000	0.4	15 800	0.4	+ 3 800	+ 3.5
Technician	103 300	3.1	127 000	3.5	+ 23 700	+ 2.6
Sub-degree	166 800	5.1	241 500	6.7	+ 74 700	+ 4.7
First degree	613 100	18.7	819 200	22.8	+ 206 100	+ 3.7
Postgraduate	154 000	4.7	235 800	6.6	+ 81 800	+ 5.5
Total	3 284 600	100.0	3 596 400	100.0	+ 311 800	+ 1.1

### Manpower Resource Balance (MRB)

14. We have derived the MRB by education attainment in 2018 by comparing the findings of MSP with MRP presented above. There exists some degree of substitutability between workers with different education qualifications from employers' perspective. For instance, workers with *postgraduate* qualifications may be employed for some of the jobs offered to *first degree* holders. We may assess MRB by broad education category, namely, (a) *lower secondary and below*, (b) education levels between *lower secondary* and *first degree* and (c) *first degree and above*, as set out in **Figure 7**. It is projected that there would be a small manpower surplus of about +8 500 at *lower secondary and below*, a manpower shortfall of -22 000 at various education levels between *lower secondary* and *first degree*, and a more or less manpower balance at *first degree and above* with a shortfall of only about -500. The total local manpower supply would fall short of the total manpower requirements marginally.

**Figure 7 : Projected Manpower Resource Balance by Broad Education Level in 2018**

Education level	(a) Projected manpower supply in 2018	(b) Projected manpower requirement in 2018	(c) = (a) – (b) Projected manpower resource balance in 2018 (surplus (+)/ shortfall (-))
Lower secondary and below	795 200	786 700	+ 8 500
Upper secondary, Craft, Technician and Sub-degree	1 732 700	1 754 600	- 22 000
First degree and above	1 054 600	1 055 000	- 500
Total	3 582 400	3 596 400	- 14 000

## Scenario Studies

15. To take into account economic cycles and fluctuations, scenario studies have been carried out based on a broad-brush approach by making reference to the statistical relationship between Hong Kong's overall economic growth (in terms of real Gross Domestic Product (GDP)) and total employment growth. While the base case follows the result of MRP compiled through a two-step statistical process, the high-case and low-case scenarios for the projected total manpower requirements can be crudely estimated by assuming a range of average annual growth rates of real GDP over the projection period. The findings of the scenario studies are summarised in **Figure 8**.

**Figure 8 : Projected Manpower Resource Balance in 2018 under the Base-case, High-case and Low-case Scenarios**

	(a)	(b)	(c) = (a) – (b)
Scenario	Projected manpower supply in 2018 <sup>@</sup>	Projected manpower requirement in 2018	Manpower resource balance in 2018
Base-case	3 582 400	3 596 400	- 14 000
High-case	3 582 400	3 746 300	- 163 800
Low-case	3 582 400	3 379 700	+ 202 700

<sup>@</sup> Historical data suggest no apparent relationship between economic growth rate and manpower supply in the short to medium term. Thus, no adjustment to MSP has been made in the scenario studies.

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**Chapter 1:**  
**Introduction and Technical**  
**Framework**

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# **Introduction and Technical Framework**

## **Introduction**

1.1 Hong Kong's economic development relies heavily on its human resources as it lacks other natural resources. It is thus crucial for Hong Kong to maintain a sustainable supply of manpower with an appropriate mix of education attainment to support long-term economic growth. The Manpower Supply Projection (MSP) presented in *Chapter 2* of this report helps shed light on the broad trends in the size, age composition and education profile of our manpower in future. As with many other developed economies, Hong Kong is faced with an ageing population, which may hinder the growth in manpower supply.

1.2 In the labour market, manpower supply forms one side of the equation. On the other side of the equation is manpower requirement. The financial tsunami in 2008 to 2009 slowed the economies across the globe, and Hong Kong was no exception. It depressed local manpower requirements, hence raising Hong Kong's unemployment rate. By the fourth quarter of 2009, our economy had stabilised and resumed positive growth. The local job market has since improved with the unemployment rate falling to 3.3% in the fourth quarter of 2011. The Mainland's buoyant economy provides an impetus to propel the further economic development and continuous transformation of Hong Kong into a knowledge-based, high value-added economy. The Government's heavy investment in major infrastructure projects in the next decade, together with its continued support in developing the four pillar industries and the six industries, will also enhance Hong Kong's long-term competitiveness. These developments will drive the demand for manpower in Hong Kong. The findings of the Manpower Requirement Projection (MRP), which assesses the manpower requirements in various economic sectors/industries by occupation group and education attainment up to 2018, will be presented in *Chapter 3* of this report.

1.3 We have compared the findings of MSP with MRP, and evaluated the future Manpower Resource Balance (MRB) of our

economy. An analysis of MRB by education level is given in *Chapter 4* of the report.

1.4 The statistical framework of MP2018 has been designed in such a way that there is no pre-determined linkage or interdependence between MSP and MRP. In other words, the findings of MRP and MSP have been compiled independent of each other. Such a framework is intended to fully reflect the potential job opportunities that may emerge in the labour market during the projection period. It is important to note this concept of unconstrained manpower requirements in interpreting MRB. In reality, the manpower requirements of an economy will ultimately be constrained, inter alia, by its manpower supply.

1.5 The findings of MP2018 have been worked out by drawing reference to a host of statistics from different sources. They are made pursuant to certain assumptions and are subject to projection errors. Nonetheless, the findings offer useful reference on the broad trends in the future manpower supply and requirements of our economy.

1.6 Besides, the findings are compiled on the basis of the economic trends prevailing at the time the projections were prepared (with the assumed economic growth following the official forecast published in the first quarter of 2011)<sup>1</sup>. Economic growth generally fosters job creation, and hence affects manpower requirements. Higher manpower demand is usually associated with faster economic growth, and lower manpower demand with slower economic growth. We have conducted scenario studies of different growth rates in Hong Kong's Gross Domestic Product and the corresponding total manpower requirements. The results are set out in **Appendix I** to this report.

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<sup>1</sup> That is, based on an assumed average annual growth rate of about 4% in Hong Kong's real Gross Domestic Product during the projection period.

## **Technical Framework**

### **Methodology of Manpower Projection**

1.7 The methodologies of MSP and MRP are discussed in the ensuing paragraphs.

#### ***Manpower Supply Projection***

1.8 MSP evaluates the supply of manpower to the labour market by age, sex and education level during the period from 2010 to 2018. The manpower supply in the base year (i.e. 2010) was compiled from the manpower statistics of the statistical systems of C&SD, notably C&SD's manpower-related surveys. The projected manpower supply up to 2018 was compiled by drawing reference to a wide range of statistics, including the following –

- (a) population projections: They provide information on the size of the population of Hong Kong in future, taking into account the births, deaths and movements during the projection period. The projections are analysed by age and sex. The latest C&SD population projections based on mid-2009 estimates have provided the basic data for projecting manpower supply;
- (b) labour force projections: They offer information on the future labour force (or manpower supply) in Hong Kong with breakdowns by age and sex. Statistically, the relationship between labour force and population is measured by a parameter called the age-sex specific labour force participation rate. The age-sex specific labour force participation rate in C&SD's labour force projections has been adopted as a basic parameter in deriving the projected manpower supply from the population projections;
- (c) education statistics: Basically, three sets of education

statistics have been used in estimating the education profile of the projected manpower supply. The first set of statistics is the number of students taking courses in Hong Kong at different academic levels. The second set is about the students returning to Hong Kong after completing overseas studies. The third set is concerned with the workers who are taking courses to upgrade their academic qualifications. These statistics have been translated into input parameters of the MSP model; and

- (d) statistics on one-way permit holders (OWPHs): The daily quota for OWPHs from the Mainland is 150. The number of OWPHs projected to come and reside in Hong Kong during the period from 2010 to 2018 has been reflected in C&SD's population projections. The demographic and social characteristics, for instance, education attainment, of OWPHs have been sourced from a regular survey conducted by the Home Affairs Department. Such information has been incorporated into the model of MSP.

1.9 A schematic presentation of the major statistical processes involved in the compilation of MSP is at **Appendix II**.

### ***Manpower Requirement Projection***

1.10 MRP assesses the manpower requirements by economic sector/industry, occupation group and education level. The manpower requirement in the base year (i.e. 2010) was worked out primarily on the basis of the manpower statistics of C&SD and the Vocational Training Council (VTC).

1.11 The projected manpower requirement up to 2018 was compiled through a two-step statistical process. First, the projected manpower requirements of various economic sectors/industries up to 2018 were devised by a task group led by C&SD, which comprised representatives of relevant Government bureaux/departments and statutory training bodies. They have reflected historical sector-specific manpower trends,

as well as the findings of extensive consultation conducted by C&SD with industry experts on the outlook of the manpower requirements in the respective industries. The views collected from these experts have been suitably incorporated as we compiled the projection findings.

1.12 The second step was to break down the projected manpower requirements for each economic sector/industry by occupation group and education attainment. This was done with reference to the historical trends in the sector- or industry-specific occupation pattern and education profile of workers obtained from C&SD's General Household Survey and VTC's Manpower Surveys, as well as employers' views on the occupation-education profile of their future manpower requirements collected from the Establishment Survey on Manpower and Job Skills Requirements.

1.13 The methodology of MRP is summarised in the schematic diagram in **Appendix III**.

### **Classifications of Economic Sectors/Industries, Occupations and Education Levels**

1.14 MRP is analysed by economic sector/industry, occupation group and education level.

#### ***Economic Sectors/Industries and Occupation Groups***

1.15 The classifications of economic sectors/industries and occupation groups are adapted from those of C&SD in compiling labour statistics. The details of the coverage of the economic sectors/industries and occupation groups in MRP are set out at **Appendix IV** and **Appendix V** respectively.

#### ***Education Level***

1.16 The education categories adopted in analysing MRP are the same

as that for MSP. MP2018 adopts a seven-tier education classification. It largely follows the formal education structure of Hong Kong, which is as follows –

- (a) Lower secondary and below
- (b) Upper secondary
- (c) Craft
- (d) Technician
- (e) Sub-degree
- (f) First degree
- (g) Postgraduate

1.17 The detailed coverage of the seven levels of education attainment in MP2018 is set out in **Appendix VI**.

**Chapter 2:**  
**Manpower Supply Projection**

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## **Manpower Supply Projection (MSP)**

2.1 The term “manpower supply” in the context of MSP refers to the labour force in Hong Kong, i.e. the workforce or working population. It includes the people in employment and those unemployed but in the process of seeking work. In Hong Kong, a working person must be at least 15 years old. Hence, the manpower supply in Hong Kong is assumed to be aged 15 and above. Local manpower supply refers to the labour force excluding foreign domestic helpers (FDHs). The local manpower supply together with FDHs constitutes the total manpower supply. Analyses of MSP focus on the local manpower supply. The manpower supply of an economy is closely correlated with the size, age structure and labour force participation of its population. Therefore, the statistics of population are also presented in this report, alongside the manpower statistics, wherever appropriate.

### ***Local Manpower Supply***

2.2 The demographic factors which generally have an expansionary effect on manpower supply include a growing population, a rising labour force participation rate and a young population. Conversely, a decreasing population, a falling labour force participation rate and an ageing population usually have a shrinking effect on manpower supply.

2.3 The local manpower supply in Hong Kong is projected to increase at an average annual rate of 0.6% from 3.42 million in 2010 to 3.58 million in 2018. The growth in population is expected to be faster, at an average annual rate of 0.9% from 7.07 million to 7.59 million during the corresponding period. Excluding FDHs, the population is expected to increase at an average annual rate of 0.9% from 6.79 million in 2010 to 7.27 million in 2018. The population and manpower supply in 2010 and 2018 are summarised in **Figure 2.1**.

**Figure 2.1 : Population and Local Manpower Supply in 2010 and 2018**

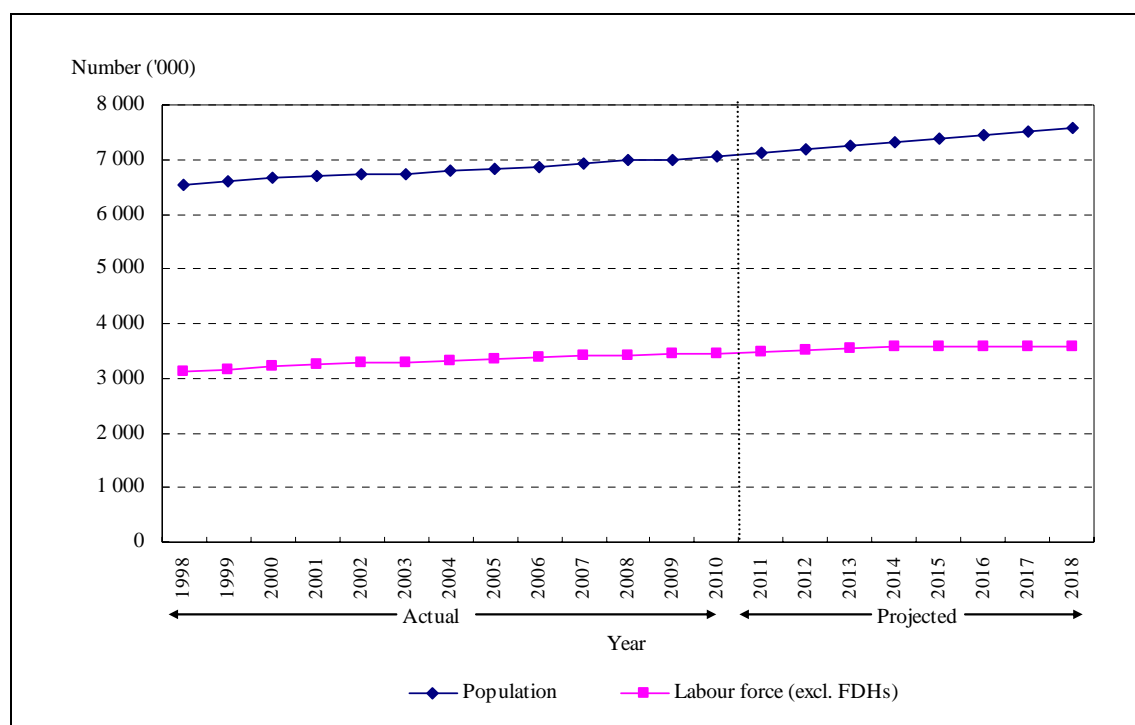
Population and manpower supply	2010 (base year)	2018 (projections)	Projected change from 2010 to 2018	Projected average annual change (2010-2018)
			Number	%
Population of all ages	7 067 800	7 585 000	+ 517 300	+ 0.9
Population of ages 20 – 64 <sup>#</sup>	4 864 300	5 084 200	+ 219 900	+ 0.6
Population of all ages (excluding FDHs)	6 788 800	7 268 700	+ 479 900	+ 0.9
Population of ages 20 – 64 <sup>#</sup> (excluding FDHs)	4 585 600	4 768 300	+ 182 600	+ 0.5
Local manpower supply <sup>@</sup>	3 420 200	3 582 400	+ 162 200	+ 0.6

<sup>#</sup> The population segment of ages 20 – 64 forms the bulk of the labour force.

<sup>@</sup> Excludes FDHs.

2.4 **Figure 2.2** below shows the past and projected trends in the population and local manpower supply during the period from 1998 to 2018.

**Figure 2.2 : Population and Local Manpower Supply of Hong Kong During the Period from 1998 to 2018**



### ***Local Manpower Supply by Age***

2.5 As with many other developed economies, Hong Kong experiences ageing in its population. This will have an impact on the age composition of the manpower supply during the projection period with notable increase in both the number and proportion of workers in the older age groups. Specifically, the local manpower supply aged 55 and above is projected to increase significantly at an average annual rate of 5.1% from 452 800 in 2010 to 672 800 in 2018. The proportion of this labour segment to the overall local manpower supply is expected to soar from 13.2% to 18.8%. During the same period, the local manpower supply aged below 55 is expected to shrink from 2.97 million to 2.91 million, with its share of the local manpower supply decreasing from 86.8% to 81.2%.

2.6 According to C&SD, the overall labour force participation rate of the population is expected to decline steadily during the projection period owing in part to the ageing of population as older people tend to participate less in the labour market. In an ageing population, the working population grows slower than the population as a whole. This also explains why the local manpower supply is projected to grow at a slower rate than the population as shown in **Figure 2.1**. During the period from 2010 to 2018, the local manpower supply is projected to grow at an average annual rate of 0.6% vis-à-vis the 0.9% growth rate for the population (excluding FDHs). It is expected that the increase in the number of workers in the older age groups will dominate the growth in the local manpower supply during the projection period. Statistics of the local manpower supply by age group and the labour force participation rates in 2010 and 2018 are set out in **Figures 2.3(a) and 2.3(b)**.

**Figure 2.3(a) : Local Manpower Supply by Age Group in 2010 and 2018**

Age group (years)	Actual local manpower supply <sup>@</sup> in 2010		Projected local manpower supply <sup>@</sup> in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
15 – 24	305 800	8.9	279 800	7.8	- 26 000	- 1.1
25 – 34	826 500	24.2	888 500	24.8	+ 62 000	+ 0.9
35 – 44	871 600	25.5	891 900	24.9	+ 20 300	+ 0.3
45 – 54	963 500	28.2	849 500	23.7	- 114 000	- 1.6
55 – 64	405 100	11.8	603 800	16.9	+ 198 700	+ 5.1
65 and above	47 700	1.4	69 000	1.9	+ 21 300	+ 4.7
All ages	3 420 200	100.0	3 582 400	100.0	+ 162 200	+ 0.6

<sup>@</sup> Excludes FDHs.

**Figure 2.3(b) : Labour Force Participation Rate in 2010 and 2018**

	2010 (base year)	2018 (projections)	Change during the period from 2010 to 2018
Labour force participation rate <sup>@</sup> (%)	58.1	56.3	- 1.8 % point

<sup>@</sup> Excludes FDHs, and is calculated from  $\frac{\text{manpower supply}}{\text{population aged 15 and above}} \times 100\%$ .

### ***Local Manpower Supply by Sex***

2.7 The local female manpower supply is expected to expand at an average annual rate of 1.5% from 1.48 million in 2010 to 1.67 million in 2018, with its share of the local manpower supply edging up from 43.3% to 46.7%. There has been a continuous increase in the local female labour force participation rate over the past two decades. This might be attributable to improvement in education qualifications of the female population, late marriage and reduction in the number of births (hence reduction in the needs to devote time to minding children vis-à-vis going to work). The female labour force participation rate is projected to continue with an upward trend during the projection period, rising from 48.4% to 49.3%.

2.8 On the other hand, the local male manpower supply is projected to decrease slightly at an average annual rate of -0.2% from 1.94 million in 2010 to 1.91 million in 2018, whereas the local male labour force participation rate is expected to edge down from 68.6% in 2010 to 64.3% in 2018. Though the sex ratio of the local manpower supply has been tilted towards the male (i.e. more male workers than female workers in the workforce), the gap between the two genders has been narrowing. The trend of rising female participation in the labour market, alongside a decreasing male labour participation rate, is expected to continue during the period from 2010 to 2018, resulting in a continued growth in the local female manpower supply vis-à-vis a slight reduction in the local male manpower supply.

2.9 The local manpower supply and labour force participation rates by sex in 2010 and 2018 are set out in **Figures 2.4(a) and 2.4(b)**.

**Figure 2.4(a) : Local Manpower Supply by Sex in 2010 and 2018**

Sex	Actual local manpower supply <sup>@</sup> in 2010		Projected local manpower supply <sup>@</sup> in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Male	1 938 900	56.7	1 908 200	53.3	- 30 700	- 0.2
Female	1 481 300	43.3	1 674 300	46.7	+ 192 900	+ 1.5
Total	3 420 200	100.0	3 582 400	100.0	+ 162 200	+ 0.6

<sup>@</sup> Excludes FDHs.

**Figure 2.4(b) : Labour Force Participation Rate by Sex in 2010 and 2018**

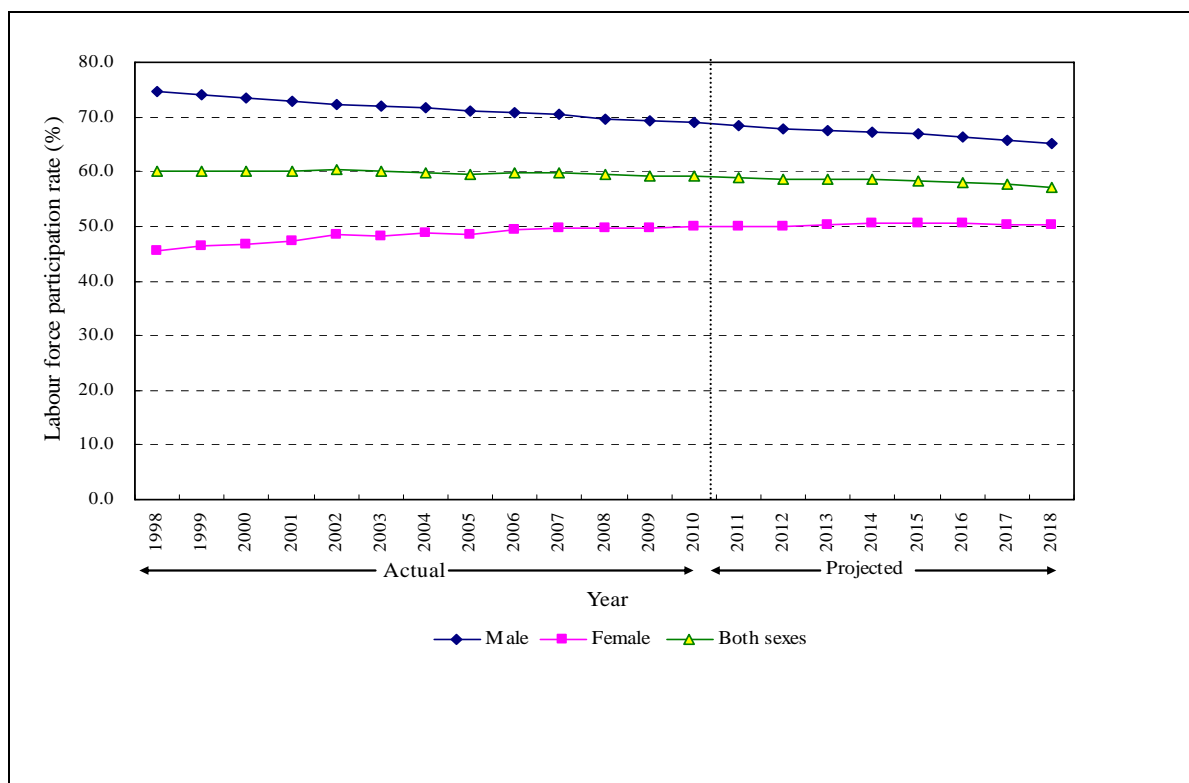
Sex	Labour force participation rate <sup>@</sup> in 2010 (%)	Labour force participation rate <sup>@</sup> in 2018 (%)	Change during the period from 2010 to 2018
Male	68.6	64.3	- 4.3 % point
Female	48.4	49.3	+ 0.9 % point
Both sexes	58.1	56.3	- 1.8 % point

<sup>@</sup> Excludes FDHs, and is calculated from  $\frac{\text{manpower supply}}{\text{population aged 15 and above}} \times 100\%$ .

2.10 The past and projected trends in the local male and female labour force participation rates (excluding FDHs) during the period from

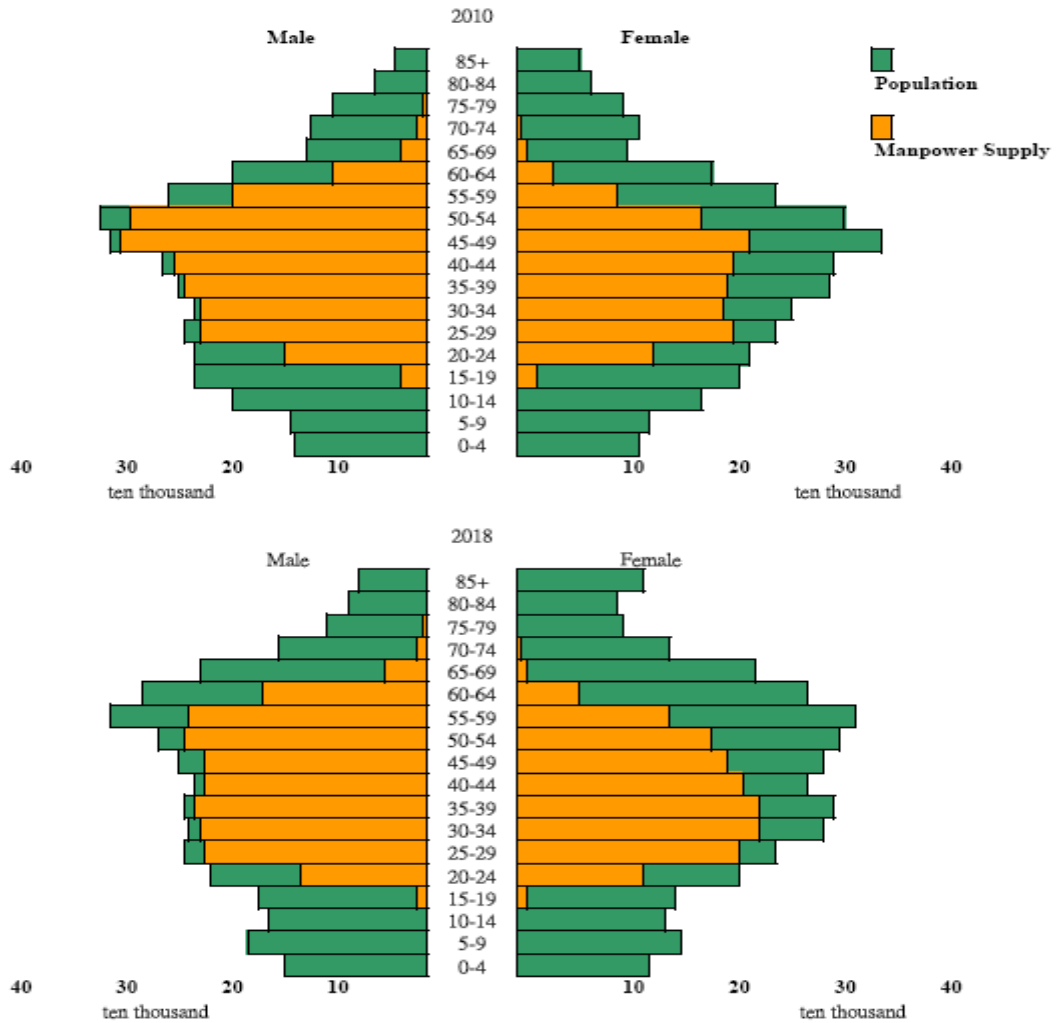
1998 to 2018 are presented in **Figure 2.5**.

**Figure 2.5 : Local Labour Force Participation Rate of Hong Kong during the Period from 1998 to 2018**



2.11 The population and manpower supply pyramids by age group and sex in 2010 and 2018, which show the phenomenon of ageing, are presented in **Figure 2.6**.

**Figure 2.6: Population and Manpower Supply Pyramids by Age Group and Sex in 2010 and 2018**



***Local Manpower Supply Projection by Education Level***

2.12 The education profile of the manpower supply of an economy is closely correlated with that of its population, especially the age group between 20 and 64, which forms the bulk of the workforce. In recent years, the notable expansion of education programmes in Hong Kong has led to a general improvement in the average education level of the population and hence the manpower supply.

## Education Profiles of Local Manpower Supply in 2010

2.13 In 2010, there were 3.42 million workers in the local manpower supply. Of these workers, 29.7% had education qualifications at *lower secondary and below*, 38.4% at *upper secondary*, 28.2% at the level of *sub-degree or above*, and the remaining 3.6% at *technician or craft levels*. Relevant statistics on the education profiles of the population and the local manpower supply are set out in **Figure 2.7**.

**Figure 2.7 : Population and Local Manpower Supply by Education Level in 2010**

Education level	Population <sup>@</sup> in 2010				Actual local manpower supply <sup>@</sup> in 2010	
	Number (all ages)	% share	Number (aged 20 - 64 <sup>#</sup> )	% share	Number	% share
Lower secondary and below	3 403 100	50.4	1 604 800	34.8	1 017 300	29.7
Upper secondary	2 045 800	30.3	1 767 900	38.4	1 314 900	38.4
Craft	17 300	0.3	15 100	0.3	12 500	0.4
Technician	130 100	1.9	123 400	2.7	111 700	3.3
Sub-degree	224 300	3.3	208 900	4.5	175 200	5.1
First degree	750 900	11.1	714 300	15.5	633 100	18.5
Postgraduate	175 000	2.6	171 900	3.7	155 300	4.5
All levels	6 746 400	100.0	4 606 300	100.0	3 420 200	100.0

<sup>@</sup> Excludes FDHs.

<sup>#</sup> The population segment aged 20 – 64 forms the bulk of the labour force.

2.14 The younger workers generally have better education attainment than their older counterparts. This is evident from a comparison of the education qualifications of the local manpower supply aged 40 and above with that aged below 40. For the local manpower supply aged 40 and above in 2010, 78.0% had *upper secondary and below* qualifications, while 15.6% had *first degree or postgraduate* qualifications. The corresponding figures for the local manpower supply aged below 40 are 56.5% and 31.9% respectively. The education profile of the local manpower supply by age group in 2010 is



set out in **Figure 2.8**.

**Figure 2.8 : Local Manpower Supply by Age and Education Level in 2010**

Education level	Age group						Total
	19 or below	20 - 29	30 - 39	40 - 49	50 - 59	60 and above	
Lower secondary and below	12 200	61 500	146 200	296 400	391 700	109 500	1 017 300
Upper secondary	27 800	301 900	332 000	394 600	221 300	37 300	1 314 900
Craft	400	2 400	3 100	3 300	2 600	800	12 500
Technician	1 700	37 700	29 800	25 900	13 800	2 800	111 700
Sub-degree	500	62 000	43 600	42 300	22 300	4 600	175 200
First degree	--	194 800	220 000	143 000	62 100	13 200	633 100
Postgraduate	--	23 500	60 000	48 400	19 900	3 600	155 300
Total	42 500	683 800	834 700	953 800	733 700	171 800	3 420 200

### *Education Profiles of Local Manpower Supply in 2018*

2.15 The local manpower supply is projected to increase to 3.58 million in 2018, with 58.6% of them possessing *upper secondary and below* qualifications, and 36.7% with qualifications at the level of *sub-degree or above*. The remaining 4.7% is expected to have education at *technician or craft* levels.

2.16 The detailed projected education profiles of the population and the local manpower supply in 2018 are set out in **Figure 2.9**.

**Figure 2.9 : Projected Population and Local Manpower Supply by Education Level in 2018**

Education level	Projected Population <sup>@</sup> in 2018				Projected local manpower supply <sup>@</sup> in 2018	
	Number (all ages)	% share	Number (aged 20 - 64 <sup>#</sup> )	% share	Number	% share
Lower secondary and below	3 280 900	45.1	1 289 000	27.0	795 200	22.2
Upper secondary	2 153 200	29.6	1 762 100	37.0	1 303 800	36.4
Craft	28 200	0.4	23 500	0.5	17 700	0.5
Technician	211 300	2.9	198 000	4.2	150 600	4.2
Sub-degree	326 900	4.5	299 000	6.3	260 600	7.3
First degree	957 200	13.2	896 600	18.8	786 600	22.0
Postgraduate	311 100	4.3	300 100	6.3	267 900	7.5
All levels	7 268 700	100.0	4 768 300	100.0	3 582 400	100.0

<sup>@</sup> Excludes FDHs.

<sup>#</sup> The population segment aged 20 – 64 forms the bulk of the labour force.

2.17 The trend that younger workers have a better education profile than their older counterparts will become more discernible by 2018. It is projected that 70.6% of the local manpower supply aged 40 and above in 2018 will have education attainment at *upper secondary and below*, 4.4% will have *sub-degree* qualifications and 22.3% will have *first degree* or *postgraduate* qualifications. The corresponding figures for the manpower supply aged below 40 are projected to be 44.2%, 10.8% and 38.0% in 2018. The projected local manpower supply by age and education level is set out in **Figure 2.10**.

**Figure 2.10 : Projected Local Manpower Supply by Age and Education Level in 2018**

Education level	Age group						Total
	19 and below	20 - 29	30 - 39	40 - 49	50 - 59	60 and above	
Lower secondary and below	5 500	28 700	111 500	203 700	289 500	156 200	795 200
Upper secondary	23 300	237 600	312 500	328 500	320 800	81 100	1 303 800
Craft	100	7 000	3 500	3 500	2 700	1 000	17 700
Technician	400	64 700	38 400	24 200	18 300	4 600	150 600
Sub-degree	400	100 600	74 300	41 100	34 000	10 200	260 600
First degree	200	193 600	271 100	187 600	105 300	28 800	786 600
Postgraduate	--	51 200	102 900	67 700	38 500	7 600	267 900
Total	30 000	683 400	914 200	856 300	809 000	289 500	3 582 400

***Projected Changes in Education Profile of the Local Manpower Supply from 2010 to 2018***

2.18 Over the past two decades, there have been enhanced opportunities for the people in Hong Kong to pursue a wide variety of education programmes, leading to a general upgrading of the education attainment of Hong Kong's population and hence the education profile of the manpower supply.

2.19 The education profile of the local manpower supply is projected to improve further during the period from 2010 to 2018, with the anticipated changes as follows –

- (a) it is projected that the local manpower supply at *first degree* or *postgraduate* level will increase significantly at an average annual rate of 3.7% from 788 400 in 2010 to 1 054 600 in 2018. The proportion of this labour segment to the total local manpower supply is expected to rise from 23.1% in 2010 to 29.4% in 2018;

- (b) the local manpower supply at *lower secondary and below* is projected to decrease significantly at an average annual rate of -3.0% from 1 017 300 in 2010 to 795 200 in 2018. Its share of the total local manpower supply will decline from 29.7% to 22.2% correspondingly;
- (c) two segments of the local manpower supply will surge in size significantly during the period from 2010 to 2018. One is the labour segment at *postgraduate* level, which is expected to soar in size at an average annual rate of 7.1% from 155 300 in 2010 to 267 900 in 2018. The other is the segment at *sub-degree* level, which is projected to expand at an average annual rate of 5.1% from 175 200 to 260 600 during the same projection period;
- (d) the local manpower supply at *technician* level is projected to grow significantly at an average annual rate of 3.8% from 111 700 in 2010 to 150 600 in 2018; and
- (e) the local manpower supply with relatively higher academic qualifications, including *technician, sub-degree, first degree* and *postgraduate*, is projected to expand in size, while that with education levels at *lower secondary and below* and *upper secondary* is projected to diminish.

2.20 The local manpower supply by education level in 2010 and 2018 is set out in **Figure 2.11**.

**Figure 2.11 : Local Manpower Supply by Education Level in 2010 to 2018**

Education level	Actual local manpower supply <sup>@</sup> in 2010		Projected local manpower supply <sup>@</sup> in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	1 017 300	29.7	795 200	22.2	- 222 100	- 3.0
Upper secondary	1 314 900	38.4	1 303 800	36.4	- 11 200	- 0.1
Craft	12 500	0.4	17 700	0.5	+ 5 200	+ 4.4
Technician	111 700	3.3	150 600	4.2	+ 38 800	+ 3.8
Sub-degree	175 200	5.1	260 600	7.3	+ 85 400	+ 5.1
First degree	633 100	18.5	786 600	22.0	+ 153 500	+ 2.8
Postgraduate	155 300	4.5	267 900	7.5	+ 112 600	+ 7.1
All levels	3 420 200	100.0	3 582 400	100.0	+ 162 200	+ 0.6

<sup>@</sup> Excludes FDHs.

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**Chapter 3:**  
**Manpower Requirement Projection**

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## **Manpower Requirement Projection (MRP)**

3.1 MRP is analysed by economic sector/industry, occupation group and education level up to 2018, with 2010 as the base year. Apart from studying the projected manpower requirements of the economic sectors defined in accordance with the international categorisation adopted by C&SD, which make up the whole economy, we have also conducted analyses on those sectors that are of strategic importance to the long-term competitiveness of Hong Kong. The strategic sectors include the four pillar industries, the six industries and the *Information technology and information services* sector. The projected manpower requirements of individual industries were compiled with reference to the historical trends of our labour market, the findings of the consultations with experts in various industries, the results of the MP2018-related Establishment Survey on Manpower and Job Skills Requirements, as well as the findings of various manpower surveys conducted by VTC. It is noteworthy that the projected manpower requirements are compiled independent of the projected manpower supply. This concept of unconstrained manpower requirement is important in interpreting MRB which will be discussed in *Chapter 4*.

### **Projection Findings**

#### ***Total Manpower Requirements***

3.2 In 2010, a total of 3.28 million workers, excluding FDHs, were engaged in the economic activities of various sectors in Hong Kong<sup>2</sup>. The total manpower requirements of the economy are projected to increase at an average annual rate of 1.1% to 3.60 million in 2018. The projected total manpower requirements of the economy were derived by aggregating those of the 12 individual economic sectors in Hong Kong classified on the basis of Hong Kong Standard Industrial Classification Version 2.0, which are expected to have different growth patterns during the projection period from 2010 to 2018. The projected manpower

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<sup>2</sup> Include workers who reside in Hong Kong, but work on the Mainland or in Macao.

requirements, excluding FDHs, by economic sector are presented in the ensuing paragraphs.

### ***Manpower Requirements by Economic Sector***

#### *Agriculture, Fishing and Quarrying Sector*

3.3 *Agriculture, fishing and quarrying* has been a small sector in Hong Kong in the past decades. With further urbanisation in recent years, the number of workers engaged in the sector has become minimal in comparison with other sectors. In 2010, there were about 3 700 workers in this sector. It is projected that the number will dwindle along with the retirement of some of the serving workers during the projection period. The manpower requirement of this sector is expected to decrease considerably at an average annual rate of -2.6% to 3 000 in 2018.

#### *Manufacturing Sector*

3.4 The employment size of *Manufacturing* has been decreasing since the early 1980's when manufacturing bases started to be relocated outside Hong Kong. This has contributed to the downsizing of local manufacturing workers from 930 800 (38.3% of the total employment) in 1982 to 121 000 (3.7%) in 2010. It is projected that the number of workers in the sector will continue to decline in tandem with the changing economic structure of Hong Kong during the projection period. The manpower requirement of *Manufacturing* is projected to drop significantly at an average annual rate of -3.1% from 121 000 in 2010 to 94 100 in 2018.

#### *Electricity, Gas, Water and Waste Management Sector*

3.5 The provision of electricity, gas and water by the public utility companies is largely driven by population growth, housing development and economic growth. The public utility companies are expected to continue to expand their business steadily in tandem with population growth, household formation and economic development. In addition, the increasing awareness of environmental protection and the related

initiatives promoted by the Government and other stakeholders are expected to lead to an expansion in waste management. It is projected that the manpower requirement of *Electricity, gas, water and waste management* will grow at an average annual rate of 1.5% from 15 200 in 2010 to 17 100 in 2018.

### *Construction Sector*

3.6 *Construction* is expected to grow along with the rolling out of several major infrastructure projects during the projection period. The projects include the Hong Kong-Zhuhai-Macao Bridge, the Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link, the Kai Tak Development Plan and the Shatin to Central Link Project. It is projected that its manpower requirements will increase at an average annual rate of 1.9% from 271 100 in 2010 to 315 200 in 2018.

### *Import, Export, Wholesale and Retail Trades Sector*

3.7 *Import, export, wholesale and retail trades* was the largest economic sector in Hong Kong, with 874 000 workers in 2010. Hong Kong's exports of goods surged at 18.1% year-on-year in real term in that year, recovering from the financial tsunami in late 2008. On the wholesale and retail trades, businesses picked up in tandem with improvement in the employment market and personal earnings in 2010, along with a robust recovery in the economy. Private consumption expenditure in 2010 grew by 6.2% over 2009. This, coupled with an increasing number of tourists to Hong Kong, has benefited the retail trades. Looking into the future, the performance of wholesale and retail trades will depend very much on the external and local economic conditions. The wholesale industry is expected to face the growing popularity of Internet shopping, which will inevitably retard the potential growth of the industry. Development in cargo ports and terminals outside Hong Kong may pose a challenge to Hong Kong's re-export trade. The manpower requirement of the sector as a whole is projected to grow, at an average annual rate of 0.7%, to 921 800 in 2018.

3.8 The sector comprises three sub-sectors, namely, *Import and*

*export, Wholesale and Retail trades.* In 2010, there were 503 400, 64 700 and 305 900 workers in the three sub-sectors respectively. The projected manpower requirements of these three sub-sectors are expected to reach 523 900, 56 000 and 341 900 respectively in 2018.

#### *Accommodation and Food Services Sector*

3.9 The performance of the accommodation industry is closely correlated with inbound tourism. Hong Kong has invested heavily in its tourism infrastructure in recent years, diversifying its tourist attractions. Despite the impact of the financial tsunami, the tourism industry staged a strong performance in 2010 with more than 36 million visitor arrivals, following the improvement in global economic conditions and continued extension of the Individual Visit Scheme. The food services industry has also benefited from booming tourism. The Government and related organisations have been promoting the healthy development of the sector. It is projected that the manpower requirements of the sector as a whole will grow at an average annual rate of 1.3% from 265 400 in 2010 to 295 300 in 2018.

#### *Transportation, Storage, Postal and Courier Services Sector*

3.10 The freight transport industries in the sector are expected to benefit from the completion of various transport infrastructure projects, including cross-boundary and air cargo terminal projects. With the excellent infrastructure, coupled with the expected growing passenger traffic between Hong Kong and the Mainland, as well as increasing business and tourism activities, the transportation industry is expected to continue to expand. The warehousing and storage business is expected to thrive as well on the back of Hong Kong's well-established logistics operations. Nonetheless, the cargo and postal delivery industries may face increased competition from Mainland operators and enhanced popularity of Internet communications. The manpower requirements of the sector as a whole is projected to increase at an average growth rate of 0.9% from 321 300 in 2010 to 345 800 in 2018.

### *Information and Communications Sector*

3.11 Hong Kong is a telecommunication hub in the region. Investment in information and communications infrastructure has fostered the sustainable development of the sector and that of Hong Kong's economy as a whole. In this regard, the Government has been, for instance, exploring measures to facilitate the development of more high-end data centres in Hong Kong (e.g. the Hong Kong Science and Technology Parks Corporation has been granted with land for setting up high-end data centres). The sector is also closely associated with the *Innovation and technology* industry, which is one of the six industries. In 2010, there was a workforce of about 92 900 workers in the sector, which is projected to grow at an average annual rate of 1.9% to 108 100 in 2018.

### *Financial Services Sector*

3.12 Hong Kong is an international financial centre (IFC). The *Financial services* sector is one of the four pillar industries, contributing some 15.4% of the Gross Domestic Product (GDP) in 2010. Hong Kong strives to strengthen its position as an IFC by developing into a global centre for capital formation, asset management and offshore Renminbi (RMB) business. The "Twelfth Five-Year Plan for the National Economic and Social Development of the People's Republic of China" further emphasised the Central Authorities' support for consolidating and enhancing Hong Kong's position as an IFC, as well as support for Hong Kong's development into an offshore RMB business centre and an international asset management centre. Against this backdrop, it is projected that the manpower requirement of the *Financial services* sector will increase considerably at an average annual rate of 2.5% from 207 000 in 2010 to 253 100 in 2018.

### *Real Estate Sector*

3.13 The sector mainly covers the buying, selling and renting of real estate, as well as property management and real estate development. In 2010, some 119 000 workers were engaged in this sector. The Government aims to ensure an adequate land supply for the property

market, facilitating steady and stable market development. The property management industry is expected to continue to grow correspondingly. The manpower requirement of the *Real estate* sector is projected to grow at an average annual rate of 1.6% to reach 135 100 in 2018.

### *Professional and Business Services Sector*

3.14 *Professional and business services* comprises a host of service industries including legal, accounting, auditing, engineering, surveying, architecture, advertising, business and consultancy services. Hong Kong is a leading business hub. With the continued economic growth in the region, there is growing demand for Hong Kong's professional and business services. In addition, the Mainland and Hong Kong Closer Economic Partnership Arrangement provides the sector with greater access to the Mainland market. The sector's manpower requirement was 329 000 in 2010, which is expected to grow at an average annual rate of 1.5% to 370 100 in 2018.

### *Social and Personal Services Sector*

3.15 *Social and personal services* covers a wide spectrum of economic activities including public administration, healthcare services, education, social work, arts, entertainment and recreation. The education industry is anticipated to expand along with the development of Hong Kong into a knowledge-based economy and the rolling out of measures to enhance Hong Kong's status as a regional education hub. Healthcare services are expected to expand further in the years ahead on the back of the good quality of our medical personnel and facilities. The Government and relevant organisations also actively provide a wide range of entertainment, art and cultural initiatives, notably the West Kowloon Cultural District (WKCD). It is projected that the manpower requirement of the sector as a whole will increase at an average annual rate of 1.3% from 665 000 in 2010 to 737 600 in 2018.

### *Summary of Manpower Requirements by Economic Sector*

3.16 To sum up, the top three economic sectors projected to grow the fastest in terms of manpower requirement during the period from 2010 to 2018 are *Financial services, Construction and Information and communications*. The sectors projected to diminish in employment size during the same period include *Manufacturing and Agriculture, fishing and quarrying*. Detailed statistics on the manpower requirements of various sectors in 2010 and 2018 are set out in **Figure 3.1**.

**Figure 3.1 : Manpower Requirements by Economic Sector in 2010 and 2018**

Economic sector	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Agriculture, fishing and quarrying	3 700	0.1	3 000	0.1	- 700	- 2.6
Manufacturing	121 000	3.7	94 100	2.6	- 27 000	- 3.1
Electricity, gas, water and waste management	15 200	0.5	17 100	0.5	+ 1 900	+ 1.5
Construction	271 100	8.3	315 200	8.8	+ 44 100	+ 1.9
Import, export, wholesale and retail trades	874 000	26.6	921 800	25.6	+ 47 700	+ 0.7
Accommodation and food services	265 400	8.1	295 300	8.2	+ 29 900	+ 1.3
Transportation, storage, postal and courier services	321 300	9.8	345 800	9.6	+ 24 500	+ 0.9
Information and communications	92 900	2.8	108 100	3.0	+ 15 200	+ 1.9
Financial services	207 000	6.3	253 100	7.0	+ 46 200	+ 2.5
Real estate	119 000	3.6	135 100	3.8	+ 16 100	+ 1.6
Professional and business services	329 000	10.0	370 100	10.3	+ 41 200	+ 1.5
Social and personal services	665 000	20.2	737 600	20.5	+ 72 700	+ 1.3
Total	3 284 600	100.0	3 596 400	100.0	+ 311 800	+ 1.1

3.17 Some specific industries within the various economic sectors are projected to have relatively high average annual growth rates in their manpower requirements. These include *Legal services* (an average annual growth rate of 3.1%), *Information technology related services* (3.0%), *Financial institutions other than banks and insurance* (2.8%), *Banking* (2.7%), *Accounting, auditing and book keeping services* (2.6%) and *Accommodation* (2.6%). The detailed statistics on the manpower requirements of individual industry groups within each of the 12 economic sectors are set out in **Table A7.5** in **Appendix VII**.

### ***Manpower Requirements of Primary, Secondary and Tertiary Sectors***

3.18 The composition of Hong Kong's primary, secondary and tertiary sectors is summarised in **Figure 3.2**.

**Figure 3.2 : Composition of Primary, Secondary and Tertiary Sectors**

Primary Sector	➤ Agriculture, fishing and quarrying
Secondary Sector	➤ Manufacturing
	➤ Electricity, gas, water and waste management
	➤ Construction
Tertiary Sector	➤ Import, export, wholesale and retail trades
	➤ Accommodation and food services
	➤ Transportation, storage, postal and courier services
	➤ Information and communications
	➤ Financial services
	➤ Real estate
	➤ Professional and business services
	➤ Social and personal services

3.19 As a developed economy, Hong Kong has a large proportion of workers engaged in the service industries, hence the tertiary sector. In 2010, some 2 873 500 workers were engaged in the tertiary sector, representing 87.5% of the total manpower requirements. The manpower requirement of the tertiary sector is projected to increase further, at an average annual growth rate of 1.2%, to 3 167 000 in 2018,



with the corresponding share of the total manpower requirements edging up to 88.1%.

3.20 As for the secondary sector, its manpower requirement is expected to increase at an average annual rate of 0.6% from 407 300 in 2010 to 426 400 in 2018. The projected growth is mainly attributable to an increase in demand for workers in the *Construction* sector alongside the investment in infrastructure by the Government in the next decade. Nonetheless, the secondary sector's share of the total manpower requirements is expected to decrease from 12.4% in 2010 to 11.9% in 2018.

3.21 The manpower requirements of the primary, secondary and tertiary sectors are set out in **Figure 3.3**.

**Figure 3.3 : Manpower Requirements of the Primary, Secondary and Tertiary Sectors in 2010 and 2018**

Sector	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Primary Sector	3 700	0.1	3 000	0.1	- 700	- 2.6
Secondary Sector	407 300	12.4	426 400	11.9	+ 19 000	+ 0.6
Tertiary Sector	2 873 500	87.5	3 167 000	88.1	+ 293 500	+ 1.2
Total	3 284 600	100.0	3 596 400	100.0	+ 311 800	+ 1.1

### ***The Strategic Sectors***

3.22 This report also analyses the manpower requirements of those economic sectors which are of strategic importance to Hong Kong's economic development. They include the four pillars industries, the six industries and *Information technology and information services* sector. These strategic sectors do overlap with each other in terms of manpower requirements, and form part of the conventional economic sectors discussed in earlier parts of this report.

## ***The Four Pillar Industries***

### ***(a) Financial Services***

3.23 Hong Kong has many clear advantages as an IFC, including a highly open and globalised market, a sound financial regulatory framework, the rule of law and free flow of information and capital. Hong Kong has achieved many breakthroughs in developing into a global capital formation, asset management and offshore RMB business centre. Hong Kong ranked first in both 2009 and 2010 in terms of the amount of funds raised through initial public offerings, reflecting the competitiveness of Hong Kong's listing platform in attracting both Mainland and overseas companies. The total RMB deposits in Hong Kong exceeded RMB 600 billion as at end-November 2011. With the emergence of the Mainland as a prominent economic power and our increasing economic co-operation with the Mainland, Hong Kong can further expand its financial services and consolidate its position as an IFC. Taking into account factors mentioned above, the manpower requirement of the sector is projected to increase considerably at an average annual rate of 2.5% from 207 000 in 2010 to 253 100 in 2018. The manpower requirements of various sub-sectors in the *Financial services* sector in 2010 and 2018 are set out in **Figure 3.4**. Developments in this sector could also stimulate growth in other sectors of the economy, particularly professional and business services activities.

**Figure 3.4 : Manpower Requirements of Financial Services in 2010 and 2018**

Sub-sector	Actual manpower requirement in 2010	Projected manpower requirement in 2018	Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	Number	Number	%
Banking	91 500	113 200	+ 21 700	+ 2.7
Financial institutions (other than banks and insurance)	71 800	89 500	+ 17 700	+ 2.8
Insurance	43 700	50 400	+ 6 700	+ 1.8
Total	207 000	253 100	+ 46 200	+ 2.5

(b) *Trading and Logistics*

3.24 *Trading and logistics* is the largest of the four pillar industries in terms of GDP contribution and manpower requirements, and is composed of *Import and export trade, Wholesale trade, Freight transport (land, water and air), Warehousing and storage* as well as *Postal and courier services*. Hong Kong's strengths as a trading and logistics hub lie with its prime geographic location, free port status, sound legal system and world class infrastructure. In 2009, the sector accounted for 24.1% of GDP with 787 900 workers. With the growth in international trade, there have been new opportunities for Hong Kong to reinforce its status as a trading and logistics hub in the region. In 2010, the passenger volume (about 50 million passengers) and cargo tonnage (around 4 million tonnes) handled by the Hong Kong International Airport hit record highs. Hong Kong is also an international maritime centre providing a wide range of efficient port facilities and maritime services. The construction of the Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link and Hong Kong-Zhuhai-Macao Bridge projects has commenced. A new air cargo terminal is scheduled for completion in 2013. With the improvement in the global trade and external economic environment since the fourth quarter of 2009, Hong Kong's export trade has staged a robust recovery. However, the prospect of the sector depends very much on the local and external economic conditions. The sector will also face some potential challenges including the growing popularity of Internet shopping. It is projected that the manpower requirement of the sector will increase slightly at an average annual rate of 0.3% from 760 600 in 2010 to 781 700 in 2018. The manpower requirements of various sub-sectors in the *Trading and logistics* sector in 2010 and 2018 are set out in **Figure 3.5**.

**Figure 3.5 : Manpower Requirements of Trading and Logistics in 2010 and 2018**

Sub-sector	Actual manpower requirement in 2010	Projected manpower requirement in 2018	Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	Number	Number	%
Import and Export	503 400	523 900	+ 20 500	+ 0.5
Wholesale	64 700	56 000	- 8 800	- 1.8
Freight transportation	167 800	178 100	+ 10 300	+ 0.7
- Land freight transport	79 900	73 700	- 6 200	- 1.0
- Water freight transport	52 700	58 400	+ 5 700	+ 1.3
- Air freight transport	33 500	44 100	+ 10 600	+ 3.5
- Other freight-related transport	1 800	1 900	+ 100	+ 1.0
Warehousing and Storage	6 400	7 800	+ 1 400	+ 2.5
Postal and Courier	18 300	15 900	- 2 300	- 1.7
Total	760 600	781 700	+ 21 100	+ 0.3

*(c) Professional Services*

3.25 The *Professional services* sector in Hong Kong in relation to legal services, accountancy, engineering and consultancy, healthcare services<sup>3</sup>, information technology, and advertising have been growing considerably, along with Hong Kong's development as a major global business hub. Many of the international legal, accounting, advertising and engineering firms are operating in Hong Kong. In addition, the Government has been assisting various professional sectors in accessing the Mainland market under the Mainland and Hong Kong Closer Economic Partnership Arrangement. It is expected that there will be growing opportunities for Hong Kong's professional services along with the sustained local economic development and continued growth in the Mainland economy. The manpower requirement of the sector is

<sup>3</sup> Under the C&SD's classification system, healthcare services are not included in the *Professional services* sector. For the purpose of MP2018, healthcare services are, however, regarded as part of the *Professional services* sector.

projected to increase considerably at an average annual rate of 2.3% from 288 700 in 2010 to 347 400 in 2018. The manpower requirements of various sub-sectors in the *Professional services* sector in 2010 and 2018 are set out in **Figure 3.6**.

**Figure 3.6 : Manpower Requirements of Professional Services in 2010 and 2018**

Sub-sector	Actual manpower requirement in 2010	Projected manpower requirement in 2018	Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	Number	Number	%
Information technology related services	35 100	44 500	+ 9 400	+ 3.0
Legal services	20 500	26 100	+ 5 700	+ 3.1
Accounting, auditing and bookkeeping services	26 800	32 900	+ 6 100	+ 2.6
Engineering and technical services, not related to construction and real estate activities; and business management and consultancy services	48 300	56 600	+ 8 300	+ 2.0
Design, advertising and related services	26 000	29 800	+ 3 800	+ 1.7
Architectural, surveying and engineering services related to real estate and construction	22 200	25 800	+ 3 600	+ 1.9
Human health activities	109 800	131 700	+ 21 900	+ 2.3
Total	288 700	347 400	+ 58 700	+ 2.3

(d) *Tourism*

3.26 The sector embraces a host of economic activities including hotels, travel agents, cross boundary passenger transport, as well as the retail trade, restaurants and recreational activities involving tourists. In 2010, about 36 million visitors spent a total of some \$200 billion in Hong Kong. The Government and other stakeholders in the industry have continued to invest in tourism-related software and hardware. Ocean Park's redevelopment, Hong Kong Disney's expansion and the development of the cruise terminal at Kai Tak are in the pipeline. The

number of Mainland tourists has been on the rise. It is expected that the manpower requirement of the sector will grow considerably at an average annual rate of 2.9% from 197 500 in 2010 to 247 400 in 2018. The manpower requirements of various sub-sectors in the *Tourism* sector in 2010 and 2018 are set out in **Figure 3.7**.

**Figure 3.7 : Manpower Requirements of Tourism in 2010 and 2018**

Sub-sector	Actual manpower requirement in 2010	Projected manpower requirement in 2018	Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	Number	Number	%
Inbound tourism	169 600	217 100	+ 47 500	+ 3.1
- Retail trade	85 400	109 000	+ 23 600	+ 3.1
- Accommodation services	27 900	34 300	+ 6 400	+ 2.6
- Food and beverage services	29 200	39 000	+ 9 800	+ 3.7
- Cross-boundary passenger transport services	11 600	15 000	+ 3 300	+ 3.2
- Other activities related to inbound tourism	15 500	19 800	+ 4 300	+ 3.1
Outbound tourism	27 900	30 300	+ 2 400	+ 1.1
- Travel agency, reservation service and related activities	19 100	20 400	+ 1 300	+ 0.8
- Cross-boundary passenger transport services	8 800	10 000	+ 1 200	+ 1.6
Total	197 500	247 400	+ 49 900	+ 2.9

*Summary of Manpower Requirements of the Four Pillar Industries*

3.27 The total manpower requirement of the four pillar industries taken together is projected to increase at an average annual rate of 1.4% from 1.45 million workers in 2010 to 1.63 million in 2018. The manpower requirements of the four individual pillar industries are set out in **Figure 3.8**.

**Figure 3.8 : Manpower Requirements of the Four Pillar Industries in 2010 and 2018**

Industry	Actual manpower requirement in 2010	Projected manpower requirement in 2018	Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	Number	Number	%
Financial services	207 000	253 100	+ 46 200	+ 2.5
Trading and logistics	760 600	781 700	+ 21 100	+ 0.3
Professional services <sup>@</sup>	288 700	347 400	+ 58 700	+ 2.3
Tourism	197 500	247 400	+ 49 900	+ 2.9
Total	1 453 800	1 629 600	+ 175 900	+ 1.4

<sup>@</sup> The *Professional services* sector in MP2018 covers a wide spectrum of business activities (such as legal services, as well as accounting, auditing, architectural and engineering activities) and *Human health activities*, but excludes *Other producer services*.

### ***Information Technology and Information Services Sector***

3.28 The sector covers information technology and telecommunication industries. Along with the transformation of Hong Kong into a knowledge-based economy, coupled with the Government's effort in developing the innovation and technology sector, it is anticipated that the industries will continue to expand. The manpower requirement of this sector is projected to grow considerably at an average annual rate of 2.1% from 54 600 in 2010 to 64 600 in 2018. The manpower requirements of two sub-sectors in the *Information technology and information services (IT&IS)* sector in 2010 and 2018 are set out in **Figure 3.9**.

**Figure 3.9 : Manpower Requirements of Information Technology and Information Services in 2010 and 2018**

Sub-sector	Actual manpower requirement in 2010	Projected manpower requirement in 2018	Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	Number	Number	%
Software publishing and telecommunication activities	19 500	20 100	+ 600	+ 0.4
Information technology related services	35 100	44 500	+ 9 400	+ 3.0
Total	54 600	64 600	+ 10 000	+ 2.1

3.29 It should be noted that the manpower requirement figures of the *IT&IS* sector cover both the IT occupations (for example, computer managers and IT assistants) and non-IT occupations (for example, clerks and service workers) in the establishments in the sector. There are other workers taking up IT occupations in industries which fall outside the *IT&IS* sector, for example, *Construction* and *Financial services*, which are not covered by the manpower requirement of the *IT&IS* sector. If we look at the workers engaged in IT occupations across all economic sectors, there were about 73 400 of them in 2010. This number is projected to grow considerably, at an average annual rate of 2.9%, to 92 200 in 2018. The manpower requirements for IT workers of various economic sectors in 2010 and 2018 are presented in **Figure 3.10**.



**Figure 3.10 : Manpower Requirements of Information Technology Personnel by Economic Sector in 2010 and 2018**

Economic sector	Actual manpower requirement in 2010	Projected manpower requirement in 2018	Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	Number	Number	%
Manufacturing	1 700	1 600	- 100	- 0.7
Electricity, gas, water, and waste management	400	400	^	- 1.2
Construction	300	300	^	*
Import, export, wholesale and retail trades, accommodation and food services	15 700	17 200	+ 1 400	+ 1.1
Transportation, storage, postal and courier services	1 900	1 900	^	*
Information and communications	27 600	39 300	+ 11 700	+ 4.5
Financial services, real estate, professional and business services	14 000	18 200	+ 4 200	+ 3.3
Social and personal services	11 700	13 400	+ 1 700	+ 1.7
Total	73 400	92 200	+ 18 800	+ 2.9

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

### ***The Six Industries***

3.30 The manpower requirement of the six industries is projected up to 2015. Owing to the short historical manpower data series for the six industries, statistically reliable projections can only be made up to 2015. When the findings of MP2018 were being compiled, the manpower figures of the six industries for 2010 were not available yet. Hence, 2009 has been adopted as the base year.

### ***Education Services***

3.31 The Government has rolled out a series of initiatives to promote the development of Hong Kong into a regional education hub. With the internationalisation and diversification of our *Education services*,

programmes which target local, international and Mainland students have been expanding. Sites have been reserved or allocated for the development of self-financing tertiary institutions and international schools. The manpower requirement of the sector (excluding the publicly-funded part of the sector) is projected to grow significantly at an average annual rate of 4.4% during the projection period to 80 600 in 2015.

### *Medical Services*

3.32 With a large pool of well qualified medical personnel and good medical facilities, Hong Kong is well-placed to further develop its medical services. The Government has reserved sites for private hospital development, facilitating the provision of more high-quality private medical services to the public. The training of medical personnel has been stepped up to meet service growth and development needs. The Government has also started implementing healthcare financing reform to enhance the sustainability of the healthcare system, which will be conducive to the further development of *Medical services*. The manpower requirement of the sector (excluding the publicly-funded part of the sector) is projected to increase significantly at an average annual rate of 3.0% during the projection period to 86 000 in 2015.

### *Testing and Certification Services*

3.33 *Testing and certification services* in Hong Kong are highly acclaimed by users for its professionalism, integrity and credibility. The Government has set up the Hong Kong Council for Testing and Certification to promote the professional standards and international recognition of the industry, as well as helping establish Hong Kong as a testing and certification centre in the region. The business potential is substantial. It is projected that the manpower requirement of the sector will increase considerably at an average annual growth rate of 2.3% during the projection period to 14 500 in 2015.

### *Environmental Industries*

3.34 Our *Environmental industries* have been growing impressively

in recent years, along with the rising aspiration of Hong Kong people for better environmental protection and the active promotion of the Government for a green economy through a multitude of policies and initiatives. Measures in promoting energy saving, enhancing energy efficiency and improving air quality have gained wide public support. It is expected that the sector will continue to develop during the projection period, with its manpower requirements increasing significantly at an average annual rate of 4.3% during the projection period to 41 700 in 2015.

### *Innovation and Technology*

3.35 Innovation and technology is seen as a driving force for enhanced competitiveness in a globalised economy. As a result, the activity of innovation and technology around the world is thriving. In Hong Kong, the number of research and development (R&D) personnel and the gross expenditure on R&D activity – a vital source of innovation and technological development, have been increasing steadily over the last decade. The various support measures launched by the Government include the Innovation and Technology Fund, the R&D Cash Rebate Scheme, the R&D Centres, as well as the infrastructure and support services of the Science Park and the Cyberport. With these positive factors in play, it is projected that the manpower requirement will increase significantly at an average annual rate of 4.5% during the projection period to 35 800 in 2015.

### *Cultural and Creative Industries*

3.36 The *Cultural and creative industries* have been developing steadily over the past decade. The Government has set up a dedicated entity, Create Hong Kong, to support local creative industries. The sector covers a wide array of economic activities that exploit creativity and intellectual property in producing products and services. Examples include advertising, architecture, design, film, publishing, digital entertainment, etc. The Mainland market is going to provide huge business opportunities. The WKCD project will also be a major propeller. The Government puts considerable emphasis on nurturing artistic talents and arts administrators to support the development of

WKCD, as well as Hong Kong's arts and cultural sector as a whole. It is projected that the manpower requirement of the sector will increase at an average annual rate of 1.6% during the projection period to 207 100 in 2015.

### *Summary of Manpower Requirements of the Six Industries*

3.37 The total manpower requirement of the six industries is projected to increase considerably at an average annual rate of 2.8% during the projection period to 465 600 in 2015. The detailed statistics are set out in **Figure 3.11**.

**Figure 3.11 : Manpower Requirements of the Six Industries in 2009 and 2015**

Industry	Actual manpower requirement in 2009	Projected manpower requirement in 2015	Projected change from 2009 to 2015	Projected average annual change (2009-2015)
	Number	Number	Number	%
Education services	62 200	80 600	+ 18 400	+ 4.4
Medical services	72 000	86 000	+ 14 000	+ 3.0
Testing and certification services	12 600	14 500	+ 1 800	+ 2.3
Environmental industries	32 400	41 700	+ 9 300	+ 4.3
Innovation and technology	27 500	35 800	+ 8 300	+ 4.5
Cultural and creative industries	188 300	207 100	+ 18 800	+ 1.6
Total <sup>@</sup>	395 000 (407 800) <sup>#</sup>	465 600	+ 70 600	+ 2.8

<sup>@</sup> The total manpower requirements of the six industries are only a simple summation of the manpower figures for individual industries. There is some overlapping of manpower requirements between these industries.

<sup>#</sup> The actual manpower figure in 2010.

### ***Manpower Requirements by Occupation Group***

3.38 The occupation groups are classified into nine categories, in accordance with the nomenclature adopted by C&SD in compiling manpower statistics. The coverage and definitions of these occupation categories are set out in **Appendix V**.

## *Managers and Administrators*

3.39 The number of *Managers and Administrators*, who belong to the group of personnel mainly responsible for running establishments/institutions/organisations or managing their operations, is expected to increase considerably at an average annual rate of 2.2% from 334 700 in 2010 to 399 800 in 2018. The projected shifting of our future manpower requirements towards the highly-skilled workers at the upper end of the occupation hierarchy is consistent with the transformation of Hong Kong into a knowledge-based, high value-added economy. The occupation group is anticipated to expand in size across all major economic sectors, except for *Manufacturing and Agriculture, fishing and quarrying*, the manpower requirements of which are projected to decline during the projection period. In terms of absolute number, the largest projected increase in *Managers and administrators* during the projection period is in *Financial services* (+22 600), as there will be continued demand for highly-skilled and well-educated personnel in financial services for management positions. This is followed by *Import, export, retail and wholesale trades* (+16 000) and *Professional and business services* (+8 400). The number of *Managers and administrators* by economic sector in 2010 and 2018 are shown in **Figure 3.12**.

**Figure 3.12 : Manpower Requirements of Managers and Administrators by Economic Sector in 2010 and 2018**

Economic sector	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Agriculture, fishing and quarrying	600	0.2	500	0.1	^	- 0.3
Manufacturing	23 300	7.0	19 800	4.9	- 3 600	- 2.1
Electricity, gas, water and waste management	1 100	0.3	1 400	0.3	+ 300	+ 3.4
Construction	13 000	3.9	17 200	4.3	+ 4 200	+ 3.6
Import, export, wholesale and retail trades	144 900	43.3	160 800	40.2	+ 16 000	+ 1.3
Accommodation and food services	14 600	4.4	17 500	4.4	+ 2 900	+ 2.3
Transportation, storage, postal and courier services	17 800	5.3	23 700	5.9	+ 5 800	+ 3.6
Information and communications	12 700	3.8	14 200	3.5	+ 1 500	+ 1.4
Financial services	51 500	15.4	74 100	18.5	+ 22 600	+ 4.7
Real estate	8 800	2.6	11 600	2.9	+ 2 800	+ 3.5
Professional and business services	24 900	7.4	33 300	8.3	+ 8 400	+ 3.7
Social and personal services	21 600	6.5	25 800	6.5	+ 4 200	+ 2.2
Total	334 700	100.0	399 800	100.0	+ 65 100	+ 2.2

^ Means less than 50.

### *Professionals*

3.40 *Professionals* are defined as those workers with special expertise and knowledge in their particular fields of work. For example, engineers, architects, surveyors, medical doctors, lawyers, accountants and IT professionals belong to this occupation category. The occupation group is projected to grow considerably at an average annual rate of 2.9% from 235 400 in 2010 to 294 700 in 2018. Among all occupation groups, *Professionals* is expected to grow at the fastest rate from 2010 to 2018. Analysed by economic sector, it is projected that the greatest increase in the number of *Professionals* during the

projection period will be seen in *Social and personal services* (+14 200), *Financial services* (+13 200), and *Professional and business services* (+12 600). The number of *Professionals* by economic sector in 2010 and 2018 is set out in **Figure 3.13**.

**Figure 3.13 : Manpower Requirements of Professionals by Economic Sector in 2010 and 2018**

Economic sector	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Agriculture, fishing and quarrying	100	0.0	100	0.0	^	*
Manufacturing	2 500	1.1	2 300	0.8	- 200	- 1.2
Electricity, gas, water and waste management	2 300	1.0	2 900	1.0	+ 600	+ 3.2
Construction	9 500	4.0	12 600	4.3	+ 3 100	+ 3.5
Import, export, wholesale and retail trades	18 000	7.7	22 200	7.5	+ 4 100	+ 2.6
Accommodation and food services	500	0.2	800	0.3	+ 300	+ 6.4
Transportation, storage, postal and courier services	6 800	2.9	8 800	3.0	+ 2 000	+ 3.3
Information and communications	32 200	13.7	40 700	13.8	+ 8 600	+ 3.0
Financial services	24 600	10.5	37 800	12.8	+ 13 200	+ 5.5
Real estate	2 800	1.2	3 700	1.3	+ 900	+ 3.8
Professional and business services	35 200	15.0	47 900	16.2	+ 12 600	+ 3.9
Social and personal services	100 900	42.9	115 000	39.0	+ 14 200	+ 1.7
Total	235 400	100.0	294 700	100.0	+ 59 400	+ 2.9

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

### *Associate Professionals*

3.41 *Associate professionals* fall into the middle layer of the occupational spectrum and provide *Managers and administrators*, as well as *Professionals*, with professional support and assistance. Examples include assistant engineers, nurses, banking loan or credit

officers, accounting officers, personnel officers and administration officers. In 2010, *Associate professionals* was the largest group in terms of number among all the occupation categories. It is expected that the number of these workers will grow at an average annual rate of 1.9% from 673 600 in 2010 to 783 500 in 2018. The group is projected to have the largest increase in terms of absolute number among all the occupation groups, albeit a lesser growth rate than those of *Managers and administrators* and *Professionals*. The occupation group is expected to remain the largest among all occupation groups in 2018. It is projected that the most notable growth in the number of *Associate professionals* during the projection period will be in *Social and personal services* (+29 900), *Import, export, wholesale and retail trades* (+22 300) and *Financial services* (+17 300). The number of *Associate professionals* by economic sector in 2010 and 2018 is presented in **Figure 3.14**.



**Figure 3.14 : Manpower Requirements of Associate Professionals by Economic Sector in 2010 and 2018**

Economic sector	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Agriculture, fishing and quarrying	200	0.0	200	0.0	^	*
Manufacturing	21 300	3.2	14 700	1.9	- 6 600	- 4.5
Electricity, gas, water and waste management	3 700	0.6	4 200	0.5	+ 500	+ 1.4
Construction	40 500	6.0	50 600	6.5	+ 10 000	+ 2.8
Import, export, wholesale and retail trades	192 700	28.6	215 000	27.4	+ 22 300	+ 1.4
Accommodation and food services	18 100	2.7	26 400	3.4	+ 8 300	+ 4.8
Transportation, storage, postal and courier services	20 900	3.1	25 900	3.3	+ 5 000	+ 2.7
Information and communications	28 100	4.2	31 400	4.0	+ 3 300	+ 1.4
Financial services	75 700	11.2	93 000	11.9	+ 17 300	+ 2.6
Real estate	29 900	4.4	34 400	4.4	+ 4 500	+ 1.8
Professional and business services	71 500	10.6	86 900	11.1	+ 15 300	+ 2.5
Social and personal services	170 800	25.4	200 700	25.6	+ 29 900	+ 2.0
Total	673 600	100.0	783 500	100.0	+ 109 900	+ 1.9

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

### *Clerks*

3.42 *Clerks* provide secretarial or clerical support/assistance in establishments across all the economic sectors. There were some 563 300 *Clerks* in 2010, coming second among all occupation groups in terms of number after *Associate professionals*. With the continuing trend of office automation and the widespread use of information technology, it is projected that the growth in the total number of *Clerks* will remain very slow from 2010 to 2018. The projected increases in the number of *Clerks* in some sectors (e.g. *Social and personal services*) are expected to be offset by the decreases in others (e.g. *Import, export,*

*wholesale and retail trades*). Owing to its slower growth rate relative to some other occupations, *Clerks* is anticipated to slip from the second largest occupation group in 2010 to the third in 2018. The number of *Clerks* by economic sector in 2010 and 2018 is shown in **Figure 3.15**.

**Figure 3.15 : Manpower Requirements of Clerks by Economic Sector in 2010 and 2018**

Economic sector	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Agriculture, fishing and quarrying	100	0.0	100	0.0	^	*
Manufacturing	11 600	2.1	8 000	1.4	- 3 600	- 4.6
Electricity, gas, water and waste management	1 900	0.3	2 200	0.4	+ 200	+ 1.3
Construction	12 100	2.1	14 400	2.5	+ 2 300	+ 2.2
Import, export, wholesale and retail trades	228 200	40.5	216 100	38.2	- 12 100	- 0.7
Accommodation and food services	24 100	4.3	27 000	4.8	+ 2 900	+ 1.4
Transportation, storage, postal and courier services	53 700	9.5	55 600	9.8	+ 1 900	+ 0.4
Information and communications	11 300	2.0	13 700	2.4	+ 2 300	+ 2.3
Financial services	51 100	9.1	45 200	8.0	- 5 900	- 1.5
Real estate	15 100	2.7	15 600	2.8	+ 500	+ 0.4
Professional and business services	50 100	8.9	55 400	9.8	+ 5 300	+ 1.3
Social and personal services	103 800	18.4	112 400	19.9	+ 8 600	+ 1.0
Total	563 300	100.0	565 700	100.0	+ 2 400	+ 0.1

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

### *Service Workers and Shop Sales Workers*

3.43 This group of workers comprises mainly the sales assistants and service workers in personal services, retail shops, restaurants, fast food shops and hotels. The total number of these workers was 552 700 in 2010, accounting for 16.8% of the total manpower requirements. This was the third largest occupation group in 2010. With the anticipated

expansion of the retail, catering and accommodation industries during the projection period, it is projected that the number of *Service workers and shop sales workers* will increase at an average annual rate of 1.7% to 630 400 in 2018. This group is expected to overtake *Clerks* as the second largest occupation group after *Associate professionals* in 2018. The number of *Service workers and shop sales workers* by economic sector in 2010 and 2018 is presented in **Figure 3.16**.

**Figure 3.16 : Manpower Requirements of Service Workers and Shop Sales Workers by Economic Sector in 2010 and 2018**

Economic sector	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Agriculture, fishing and quarrying	-	-	-	-	-	-
Manufacturing	1 300	0.2	1 800	0.3	+ 500	+ 3.9
Electricity, gas, water and waste management	100	0.0	200	0.0	+ 100	+ 8.0
Construction	200	0.0	300	0.0	+ 100	+ 8.0
Import, export, wholesale and retail trades	193 500	35.0	213 000	33.8	+ 19 500	+ 1.2
Accommodation and food services	169 000	30.6	188 700	29.9	+ 19 700	+ 1.4
Transportation, storage, postal and courier services	19 300	3.5	21 500	3.4	+ 2 200	+ 1.3
Information and communications	4 000	0.7	5 200	0.8	+ 1 200	+ 3.4
Financial services	400	0.1	600	0.1	+ 200	+ 6.6
Real estate	900	0.2	1 400	0.2	+ 500	+ 5.4
Professional and business services	10 600	1.9	11 800	1.9	+ 1 300	+ 1.4
Social and personal services	153 400	27.8	185 900	29.5	+ 32 500	+ 2.4
<b>Total</b>	<b>552 700</b>	<b>100.0</b>	<b>630 400</b>	<b>100.0</b>	<b>+ 77 700</b>	<b>+ 1.7</b>

- Means nil figure.

### *Agricultural and Fishery Workers*

3.44 These workers are the skilled operatives engaged in agricultural and fishery activities. There were only about 3 800 of them in 2010,

reflecting the small Agriculture and fishery sector in Hong Kong. It is expected that the scale of agricultural and fishery activities will continue to decline further in the years ahead with the projected number of *Agricultural and fishery workers* decreasing from 3 800 in 2010 to 3 200 in 2018. It is noteworthy that besides the *Agricultural, fishery and quarrying* sector, *Agricultural and fishery workers* are also engaged in sectors such as *Social and personal services*, *Professional and business services* and *Accommodation and food services*. The Government has employed a certain number of them in providing agricultural and fishery services. These workers are grouped under *Social and personal services*. Some of the workers in this occupation group are engaged in landscaping and greenery services in the private sector, which are categorised under *Professional and business services*. Certain establishments in *Accommodation and food services* have also employed some of the workers. The number of these workers by economic sector in 2010 and 2018 is set out in **Figure 3.17**.

**Figure 3.17 : Manpower Requirements of Agricultural and Fishery Workers by Economic Sector in 2010 and 2018**

Economic sector	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Agriculture, fishing and quarrying	2 400	62.6	1 700	52.0	- 700	- 4.2
Manufacturing	-	-	-	-	-	-
Electricity, gas, water and waste management	-	-	-	-	-	-
Construction	-	-	-	-	-	-
Import, export, wholesale and retail trades	-	-	-	-	-	-
Accommodation and food services	^	*	*	*	^	*
Transportation, storage, postal and courier services	-	-	-	-	-	-
Information and communications	-	-	-	-	-	-
Financial services	-	-	-	-	-	-
Real estate	-	-	-	-	-	-
Professional and business services	500	14.5	600	18.2	^	+ 0.9
Social and personal services	800	21.8	900	27.3	+ 100	+ 0.8
Total	3 800	100.0	3 200	100.0	- 500	- 1.9

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

### *Craft and Related Workers*

3.45 This group of workers covers the skilled workers engaged in particular trades in various sectors, such as bricklayers, carpenters, metal moulders and watch makers. It is projected that the number of these workers will increase slightly at an average annual rate of 0.4% from 244 800 in 2010 to 253 300 in 2018. Analysed by sector, larger decreases in the number of *Craft and related workers* are expected in *Social and personal services* and *Manufacturing* from 2010 to 2018, along with transformation of Hong Kong into a knowledge-based

economy and the continued trend in office automation. The major manpower requirements for *Craft and related workers* are anticipated to originate from *Construction*, which alone is expected to employ 161 700 such workers in 2018, with the rolling out of several major infrastructure projects during the projection period. The number of *Craft and related workers* by economic sector in 2010 and 2018 is presented in **Figure 3.18**.

**Figure 3.18 : Manpower Requirements of Craft and Related Workers by Economic Sector in 2010 and 2018**

Economic sector	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Agriculture, fishing and quarrying	-	-	-	-	-	-
Manufacturing	25 000	10.2	21 800	8.6	- 3 100	- 1.7
Electricity, gas, water and waste Management	3 400	1.4	3 200	1.3	- 200	- 0.7
Construction	143 800	58.7	161 700	63.8	+ 17 900	+ 1.5
Import, export, wholesale and retail trades	20 900	8.5	18 400	7.3	- 2 500	- 1.6
Accommodation and food services	2 300	0.9	2 400	0.9	+ 100	+ 0.4
Transportation, storage, postal and courier services	9 400	3.8	11 000	4.4	+ 1 600	+ 2.0
Information and communications	3 500	1.4	2 200	0.9	- 1 300	- 5.6
Financial services	100	0.0	100	0.0	- 100	- 8.0
Real estate	5 600	2.3	6 300	2.5	+ 700	+ 1.4
Professional and business services	5 100	2.1	4 500	1.8	- 600	- 1.5
Social and personal services	25 600	10.5	21 600	8.5	- 4 000	- 2.1
Total	244 800	100.0	253 300	100.0	+ 8 500	+ 0.4

- Means nil figure.

### *Drivers, Plant and Machinery Operators, and Assemblers*

3.46 This occupation group mainly covers motor vehicle drivers and workers operating with machines. It is projected that the number of these workers will increase marginally, at an average annual rate of 0.1%, from 209 700 in 2010 to 211 400 in 2018. The anticipated sluggish growth in this occupation group can be explained by the changing structure of our economy. While the expected expansion of the transportation and freight industries will increase the demand for such workers, the downsizing of the manufacturing sector and automation in many sectors will reduce the job opportunities for these workers. Against this backdrop, the number of *Drivers, plant and machinery operators, and assemblers* is expected to increase marginally during the projection period. The number of these workers by economic sector in 2010 and 2018 is shown in **Figure 3.19**.

**Figure 3.19 : Manpower Requirements of Drivers, Plant and Machinery Operators, and Assemblers by Economic Sector in 2010 and 2018**

Economic sector	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Agriculture, fishing and quarrying	200	0.1	200	0.1	^	*
Manufacturing	19 000	9.1	13 600	6.4	- 5 400	- 4.1
Electricity, gas, water and waste management	900	0.4	1 400	0.7	+ 500	+ 5.9
Construction	7 800	3.7	8 800	4.1	+ 1 000	+ 1.5
Import, export, wholesale and retail trades	16 500	7.9	16 900	8.0	+ 400	+ 0.3
Accommodation and food services	1 300	0.6	1 400	0.7	+ 100	+ 1.0
Transportation, storage, postal and courier services	149 700	71.4	157 400	74.5	+ 7 700	+ 0.6
Information and communications	600	0.3	500	0.2	- 100	- 2.6
Financial services	800	0.4	1 000	0.5	+ 100	+ 1.9
Real estate	800	0.4	500	0.2	- 300	- 5.0
Professional and business services	4 000	1.9	3 800	1.8	- 200	- 0.6
Social and personal services	8 200	3.9	6 100	2.9	- 2 100	- 3.7
Total	209 700	100.0	211 400	100.0	+ 1 800	+ 0.1

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

### *Elementary Occupations*

3.47 *Elementary occupations* covers unskilled workers who perform primarily menial duties in various sectors, such as cleaners, messengers, security guards, watchmen and lift operators. The widespread application of information technology and office automation, as well as the shifting of our economy towards more knowledge-based, high valued-added activities, have impeded the growth in these occupations. There were some 466 700 workers in 2010. It is expected that the number of these workers will decrease marginally at an average annual rate of -0.3% to 454 400 in 2018. Detailed figures by economic sector are shown in **Figure 3.20**.



**Figure 3.20 : Manpower Requirements of Elementary Occupations by Economic Sector in 2010 and 2018**

Economic sector	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Agriculture, fishing and quarrying	200	0.0	200	0.0	^	*
Manufacturing	16 900	3.6	12 100	2.7	- 4 800	- 4.1
Electricity, gas, water and waste management	1 800	0.4	1 700	0.4	- 100	- 0.7
Construction	44 200	9.5	49 700	10.9	+ 5 500	+ 1.5
Import, export, wholesale and retail trades	59 300	12.7	59 300	13.1	^	+ 0.0
Accommodation and food services	35 500	7.6	31 000	6.8	- 4 500	- 1.7
Transportation, storage, postal and courier services	43 600	9.3	41 900	9.2	- 1 700	- 0.5
Information and communications	500	0.1	300	0.1	- 300	- 7.9
Financial services	2 800	0.6	1 500	0.3	- 1 300	- 7.7
Real estate	55 100	11.8	61 500	13.5	+ 6 400	+ 1.4
Professional and business services	127 000	27.2	126 000	27.7	- 1 000	- 0.1
Social and personal services	79 700	17.1	69 200	15.2	- 10 600	- 1.8
Total	466 700	100.0	454 400	100.0	- 12 400	- 0.3

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

### *Overall Occupation Pattern of Manpower Requirements*

3.48 The occupation pattern of our manpower requirements, i.e. percentage distribution of different occupation groups, is projected to change gradually in a way consistent with the shifting of Hong Kong to a knowledge-based, high value-added economy. The higher-skilled, more educated workers, such as *Managers and administrators*, *Professionals* and *Associate professionals* are expected to increase in proportion, whereas the less-skilled workers such as *Drivers, plant and machinery operators, and assemblers* and workers in *Elementary occupations* will remain steady or decrease in proportion. With the

anticipated continued development of our service sectors, it is expected that the proportion of *Service workers and shop sales workers* will expand.

3.49 The manpower requirement of the overall economy by occupation group in 2010 and 2018 is set out in **Figure 3.21**.

**Figure 3.21 : Manpower Requirements by Occupation Group in 2010 and 2018**

Occupation group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share		
Managers and administrators	334 700	10.2	399 800	11.1	+ 65 100	+ 2.2
Professionals	235 400	7.2	294 700	8.2	+ 59 400	+ 2.9
Associate professionals	673 600	20.5	783 500	21.8	+ 109 900	+ 1.9
Clerks	563 300	17.1	565 700	15.7	+ 2 400	+ 0.1
Service workers and shop sales workers	552 700	16.8	630 400	17.5	+ 77 700	+ 1.7
Agricultural and fishery workers	3 800	0.1	3 200	0.1	- 500	- 1.9
Craft and related workers	244 800	7.5	253 300	7.0	+ 8 500	+ 0.4
Drivers, plant and machinery operators, and assemblers	209 700	6.4	211 400	5.9	+ 1 800	+ 0.1
Elementary occupations	466 700	14.2	454 400	12.6	- 12 400	- 0.3
Total	3 284 600	100.0	3 596 400	100.0	+ 311 800	+ 1.1

### *Strategic Sectors*

3.50 The manpower requirements of the strategic sectors by occupation group in 2010 and 2018 (the reference period is from 2009 to 2015 for the six industries) are set out in **Figures 3.22 to 3.24**. Generally speaking, the strategic sectors have higher proportions of *Professionals* and *Associate professionals* than the other sectors.

**Figure 3.22 : Manpower Requirements of the Four Pillar Industries by Occupation Group in 2010 and 2018**

Occupation group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Managers and administrators	225 100	15.5	270 500	16.6	+ 45 400	+ 2.3
Professionals	116 400	8.0	157 600	9.7	+ 41 200	+ 3.9
Associate professionals	380 000	26.1	448 100	27.5	+ 68 100	+ 2.1
Clerks	368 800	25.4	361 300	22.2	- 7 500	- 0.3
Service workers and shop sales workers	117 200	8.1	144 600	8.9	+ 27 400	+ 2.7
Agricultural and fishery workers	-	-	-	-	-	-
Craft and related workers	23 900	1.6	23 800	1.5	- 100	- 0.1
Drivers, and machinery operators, and assemblers	94 800	6.5	97 300	6.0	+ 2 500	+ 0.3
Elementary occupations	127 600	8.8	126 500	7.8	- 1 100	- 0.1
<b>Total</b>	<b>1 453 800</b>	<b>100.0</b>	<b>1 629 600</b>	<b>100.0</b>	<b>+ 175 900</b>	<b>+ 1.4</b>

- Means nil figure.

**Figure 3.23 : Manpower Requirements of the Six Industries by Occupation Group in 2009 and 2015**

Occupation group	Actual manpower requirement in 2009		Projected manpower requirement in 2015		Projected change from 2009 to 2015	Projected average annual change (2009-2015)
	Number	% share	Number	% share	Number	%
Managers and administrators	34 600	8.8	41 100	8.8	+ 6 500	+ 2.9
Professionals	87 300	22.1	109 000	23.4	+ 21 700	+ 3.8
Associate professionals	104 800	26.5	122 500	26.3	+ 17 700	+ 2.6
Clerks	53 500	13.5	62 900	13.5	+ 9 400	+ 2.7
Service workers and shop sales workers	48 500	12.3	57 000	12.2	+ 8 500	+ 2.7
Agricultural and fishery workers	-	-	-	-	-	-
Craft and related workers	14 200	3.6	14 700	3.2	+ 500	+ 0.6
Drivers, plant and machinery operators, and assemblers	7 600	1.9	8 100	1.7	+ 500	+ 1.1
Elementary occupations	44 400	11.2	50 100	10.8	+ 5 700	+ 2.0
Total	395 000 (407 800) <sup>#</sup>	100.0	465 600	100.0	+ 70 600	+ 2.8

<sup>#</sup> The actual manpower figure in 2010.

- Means nil figure.

**Figure 3.24 : Manpower Requirement of the Information Technology and Information Services Sector by Occupation Group in 2010 and 2018**

Occupation group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share		
Managers and administrators	8 800	16.2	9 700	15.0	+ 900	+ 1.2
Professionals	19 800	36.3	26 600	41.2	+ 6 800	+ 3.7
Associate professionals	15 800	29.0	17 600	27.2	+ 1 700	+ 1.3
Clerks	5 800	10.6	6 800	10.6	+ 1 000	+ 2.0
Service workers and shop sales workers	1 600	2.9	2 100	3.3	+ 500	+ 3.5
Agricultural and fishery workers	-	-	-	-	-	-
Craft and related workers	2 300	4.3	1 600	2.5	- 700	- 4.6
Drivers, and machinery operators, and assemblers	*	0.1	^	0.1	^	*
Elementary occupations	300	0.5	200	0.2	- 100	- 7.9
<b>Total</b>	<b>54 600</b>	<b>100.0</b>	<b>64 600</b>	<b>100.0</b>	<b>+ 10 000</b>	<b>+ 2.1</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

3.51 We have also covered the manpower requirements of the other workers taking up IT occupations in industries which fall outside the *IT&IS* sector. The manpower requirements of workers engaged in IT jobs across all economic sectors by IT occupation group in 2010 and 2018 are set out in **Figure 3.25**.

**Figure 3.25 : Manpower Requirement of Information Technology Personnel by Occupation Group in All Economic Sectors in 2010 and 2018**

Occupation group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
IT/Computer managers	3 000	4.1	3 900	4.3	+ 900	+ 3.5
IT/Computer professionals	36 200	49.4	45 800	49.6	+ 9 500	+ 3.0
IT/Computer associate professionals	14 000	19.1	17 000	18.5	+ 3 000	+ 2.5
IT assistants	9 600	13.1	12 300	13.3	+ 2 700	+ 3.2
IT sales	5 700	7.8	7 200	7.8	+ 1 500	+ 2.9
IT Lecturers	4 800	6.5	5 900	6.5	+ 1 200	+ 2.7
Total	73 400	100.0	92 200	100.0	+ 18 800	+ 2.9

### *Manpower Requirements by Education Attainment*

3.52 MRP is also analysed by a seven-tier education classification, which is in line with the formal education system in Hong Kong. The levels of education attainment are set out in **Appendix VI**. The manpower requirements at all education levels, except for those at *lower secondary or below*, are projected to increase during the projection period from 2010 to 2018. Detailed analysis is set out in the ensuing paragraphs.

#### *Lower Secondary and Below*

3.53 This education level covers the academic qualification below Secondary Five. It is projected that the manpower requirements at this education level will decrease considerably at an average annual rate of -2.7% from 983 200 in 2010 to 786 700 in 2018. The anticipated contraction in these manpower requirements is mainly attributable to two factors. First, there is a projected decrease in the demand for lower-skilled workers such as those in *Elementary occupations*.

Secondly, employers are expected to demand for workers with higher education attainment in various occupation groups by 2018. The manpower requirements at *lower secondary and below* in 2010 and 2018 are shown in **Figure 3.26**.

**Figure 3.26 : Manpower Requirements for Workers at Lower Secondary and Below Level by Occupation Group in 2010 and 2018**

Occupation group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Managers and administrators	29 600	3.0	21 400	2.7	- 8 100	- 3.9
Professionals	500	0.0	400	0.1	^	- 0.9
Associate professionals	54 400	5.5	33 900	4.3	- 20 500	- 5.7
Clerks	58 800	6.0	35 400	4.5	- 23 400	- 6.2
Service workers and shop sales workers	216 900	22.1	169 400	21.5	- 47 400	- 3.0
Agricultural and fishery workers	2 600	0.3	1 700	0.2	- 900	- 5.4
Craft and related workers	137 800	14.0	115 800	14.7	- 21 900	- 2.1
Drivers, plant and machinery operators, and assemblers	138 200	14.1	116 600	14.8	- 21 700	- 2.1
Elementary occupations	344 400	35.0	292 100	37.1	- 52 300	- 2.0
Total	983 200	100.0	786 700	100.0	- 196 400	- 2.7

^ Means less than 50.

### *Upper Secondary*

3.54 A large proportion of the manpower requirements at *upper secondary* level (i.e. Secondary Five, Six and Seven) concentrates in the occupations of *Clerks*, *Service workers and shop sales workers*, as well as *Associate professionals*. With a projected increase in the number of jobs in these occupations during the projection period, the manpower requirements at *upper secondary* are projected to grow at an average annual rate of 1.1% from 1 252 200 in 2010 to 1 370 300 in 2018. It is also anticipated that the proportion of workers in the lower end of

occupation hierarchy (such as *Craft and related workers, Drivers, plant and machinery operators, and assemblers, as well as Elementary occupations*) with upper secondary qualifications will increase during the projection period along with higher expectation of employers on the education attainment of their workers. The statistics of manpower requirements at *upper secondary* in 2010 and 2018 are presented in **Figure 3.27**.

**Figure 3.27 : Manpower Requirements for Workers at Upper Secondary Level by Occupation Group in 2010 and 2018**

Occupation group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Managers and administrators	101 300	8.1	102 400	7.5	+ 1 000	+ 0.1
Professionals	4 900	0.4	2 900	0.2	- 2 000	- 6.5
Associate professionals	240 400	19.2	209 200	15.3	- 31 200	- 1.7
Clerks	361 300	28.9	343 000	25.0	- 18 300	- 0.6
Service workers and shop sales workers	278 600	22.2	366 700	26.8	+ 88 200	+ 3.5
Agricultural and fishery workers	800	0.1	1 100	0.1	+ 300	+ 4.7
Craft and related workers	84 000	6.7	105 000	7.7	+ 21 100	+ 2.8
Drivers, plant and machinery operators, and assemblers	67 000	5.4	88 200	6.4	+ 21 100	+ 3.5
Elementary occupations	113 900	9.1	151 700	11.1	+ 37 900	+ 3.7
Total	1 252 200	100.0	1 370 300	100.0	+ 118 100	+ 1.1

### *Craft*

3.55 Education at *craft* level refers to the basic technical or vocational training programmes administered by the statutory training bodies such as the Hong Kong Institute of Vocational Education of VTC. Compared with the manpower requirements of other education attainment categories, that of the *craft* level is quite small in terms of number. There were about 12 000 workers with craft qualifications



engaged in various sectors in 2010. A comparatively large proportion of job opportunities at this education level are in *Construction*, as well as *Social and personal services*. It is projected that the manpower requirements at this education level will grow significantly at an average annual rate of 3.5% to 15 800 in 2018. The statistics of manpower requirements at *craft* level in 2010 and 2018 are set out in **Figure 3.28**.

**Figure 3.28 : Manpower Requirements for Workers at Craft Level by Occupation Group in 2010 and 2018**

Occupation group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Managers and administrators	700	6.0	1 500	9.5	+ 800	+ 9.7
Professionals	100	1.2	200	1.1	^	*
Associate professionals	1 300	10.9	1 900	11.8	+ 600	+ 4.6
Clerks	800	6.8	1 900	12.3	+ 1 100	+ 11.6
Service workers and shop sales workers	1 800	14.9	2 600	16.4	+ 800	+ 4.8
Agricultural and fishery workers	-	-	-	-	-	-
Craft and related workers	5 600	46.4	5 400	34.0	- 200	- 0.4
Drivers, plant and machinery operators, and assemblers	600	5.1	1 100	7.1	+ 500	+ 7.9
Elementary occupations	1 000	8.7	1 200	7.7	+ 200	+ 2.0
Total	12 000	100.0	15 800	100.0	+ 3 800	+ 3.5

^ Means less than 50.

- Means nil figure.

\* Figure is suppressed owing to small value of the estimate.

### *Technician*

3.56 Workers with *technician* qualifications are engaged in a wide spectrum of occupations in various sectors, ranging from *Managers and administrators* to *Elementary occupations*. This qualification level encompasses an array of post-secondary diplomas/certificates associated with the programmes or courses in various fields. A relatively large

number of workers with *technician* qualifications are engaged in the occupations of *Associate professionals* and *Clerks*. It is projected that the manpower requirements at this education level will increase considerably at an average annual rate of 2.6% from 103 300 in 2010 to 127 000 in 2018. The statistics of manpower requirements at *technician* level in 2010 and 2018 are presented in **Figure 3.29**.

**Figure 3.29 : Manpower Requirements for Workers at Technician Level by Occupation Group in 2010 and 2018**

Occupation group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Managers and administrators	8 500	8.2	13 100	10.3	+ 4 600	+ 5.5
Professionals	1 700	1.6	3 100	2.4	+ 1 400	+ 7.8
Associate professionals	38 000	36.8	34 600	27.2	- 3 400	- 1.2
Clerks	29 500	28.6	33 400	26.3	+ 3 900	+ 1.6
Service workers and shop sales workers	11 700	11.3	21 200	16.7	+ 9 500	+ 7.7
Agricultural and fishery workers	100	0.1	100	0.1	^	*
Craft and related workers	9 700	9.4	14 800	11.7	+ 5 100	+ 5.4
Drivers, plant and machinery operators, and assemblers	1 300	1.3	2 400	1.9	+ 1 000	+ 7.2
Elementary occupations	2 700	2.6	4 300	3.4	+ 1 600	+ 5.8
Total	103 300	100.0	127 000	100.0	+ 23 700	+ 2.6

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

### *Sub-degree*

3.57 There has been a substantial expansion in sub-degree programmes in the local education system over the past decade, with the number of workers with such academic qualifications engaged in various sectors reaching 166 800 in 2010. A relatively large proportion of workers with *sub-degree* qualifications are employed as *Associate*

*professionals* and *Clerks*. Along with the higher expectation of employers on the education qualifications of their employees, it is expected that the manpower requirements at *sub-degree* will expand significantly at an average annual rate of 4.7% from 166 800 in 2010 to 241 500 in 2018. The statistics of manpower requirements at *sub-degree* in 2010 and 2018 are set out in **Figure 3.30**.

**Figure 3.30 : Manpower Requirements for Workers at Sub-degree Level by Occupation Group in 2010 and 2018**

Occupation group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Managers and administrators	20 100	12.0	30 200	12.5	+ 10 200	+ 5.3
Professionals	8 400	5.1	10 900	4.5	+ 2 500	+ 3.2
Associate professionals	77 200	46.3	105 900	43.8	+ 28 700	+ 4.0
Clerks	36 900	22.1	55 200	22.9	+ 18 300	+ 5.2
Service workers and shop sales workers	15 600	9.3	26 200	10.9	+ 10 700	+ 6.7
Agricultural and fishery workers	^	0.0	^	0.0	^	*
Craft and related workers	5 000	3.0	7 900	3.3	+ 2 900	+ 5.9
Drivers, plant and machinery operators, and assemblers	1 400	0.9	2 000	0.8	+ 600	+ 4.2
Elementary occupations	2 200	1.3	3 200	1.3	+ 1 000	+ 4.6
Total	166 800	100.0	241 500	100.0	+ 74 700	+ 4.7

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

### *First Degree*

3.58 Hong Kong needs more educated manpower, along with its transformation into a knowledge-based, high value-added economy. It is projected that there will be an increased demand for highly-skilled workers such as *Managers and administrators*, *Professionals*, as well as *Associate professionals*. A large proportion of workers in these

occupations are degree holders. In addition, a projected faster-than-average expansion in *Financial services, Information and communications*, as well as *Professional and business services* during the projection period will increase the manpower requirements of workers at *first degree* level, as a comparatively large proportion of the workers in these sectors are degree holders. It is projected that the manpower requirements at *first degree* will increase significantly at an average annual rate of 3.7% from 613 100 in 2010 to 819 200 in 2018. The statistics of manpower requirements at *first degree* in 2010 and 2018 are shown in **Figure 3.31**.

**Figure 3.31 : Manpower Requirements for Workers at First Degree Level by Occupation Group in 2010 and 2018**

Occupation group	Actual manpower requirements in 2010		Projected manpower requirements in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Managers and administrators	129 200	21.1	164 100	20.0	+ 34 900	+ 3.0
Professionals	149 200	24.3	173 700	21.2	+ 24 400	+ 1.9
Associate professionals	228 600	37.3	340 400	41.6	+ 111 800	+ 5.1
Clerks	72 700	11.8	91 700	11.2	+ 19 100	+ 3.0
Service workers and shop sales workers	26 900	4.4	41 700	5.1	+ 14 800	+ 5.6
Agricultural and fishery workers	200	0.0	200	0.0	^	*
Craft and related workers	2 800	0.5	4 400	0.5	+ 1 500	+ 5.6
Drivers, plant and machinery operators, and assemblers	1 000	0.2	1 200	0.2	+ 200	+ 2.6
Elementary occupations	2 400	0.4	1 800	0.2	- 600	- 3.7
<b>Total</b>	<b>613 100</b>	<b>100.0</b>	<b>819 200</b>	<b>100.0</b>	<b>+ 206 100</b>	<b>+ 3.7</b>

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

## *Postgraduate*

3.59 Similar to the manpower requirements for workers with *first degree* qualifications, the job opportunities for workers with *postgraduate* qualifications are projected to grow at a relatively high rate between 2010 and 2018 in tandem with Hong Kong's transformation into a knowledge-based economy. A large proportion of the *Managers and administrators, Professionals and Associate professionals* in *Financial services, Social and personal services*, as well as *Information and communications*, have *postgraduate* qualifications. With an anticipated expansion in these sectors during the projection period, it is expected that the manpower requirements at *postgraduate* level will grow significantly at an average annual rate of 5.5% from 154 000 in 2010 to 235 800 in 2018. The statistics of manpower requirements at *postgraduate* level in 2010 and 2018 are set out in **Figure 3.32**.

**Figure 3.32 : Manpower Requirements for Workers at Postgraduate Level by Occupation Group in 2010 and 2018**

Occupation group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Managers and administrators	45 300	29.4	67 100	28.4	+ 21 700	+ 5.0
Professionals	70 500	45.8	103 600	43.9	+ 33 100	+ 4.9
Associate professionals	33 700	21.9	57 600	24.4	+ 23 900	+ 6.9
Clerks	3 200	2.1	5 000	2.1	+ 1 700	+ 5.5
Service workers and shop sales workers	1 200	0.8	2 500	1.1	+ 1 300	+ 9.4
Agricultural and fishery workers	^	0.0	^	0.0	^	*
Craft and related workers	-	-	-	-	-	-
Drivers, plant and machinery operators, and assemblers	-	-	-	-	-	-
Elementary occupations	^	0.0	^	0.0	^	*
Total	154 000	100.0	235 800	100.0	+ 81 800	+ 5.5

^ Means less than 50.

- Means nil figure.

\* Figure is suppressed owing to small value of the estimate.

### *Distribution of Education Attainment of Manpower Requirements*

3.60 During the projection period, manpower requirements are expected to shift towards more educated workers across all sectors along with the changing structure of our economy. The share of the workers at higher education levels, especially those with qualifications at *sub-degree* or above, is projected to increase between 2010 and 2018, whereas that of the workers at *lower secondary and below* is expected to decrease. The shares of manpower requirements at *upper secondary* and *craft* levels, are expected to remain steady during the projection period. This will be conducive to Hong Kong's long-term competitiveness. The manpower requirements of the overall economy

by education level in 2010 and 2018 are set out in **Figure 3.33**.

**Figure 3.33 : Manpower Requirements by Education Level in 2010 and 2018**

Education level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	983 200	29.9	786 700	21.9	- 196 400	- 2.7
Upper secondary	1 252 200	38.1	1370 300	38.1	+ 118 100	+ 1.1
Craft	12 000	0.4	15 800	0.4	+ 3 800	+ 3.5
Technician	103 300	3.1	127 000	3.5	+ 23 700	+ 2.6
Sub-degree	166 800	5.1	241 500	6.7	+ 74 700	+ 4.7
First degree	613 100	18.7	819 200	22.8	+ 206 100	+ 3.7
Postgraduate	154 000	4.7	235 800	6.6	+ 81 800	+ 5.5
Total	3 284 600	100.0	3596 400	100.0	+ 311 800	+ 1.1

### *Strategic Sectors*

3.61 The education profiles of the workers in the strategic sectors in 2010 and 2018 (from 2009 to 2015 for the six industries) are presented in **Figures 3.34 to 3.37**. It is noteworthy that the proportions of the manpower requirements of the four pillar industries and the six industries with education attainment at *first degree* and *postgraduate* levels are generally higher than those of the overall manpower requirements of our economy.

**Figure 3.34 : Manpower Requirements by Education Level of the Four Pillar Industries in 2010 and 2018**

Education level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	277 800	19.1	217 600	13.4	- 60 200	- 3.0
Upper secondary	579 900	39.9	595 200	36.5	+ 15 300	+ 0.3
Craft	2 700	0.2	5 500	0.3	+ 2 800	+ 9.2
Technician	54 400	3.7	65 000	4.0	+ 10 600	+ 2.2
Sub-degree	86 900	6.0	119 100	7.3	+ 32 200	+ 4.0
First degree	368 500	25.4	496 200	30.4	+ 127 600	+ 3.8
Postgraduate	83 500	5.7	131 100	8.0	+ 47 600	+ 5.8
Total	1 453 800	100.0	1 629 600	100.0	+ 175 900	+ 1.4

**Figure 3.35 : Manpower Requirements by Education Level of the Six Industries in 2009 and 2015**

Education level	Actual manpower requirement in 2009		Projected manpower requirement in 2015		Projected change from 2009 to 2015	Projected average annual change (2009-2015)
	Number	% share	Number	% share	Number	%
Lower secondary and below	74 800	18.9	73 400	15.8	- 1 400	- 0.3
Upper secondary	119 700	30.3	134 800	28.9	+ 15 000	+ 2.0
Craft	1 200	0.3	2 000	0.4	+ 700	+ 8.3
Technician	17 100	4.3	19 800	4.3	+ 2 800	+ 2.5
Sub-degree	28 500	7.2	35 200	7.6	+ 6 700	+ 3.6
First degree	117 300	29.7	151 100	32.5	+ 33 900	+ 4.3
Postgraduate	36 400	9.2	49 300	10.6	+ 12 900	+ 5.2
Total	395 000 (407 800) <sup>#</sup>	100.0	465 600	100.0	+ 70 600	+ 2.8

<sup>#</sup> The actual manpower figure in 2010.



**Figure 3.36 : Manpower Requirements by Education Level of the Information Technology and Information Services Sector in 2010 and 2018**

Education level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	1 400	2.5	500	0.8	- 800	- 11.1
Upper secondary	12 600	23.1	9 200	14.3	- 3 300	- 3.8
Craft	^	0.0	^	0.0	^	*
Technician	2 200	4.0	3 400	5.3	+ 1 200	+ 5.8
Sub-degree	4 100	7.5	6 700	10.3	+ 2 600	+ 6.4
First degree	27 600	50.5	34 100	52.7	+ 6 500	+ 2.7
Postgraduate	6 800	12.5	10 700	16.5	+ 3 900	+ 5.8
Total	54 600	100.0	64 600	100.0	+ 10 000	+ 2.1

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Figure 3.37 : Manpower Requirements by Education Level of Information Technology Personnel in All Economic Sectors in 2010 and 2018**

Education level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	3 900	5.3	3 100	3.3	- 800	- 2.9
Upper secondary	14 200	19.4	14 900	16.2	+ 700	+ 0.6
Craft	100	0.1	100	0.1	^	*
Technician	2 300	3.2	3 300	3.6	+ 1 000	+ 4.6
Sub-degree	5 100	7.0	8 000	8.6	+ 2 800	+ 5.7
First degree	36 200	49.3	46 100	50.0	+ 9 900	+ 3.1
Postgraduate	11 600	15.8	16 700	18.1	+ 5 100	+ 4.7
Total	73 400	100.0	92 200	100.0	+ 18 800	+ 2.9

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

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**Chapter 4:**  
**Manpower Resource Balance**

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## **Manpower Resource Balance**

4.1 In the context of MP2018, MRB refers to the quantitative difference between MSP and MRP. If MSP is greater than MRP, there is a positive balance or manpower surplus; conversely if MSP is less than MRP, there is a negative balance or manpower shortfall. If MSP is more or less the same as MRP, the manpower supply and requirements are regarded to be in balance.

4.2 By comparing the findings of MSP with MRP by education level, we can evaluate whether there will be manpower imbalances for the labour segments at different education levels.

### ***Projected MRB by Education Level***

4.3 On the basis of the findings of MRP and MSP presented in *Chapters 2 and 3*, we have the following observations on the projected MRB by education level in 2018. It is projected that the general trend points to –

- (a) possible manpower imbalances at *lower secondary and below, craft, technician, sub-degree*, as well as *postgraduate* qualifications, with the manpower supply at these education levels exceeding the corresponding manpower requirements;
- (b) possible manpower imbalances at *upper secondary and first degree* levels, with manpower supply at these education levels falling short of the corresponding manpower requirements; and
- (c) a very marginal shortfall in the total local manpower supply compared with the total manpower requirements.

4.4 The projections of MRB by education attainment in 2018 are set out in **Figure 4.1**.

**Figure 4.1 : Projected Manpower Resource Balance by Education Level in 2018**

Education level	(a) Projected manpower supply in 2018	(b) Projected manpower requirement in 2018	(c) = (a) – (b) Projected manpower resource balance in 2018 (surplus (+)/ shortfall (-))
Lower secondary and below	795 200	786 700	+ 8 500
Upper secondary	1 303 800	1 370 300	- 66 600
Craft	17 700	15 800	+ 1 900
Technician	150 600	127 000	+ 23 600
Sub-degree	260 600	241 500	+ 19 100
First degree	786 600	819 200	- 32 600
Postgraduate	267 900	235 800	+ 32 100
Total	3 582 400	3 596 400	- 14 000

*Manpower Surplus*

4.5 The projected manpower surplus at the level of *lower secondary and below* is consistent with the projected reduction in the number of jobs requiring relatively low education attainment. The number of jobs (hence manpower requirement) requiring these qualifications is projected to decrease by 196 400 between 2010 and 2018. Nonetheless, the projected surplus of 8 500 at *lower secondary and below* only constitutes about 1.1% of the manpower supply at this level of education attainment, which is considered to be quite small. The explanation for this is as follows. Along with the projected reduction in job opportunities, there is a corresponding decline in the manpower supply at this education level. It is estimated that around 300 000 workers aged 50 or above (the so-called post-war baby boomers) with this education qualification will leave the labour force by 2018 mainly because of retirement, resulting in a significant

contraction in the manpower supply at this education level. As it is anticipated that there will be a significant reduction in both the manpower supply and the manpower requirements at this education level, the related projected manpower imbalance will be relatively mild.

4.6 As for the projected manpower surplus at *craft, technician, sub-degree* and *post-graduate* levels, it is mainly a result of the projected manpower supply at those education levels growing faster than the corresponding manpower requirement during the period from 2010 to 2018.

#### *Manpower Shortfall*

4.7 It is projected that there will be manpower shortfall at the levels of *upper secondary* and *first degree* in 2018.

4.8 There may be several factors that account for the manpower shortfall at *upper secondary* level. First, the growth in the manpower supply with *upper secondary* qualification is expected to slow down between 2010 and 2018 along with a continuous expansion in the progression pathways for students accessing higher education programmes. Secondly, it is projected that a considerable portion of workers (who belong to the post-war baby boomers) at this education level will leave the labour force owing to retirement, further suppressing the manpower supply. Thirdly, a chunk of the jobs originally targeted at the level of *lower secondary and below* in 2010 is expected to shift to *upper secondary* along with higher employers' expectation for the education attainment of their workers during the period from 2010 to 2018.

4.9 One probable scenario to be deduced from the imbalance of manpower at *upper secondary* level (shortfall) and *sub-degree* as well as *technician* levels (surplus) is that employers will be able to engage more workers with *sub-degree* and *technician* qualifications, who will have more discipline-specific knowledge. As Hong Kong transforms itself into a knowledge-based economy, employers may take this opportunity to enhance their competitiveness by employing people

with comparable or higher education attainment level (e.g. *technician* and *sub-degree*), who can better carry out the jobs with enhanced productivity and more sophisticated skills.

4.10 As for the projected manpower shortfall at *first degree* level, it may be mainly attributable to the high growth in the jobs requiring such education qualifications along with Hong Kong's continued transformation into a knowledge-based economy.

#### *Overall Manpower Shortfall*

4.11 Overall speaking, the growth in our manpower supply will slightly lag behind manpower requirements during the period from 2010 to 2018. This is mainly owing to the ageing of population, which tends to suppress the growth in manpower supply. It is worth mentioning again that MRP was worked out independently of MSP by assuming unconstrained manpower supply in our economy (see paragraph 3.1 in *Chapter 3*). In reality, however, manpower requirement should eventually be constrained, inter alia, by manpower supply.

#### *Projected MRB by Broader Education Level*

4.12 There is some degree of substitutability between workers at different education levels from employers' perspective. For instance, it is common for workers with *postgraduate* qualifications to take up jobs offered to *first degree* holders. Thus, the manpower resource balance at *first degree* and *postgraduate* levels can be pooled together for MRB assessment. There is also some extent of substitutability between workers at the levels between *lower secondary* and *first degree*. Hence, for the purpose of analysing MRB, we may categorise education levels into three groups, namely *lower secondary and below*, the education levels between *lower secondary* and *first degree* (covering *upper secondary*, *craft*, *technician* and *sub-degree*) and *first degree and above*. The projected MRB by broad education attainment group is presented in **Figure 4.2**.



**Figure 4.2 : Projected Manpower Resource Balance by Broad Education Level in 2018**

Education level	(a) Projected manpower supply in 2018	(b) Projected manpower requirement in 2018	(c) = (a) – (b) Projected manpower resource balance in 2018 (surplus (+)/ shortfall (-))
Lower secondary and below	795 200	786 700	+ 8 500
Upper secondary, Craft, Technician and Sub-degree	1 732 700	1 754 600	- 22 000
First degree and above	1 054 600	1 055 000	- 500
Total	3 582 400	3 596 400	- 14 000

### ***Workers Working on the Mainland or in Macao***

4.13 Based on C&SD's survey findings, it is estimated that around 105 000 Hong Kong workers usually worked on the Mainland in the third quarter of 2010. This included, among others, employees deployed by Hong Kong employers to the Mainland as well as those employed directly by Mainland employers. Of the 105 000 Hong Kong workers usually working on the Mainland, some 11 000 were directly employed by employers/ establishments there.

4.14 Separately, some 4 000 employees usually worked in Macao in 2010, according to C&SD's General Household Survey. Assuming that all of them were directly employed by the employers/establishments in Macao, it may be crudely estimated that some 15 000 (i.e. 11 000 + 4 000) Hong Kong residents working on the Mainland or in Macao were directly employed by the employers/establishments there in 2010.

4.15 Regardless of their usual place of work, all Hong Kong workers are covered in the population projections compiled by C&SD, and hence MSP and MRP, as long as they fall within the statistical

definition of Hong Kong Resident Population<sup>4</sup>. Therefore, those Hong Kong residents working on the Mainland or in Macao, irrespective of whether they are directly employed by employers/establishments there, have already been accounted for in the base year (i.e. 2010) and the projected (i.e. 2018) overall manpower supply and requirement figures in MP2018.

### *Scenario Studies*

4.16 The projected MRB by education level presented above can be treated as the base case which assumes that the average annual growth of Hong Kong's real GDP would be around 4.0% over the projection period. We have conducted scenario studies of MRB with different assumed growth rates in Hong Kong's real GDP. The results are set out in **Appendix I**.

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<sup>4</sup> Hong Kong Resident Population refers to - (a) Hong Kong Permanent Residents who stay in Hong Kong for at least one month during the six months before or after a reference time point, regardless of whether they are in Hong Kong or not at the reference time point; and (b) Hong Kong Non-permanent Residents who are in Hong Kong at the reference time point.

**Appendix I:**  
**Scenario Studies**

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## **Scenario Studies**

To take into account economic fluctuations in the manpower projection exercise, scenario studies have been carried out based on a broad-brush approach by making reference to the statistical relationship between overall economic growth (in terms of real Gross Domestic Product (GDP)) and total employment growth of Hong Kong. While the base case (the findings of which were discussed in *Chapters 2 and 3*) reflects the result of the MRP compiled through the two-step statistical process as described in paragraphs 1.10 – 1.13 of *Chapter 1*, the projected high-case and low-case total manpower requirements are crudely estimated pursuant to different assumed average annual growth rates of real GDP over the projection period.

2. The projected total manpower requirement is expected to increase to 3.60 million in 2018 under the base-case scenario. The trend GDP growth rate in real terms for Hong Kong is forecast at about 4% per annum during the period from 2012 to 2016<sup>1</sup>. We extrapolate this trend growth rate for two years to match our projection period up to 2018. Under the high-case scenario with the corresponding real GDP growth rate being 2.5 percentage points<sup>2</sup> higher than the original assumption, the corresponding total manpower requirement would be higher, at 3.75 million in 2018. On the other hand, under the low-case scenario with the real GDP growth rate being 2.5 percentage points lower than the original assumption, the corresponding total manpower requirement would be lower at 3.38 million in 2018. The MRBs projected in 2018 under the base-case, high-case and low-case scenarios with an unadjusted manpower supply<sup>3</sup> are summarised in **Figure A1.1**.

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<sup>1</sup> This follows the latest economic forecast released in the 2012-13 Budget, i.e. 1-3% of real GDP growth in 2012 and 4% per annum for 2013-2016.

<sup>2</sup> The upside and downside ranges of the GDP growth rate were derived from the past fluctuations in the five-year average economic growth.

<sup>3</sup> Historical data suggest no apparent relationship between economic growth rate and manpower supply in the short to medium term. Thus, no adjustment to MSP was made in the scenario studies.

**Figure A1.1 : Projected Manpower Resource Balance in 2018 under the Base-Case, High-Case and Low-Case Scenarios**

	(a)	(b)	(c) = (a) – (b)
Scenario	Projected manpower supply in 2018	Projected manpower requirements in 2018	Manpower resource balance in 2018
Base-case	3 582 400	3 596 400	- 14 000
High-case	3 582 400	3 746 300	- 163 800
Low-case	3 582 400	3 379 700	+ 202 700

**Appendix II:**

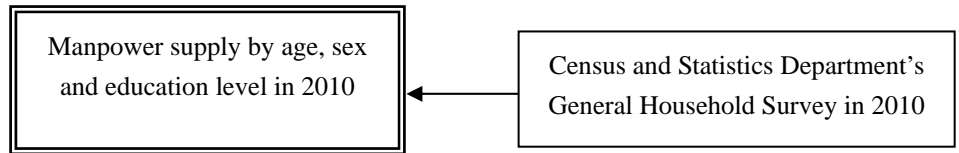
**Major Statistical Processes in  
Manpower Supply Projection to  
2018**

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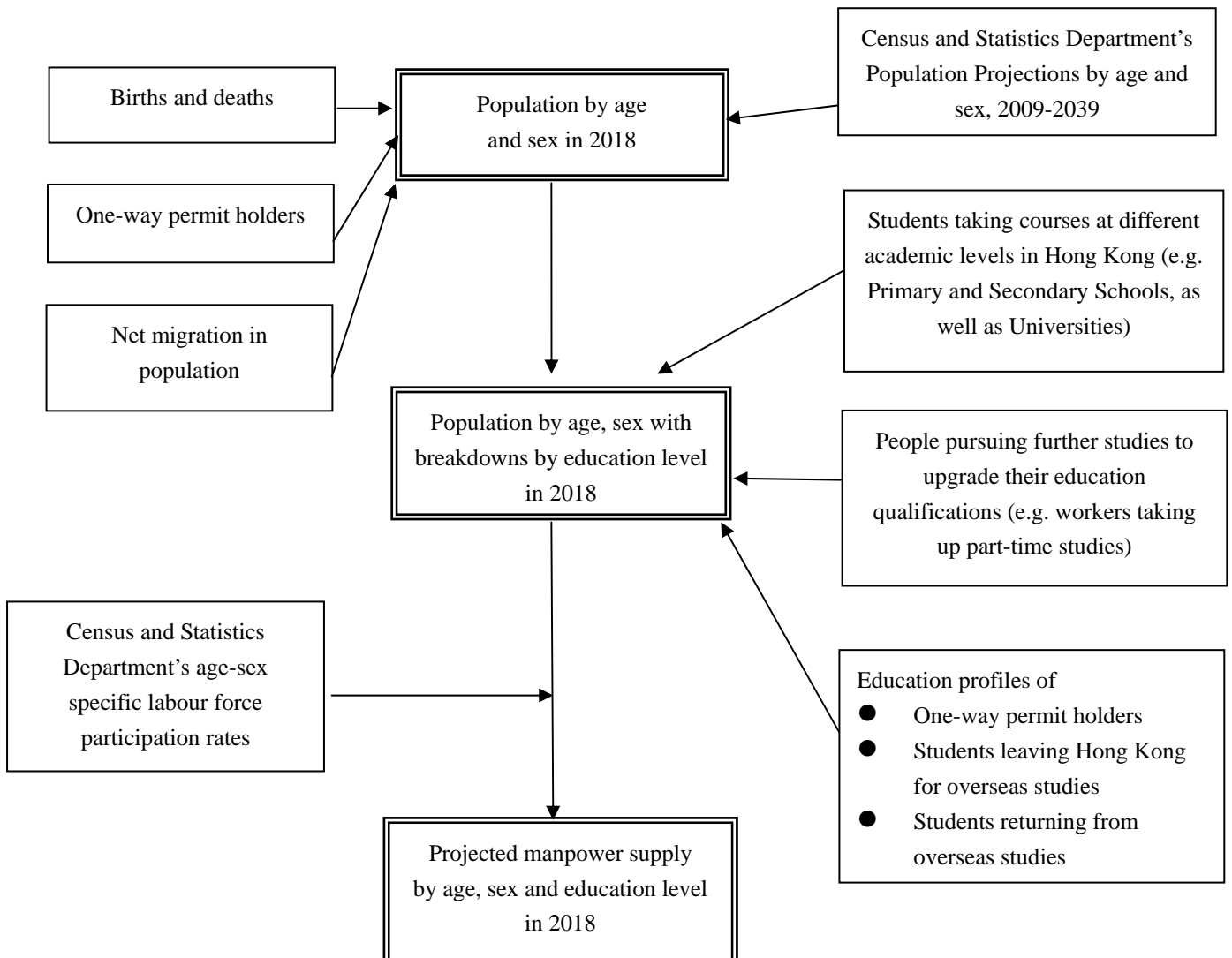


**Major Statistical Processes in Manpower Supply Projection to 2018**

**Base Year (i.e. 2010)**



**Projections up to 2018**



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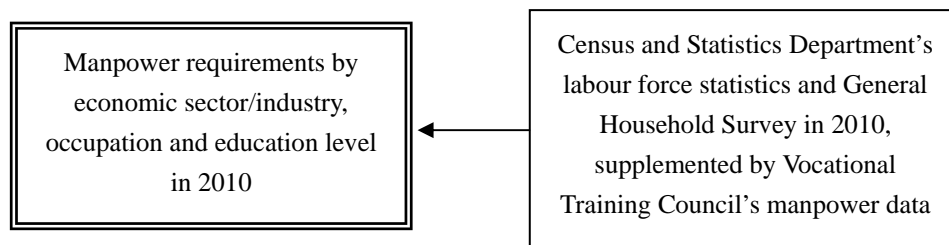
**Appendix III:**

**Major Statistical Processes in  
Manpower Requirement Projection to 2018**

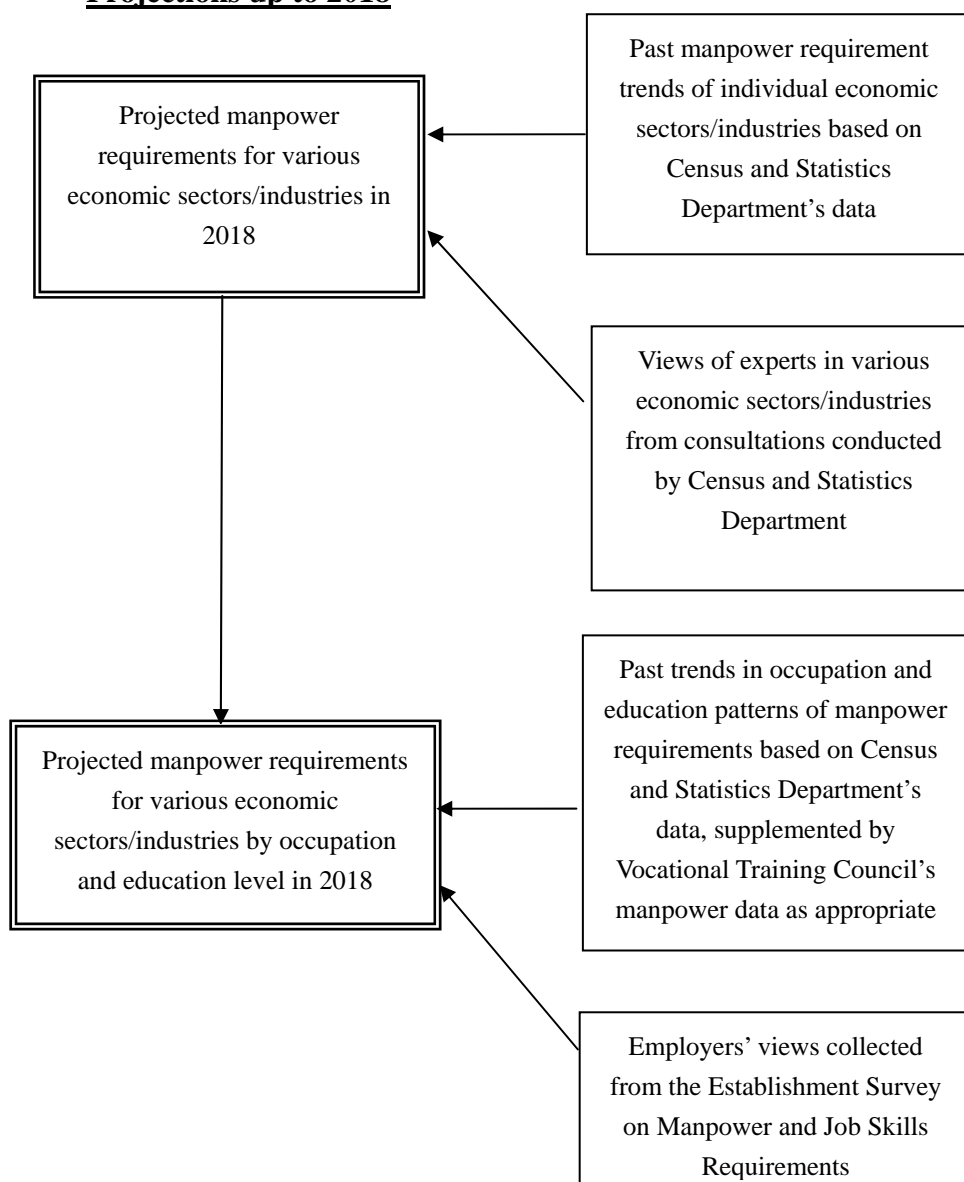
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**Major Statistical Processes in Manpower Requirement Projection to 2018**

**Base Year (i.e. 2010)**



**Projections up to 2018**



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**Appendix IV:**

**Coverage of**

**Economic Sectors/Industries**

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**Coverage of Economic Sectors/Industries****Major Industry Group**

<b>Industry Group</b>	<b>Coverage</b>
<b><i>Agriculture, Fishing and Quarrying</i></b>	
1. Agriculture, fishing and quarrying	It includes growing crops, raising livestock and poultry, growing and harvesting timber, culturing and farming aquatic organisms. It also covers all establishments mainly engaged in mining and quarrying activities.
<b><i>Manufacturing</i></b>	
2. Manufacturing	It includes the physical or chemical transformation of materials, substances, or components into new products. Substantial alteration, renovation and reconstruction of goods are generally considered to be manufacturing. Also included in the Industry Group is specialised repair and maintenance of industrial and commercial machinery and equipment.
<b><i>Electricity, Gas, Water, and Waste Management</i></b>	
3. Electricity, gas, water, and waste management	It includes the activity of providing and distributing electricity, gas and water. It also includes activities related to the management of various forms of waste, such as industrial or household waste, as well as contaminated sites.
<b><i>Construction</i></b>	
4. Construction	It includes general construction and specialised construction activities for buildings and civil engineering works, which cover new works, repair, additions and alterations, the erection of prefabricated building structure on the site and also construction of a temporary nature.

Industry Group	Coverage
<b><i>Import, Export, Wholesale and Retail Trades</i></b>	
5. Import and export trade	It includes activities related to the import of goods for domestic wholesaling or export as well as off-shore transactions. Buying agents or commission agents arranging for import, export of goods or off-shore transactions are also included.
6. Wholesale	It includes domestic wholesale trade on own account or on a fee or contract basis (commission trade), with goods procured from local manufacturers, local importers or other local wholesalers.
7. Retail trade	It includes the resale (sale without transformation) of new and used goods mainly to the general public for personal or household consumption or utilisation, by shops, department stores, stalls, mail-order houses, hawkers and peddlers, consumer cooperatives, auction houses, etc.
<b><i>Accommodation and Food Services</i></b>	
8. Accommodation	It includes the provision of short-stay lodging accommodation for visitors and other travellers.
9. Food services	It includes the sale of meals and/or drinks, generally for immediate consumption on the premises. It also includes the sale of take-out meals; catering activities, as well as restaurant and bar activities, connected to transportation (e.g. in a train or a ship), when carried out by separate units.

Industry Group	Coverage
<b><i>Transportation, Storage, Postal and Courier Services</i></b>	
10. Freight transportation	It includes freight transport by road and tractors, and service activities incidental to land transport of freight, as well as cross-border freight water transport, inland freight water transport, and service activities incidental to freight water transportation. It also includes air transport (freight) and service activities incidental to air transportation, as well as other transportation support activities.
11. Miscellaneous transportation services	It include railway and cable transport, public bus services, taxi services, scheduled and non-scheduled public light bus services, school bus services, rental of passenger vehicles with drivers, and other land transport services. It also includes ship owners and operators of sea-going vessels for passenger transport, ship owners and operators of passenger vessels moving between Hong Kong and the ports in Pearl River Delta, inland passenger water transport, car park operation, vehicular tunnel, bridge and highway operators, service activities incidental to land transportation, and port facilities operators.
12. Warehousing and storage	It includes operation of storage and warehouse facilities for all kind of goods such as general merchandise warehouses, refrigerated warehouses or storage tanks.
13. Postal and courier	It includes postal and courier activities, such as pickup, transport and delivery of letters and parcels under various arrangements. Local delivery and messenger services are also included.

Industry Group	Coverage
<b><i>Information and Communications</i></b>	
14. Software publishing and telecommunication activities	It includes publishing of ready-made (non-customised) software including operating systems, computer games for all platforms, business and other applications. Also included are online game websites which design, reproduce and distribute the software games by themselves. It also includes the activities of providing telecommunications and related service activities, i.e. transmitting data, signal, text, sound and video, etc.
15. Information technology related services	It includes computer software design, computer system integration and other information technology services. It also includes the provision of infrastructure for web hosting, data processing services and related activities, as well as the provision of search facilities and other portal services for the Internet.
16. Miscellaneous activities related to Information and Communications	It includes publishing of books, periodicals and other publishing activities; motion pictures, video and television programme production, sound recording and music publishing activities; programming and broadcasting activities; and other information service activities.
<b><i>Financial Services</i></b>	
17. Banking	It includes licensed banks, restricted licensed banks, deposit-taking companies, and local representative offices of foreign banks.
18. Financial institutions (other than banks and insurance)	It includes monetary authorities; investment and holding companies; trusts, funds and similar financial entities; financial service activities such as financial leasing, credit granting; and activities auxiliary to financial service.

Industry Group	Coverage
19. Insurance	It includes the underwriting annuities and insurance policies and investing premiums to build up a portfolio of financial assets to be used against future claims. Provision of direct insurance and reinsurance are included. It also includes establishments acting as agents (i.e. brokers) in selling annuities and insurance policies or providing other employee benefits, as well as insurance and pension related services such as claims adjustment and administration of policies.
<b><i>Real Estate</i></b>	
20. Real estate	It includes buying, selling and renting real estate, as well as relevant activities facilitating and leading to such transactions. Also included are real estate development and property management.
<b><i>Professional and Business Services</i></b>	
21. Legal services	It consists of establishments providing legal services such as solicitors' and barristers' firms.
22. Accounting, auditing and bookkeeping services	It consists of establishments providing accounting, auditing and bookkeeping services. Also included is tax reporting service.
23. Engineering and technical services not related to construction and real estate activities, business management and consultancy services	It includes activities of head offices; management consultancy activities; technical testing and analyses; engineering, technical and consultancy services not related to construction and real estate activities; scientific research and development, veterinary activities; photographic activities; translation and interpretation services; and other miscellaneous professional, scientific and technical activities.
24. Design, advertising and related services	It includes the provision of advertising services; market research and public opinion polling; and specialised design activities such as fashion design, industrial design, activities of graphic designers and interior decorators.

Industry Group	Coverage
25. Architectural, surveying and engineering services related to real estate and construction	It consists of establishments engaged in architectural design services, surveying services related to real estate and construction, structural engineering services, building services engineering services, civil and geotechnical engineering services, environmental engineering services and related consultancy services, town planning and urban design activities, as well as combination of architectural, surveying and engineering services related to construction.
26. Miscellaneous professional and business services	It includes rental and leasing activities; employment activities; travel agency, reservation service and related activities; security and investigation activities; services to buildings and landscape care activities; and office administrative, office support and other business support activities.
<b><i>Social and Personal Services</i></b>	
27. Human health activities	It includes activities of hospitals and other human health institutions; medical consultation and treatment by general practitioners and medical specialists and surgeons; dental practice activities of a general or specialised nature and orthodontic activities; activities for human health performed by paramedical practitioners legally recognised to treat patients. It also includes activities of nursing homes such as nursing homes for the elderly, residential centres for the medical treatment of drug dependent persons, etc.
28. Other social and personal services	It includes public administration; education; residential care activities (except nursing homes); social work activities without accommodation; arts, entertainment and recreation; other service activities; work activities within domestic households; and activities of extraterritorial organisation and bodies.

## The Four Pillar Industries

Industry Group	Coverage
<b><i>Financial Services</i></b>	
Banking	It includes licensed banks, restricted licensed banks, deposit-taking companies, and local representative offices of foreign banks.
Financial institutions (other than banks and insurance)	It includes monetary authorities; investment and holding companies; trusts, funds and similar financial entities; financial service activities such as financial leasing, credit granting; and activities auxiliary to financial service.
Insurance	It includes the underwriting annuities and insurance policies and investing premiums to build up a portfolio of financial assets to be used against future claims. Provision of direct insurance and reinsurance are included. It also includes establishments acting as agents (i.e. brokers) in selling annuities and insurance policies or providing other employee benefits, as well as insurance and pension related services such as claims adjustment and administration of policies.
<b><i>Trading and Logistics</i></b>	
Import and export trade	It includes activities related to the import of goods for domestic wholesaling or export as well as off-shore transactions. Buying agents or commission agents arranging for import, export of goods or off-shore transactions are also included.
Wholesale	It includes domestic wholesale trade on own account or on a fee or contract basis (commission trade), with goods procured from local manufacturers, local importers or other local wholesalers.

Industry Group	Coverage
Freight transportation	<ul style="list-style-type: none"> <li>It includes freight transport by road and tractors, and service activities incidental to land transport of freight, as well as cross-border freight water transport, inland freight water transport, and service activities incidental to freight water transportation. It also includes air transport (freight) and service activities incidental to air transportation, as well as other transportation support activities.</li> </ul>
Warehousing and storage	It includes operation of storage and warehouse facilities for all kind of goods such as general merchandise warehouses, refrigerated warehouses or storage tanks.
Postal and courier	It includes postal and courier activities, such as pickup, transport and delivery of letters and parcels under various arrangements. Local delivery and messenger services are also included.
<b><i>Professional Services</i></b>	
Information technology related services	It includes computer software design, computer system integration and other information technology services. It also includes the provision of infrastructure for web hosting, data processing services and related activities, as well as the provision of search facilities and other portal services for the internet.
Legal services	It consists of establishments providing legal services such as solicitors' and barristers' firms.
Accounting, auditing and bookkeeping services	It consists of establishments providing accounting, auditing and bookkeeping services. Also included is tax reporting service.



Industry Group	Coverage
Engineering and technical services not related to construction and real estate activities, business management and consultancy services	It includes activities of head offices; management consultancy activities; technical testing and analyses; engineering, technical and consultancy services not related to construction and real estate activities; scientific research and development, veterinary activities; photographic activities; translation and interpretation services; and other miscellaneous professional, scientific and technical activities.
Design, advertising and related services	It includes the provision of advertising services; market research and public opinion polling; and specialised design activities such as fashion design, industrial design, activities of graphic designers and interior decorators.
Architectural, surveying and engineering services related to real estate and construction	It consists of establishments engaged in architectural design services, surveying services related to real estate and construction, structural engineering services, building services engineering services, civil and geotechnical engineering services, environmental engineering services and related consultancy services, town planning and urban design activities, as well as combination of architectural, surveying and engineering services related to construction.
Human health activities	It includes activities of hospitals and other human health institutions; medical consultation and treatment by general practitioners and medical specialists and surgeons; dental practice activities of a general or specialised nature and orthodontic activities; activities for human health performed by paramedical practitioners legally recognised to treat patients. It also includes activities of nursing homes such as nursing homes for the elderly, residential centres for the medical treatment of drug dependent persons, etc.

Industry Group	Coverage
<i>Tourism</i>	
<u>Inbound tourism</u>	
Retail trade	It covers part of the retail sales in non-specialised stores such as department stores and supermarkets; part of the retail sales of food, beverage and tobacco, information and communications equipment, household equipment, cultural and recreation goods, etc. in specialised stores.
Accommodation services	It covers part of the provision of short-stay lodging accommodation for visitors and other travellers.
Food and beverage services	It includes part of the sale of meals and/or drinks, generally for consumption immediately on the premises. It also includes part of the sale of take-out meals; catering activities, as well as restaurant and bar activities, connected to transportation (e.g. in a train or a ship), when carried out by separate units.
Cross-boundary passenger transport services	It covers part of the rental of passenger vehicles with drivers (with cross-border transportation services); ship owners and operators of sea-going vessels for passenger transport and of passenger vessels moving between Hong Kong and the ports in Pearl River Delta; Hong Kong-based airline and helicopter companies; local representative offices of overseas airline companies (passenger); air transport services; and port facilities operators (except container and marine cargo terminals).
Other related activities	It includes travel agency, reservation service and related activities; domestic transport, entertainment, convention, telecommunications and real estate development/leasing.
<u>Outbound tourism</u>	
Travel agency, reservation service and related activities	It covers part of the travel agency, reservation service and related activities.

Industry Group	Coverage
Cross-boundary passenger transport services	It covers part of the rental of passenger vehicles with drivers (with cross-border transportation services); ship owners and operators of sea-going vessels for passenger transport and of passenger vessels moving between Hong Kong and the ports in Pearl River Delta; Hong Kong-based airline and helicopter companies; local representative offices of overseas airline companies (passengers); air transport services; and port facilities operators (except container and marine cargo terminals).

**Information Technology and Information Services Sector and Information Technology (IT) Personnel**

Industry Group	Coverage
<b><i>Information Technology and Information Services Sector</i></b>	
Software publishing and telecommunication activities	It includes publishing of ready-made (non-customised) software including operating systems, computer games for all platforms, business and other applications. Also included are online game websites which design, reproduce and distribute the software games by themselves. It also includes the activities of providing telecommunications and related service activities, i.e. transmitting data, signal, text, sound and video, etc.
Information technology related services	It includes computer software design, computer system integration and other information technology services. It also includes the provision of infrastructure for web hosting, data processing services and related activities, as well as the provision of search facilities and other portal services for the Internet.
<b><i>Information Technology (IT) Personnel</i></b>	
IT personnel	It covers the IT personnel in various economic sectors.

## **The Six Industries**

<b>Industry Group</b>	<b>Coverage</b>
Education services	It includes kindergartens, private primary and secondary schools (both profit and non-profit making), tutorial schools, self-financed post-secondary and other university courses (including university courses for non-local students), and other education-related services. Training provided to business firms is also included, as it is an important activity of continuing education for enhancing the competency of staff and hence productivity.
Medical services	It includes medical services provided by private hospitals, clinics, medical and dental practitioners, nursing and residential care for the elderly and persons with substance abuse and disabilities as well as medical-related activities including retail sales of medical products and medical insurance.
Testing and certification services	It includes business establishments engaged in technical testing and analysis; cargo inspection, sampling and weighting; and medical and X-ray laboratories as their major economic activities.
Environmental industries	It includes sewerage and waste management, environmental engineering and consultancy services as well as import/export and wholesale trading of waste and scrap.
Innovation and technology	Innovation and technology activity includes research and development (R&D) activity, as well as activities relating to the commercialisation of R&D outputs. It refers to the development and introduction of technologically new or significantly improved products or processes by the relevant organisations for commercial purpose.
Cultural and creative industries	It comprises different sectors, which mainly include advertising; architecture; art, antiques and crafts; design; film, video and music; performing arts; publishing; software, computer games and interactive media; and television and radio.

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**Appendix V:**  
**Coverage of Occupation Groups**

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**Definition of Occupation Category**

<b>Occupation category</b>	<b>Job duties</b>	<b>Examples</b>
(1) Managers and administrators	<ul style="list-style-type: none"> <li>To plan, formulate, organise, coordinate, control, as well as direct policies and operations of enterprises and organisations.</li> </ul>	Directors; chief executive officers; financial controllers; general managers; partners; company secretary; regional managers; branch managers; administration managers; personnel managers; operation managers; project managers; production managers; heads of factory.
(2) Professionals	<ul style="list-style-type: none"> <li>To engage in the practical application of generally recognised professional knowledge and know-how in their work.</li> <li>To increase the existing stock of knowledge by means of research and creativeness.</li> <li>To teach about knowledge and skills in a systematic manner.</li> </ul>	Architects; engineers; landscape architects; surveyors and town planners; laboratory technologists; system analysts and computer programmers; information technologist; lawyers; accountants; auditors; actuary; business consultants and analysts; financial planners; social workers; translators and interpreters; film, television and stage directors; news editors and journalists; pilots; medical doctors; pharmacists; lecturers, professors in universities; teachers, principals in secondary schools; members of religious orders.
(3) Associate professionals	<ul style="list-style-type: none"> <li>To assume operational responsibility and give technical support to professionals in different fields, such as engineering, businesses, natural sciences, social sciences, humanities, etc.</li> </ul>	Science technicians; architectural, surveying and engineering technicians; safety officers; draughtsman; optical and electronic equipment controllers, photographers, optometrists, physiotherapists, nurses; teachers, principals in primary schools and kindergarten; training instructors; tutors in tutorial organizations; ship pilots and air traffic controllers; statistical officers; manufacturing supervisors; law clerks; accounting supervisors; customer services officers; public relation officers; sales representatives; credit analysts; designers; estate management officers; social work assistants; actors; full-time athletes.
(4) Clerks	<ul style="list-style-type: none"> <li>To record, organise, store and retrieve information, compute numerical, financial and statistical data, and perform a number of client-oriented clerical duties, especially in connection with business information pertaining to the work engaged.</li> </ul>	Stenographers; secretaries; typists; clerks; cashiers; tellers; receptionists; customer enquiry clerks; non-certificated nurses; IT assistants; data entry clerks.

<b>Occupation category</b>	<b>Job duties</b>	<b>Examples</b>
(5) Service workers and shop sales workers	<ul style="list-style-type: none"> <li>To provide services related to travel, housekeeping, catering, personal care, etc.</li> <li>To sell and demonstrate goods for wholesale or retail shops and similar establishments.</li> </ul>	Flight attendants; tourist guides; house stewards; cooks and waiters; baby-sitters; hairdressers; beauticians; models; transport conductors and other service workers; shop sales staff and shop assistants; private tutors; life guards.
(6) Agricultural and fishery workers	<ul style="list-style-type: none"> <li>To engage in agricultural and fishery activities such as crop, vegetable and flower farm workers; animal husbandry workers; fishermen and fishery cultural workers.</li> </ul>	Market gardeners and crop growers; mixed crop and animal producers; fishery workers, hunters and trappers; subsistence farmers, fishers, hunters and gatherers; subsistence crop farmers; subsistence livestock farmers; subsistence mixed crop and livestock farmers; subsistence fishers, hunters, trappers and gatherers.
(7) Craft and related workers	<ul style="list-style-type: none"> <li>To extract and treat raw materials, manufacture and repair goods, construct, maintain and repair roads, structures and machinery.</li> </ul>	Bricklayers, carpenters and other skilled construction workers; metal moulders; blacksmiths; machinery, electric and electronic instrument mechanics; jewellery workers and watch makers; bakers; food and beverage processors; craft workers in manufacturing industries.
(8) Drivers, plant and machinery operators, and assemblers	<ul style="list-style-type: none"> <li>To operate vehicles and other mobile equipments.</li> <li>To tend, control and monitor the operation of industrial plant and the machinery on the spot or by remote control.</li> <li>To assemble products from component parts according to strict rules and procedures.</li> </ul>	Sawmill sawyers; paper makers; chemical processing plant operators; power-generating plant and boiler operators; asbestos cement products makers; metal finishers and electroplaters; food processing machine operators; printing machine operators; machine operators for production of textile, rubber and plastic products; assemblers; drivers; seamen and other plant and machine operators.
(9) Elementary occupations	<ul style="list-style-type: none"> <li>To perform mostly simple and routine tasks, involving the use of simple hand-held tools and, in some cases, certain physical effort and only limited personal initiative or judgment.</li> </ul>	Cleaners; messengers; warehouse assistants; security guards; watchmen; ward attendants; freight handlers; lift operators; unskilled construction workers; labourers (coolies); hand packers.

## Coverage of Occupation Groups

Occupation Group	Coverage
<b><i>Managers and Administrators</i></b>	
1. Corporate managers, Government administrators and foreign diplomats	Directors, presidents, general managers and chief executives of business undertakings, statutory bodies and voluntary agencies; managers, senior Government officials, foreign diplomats, and councillors.
2. Small business managers	All managers in small business in various sectors who are performing managerial or administrative duties.
<b><i>Professionals</i></b>	
3. Engineering, physical, and mathematical science professionals	Architects, town planners, traffic planners and surveyors; engineers and related professionals; physicists, chemists and related professionals; and mathematicians, statisticians and related professionals.
4. Health and life science professionals	Medical doctors, Chinese medicine practitioners, dentists, veterinarians, pharmacists, other medical professionals (except nursing), and life science professionals.
5. Legal, accounting, business and related professionals	Lawyers and judges; accountants and auditors; and business consultants, analysts and related professionals.
6. Teaching professionals	University and post-secondary college lecturers; lecturers in Institute of Vocational Education, Hong Kong Institute of Education and other colleges; secondary school teachers; educational administrators; and other teaching professionals.
7. IT/Computer professionals	Application system development professionals, Internet/multimedia contents development professionals, technical support professionals, hardware support professionals, systems operation professionals, IT research and product development professionals, and IT education and training professionals.

Occupation Group	Coverage
8. Other professionals	Social work professionals, translators and interpreters, news editors and journalists, writers (other than news editors and journalists) and creative artists, members of religious orders, and librarians and related professionals.
<i>Associate Professionals</i>	
9. Engineering, physical, and mathematical science associate professionals	Architectural and engineering associate professionals; optical and electronic equipment controllers; ship and aircraft controllers and technicians; building and safety inspectors; physical and chemical science technicians; and statistics and mathematical science associate professionals.
10. Health and life science associate professionals	Health care associate professionals, nurses and midwives, life science technicians and related workers, and other medicine and healthcare practitioners.
11. Legal, accounting, business and related associate professionals	Legal associate professionals (e.g. law clerks, legal assistants), accounting associate professionals (e.g. accounting supervisors, bookkeepers), business and administration associate professionals (e.g. public relations officers, securities and finance dealers, credit analysts), and estate and housing managers.
12. Teaching associate professionals	Primary school teachers, pre-primary school teachers, special education teachers, and other teaching associate professionals.
13. IT/Computer associate professionals	Internet/multimedia contents development associate professionals, technical support associate professionals, hardware support associate professionals, and systems operation associate professionals.
14. Other associate professionals	Social work associate professionals, discipline and protective services associate professionals, performers, and entertainment and sports personnel.

Occupation Group	Coverage
<b><i>Clerks</i></b>	
15. Office clerks	Secretaries and keyboard operating clerks; numerical and material recording clerks; filing, mail and related clerks; and general clerks.
16. Customer services clerks	Cashiers, tellers and related clerks; and client information clerks.
17. IT assistants	Computer graphics design assistants, electronic data processing clerks, IT technical trainees, and web enhancement and support assistants.
<b><i>Service Workers and Shop Sales Workers</i></b>	
18. Personal and protective services workers	Travel attendants and tourist guides; housekeeping and restaurant services workers; personal care workers; hairdressers, barbers, beauticians and related workers; discipline and protective services workers; and other personal services workers.
19. Salespersons and models	Salespersons, and fashion and other models.
20. Other services workers	Transport conductors, transport regulators/inspectors, air/sea transport supervisors, railway station officers, traffic wardens, air/sea cargo superintendents, cinema projectionists, disco and stage light controllers, disco disc jockeys, stand-in players (mahjong parlour), life guards, private detectives, library assistants, games booth attendants, subtitle compositors, agents for finding lost property and other services workers.
<b><i>Agricultural and Fishery Workers</i></b>	
21. Agricultural and fishery workers	Crop, vegetable and flower farm workers; animal husbandry workers; field assistants; captains (fishing boats); fishermen and fishery cultural workers.
<b><i>Craft and Related Workers</i></b>	
22. Building and extraction trades workers	Building frame and related trades workers, building finishers and related trades workers, building services and related trades workers, miners and blasters, stone cutters and carvers.

Occupation Group	Coverage
23. Metal and machinery trades workers	Metal moulders, welders, sheet-metal workers, structural metal preparers and related workers; blacksmiths, toolmakers and related workers; machinery mechanics and fitters; and electrical and electronic instrument mechanics and fitters.
24. Precision, handicraft, printing and related trades workers	Precision workers in metal, jewellery and related trades; potters, glass formers and related workers; and printing and related trade workers.
25. Other craft and related workers	Food, beverages, tobacco and related products processing trades workers; cabinet makers, wood treaters and related trades workers; textile and garment trades workers; pelt, leather and shoemaking trades workers; rubber and plastic trades workers; painters and related workers (other than building painters); and other craft workers.
<b><i>Drivers, Plant and Machinery Operators, and Assemblers</i></b>	
26. Industrial plant operators	Mining and mineral-processing plant operators, metal-processing plant operators, glass and ceramic kiln and related and plant operators, wood-processing and papermaking plant operators, chemical processing plant operators, power-generating and related plant operators, automated assembly-line operators, and other industrial plant operators.
27. Stationary machine operators and assemblers	Metal and mineral products processing machine operators; chemical products machine operators; rubber and plastic products machine operators; wood products machine operators; printing, binding, paperboard products machine operators; textile products machine operators; food and related products processing machine operators; assemblers; and other stationary machine operators.
28. Drivers and mobile machine operators	Motor vehicle and railway engine drivers; agricultural, earthmoving, lifting and other mobile equipment operators; and ships' deck crews and related workers.

Occupation Group	Coverage
<i>Elementary Occupations</i>	
29. Sales and services elementary occupations, and labourers	Street vendors and related workers; domestic helpers, cleaners and related workers; messengers, watchmen and security guards; other services elementary occupations; and labourers in various sectors such as agriculture and fishery, mining, manufacturing, construction, and transportation.

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**Appendix VI:**  
**Coverage of Education Levels**

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**Coverage of Education Levels**

<b>Education Level</b>	<b>Detailed Descriptions</b>
(a) Lower secondary and below	Education level below Secondary 5, or equivalent.
(b) Upper secondary <sup>(Note)</sup>	Secondary 5, 6 and 7, or equivalent. This level is meant to cover the education programmes which usually lead to tertiary education (such as Hong Kong Diploma of Secondary Education (HKDSE), Hong Kong Advanced Level Examination (HKALE), Hong Kong Higher Level Examination (HKHLE) and Advanced Level General Certificate of Education (GCE-AL) Examinations.
(c) Craft	Technical and vocational education programmes at craft level include those offered by the Hong Kong Institute of Vocational Education (HKIVE) and Training and Development Centres of the Vocational Training Council (VTC), or equivalent; these vocational training programmes usually require the completion of lower secondary education as the minimum entrance qualifications (including apprenticeship), or equivalent.
(d) Technician	Technical and vocational education programmes at technician level include diploma/certificate and foundation diploma courses offered by HKIVE of VTC, continuing education departments of universities, Open University of Hong Kong, former Polytechnics; post-secondary courses offered by private education institutions registered under the Education Ordinance which require the completion of upper secondary education as the minimum entrance qualifications; enrolled nurse training programmes; general diploma/certificate programmes of the Prince Philip Dental Hospital (PPDH); or equivalent. These technical and vocational programmes usually require the completion of upper secondary education as the minimum entrance qualifications.

<b>Education Level</b>	<b>Detailed Descriptions</b>
(e) Sub-degree	Associate degrees, higher diplomas and professional diplomas offered by institutions funded by the University Grants Committee, and other subvented and self-financing post-secondary institutions (including VTC), and overseas education institutions; registered nurse training programmes; higher diplomas of PPDH; or equivalent.
(f) First degree	First degrees offered by local or overseas education institutions, or equivalent.
(g) Postgraduate	Higher degrees (e.g. master degrees) offered by local or overseas education institutions for the academic programmes which usually require a first degree, or equivalent, as the minimum entrance qualifications.

Note: The New Academic Structure (NAS) (viz. three-year junior secondary school, three-year senior secondary school and four-year undergraduate programmes) has been implemented in Hong Kong since the 2009/10 academic year. HKDSE (viz. the new assessment leading to a single diploma to replace the Hong Kong Certificate of Education Examination and HKALE) will be administered for the first time in the 2011/12 academic year. The first batch of senior secondary school students under NAS will graduate in 2012 and the second batch in 2013 and so forth. These students will be categorised as having “upper secondary” education. The last batch of students with “matriculation” qualifications will graduate in 2012.

**Appendix VII:**  
**Statistical Tables**

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**Table A7.1 : Population by Age Group, Sex and Education Level in 2010**

Age	Sex	Completed level of education							Total
		Lower Secondary and below	Upper Secondary	Craft	Technician	Sub-degree	First degree	Postgraduate	
0 - 4	Male	127 340							127 340
	Female	116 560							116 560
	Sub-total	243 900							243 900
5 - 9	Male	131 940							131 940
	Female	123 110							123 110
	Sub-total	255 050							255 050
10 - 14	Male	183 320							183 320
	Female	174 030							174 030
	Sub-total	357 360							357 360
15 - 19	Male	132 100	87 880	350	1 100	290	^		221 740
	Female	115 210	92 650	170	1 350	480			209 870
	Sub-total	247 310	180 530	520	2 450	770	^		431 600
20 - 24	Male	23 380	139 920	960	10 480	16 980	27 100	910	219 740
	Female	10 770	142 980	320	9 230	19 210	35 240	1 740	219 490
	Sub-total	34 150	282 900	1 280	19 720	36 180	62 350	2 650	439 230
25 - 29	Male	26 840	90 410	1 240	11 220	18 260	69 890	11 290	229 160
	Female	23 390	100 120	440	9 980	18 020	82 360	12 340	246 650
	Sub-total	50 230	190 530	1 680	21 210	36 280	152 250	23 630	475 810
30 - 34	Male	39 270	86 010	950	8 800	10 500	59 500	16 170	221 200
	Female	48 630	107 680	850	7 550	13 180	67 100	16 460	261 440
	Sub-total	87 900	193 690	1 800	16 350	23 680	126 600	32 630	482 640
35 - 39	Male	57 240	88 560	1 460	7 240	11 060	52 850	18 990	237 410
	Female	75 290	118 540	770	8 400	14 760	60 580	14 370	292 710
	Sub-total	132 530	207 100	2 240	15 640	25 830	113 430	33 360	530 130
40 - 44	Male	70 300	96 810	1 050	7 070	10 340	46 490	17 370	249 430
	Female	92 660	135 470	840	6 840	12 340	41 880	12 230	302 260
	Sub-total	162 960	232 270	1 900	13 920	22 680	88 370	29 600	551 690
45 - 49	Male	108 130	119 640	1 660	7 620	12 520	42 770	14 750	307 100
	Female	141 300	141 630	260	7 390	13 610	30 990	7 800	342 980
	Sub-total	249 430	261 270	1 920	15 020	26 130	73 760	22 540	650 080
50 - 54	Male	151 450	100 210	1 320	6 350	8 970	30 550	9 530	308 390
	Female	176 290	95 540	280	5 220	8 370	20 170	4 860	310 730
	Sub-total	327 740	195 750	1 600	11 570	17 340	50 720	14 390	619 120
55 - 59	Male	138 770	67 550	1 060	3 410	6 480	18 600	6 850	242 710
	Female	167 400	56 850	420	2 570	4 740	10 230	2 170	244 390
	Sub-total	306 170	124 390	1 480	5 980	11 220	28 830	9 020	487 110
60 - 64	Male	118 220	45 080	530	2 730	5 000	11 840	3 430	186 840
	Female	135 500	34 880	650	1 280	4 540	6 140	670	183 660
	Sub-total	253 730	79 960	1 180	4 010	9 540	17 980	4 100	370 500
65+	Male	304 480	59 400	900	3 070	8 210	25 330	2 120	403 500
	Female	390 180	38 020	760	1 160	6 400	11 290	910	448 710
	Sub-total	694 660	97 420	1 650	4 230	14 600	36 620	3 030	852 210
Total	Male	1 612 800	981 470	11 480	69 100	108 600	384 960	101 420	3 269 830
	Female	1 790 320	1 064 340	5 770	60 990	115 650	365 980	73 540	3 476 590
	Total	3 403 110	2 045 810	17 250	130 090	224 250	750 940	174 960	6 746 430

Notes: (1) The above figures exclude foreign domestic helpers, imported workers and institutional population.  
(2) ^ Means less than 50.

**Table A7.2 : Population by Age Group, Sex and Education Level in 2018**

		Completed level of education							
Age	Sex	Lower Secondary and below	Upper Secondary	Craft	Technician	Sub-degree	First degree	Postgraduate	Total
0 - 4	Male	140 120							140 120
	Female	129 340							129 340
	Sub-total	269 460							269 460
5 - 9	Male	176 550							176 550
	Female	161 870							161 870
	Sub-total	338 420							338 420
10 - 14	Male	155 000							155 000
	Female	144 140							144 140
	Sub-total	299 150							299 150
15 - 19	Male	75 700	87 640	710	1 700	650	200		166 590
	Female	71 210	83 420	380	1 060	610	310		156 970
	Sub-total	146 910	171 060	1 090	2 760	1 250	500		323 560
20 - 24	Male	2 640	130 410	2 600	25 030	25 110	24 200	2 100	212 090
	Female	1 860	119 030	3 770	16 910	14 110	54 800	3 390	213 860
	Sub-total	4 490	249 440	6 370	41 930	39 220	79 000	5 490	425 940
25 - 29	Male	16 910	64 240	1 620	27 210	48 020	52 850	21 950	232 800
	Female	20 160	61 730	2 690	21 600	27 010	88 600	28 370	250 170
	Sub-total	37 080	125 970	4 310	48 810	75 030	141 460	50 320	482 970
30 - 34	Male	25 620	69 890	1 040	12 080	24 350	70 590	27 030	230 590
	Female	47 820	92 920	820	12 110	25 140	83 810	33 370	295 990
	Sub-total	73 430	162 800	1 860	24 190	49 490	154 400	60 400	526 580
35 - 39	Male	34 370	88 040	1 260	10 120	13 610	63 940	24 000	235 350
	Female	63 860	112 410	790	9 750	16 870	73 710	26 430	303 830
	Sub-total	98 230	200 450	2 060	19 870	30 480	137 640	50 430	539 170
40 - 44	Male	48 430	83 460	970	7 600	10 170	53 750	22 570	226 950
	Female	75 920	106 680	870	7 250	12 530	59 910	17 880	281 030
	Sub-total	124 350	190 140	1 840	14 850	22 700	113 650	40 450	507 980
45 - 49	Male	64 790	85 830	1 520	6 910	10 130	45 000	19 590	233 760
	Female	89 120	121 240	640	6 810	12 880	49 090	14 220	293 980
	Sub-total	153 910	207 070	2 160	13 710	23 010	94 080	33 810	527 740
50 - 54	Male	80 970	104 980	1 220	6 650	11 010	40 180	17 320	262 320
	Female	109 540	132 610	600	7 240	12 030	36 340	11 080	309 460
	Sub-total	190 510	237 590	1 820	13 890	23 040	76 520	28 410	571 780
55 - 59	Male	126 590	112 690	1 360	6 440	10 620	34 020	13 380	305 110
	Female	155 470	120 890	330	5 980	11 050	24 640	6 570	324 920
	Sub-total	282 060	233 580	1 690	12 430	21 670	58 660	19 950	630 030
60 - 64	Male	148 050	80 010	1 050	5 180	7 100	25 160	7 420	273 990
	Female	176 870	75 090	320	3 170	7 230	15 990	3 420	282 090
	Sub-total	324 930	155 100	1 370	8 350	14 330	41 150	10 840	556 070
65+	Male	396 400	122 330	1 970	6 650	14 580	39 110	8 180	589 220
	Female	541 620	97 630	1 610	3 870	12 090	20 980	2 830	680 620
	Sub-total	938 020	219 960	3 580	10 520	26 670	60 080	11 010	1 269 840
Total	Male	1 492 160	1 029 510	15 330	115 560	175 350	448 990	163 540	3 440 450
	Female	1 788 770	1 123 640	12 820	95 760	151 540	508 170	147 560	3 828 270
	Total	3 280 940	2 153 160	28 150	211 320	326 890	957 160	311 100	7 268 710

Notes: The above figures exclude foreign domestic helpers, imported workers and institutional population.



**Table A7.3 : Manpower Supply by Age Group, Sex and Education Level in 2010**

Completed level of education

Age	Sex	Lower Secondary and below	Upper Secondary	Craft	Technician	Sub-degree	First degree	Postgraduate	Total
15 - 19	Male	8 200	13 540	240	740	200			22 930
	Female	3 960	14 260	110	950	260			19 540
	Sub-total	12 160	27 800	350	1 690	460			42 470
20 - 24	Male	19 440	68 140	850	8 910	13 190	22 870	860	134 260
	Female	6 810	67 600	170	8 190	14 710	30 100	1 490	129 070
	Sub-total	26 250	135 740	1 010	17 100	27 900	52 970	2 340	263 330
25 - 29	Male	24 490	85 210	1 240	11 090	17 450	66 370	10 150	216 010
	Female	10 780	80 950	190	9 520	16 620	75 420	10 980	204 450
	Sub-total	35 260	166 170	1 430	20 610	34 080	141 790	21 130	420 460
30 - 34	Male	36 360	83 320	890	8 650	10 310	58 250	15 730	213 500
	Female	21 180	79 710	380	6 790	10 460	60 030	14 040	192 580
	Sub-total	57 530	163 020	1 260	15 440	20 770	118 280	29 770	406 080
35 - 39	Male	53 490	85 690	1 460	7 240	10 940	51 760	18 420	229 010
	Female	35 150	83 260	320	7 160	11 890	49 990	11 850	199 620
	Sub-total	88 640	168 950	1 790	14 400	22 830	101 750	30 270	428 620
40 - 44	Male	65 380	93 340	1 020	7 040	9 970	45 350	16 940	239 050
	Female	50 700	94 880	480	5 510	9 590	32 600	10 170	203 940
	Sub-total	116 080	188 220	1 500	12 550	19 560	77 950	27 110	442 990
45 - 49	Male	99 990	113 750	1 660	7 420	11 840	40 310	14 370	289 340
	Female	80 280	92 650	120	5 910	10 870	24 780	6 900	221 510
	Sub-total	180 270	206 400	1 790	13 330	22 700	65 090	21 270	510 850
50 - 54	Male	134 320	91 070	1 290	5 940	8 380	28 420	8 860	278 290
	Female	91 220	55 350	170	3 550	6 570	13 710	3 780	174 360
	Sub-total	225 540	146 420	1 470	9 480	14 950	42 130	12 650	452 650
55 - 59	Male	105 710	52 350	880	2 770	4 890	14 520	5 900	187 020
	Female	60 410	22 530	260	1 500	2 500	5 500	1 300	94 000
	Sub-total	166 120	74 880	1 140	4 270	7 390	20 010	7 210	281 020
60 - 64	Male	57 570	21 060	340	1 390	2 020	6 150	2 060	90 580
	Female	24 120	6 210	70	750	1 040	1 020	280	33 490
	Sub-total	81 690	27 270	410	2 140	3 050	7 170	2 340	124 070
65+	Male	22 310	8 740	320	510	1 220	4 840	950	38 890
	Female	5 470	1 320	60	190	320	1 150	280	8 790
	Sub-total	27 780	10 060	380	700	1 540	5 980	1 230	47 680
Total	Male	627 260	716 220	10 210	61 710	90 400	338 840	94 240	1 938 870
	Female	390 080	598 730	2 330	50 000	84 830	294 300	61 070	1 481 340
	Total	1 017 340	1 314 950	12 540	111 710	175 230	633 140	155 310	3 420 210

Notes: The above figures exclude foreign domestic helpers, imported workers and institutional population.

**Table A7.4 : Manpower Supply by Age Group, Sex and Education Level in 2018**

		Completed level of education							
Age	Sex	Lower Secondary and below	Upper Secondary	Craft	Technician	Sub-degree	First degree	Postgraduate	Total
15 - 19	Male	3 460	11 500	90	220	150	50		15 470
	Female	2 070	11 820	50	150	290	150		14 530
	Sub-total	5 530	23 320	150	370	440	190		30 000
20 - 24	Male	2 050	66 850	1 330	12 830	19 400	18 700	1 620	122 790
	Female	1 010	58 920	1 870	8 370	11 090	43 080	2 660	127 000
	Sub-total	3 060	125 780	3 200	21 200	30 490	61 780	4 290	249 790
25 - 29	Male	15 330	59 230	1 500	25 090	45 050	49 590	20 590	216 360
	Female	10 350	52 600	2 290	18 410	25 060	82 200	26 320	217 220
	Sub-total	25 670	111 820	3 790	43 490	70 110	131 790	46 910	433 580
30 - 34	Male	23 330	66 580	990	11 510	23 310	67 590	25 880	219 190
	Female	22 460	74 180	660	9 670	22 750	75 840	30 190	235 750
	Sub-total	45 800	140 760	1 650	21 180	46 060	143 420	56 080	454 940
35 - 39	Male	30 950	83 790	1 200	9 630	13 060	61 360	23 030	223 030
	Female	34 760	87 970	620	7 630	15 180	66 320	23 780	236 280
	Sub-total	65 710	171 760	1 820	17 260	28 250	127 680	46 820	459 310
40 - 44	Male	44 470	79 280	920	7 220	9 750	51 530	21 640	214 810
	Female	47 140	84 610	690	5 750	11 040	52 790	15 750	217 780
	Sub-total	91 610	163 890	1 610	12 970	20 790	104 320	37 390	432 590
45 - 49	Male	58 940	80 280	1 420	6 460	9 490	42 170	18 360	217 120
	Female	53 180	84 330	450	4 730	10 800	41 180	11 930	206 590
	Sub-total	112 110	164 610	1 870	11 190	20 300	83 340	30 290	423 710
50 - 54	Male	69 880	94 430	1 100	5 980	10 050	36 690	15 820	233 950
	Female	58 180	83 290	380	4 550	9 190	27 750	8 460	191 790
	Sub-total	128 060	177 710	1 470	10 530	19 240	64 440	24 280	425 740
55 - 59	Male	96 540	84 740	1 020	4 850	8 220	26 330	10 360	232 060
	Female	64 940	58 300	160	2 890	6 510	14 530	3 880	151 200
	Sub-total	161 480	143 040	1 180	7 730	14 730	40 860	14 230	383 260
60 - 64	Male	84 470	45 610	600	2 950	4 280	15 170	4 470	157 560
	Female	35 900	17 910	80	760	2 260	5 000	1 070	62 980
	Sub-total	120 370	63 520	680	3 710	6 550	20 180	5 540	220 540
65+	Male	28 650	14 610	240	790	2 700	7 000	1 810	55 800
	Female	7 170	2 920	^	130	990	1 630	280	13 170
	Sub-total	35 820	17 530	280	920	3 690	8 630	2 090	68 970
Total	Male	458 060	686 910	10 420	87 520	145 480	376 170	143 590	1 908 150
	Female	337 170	616 840	7 270	63 040	115 170	410 470	124 330	1 674 290
	Total	795 220	1 303 750	17 700	150 560	260 650	786 640	267 920	3 582 440

Notes: (1) The above figures exclude foreign domestic helpers, imported workers and institutional population.  
(2) ^ Means less than 50.

**Table A7.5 : Manpower Requirements by Economic Sector in 2010 and 2018**

Economic Sector	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
1 <b>Agriculture, fishing and quarrying</b>	<b>3 710</b>	<b>0.1</b>	<b>3 010</b>	<b>0.1</b>	<b>- 710</b>	<b>- 2.6</b>
2 <b>Manufacturing</b>	<b>121 030</b>	<b>3.7</b>	<b>94 080</b>	<b>2.6</b>	<b>- 26 950</b>	<b>- 3.1</b>
3 <b>Electricity, gas, water and waste management</b>	<b>15 180</b>	<b>0.5</b>	<b>17 100</b>	<b>0.5</b>	<b>+ 1 920</b>	<b>+ 1.5</b>
4 <b>Construction</b>	<b>271 130</b>	<b>8.3</b>	<b>315 190</b>	<b>8.8</b>	<b>+ 44 060</b>	<b>+ 1.9</b>
5 <b>Import and export, wholesale and retail trades</b>	<b>874 020</b>	<b>26.6</b>	<b>921 750</b>	<b>25.6</b>	<b>+ 47 730</b>	<b>+ 0.7</b>
5.1 Import and export trade	503 370	15.3	523 860	14.6	+ 20 490	+ 0.5
5.2 Wholesale	64 720	2.0	55 960	1.6	- 8 750	- 1.8
5.3 Retail trade	305 930	9.3	341 920	9.5	+ 35 990	+ 1.4
6 <b>Accommodation and food services</b>	<b>265 420</b>	<b>8.1</b>	<b>295 310</b>	<b>8.2</b>	<b>+ 29 890</b>	<b>+ 1.3</b>
6.1 Accommodation	41 110	1.3	50 480	1.4	+ 9 370	+ 2.6
6.2 Food services	224 310	6.8	244 820	6.8	+ 20 520	+ 1.1
7 <b>Transportation, storage, postal and courier services</b>	<b>321 290</b>	<b>9.8</b>	<b>345 810</b>	<b>9.6</b>	<b>+ 24 520</b>	<b>+ 0.9</b>
7.1 Freight transportation	167 810	5.1	178 120	5.0	+ 10 310	+ 0.7
7.2 Miscellaneous transportation services	128 820	3.9	143 980	4.0	+ 15 150	+ 1.4
7.3 Warehousing and storage	6 400	0.2	7 790	0.2	+ 1 400	+ 2.5
7.4 Postal and courier	18 260	0.6	15 920	0.4	- 2 340	- 1.7
8 <b>Information and communications</b>	<b>92 930</b>	<b>2.8</b>	<b>108 120</b>	<b>3.0</b>	<b>+ 15 200</b>	<b>+ 1.9</b>
8.1 Software publishing and telecommunication services	19 460	0.6	20 090	0.6	+ 630	+ 0.4
8.2 Information technology related services	35 140	1.1	44 510	1.2	+ 9 370	+ 3.0
8.3 Miscellaneous activities related to information and communications	38 330	1.2	43 520	1.2	+ 5 190	+ 1.6
9 <b>Financing services</b>	<b>206 960</b>	<b>6.3</b>	<b>253 140</b>	<b>7.0</b>	<b>+ 46 180</b>	<b>+ 2.5</b>
9.1 Banking	91 500	2.8	113 230	3.1	+ 21 730	+ 2.7
9.2 Financial institutions (other than banks and insurance)	71 770	2.2	89 510	2.5	+ 17 740	+ 2.8
9.3 Insurance	43 690	1.3	50 400	1.4	+ 6 700	+ 1.8
10 <b>Real estate</b>	<b>119 010</b>	<b>3.6</b>	<b>135 130</b>	<b>3.8</b>	<b>+ 16 110</b>	<b>+ 1.6</b>
11 <b>Professional and business services</b>	<b>328 960</b>	<b>10.0</b>	<b>370 140</b>	<b>10.3</b>	<b>+ 41 180</b>	<b>+ 1.5</b>
11.1 Legal services	20 450	0.6	26 110	0.7	+ 5 660	+ 3.1
11.2 Accounting, auditing and bookkeeping services	26 800	0.8	32 920	0.9	+ 6 110	+ 2.6
11.3 Engineering and technical services not related to construction and real estate activities, business management and consultancy services	48 290	1.5	56 580	1.6	+ 8 290	+ 2.0
11.4 Design, advertising and related services	26 040	0.8	29 800	0.8	+ 3 760	+ 1.7
11.5 Architectural, surveying and engineering services related to real estate and construction	22 150	0.7	25 750	0.7	+ 3 600	+ 1.9
11.6 Miscellaneous professional and business services	185 220	5.6	198 990	5.5	+ 13 760	+ 0.9
12 <b>Social and personal services (excl. foreign domestic helpers)</b>	<b>664 950</b>	<b>20.2</b>	<b>737 630</b>	<b>20.5</b>	<b>+ 72 680</b>	<b>+ 1.3</b>
12.1 Human health activities	109 810	3.3	131 720	3.7	+ 21 910	+ 2.3
12.2 Social and personal services (other than human health activities) (excl. foreign domestic helpers)	555 140	16.9	605 910	16.8	+ 50 780	+ 1.1
<b>Overall</b>	<b>3 284 600</b>	<b>100.0</b>	<b>3 596 410</b>	<b>100.0</b>	<b>+ 311 810</b>	<b>+ 1.1</b>

**Table A7.6 : Manpower Requirements of Agriculture, Fishing and Quarrying Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>550</b>	<b>14.9</b>	<b>540</b>	<b>17.9</b>	^	- 0.3
Corporate managers, Government administrators and foreign diplomats	^	1.1	^	1.4	^	*
Small business managers	510	13.7	500	16.5	^	- 0.3
<b>Professionals</b>	<b>70</b>	<b>2.0</b>	<b>60</b>	<b>2.0</b>	^	- 2.6
Engineering, physical, and mathematical science professionals	^	1.1	^	1.1	^	*
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	^	0.8	^	0.8	^	*
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	-	-	-	-	-	-
Other professionals	-	-	-	-	-	-
<b>Associate professionals</b>	<b>220</b>	<b>5.9</b>	<b>240</b>	<b>7.9</b>	^	+ 1.0
Engineering, physical, and mathematical science associate professionals	^	1.0	^	1.3	^	*
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	180	4.9	200	6.5	^	+ 1.0
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	-	-	-	-	-	-
Other associate professionals	-	-	-	-	-	-
<b>Clerks</b>	<b>130</b>	<b>3.5</b>	<b>120</b>	<b>4.0</b>	^	- 0.9
Office clerks	70	2.0	70	2.3	^	- 0.9
Customer services clerks	60	1.5	50	1.7	^	- 0.9
IT assistants	-	-	-	-	-	-
<b>Service workers and shop sales workers</b>	-	-	-	-	-	-
Personal and protective services workers	-	-	-	-	-	-
Salespersons and models	-	-	-	-	-	-
Other services workers	-	-	-	-	-	-
<b>Agricultural and fishery workers</b>	<b>2 350</b>	<b>63.4</b>	<b>1 670</b>	<b>55.6</b>	- 680	- 4.2
Agricultural and fishery workers	2 350	63.4	1 670	55.6	- 680	- 4.2
<b>Craft and related workers</b>	-	-	-	-	-	-
Building and extraction trades workers	-	-	-	-	-	-
Metal and machinery trades workers	-	-	-	-	-	-
Precision, handicraft, printing and related trades workers	-	-	-	-	-	-
Other craft and related workers	-	-	-	-	-	-
<b>Drivers, plant and machine operators, and assemblers</b>	<b>180</b>	<b>4.8</b>	<b>210</b>	<b>6.9</b>	^	+ 1.9
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	-	-	-	-	-	-
Drivers and mobile machine operators	180	4.8	210	6.9	^	+ 1.9
<b>Elementary occupations</b>	<b>210</b>	<b>5.6</b>	<b>170</b>	<b>5.8</b>	^	- 2.2
Sales and services elementary occupations, and labourers	210	5.6	170	5.8	^	- 2.2
<b>Total</b>	<b>3 710</b>	<b>100.0</b>	<b>3 010</b>	<b>100.0</b>	- 710	- 2.6

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.7 : Manpower Requirements of *Manufacturing* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>23 340</b>	<b>19.3</b>	<b>19 770</b>	<b>21.0</b>	<b>- 3 570</b>	<b>- 2.1</b>
Corporate managers, Government administrators and foreign diplomats	1 940	1.6	1 670	1.8	- 270	- 1.9
Small business managers	21 400	17.7	18 100	19.2	- 3 300	- 2.1
<b>Professionals</b>	<b>2 550</b>	<b>2.1</b>	<b>2 310</b>	<b>2.5</b>	<b>- 240</b>	<b>- 1.2</b>
Engineering, physical, and mathematical science professionals	710	0.6	640	0.7	- 80	- 1.4
Health and life science professionals	80	0.1	70	0.1	^	- 1.4
Legal, accounting, business and related professionals	730	0.6	650	0.7	- 80	- 1.4
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	990	0.8	930	1.0	- 70	- 0.9
Other professionals	^	0.0	^	0.0	^	*
<b>Associate professionals</b>	<b>21 330</b>	<b>17.6</b>	<b>14 730</b>	<b>15.7</b>	<b>- 6 600</b>	<b>- 4.5</b>
Engineering, physical, and mathematical science associate professionals	11 340	9.4	7 770	8.3	- 3 570	- 4.6
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	9 550	7.9	6 540	7.0	- 3 010	- 4.6
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	440	0.4	420	0.4	^	- 0.7
Other associate professionals	-	-	-	-	-	-
<b>Clerks</b>	<b>11 640</b>	<b>9.6</b>	<b>8 000</b>	<b>8.5</b>	<b>- 3 650</b>	<b>- 4.6</b>
Office clerks	11 390	9.4	7 820	8.3	- 3 570	- 4.6
Customer services clerks	260	0.2	180	0.2	- 80	- 4.6
IT assistants	-	-	-	-	-	-
<b>Service workers and shop sales workers</b>	<b>1 300</b>	<b>1.1</b>	<b>1 770</b>	<b>1.9</b>	<b>+ 470</b>	<b>+ 3.9</b>
Personal and protective services workers	700	0.6	970	1.0	+ 270	+ 4.2
Salespersons and models	390	0.3	500	0.5	+ 110	+ 3.2
Other services workers	210	0.2	290	0.3	+ 80	+ 4.2
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>24 970</b>	<b>20.6</b>	<b>21 840</b>	<b>23.2</b>	<b>- 3 130</b>	<b>- 1.7</b>
Building and extraction trades workers	430	0.4	370	0.4	- 50	- 1.7
Metal and machinery trades workers	11 870	9.8	10 380	11.0	- 1 490	- 1.7
Precision, handicraft, printing and related trades workers	5 100	4.2	4 460	4.7	- 640	- 1.7
Other craft and related workers	7 580	6.3	6 630	7.0	- 950	- 1.7
<b>Drivers, plant and machine operators, and assemblers</b>	<b>18 980</b>	<b>15.7</b>	<b>13 570</b>	<b>14.4</b>	<b>- 5 410</b>	<b>- 4.1</b>
Industrial plant operators	140	0.1	100	0.1	^	- 4.1
Stationary machine operators and assemblers	16 140	13.3	11 540	12.3	- 4 600	- 4.1
Drivers and mobile machine operators	2 690	2.2	1 920	2.0	- 770	- 4.1
<b>Elementary occupations</b>	<b>16 920</b>	<b>14.0</b>	<b>12 090</b>	<b>12.9</b>	<b>- 4 820</b>	<b>- 4.1</b>
Sales and services elementary occupations, and labourers	16 920	14.0	12 090	12.9	- 4 820	- 4.1
<b>Total</b>	<b>121 030</b>	<b>100.0</b>	<b>94 080</b>	<b>100.0</b>	<b>- 26 950</b>	<b>- 3.1</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.8 : Manpower Requirements of *Electricity, Gas, Water and Waste Management* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>1 050</b>	<b>6.9</b>	<b>1 380</b>	<b>8.0</b>	<b>+ 330</b>	<b>+ 3.4</b>
Corporate managers, Government administrators and foreign diplomats	630	4.2	820	4.8	+ 190	+ 3.4
Small business managers	420	2.8	550	3.2	+ 130	+ 3.5
<b>Professionals</b>	<b>2 280</b>	<b>15.0</b>	<b>2 920</b>	<b>17.1</b>	<b>+ 640</b>	<b>+ 3.2</b>
Engineering, physical, and mathematical science professionals	1 590	10.5	2 140	12.5	+ 550	+ 3.8
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related associate	360	2.3	480	2.8	+ 120	+ 3.8
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	320	2.1	290	1.7	^	- 1.2
Other professionals	-	-	-	-	-	-
<b>Associate professionals</b>	<b>3 720</b>	<b>24.5</b>	<b>4 170</b>	<b>24.4</b>	<b>+ 450</b>	<b>+ 1.4</b>
Engineering, physical, and mathematical science associate professionals	2 910	19.1	3 270	19.1	+ 360	+ 1.5
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	760	5.0	860	5.0	+ 90	+ 1.5
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	50	0.4	^	0.3	^	*
Other associate professionals	-	-	-	-	-	-
<b>Clerks</b>	<b>1 940</b>	<b>12.8</b>	<b>2 150</b>	<b>12.6</b>	<b>+ 210</b>	<b>+ 1.3</b>
Office clerks	1 600	10.5	1 770	10.3	+ 170	+ 1.3
Customer services clerks	350	2.3	380	2.2	^	+ 1.3
IT assistants	-	-	-	-	-	-
<b>Service workers and shop sales workers</b>	<b>100</b>	<b>0.7</b>	<b>190</b>	<b>1.1</b>	<b>+ 90</b>	<b>+ 8.0</b>
Personal and protective services workers	^	0.3	80	0.5	^	+ 8.0
Salespersons and models	60	0.4	110	0.7	+ 50	+ 8.0
Other services workers	-	-	-	-	-	-
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>3 430</b>	<b>22.6</b>	<b>3 230</b>	<b>18.9</b>	<b>- 200</b>	<b>- 0.7</b>
Building and extraction trades workers	190	1.3	180	1.1	^	- 0.7
Metal and machinery trades workers	3 210	21.2	3 020	17.7	- 190	- 0.7
Precision, handicraft, printing and related trades workers	^	0.1	^	0.1	^	*
Other craft and related workers	-	-	-	-	-	-
<b>Drivers, plant and machine operators, and assemblers</b>	<b>870</b>	<b>5.7</b>	<b>1 380</b>	<b>8.0</b>	<b>+ 510</b>	<b>+ 5.9</b>
Industrial plant operators	60	0.4	90	0.6	^	+ 5.9
Stationary machine operators and assemblers	120	0.8	180	1.1	+ 70	+ 5.9
Drivers and mobile machine operators	690	4.6	1 100	6.4	+ 410	+ 5.9
<b>Elementary occupations</b>	<b>1 790</b>	<b>11.8</b>	<b>1 690</b>	<b>9.9</b>	<b>- 100</b>	<b>- 0.7</b>
Sales and services elementary occupations, and labourers	1 790	11.8	1 690	9.9	- 100	- 0.7
<b>Total</b>	<b>15 180</b>	<b>100.0</b>	<b>17 100</b>	<b>100.0</b>	<b>+ 1 920</b>	<b>+ 1.5</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.9 : Manpower Requirements of *Construction* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>13 000</b>	<b>4.8</b>	<b>17 200</b>	<b>5.5</b>	<b>+ 4 200</b>	<b>+ 3.6</b>
Corporate managers, Government administrators and foreign diplomats	2 270	0.8	3 000	1.0	+ 730	+ 3.5
Small business managers	10 720	4.0	14 190	4.5	+ 3 470	+ 3.6
<b>Professionals</b>	<b>9 500</b>	<b>3.5</b>	<b>12 550</b>	<b>4.0</b>	<b>+ 3 050</b>	<b>+ 3.5</b>
Engineering, physical, and mathematical science professionals	8 980	3.3	11 900	3.8	+ 2 920	+ 3.6
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	390	0.1	520	0.2	+ 130	+ 3.6
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	120	0.0	130	0.0	^	+ 0.2
Other professionals	-	-	-	-	-	-
<b>Associate professionals</b>	<b>40 540</b>	<b>15.0</b>	<b>50 560</b>	<b>16.0</b>	<b>+ 10 020</b>	<b>+ 2.8</b>
Engineering, physical, and mathematical science associate professionals	32 420	12.0	40 430	12.8	+ 8 010	+ 2.8
Health and life science associate professionals	50	0.0	60	0.0	^	+ 2.8
Legal, accounting, business and related associate professionals	8 070	3.0	10 070	3.2	+ 2 000	+ 2.8
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	-	-	-	-	-	-
Other associate professionals	-	-	-	-	-	-
<b>Clerks</b>	<b>12 110</b>	<b>4.5</b>	<b>14 390</b>	<b>4.6</b>	<b>+ 2 280</b>	<b>+ 2.2</b>
Office clerks	11 730	4.3	13 970	4.4	+ 2 240	+ 2.2
Customer services clerks	210	0.1	250	0.1	^	+ 2.2
IT assistants	170	0.1	170	0.1	^	+ 0.0
<b>Service workers and shop sales workers</b>	<b>160</b>	<b>0.1</b>	<b>290</b>	<b>0.1</b>	<b>+ 130</b>	<b>+ 8.0</b>
Personal and protective services workers	130	0.0	240	0.1	+ 110	+ 8.0
Salespersons and models	-	-	-	-	-	-
Other services workers	^	0.0	^	0.0	^	*
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>143 810</b>	<b>53.0</b>	<b>161 700</b>	<b>51.3</b>	<b>+ 17 880</b>	<b>+ 1.5</b>
Building and extraction trades workers	137 500	50.7	154 600	49.0	+ 17 100	+ 1.5
Metal and machinery trades workers	6 230	2.3	7 010	2.2	+ 780	+ 1.5
Precision, handicraft, printing and related trades workers	^	0.0	^	0.0	^	*
Other craft and related workers	60	0.0	70	0.0	^	+ 1.5
<b>Drivers, plant and machine operators, and assemblers</b>	<b>7 790</b>	<b>2.9</b>	<b>8 760</b>	<b>2.8</b>	<b>+ 970</b>	<b>+ 1.5</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	260	0.1	290	0.1	^	+ 1.5
Drivers and mobile machine operators	7 530	2.8	8 470	2.7	+ 940	+ 1.5
<b>Elementary occupations</b>	<b>44 230</b>	<b>16.3</b>	<b>49 740</b>	<b>15.8</b>	<b>+ 5 520</b>	<b>+ 1.5</b>
Sales and services elementary occupations, and labourers	44 230	16.3	49 740	15.8	+ 5 520	+ 1.5
<b>Total</b>	<b>271 130</b>	<b>100.0</b>	<b>315 190</b>	<b>100.0</b>	<b>+ 44 060</b>	<b>+ 1.9</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.10 : Manpower Requirements of *Import and Export Trade* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>112 590</b>	<b>22.4</b>	<b>120 740</b>	<b>23.0</b>	<b>+ 8 160</b>	<b>+ 0.9</b>
Corporate managers, Government administrators and foreign diplomats	13 280	2.6	14 200	2.7	+ 910	+ 0.8
Small business managers	99 310	19.7	106 550	20.3	+ 7 240	+ 0.9
<b>Professionals</b>	<b>13 780</b>	<b>2.7</b>	<b>16 770</b>	<b>3.2</b>	<b>+ 2 990</b>	<b>+ 2.5</b>
Engineering, physical, and mathematical science professionals	1 280	0.3	1 630	0.3	+ 350	+ 3.1
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	6 730	1.3	8 600	1.6	+ 1 870	+ 3.1
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	5 590	1.1	6 300	1.2	+ 710	+ 1.5
Other professionals	180	0.0	230	0.0	+ 50	+ 3.1
<b>Associate professionals</b>	<b>145 880</b>	<b>29.0</b>	<b>164 010</b>	<b>31.3</b>	<b>+ 18 130</b>	<b>+ 1.5</b>
Engineering, physical, and mathematical science associate professionals	15 220	3.0	17 130	3.3	+ 1 910	+ 1.5
Health and life science associate professionals	50	0.0	60	0.0	^	+ 1.5
Legal, accounting, business and related associate professionals	126 960	25.2	142 910	27.3	+ 15 950	+ 1.5
Teaching associate professionals	^	0.0	^	0.0	^	*
IT / Computer associate professionals	3 580	0.7	3 830	0.7	+ 250	+ 0.8
Other associate professionals	^	0.0	50	0.0	^	+ 1.5
<b>Clerks</b>	<b>181 530</b>	<b>36.1</b>	<b>166 250</b>	<b>31.7</b>	<b>- 15 290</b>	<b>- 1.1</b>
Office clerks	177 320	35.2	162 260	31.0	- 15 060	- 1.1
Customer services clerks	3 150	0.6	2 880	0.5	- 270	- 1.1
IT assistants	1 070	0.2	1 110	0.2	^	+ 0.5
<b>Service workers and shop sales workers</b>	<b>3 550</b>	<b>0.7</b>	<b>4 700</b>	<b>0.9</b>	<b>+ 1 150</b>	<b>+ 3.6</b>
Personal and protective services workers	340	0.1	490	0.1	+ 160	+ 4.9
Salespersons and models	3 020	0.6	3 930	0.7	+ 910	+ 3.3
Other services workers	190	0.0	280	0.1	+ 90	+ 4.9
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>10 250</b>	<b>2.0</b>	<b>11 620</b>	<b>2.2</b>	<b>+ 1 380</b>	<b>+ 1.6</b>
Building and extraction trades workers	120	0.0	140	0.0	^	+ 1.6
Metal and machinery trades workers	6 090	1.2	6 910	1.3	+ 820	+ 1.6
Precision, handicraft, printing and related trades workers	490	0.1	550	0.1	+ 70	+ 1.6
Other craft and related workers	3 550	0.7	4 020	0.8	+ 480	+ 1.6
<b>Drivers, plant and machine operators, and assemblers</b>	<b>9 440</b>	<b>1.9</b>	<b>11 110</b>	<b>2.1</b>	<b>+ 1 670</b>	<b>+ 2.1</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	1 250	0.2	1 470	0.3	+ 220	+ 2.1
Drivers and mobile machine operators	8 190	1.6	9 640	1.8	+ 1 450	+ 2.1
<b>Elementary occupations</b>	<b>26 360</b>	<b>5.2</b>	<b>28 660</b>	<b>5.5</b>	<b>+ 2 300</b>	<b>+ 1.1</b>
Sales and services elementary occupations, and labourers	26 360	5.2	28 660	5.5	+ 2 300	+ 1.1
<b>Total</b>	<b>503 370</b>	<b>100.0</b>	<b>523 860</b>	<b>100.0</b>	<b>+ 20 490</b>	<b>+ 0.5</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.



**Table A7.11 : Manpower Requirements of *Wholesale* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>9 730</b>	<b>15.0</b>	<b>8 110</b>	<b>14.5</b>	<b>- 1 630</b>	<b>- 2.3</b>
Corporate managers, Government administrators and foreign diplomats	500	0.8	430	0.8	- 60	- 1.7
Small business managers	9 240	14.3	7 680	13.7	- 1 560	- 2.3
<b>Professionals</b>	<b>340</b>	<b>0.5</b>	<b>250</b>	<b>0.4</b>	<b>- 90</b>	<b>- 3.9</b>
Engineering, physical, and mathematical science professionals	^	0.1	^	0.0	^	*
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related associate	180	0.3	90	0.2	- 90	- 8.0
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	120	0.2	130	0.2	^	+ 1.4
Other professionals	-	-	-	-	-	-
<b>Associate professionals</b>	<b>18 180</b>	<b>28.1</b>	<b>14 450</b>	<b>25.8</b>	<b>- 3 730</b>	<b>- 2.8</b>
Engineering, physical, and mathematical science associate professionals	610	0.9	480	0.9	- 130	- 2.8
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	17 430	26.9	13 830	24.7	- 3 600	- 2.8
Teaching associate professionals	^	0.1	^	0.1	^	*
IT / Computer associate professionals	90	0.1	100	0.2	^	+ 0.7
Other associate professionals	-	-	-	-	-	-
<b>Clerks</b>	<b>13 770</b>	<b>21.3</b>	<b>12 180</b>	<b>21.8</b>	<b>- 1 600</b>	<b>- 1.5</b>
Office clerks	13 090	20.2	11 570	20.7	- 1 520	- 1.5
Customer services clerks	650	1.0	570	1.0	- 80	- 1.5
IT assistants	^	0.1	^	0.1	^	*
<b>Service workers and shop sales workers</b>	<b>5 730</b>	<b>8.9</b>	<b>5 030</b>	<b>9.0</b>	<b>- 700</b>	<b>- 1.6</b>
Personal and protective services workers	190	0.3	170	0.3	^	- 1.9
Salespersons and models	5 480	8.5	4 810	8.6	- 670	- 1.6
Other services workers	60	0.1	50	0.1	^	- 1.9
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>1 260</b>	<b>1.9</b>	<b>650</b>	<b>1.2</b>	<b>- 610</b>	<b>- 8.0</b>
Building and extraction trades workers	-	-	-	-	-	-
Metal and machinery trades workers	1 040	1.6	540	1.0	- 510	- 8.0
Precision, handicraft, printing and related trades workers	170	0.3	90	0.2	- 80	- 8.0
Other craft and related workers	^	0.1	^	0.0	^	*
<b>Drivers, plant and machine operators, and assemblers</b>	<b>4 540</b>	<b>7.0</b>	<b>4 240</b>	<b>7.6</b>	<b>- 300</b>	<b>- 0.9</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	200	0.3	180	0.3	^	- 0.9
Drivers and mobile machine operators	4 340	6.7	4 050	7.2	- 290	- 0.9
<b>Elementary occupations</b>	<b>11 160</b>	<b>17.2</b>	<b>11 070</b>	<b>19.8</b>	<b>- 90</b>	<b>- 0.1</b>
Sales and services elementary occupations, and labourers	11 160	17.2	11 070	19.8	- 90	- 0.1
<b>Total</b>	<b>64 720</b>	<b>100.0</b>	<b>55 960</b>	<b>100.0</b>	<b>- 8 750</b>	<b>- 1.8</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.12 : Manpower Requirements of *Retail Trade* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>22 530</b>	<b>7.4</b>	<b>31 980</b>	<b>9.4</b>	<b>+ 9 450</b>	<b>+ 4.5</b>
Corporate managers, Government administrators and foreign diplomats	2 790	0.9	3 940	1.2	+ 1 150	+ 4.4
Small business managers	19 740	6.5	28 040	8.2	+ 8 310	+ 4.5
<b>Professionals</b>	<b>3 910</b>	<b>1.3</b>	<b>5 160</b>	<b>1.5</b>	<b>+ 1 240</b>	<b>+ 3.5</b>
Engineering, physical, and mathematical science professionals	150	0.1	210	0.1	+ 60	+ 4.0
Health and life science professionals	2 210	0.7	3 020	0.9	+ 810	+ 4.0
Legal, accounting, business and related professionals	750	0.2	1 020	0.3	+ 270	+ 4.0
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	670	0.2	730	0.2	+ 60	+ 1.0
Other professionals	120	0.0	170	0.0	^	+ 4.0
<b>Associate professionals</b>	<b>28 680</b>	<b>9.4</b>	<b>36 570</b>	<b>10.7</b>	<b>+ 7 890</b>	<b>+ 3.1</b>
Engineering, physical, and mathematical science associate professionals	2 140	0.7	2 730	0.8	+ 590	+ 3.1
Health and life science associate professionals	1 180	0.4	1 500	0.4	+ 330	+ 3.1
Legal, accounting, business and related associate professionals	24 060	7.9	30 760	9.0	+ 6 700	+ 3.1
Teaching associate professionals	770	0.3	990	0.3	+ 210	+ 3.1
IT / Computer associate professionals	500	0.2	550	0.2	^	+ 1.2
Other associate professionals	^	0.0	^	0.0	^	*
<b>Clerks</b>	<b>32 930</b>	<b>10.8</b>	<b>37 690</b>	<b>11.0</b>	<b>+ 4 770</b>	<b>+ 1.7</b>
Office clerks	18 700	6.1	21 410	6.3	+ 2 710	+ 1.7
Customer services clerks	14 150	4.6	16 200	4.7	+ 2 050	+ 1.7
IT assistants	80	0.0	90	0.0	^	+ 0.9
<b>Service workers and shop sales workers</b>	<b>184 230</b>	<b>60.2</b>	<b>203 310</b>	<b>59.5</b>	<b>+ 19 080</b>	<b>+ 1.2</b>
Personal and protective services workers	1 550	0.5	1 710	0.5	+ 160	+ 1.2
Salespersons and models	182 520	59.7	201 430	58.9	+ 18 910	+ 1.2
Other services workers	160	0.1	180	0.1	^	+ 1.2
<b>Agricultural and fishery workers</b>	-	-	-	-	-	-
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>9 360</b>	<b>3.1</b>	<b>6 110</b>	<b>1.8</b>	<b>- 3 250</b>	<b>- 5.2</b>
Building and extraction trades workers	100	0.0	60	0.0	^	- 5.2
Metal and machinery trades workers	3 430	1.1	2 240	0.7	- 1 190	- 5.2
Precision, handicraft, printing and related trades workers	810	0.3	530	0.2	- 280	- 5.2
Other craft and related workers	5 020	1.6	3 280	1.0	- 1 740	- 5.2
<b>Drivers, plant and machine operators, and assemblers</b>	<b>2 510</b>	<b>0.8</b>	<b>1 530</b>	<b>0.4</b>	<b>- 980</b>	<b>- 6.0</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	350	0.1	210	0.1	- 140	- 6.0
Drivers and mobile machine operators	2 160	0.7	1 320	0.4	- 840	- 6.0
<b>Elementary occupations</b>	<b>21 780</b>	<b>7.1</b>	<b>19 570</b>	<b>5.7</b>	<b>- 2 210</b>	<b>- 1.3</b>
Sales and services elementary occupations, and labourers	21 780	7.1	19 570	5.7	- 2 210	- 1.3
<b>Total</b>	<b>305 930</b>	<b>100.0</b>	<b>341 920</b>	<b>100.0</b>	<b>+ 35 990</b>	<b>+ 1.4</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.13 : Manpower Requirements of Accommodation Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>4 230</b>	<b>10.3</b>	<b>6 140</b>	<b>12.2</b>	<b>+ 1 910</b>	<b>+ 4.8</b>
Corporate managers, Government administrators and foreign diplomats	2 820	6.9	4 090	8.1	+ 1 260	+ 4.7
Small business managers	1 410	3.4	2 060	4.1	+ 640	+ 4.8
<b>Professionals</b>	<b>330</b>	<b>0.8</b>	<b>560</b>	<b>1.1</b>	<b>+ 230</b>	<b>+ 6.9</b>
Engineering, physical, and mathematical science professionals	^	0.0	^	0.1	^	*
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	250	0.6	470	0.9	+ 220	+ 8.0
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	60	0.1	70	0.1	^	+ 1.1
Other professionals	-	-	-	-	-	-
<b>Associate professionals</b>	<b>6 070</b>	<b>14.8</b>	<b>9 610</b>	<b>19.0</b>	<b>+ 3 540</b>	<b>+ 5.9</b>
Engineering, physical, and mathematical science associate professionals	90	0.2	140	0.3	+ 50	+ 6.0
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	5 780	14.0	9 210	18.2	+ 3 430	+ 6.0
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	120	0.3	130	0.3	^	+ 1.1
Other associate professionals	90	0.2	140	0.3	+ 50	+ 6.0
<b>Clerks</b>	<b>7 730</b>	<b>18.8</b>	<b>8 850</b>	<b>17.5</b>	<b>+ 1 120</b>	<b>+ 1.7</b>
Office clerks	3 600	8.7	4 120	8.2	+ 520	+ 1.7
Customer services clerks	4 120	10.0	4 720	9.4	+ 600	+ 1.7
IT assistants	^	0.0	^	0.0	^	*
<b>Service workers and shop sales workers</b>	<b>15 440</b>	<b>37.6</b>	<b>18 230</b>	<b>36.1</b>	<b>+ 2 790</b>	<b>+ 2.1</b>
Personal and protective services workers	15 200	37.0	17 950	35.5	+ 2 740	+ 2.1
Salespersons and models	90	0.2	110	0.2	^	+ 2.1
Other services workers	150	0.4	170	0.3	^	+ 2.1
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>1 870</b>	<b>4.5</b>	<b>2 140</b>	<b>4.2</b>	<b>+ 270</b>	<b>+ 1.7</b>
Building and extraction trades workers	160	0.4	180	0.4	^	+ 1.7
Metal and machinery trades workers	1 210	3.0	1 390	2.8	+ 180	+ 1.7
Precision, handicraft, printing and related trades workers	-	-	-	-	-	-
Other craft and related workers	500	1.2	570	1.1	+ 70	+ 1.7
<b>Drivers, plant and machine operators, and assemblers</b>	<b>510</b>	<b>1.2</b>	<b>460</b>	<b>0.9</b>	<b>^</b>	<b>- 1.3</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	50	0.1	^	0.1	^	*
Drivers and mobile machine operators	460	1.1	410	0.8	^	- 1.3
<b>Elementary occupations</b>	<b>4 930</b>	<b>12.0</b>	<b>4 480</b>	<b>8.9</b>	<b>- 440</b>	<b>- 1.2</b>
Sales and services elementary occupations, and labourers	4 930	12.0	4 480	8.9	- 440	- 1.2
<b>Total</b>	<b>41 110</b>	<b>100.0</b>	<b>50 480</b>	<b>100.0</b>	<b>+ 9 370</b>	<b>+ 2.6</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.14 : Manpower Requirements of *Food Services* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>10 370</b>	<b>4.6</b>	<b>11 370</b>	<b>4.6</b>	<b>+ 1 000</b>	<b>+ 1.2</b>
Corporate managers, Government administrators and foreign diplomats	680	0.3	750	0.3	+ 70	+ 1.2
Small business managers	9 680	4.3	10 620	4.3	+ 930	+ 1.2
<b>Professionals</b>	<b>170</b>	<b>0.1</b>	<b>250</b>	<b>0.1</b>	<b>+ 80</b>	<b>+ 5.2</b>
Engineering, physical, and mathematical science professionals	^	0.0	^	0.0	^	*
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	70	0.0	130	0.1	+ 60	+ 8.0
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	80	0.0	80	0.0	^	+ 1.1
Other professionals	-	-	-	-	-	-
<b>Associate professionals</b>	<b>12 050</b>	<b>5.4</b>	<b>16 830</b>	<b>6.9</b>	<b>+ 4 790</b>	<b>+ 4.3</b>
Engineering, physical, and mathematical science associate professionals	^	0.0	70	0.0	^	*
Health and life science associate professionals	^	0.0	^	0.0	^	*
Legal, accounting, business and related associate professionals	11 610	5.2	16 220	6.6	+ 4 620	+ 4.3
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	^	0.0	^	0.0	^	*
Other associate professionals	350	0.2	500	0.2	+ 140	+ 4.3
<b>Clerks</b>	<b>16 350</b>	<b>7.3</b>	<b>18 150</b>	<b>7.4</b>	<b>+ 1 800</b>	<b>+ 1.3</b>
Office clerks	3 840	1.7	4 270	1.7	+ 420	+ 1.3
Customer services clerks	12 510	5.6	13 890	5.7	+ 1 380	+ 1.3
IT assistants	-	-	-	-	-	-
<b>Service workers and shop sales workers</b>	<b>153 600</b>	<b>68.5</b>	<b>170 470</b>	<b>69.6</b>	<b>+ 16 870</b>	<b>+ 1.3</b>
Personal and protective services workers	151 480	67.5	168 120	68.7	+ 16 640	+ 1.3
Salespersons and models	2 080	0.9	2 310	0.9	+ 230	+ 1.3
Other services workers	^	0.0	^	0.0	^	*
<b>Agricultural and fishery workers</b>	<b>^</b>	<b>0.0</b>	<b>80</b>	<b>0.0</b>	<b>^</b>	<b>*</b>
Agricultural and fishery workers	^	0.0	80	0.0	^	*
<b>Craft and related workers</b>	<b>420</b>	<b>0.2</b>	<b>210</b>	<b>0.1</b>	<b>- 200</b>	<b>- 8.0</b>
Building and extraction trades workers	-	-	-	-	-	-
Metal and machinery trades workers	170	0.1	90	0.0	- 90	- 8.0
Precision, handicraft, printing and related trades workers	-	-	-	-	-	-
Other craft and related workers	240	0.1	120	0.1	- 120	- 8.0
<b>Drivers, plant and machine operators, and assemblers</b>	<b>770</b>	<b>0.3</b>	<b>930</b>	<b>0.4</b>	<b>+ 160</b>	<b>+ 2.3</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	-	-	-	-	-	-
Drivers and mobile machine operators	770	0.3	930	0.4	+ 160	+ 2.3
<b>Elementary occupations</b>	<b>30 540</b>	<b>13.6</b>	<b>26 520</b>	<b>10.8</b>	<b>- 4 020</b>	<b>- 1.7</b>
Sales and services elementary occupations, and labourers	30 540	13.6	26 520	10.8	- 4 020	- 1.7
<b>Total</b>	<b>224 310</b>	<b>100.0</b>	<b>244 820</b>	<b>100.0</b>	<b>+ 20 520</b>	<b>+ 1.1</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.15 : Manpower Requirements of *Freight Transportation* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>12 460</b>	<b>7.4</b>	<b>15 820</b>	<b>8.9</b>	<b>+ 3 360</b>	<b>+ 3.0</b>
Corporate managers, Government administrators and foreign diplomats	2 410	1.4	3 050	1.7	+ 640	+ 3.0
Small business managers	10 050	6.0	12 770	7.2	+ 2 720	+ 3.0
<b>Professionals</b>	<b>4 190</b>	<b>2.5</b>	<b>5 950</b>	<b>3.3</b>	<b>+ 1 760</b>	<b>+ 4.5</b>
Engineering, physical, and mathematical science professionals	2 570	1.5	3 910	2.2	+ 1 340	+ 5.4
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	800	0.5	1 220	0.7	+ 420	+ 5.4
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	790	0.5	790	0.4	^	- 0.1
Other professionals	^	0.0	^	0.0	^	*
<b>Associate professionals</b>	<b>12 760</b>	<b>7.6</b>	<b>15 750</b>	<b>8.8</b>	<b>+ 2 990</b>	<b>+ 2.7</b>
Engineering, physical, and mathematical science associate professionals	1 730	1.0	2 140	1.2	+ 410	+ 2.7
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	10 730	6.4	13 280	7.5	+ 2 550	+ 2.7
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	170	0.1	170	0.1	^	- 0.3
Other associate professionals	130	0.1	160	0.1	^	+ 2.7
<b>Clerks</b>	<b>32 690</b>	<b>19.5</b>	<b>35 660</b>	<b>20.0</b>	<b>+ 2 960</b>	<b>+ 1.1</b>
Office clerks	29 800	17.8	32 530	18.3	+ 2 730	+ 1.1
Customer services clerks	2 590	1.5	2 830	1.6	+ 240	+ 1.1
IT assistants	300	0.2	300	0.2	^	- 0.0
<b>Service workers and shop sales workers</b>	<b>13 610</b>	<b>8.1</b>	<b>15 210</b>	<b>8.5</b>	<b>+ 1 590</b>	<b>+ 1.4</b>
Personal and protective services workers	9 610	5.7	10 730	6.0	+ 1 120	+ 1.4
Salespersons and models	-	-	-	-	-	-
Other services workers	4 010	2.4	4 480	2.5	+ 470	+ 1.4
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>1 640</b>	<b>1.0</b>	<b>1 850</b>	<b>1.0</b>	<b>+ 210</b>	<b>+ 1.5</b>
Building and extraction trades workers	^	0.0	^	0.0	^	*
Metal and machinery trades workers	1 490	0.9	1 680	0.9	+ 190	+ 1.5
Precision, handicraft, printing and related trades workers	60	0.0	70	0.0	^	+ 1.5
Other craft and related workers	60	0.0	60	0.0	^	+ 1.5
<b>Drivers, plant and machine operators, and assemblers</b>	<b>60 750</b>	<b>36.2</b>	<b>59 040</b>	<b>33.1</b>	<b>- 1 710</b>	<b>- 0.4</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	170	0.1	170	0.1	^	- 0.4
Drivers and mobile machine operators	60 580	36.1	58 880	33.1	- 1 700	- 0.4
<b>Elementary occupations</b>	<b>29 700</b>	<b>17.7</b>	<b>28 840</b>	<b>16.2</b>	<b>- 850</b>	<b>- 0.4</b>
Sales and services elementary occupations, and labourers	29 700	17.7	28 840	16.2	- 850	- 0.4
<b>Total</b>	<b>167 810</b>	<b>100.0</b>	<b>178 120</b>	<b>100.0</b>	<b>+ 10 310</b>	<b>+ 0.7</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.16 : Manpower Requirements of *Miscellaneous Transportation Services* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>3 830</b>	<b>3.0</b>	<b>5 970</b>	<b>4.1</b>	<b>+ 2 140</b>	<b>+ 5.7</b>
Corporate managers, Government administrators and foreign diplomats	1 370	1.1	2 130	1.5	+ 760	+ 5.7
Small business managers	2 460	1.9	3 840	2.7	+ 1 380	+ 5.7
<b>Professionals</b>	<b>2 380</b>	<b>1.9</b>	<b>2 520</b>	<b>1.8</b>	<b>+ 140</b>	<b>+ 0.7</b>
Engineering, physical, and mathematical science professionals	1 710	1.3	1 820	1.3	+ 120	+ 0.8
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related associate	310	0.2	340	0.2	^	+ 0.8
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	360	0.3	360	0.3	^	- 0.1
Other professionals	-	-	-	-	-	-
<b>Associate professionals</b>	<b>6 250</b>	<b>4.9</b>	<b>7 850</b>	<b>5.5</b>	<b>+ 1 600</b>	<b>+ 2.9</b>
Engineering, physical, and mathematical science associate professionals	1 860	1.4	2 340	1.6	+ 480	+ 2.9
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	4 290	3.3	5 400	3.8	+ 1 110	+ 2.9
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	100	0.1	100	0.1	^	- 0.1
Other associate professionals	^	0.0	^	0.0	^	*
<b>Clerks</b>	<b>10 230</b>	<b>7.9</b>	<b>10 650</b>	<b>7.4</b>	<b>+ 420</b>	<b>+ 0.5</b>
Office clerks	8 400	6.5	8 750	6.1	+ 340	+ 0.5
Customer services clerks	1 830	1.4	1 900	1.3	+ 70	+ 0.5
IT assistants	-	-	-	-	-	-
<b>Service workers and shop sales workers</b>	<b>5 130</b>	<b>4.0</b>	<b>5 570</b>	<b>3.9</b>	<b>+ 440</b>	<b>+ 1.0</b>
Personal and protective services workers	280	0.2	310	0.2	^	+ 1.0
Salespersons and models	^	0.0	^	0.0	^	*
Other services workers	4 820	3.7	5 230	3.6	+ 410	+ 1.0
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>7 660</b>	<b>5.9</b>	<b>8 990</b>	<b>6.2</b>	<b>+ 1 330</b>	<b>+ 2.0</b>
Building and extraction trades workers	110	0.1	130	0.1	^	+ 2.0
Metal and machinery trades workers	7 490	5.8	8 790	6.1	+ 1 300	+ 2.0
Precision, handicraft, printing and related trades workers	^	0.0	^	0.0	^	*
Other craft and related workers	50	0.0	60	0.0	^	+ 2.0
<b>Drivers, plant and machine operators, and assemblers</b>	<b>87 230</b>	<b>67.7</b>	<b>96 250</b>	<b>66.9</b>	<b>+ 9 020</b>	<b>+ 1.2</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	^	0.0	^	0.0	^	*
Drivers and mobile machine operators	87 190	67.7	96 220	66.8	+ 9 020	+ 1.2
<b>Elementary occupations</b>	<b>6 100</b>	<b>4.7</b>	<b>6 180</b>	<b>4.3</b>	<b>+ 80</b>	<b>+ 0.2</b>
Sales and services elementary occupations, and labourers	6 100	4.7	6 180	4.3	+ 80	+ 0.2
<b>Total</b>	<b>128 820</b>	<b>100.0</b>	<b>143 980</b>	<b>100.0</b>	<b>+ 15 150</b>	<b>+ 1.4</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.17 : Manpower Requirements of Warehousing and Storage Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>800</b>	<b>12.5</b>	<b>1 190</b>	<b>15.2</b>	<b>+ 390</b>	<b>+ 5.1</b>
Corporate managers, Government administrators and foreign diplomats	140	2.2	210	2.7	+ 70	+ 5.1
Small business managers	660	10.3	980	12.6	+ 320	+ 5.1
<b>Professionals</b>	<b>140</b>	<b>2.2</b>	<b>240</b>	<b>3.1</b>	<b>+ 100</b>	<b>+ 7.0</b>
Engineering, physical, and mathematical science professionals	70	1.1	130	1.7	+ 60	+ 8.0
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	50	0.8	90	1.2	^	+ 8.0
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	^	0.3	^	0.3	^	*
Other professionals	-	-	-	-	-	-
<b>Associate professionals</b>	<b>830</b>	<b>13.0</b>	<b>1 550</b>	<b>19.9</b>	<b>+ 720</b>	<b>+ 8.1</b>
Engineering, physical, and mathematical science associate professionals	110	1.7	200	2.6	+ 90	+ 8.1
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	720	11.2	1 340	17.1	+ 620	+ 8.1
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	-	-	-	-	-	-
Other associate professionals	^	0.1	^	0.2	^	*
<b>Clerks</b>	<b>2 420</b>	<b>37.9</b>	<b>2 360</b>	<b>30.3</b>	<b>- 60</b>	<b>- 0.3</b>
Office clerks	2 230	34.9	2 180	27.9	- 60	- 0.3
Customer services clerks	190	3.0	190	2.4	^	- 0.3
IT assistants	-	-	-	-	-	-
<b>Service workers and shop sales workers</b>	<b>340</b>	<b>5.3</b>	<b>500</b>	<b>6.5</b>	<b>+ 160</b>	<b>+ 5.0</b>
Personal and protective services workers	^	0.6	60	0.8	^	*
Salespersons and models	-	-	-	-	-	-
Other services workers	300	4.7	440	5.7	+ 140	+ 5.0
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>110</b>	<b>1.7</b>	<b>200</b>	<b>2.6</b>	<b>+ 90</b>	<b>+ 8.0</b>
Building and extraction trades workers	-	-	-	-	-	-
Metal and machinery trades workers	110	1.7	200	2.6	+ 90	+ 8.0
Precision, handicraft, printing and related trades workers	-	-	-	-	-	-
Other craft and related workers	-	-	-	-	-	-
<b>Drivers, plant and machine operators, and assemblers</b>	<b>600</b>	<b>9.3</b>	<b>1 080</b>	<b>13.9</b>	<b>+ 490</b>	<b>+ 7.7</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	^	0.2	^	0.3	^	*
Drivers and mobile machine operators	580	9.1	1 060	13.6	+ 470	+ 7.7
<b>Elementary occupations</b>	<b>1 150</b>	<b>18.0</b>	<b>660</b>	<b>8.4</b>	<b>- 500</b>	<b>- 6.8</b>
Sales and services elementary occupations, and labourers	1 150	18.0	660	8.4	- 500	- 6.8
<b>Total</b>	<b>6 400</b>	<b>100.0</b>	<b>7 790</b>	<b>100.0</b>	<b>+ 1 400</b>	<b>+ 2.5</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.18 : Manpower Requirements of *Postal and Courier* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>730</b>	<b>4.0</b>	<b>680</b>	<b>4.2</b>	<b>- 60</b>	<b>- 1.0</b>
Corporate managers, Government administrators and foreign diplomats	140	0.8	130	0.8	^	- 0.9
Small business managers	590	3.3	550	3.4	^	- 1.0
<b>Professionals</b>	<b>70</b>	<b>0.4</b>	<b>60</b>	<b>0.4</b>	<b>^</b>	<b>- 1.0</b>
Engineering, physical, and mathematical science professionals	-	-	-	-	-	-
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	70	0.4	60	0.4	^	- 1.0
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	-	-	-	-	-	-
Other professionals	-	-	-	-	-	-
<b>Associate professionals</b>	<b>1 050</b>	<b>5.7</b>	<b>760</b>	<b>4.7</b>	<b>- 290</b>	<b>- 4.0</b>
Engineering, physical, and mathematical science associate professionals	-	-	-	-	-	-
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	1 010	5.6	730	4.6	- 290	- 4.1
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	^	0.2	^	0.2	^	*
Other associate professionals	-	-	-	-	-	-
<b>Clerks</b>	<b>8 380</b>	<b>45.9</b>	<b>6 960</b>	<b>43.7</b>	<b>- 1 420</b>	<b>- 2.3</b>
Office clerks	8 010	43.9	6 660	41.8	- 1 350	- 2.3
Customer services clerks	370	2.0	310	1.9	- 60	- 2.3
IT assistants	-	-	-	-	-	-
<b>Service workers and shop sales workers</b>	<b>240</b>	<b>1.3</b>	<b>200</b>	<b>1.3</b>	<b>^</b>	<b>- 2.2</b>
Personal and protective services workers	60	0.3	^	0.3	^	*
Salespersons and models	-	-	-	-	-	-
Other services workers	190	1.0	160	1.0	^	- 2.2
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Building and extraction trades workers	-	-	-	-	-	-
Metal and machinery trades workers	-	-	-	-	-	-
Precision, handicraft, printing and related trades workers	-	-	-	-	-	-
Other craft and related workers	-	-	-	-	-	-
<b>Drivers, plant and machine operators, and assemblers</b>	<b>1 110</b>	<b>6.1</b>	<b>1 030</b>	<b>6.5</b>	<b>- 80</b>	<b>- 0.9</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	-	-	-	-	-	-
Drivers and mobile machine operators	1 110	6.1	1 030	6.5	- 80	- 0.9
<b>Elementary occupations</b>	<b>6 690</b>	<b>36.6</b>	<b>6 230</b>	<b>39.1</b>	<b>- 460</b>	<b>- 0.9</b>
Sales and services elementary occupations, and labourers	6 690	36.6	6 230	39.1	- 460	- 0.9
<b>Total</b>	<b>18 260</b>	<b>100.0</b>	<b>15 920</b>	<b>100.0</b>	<b>- 2 340</b>	<b>- 1.7</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.



**Table A7.19 : Manpower Requirements of *Software Publishing and Telecommunication Activities* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>2 820</b>	<b>14.5</b>	<b>2 570</b>	<b>12.8</b>	<b>- 260</b>	<b>- 1.2</b>
Corporate managers, Government administrators and foreign diplomats	1 330	6.8	1 280	6.4	- 50	- 0.5
Small business managers	1 490	7.7	1 290	6.4	- 200	- 1.8
<b>Professionals</b>	<b>3 780</b>	<b>19.4</b>	<b>5 080</b>	<b>25.3</b>	<b>+ 1 300</b>	<b>+ 3.8</b>
Engineering, physical, and mathematical science professionals	170	0.9	180	0.9	^	+ 0.7
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	240	1.2	260	1.3	^	+ 0.7
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	2 940	15.1	4 200	20.9	+ 1 250	+ 4.5
Other professionals	420	2.2	440	2.2	^	+ 0.7
<b>Associate professionals</b>	<b>5 300</b>	<b>27.2</b>	<b>4 820</b>	<b>24.0</b>	<b>- 480</b>	<b>- 1.2</b>
Engineering, physical, and mathematical science associate professionals	2 010	10.3	1 730	8.6	- 280	- 1.8
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	2 800	14.4	2 410	12.0	- 390	- 1.8
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	480	2.5	670	3.3	+ 190	+ 4.3
Other associate professionals	^	0.1	^	0.1	^	*
<b>Clerks</b>	<b>3 760</b>	<b>19.3</b>	<b>4 200</b>	<b>20.9</b>	<b>+ 450</b>	<b>+ 1.4</b>
Office clerks	920	4.7	760	3.8	- 160	- 2.3
Customer services clerks	1 010	5.2	840	4.2	- 170	- 2.3
IT assistants	1 830	9.4	2 600	12.9	+ 770	+ 4.5
<b>Service workers and shop sales workers</b>	<b>1 410</b>	<b>7.2</b>	<b>1 790</b>	<b>8.9</b>	<b>+ 380</b>	<b>+ 3.0</b>
Personal and protective services workers	-	-	-	-	-	-
Salespersons and models	1 410	7.2	1 790	8.9	+ 380	+ 3.0
Other services workers	-	-	-	-	-	-
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>2 060</b>	<b>10.6</b>	<b>1 470</b>	<b>7.3</b>	<b>- 600</b>	<b>- 4.2</b>
Building and extraction trades workers	70	0.4	^	0.2	^	*
Metal and machinery trades workers	1 960	10.1	1 390	6.9	- 570	- 4.2
Precision, handicraft, printing and related trades workers	^	0.1	^	0.1	^	*
Other craft and related workers	^	0.1	^	0.0	^	*
<b>Drivers, plant and machine operators, and assemblers</b>	<b>50</b>	<b>0.3</b>	<b>^</b>	<b>0.1</b>	<b>^</b>	<b>*</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	^	0.1	^	0.0	^	- 8.0
Drivers and mobile machine operators	^	0.2	^	0.1	^	- 8.0
<b>Elementary occupations</b>	<b>280</b>	<b>1.5</b>	<b>150</b>	<b>0.7</b>	<b>- 140</b>	<b>- 7.9</b>
Sales and services elementary occupations, and labourers	280	1.5	150	0.7	- 140	- 7.9
<b>Total</b>	<b>19 460</b>	<b>100.0</b>	<b>20 090</b>	<b>100.0</b>	<b>+ 630</b>	<b>+ 0.4</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.20 : Manpower Requirements of *Information Technology Related Services* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>6 000</b>	<b>17.1</b>	<b>7 140</b>	<b>16.0</b>	<b>+ 1 140</b>	<b>+ 2.2</b>
Corporate managers, Government administrators and foreign diplomats	2 090	6.0	2 740	6.2	+ 650	+ 3.4
Small business managers	3 910	11.1	4 400	9.9	+ 490	+ 1.5
<b>Professionals</b>	<b>16 050</b>	<b>45.7</b>	<b>21 520</b>	<b>48.4</b>	<b>+ 5 470</b>	<b>+ 3.7</b>
Engineering, physical, and mathematical science professionals	4 040	11.5	4 750	10.7	+ 710	+ 2.0
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	460	1.3	540	1.2	+ 80	+ 2.0
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	11 520	32.8	16 190	36.4	+ 4 680	+ 4.4
Other professionals	^	0.1	^	0.1	^	*
<b>Associate professionals</b>	<b>10 540</b>	<b>30.0</b>	<b>12 760</b>	<b>28.7</b>	<b>+ 2 220</b>	<b>+ 2.4</b>
Engineering, physical, and mathematical science associate professionals	4 950	14.1	5 600	12.6	+ 640	+ 1.5
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	2 550	7.3	2 880	6.5	+ 330	+ 1.5
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	3 040	8.6	4 280	9.6	+ 1 240	+ 4.4
Other associate professionals	-	-	-	-	-	-
<b>Clerks</b>	<b>2 050</b>	<b>5.8</b>	<b>2 620</b>	<b>5.9</b>	<b>+ 570</b>	<b>+ 3.1</b>
Office clerks	760	2.2	820	1.9	+ 60	+ 1.0
Customer services clerks	100	0.3	110	0.2	^	+ 1.0
IT assistants	1 190	3.4	1 690	3.8	+ 500	+ 4.5
<b>Service workers and shop sales workers</b>	<b>190</b>	<b>0.6</b>	<b>320</b>	<b>0.7</b>	<b>+ 130</b>	<b>+ 6.5</b>
Personal and protective services workers	-	-	-	-	-	-
Salespersons and models	190	0.6	320	0.7	+ 130	+ 6.5
Other services workers	-	-	-	-	-	-
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>270</b>	<b>0.8</b>	<b>140</b>	<b>0.3</b>	<b>- 130</b>	<b>- 8.0</b>
Building and extraction trades workers	-	-	-	-	-	-
Metal and machinery trades workers	250	0.7	130	0.3	- 120	- 8.0
Precision, handicraft, printing and related trades workers	^	0.1	^	0.0	^	*
Other craft and related workers	-	-	-	-	-	-
<b>Drivers, plant and machine operators, and assemblers</b>	<b>^</b>	<b>0.1</b>	<b>^</b>	<b>0.0</b>	<b>^</b>	<b>*</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	-	-	-	-	-	-
Drivers and mobile machine operators	^	0.1	^	0.0	^	*
<b>Elementary occupations</b>	<b>^</b>	<b>0.0</b>	<b>^</b>	<b>0.0</b>	<b>^</b>	<b>*</b>
Sales and services elementary occupations, and labourers	^	0.0	^	0.0	^	*
<b>Total</b>	<b>35 140</b>	<b>100.0</b>	<b>44 510</b>	<b>100.0</b>	<b>+ 9 370</b>	<b>+ 3.0</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.21 : Manpower Requirements of *Miscellaneous Activities Related to Information and Communications* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>3 890</b>	<b>10.1</b>	<b>4 490</b>	<b>10.3</b>	<b>+ 600</b>	<b>+ 1.8</b>
Corporate managers, Government administrators and foreign diplomats	1 370	3.6	1 580	3.6	+ 210	+ 1.8
Small business managers	2 520	6.6	2 900	6.7	+ 390	+ 1.8
<b>Professionals</b>	<b>12 330</b>	<b>32.2</b>	<b>14 110</b>	<b>32.4</b>	<b>+ 1 790</b>	<b>+ 1.7</b>
Engineering, physical, and mathematical science professionals	790	2.1	900	2.1	+ 110	+ 1.6
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	630	1.6	720	1.6	+ 90	+ 1.6
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	290	0.8	420	1.0	+ 130	+ 4.7
Other professionals	10 620	27.7	12 080	27.8	+ 1 460	+ 1.6
<b>Associate professionals</b>	<b>12 270</b>	<b>32.0</b>	<b>13 840</b>	<b>31.8</b>	<b>+ 1 570</b>	<b>+ 1.5</b>
Engineering, physical, and mathematical science associate professionals	4 290	11.2	4 830	11.1	+ 540	+ 1.5
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	6 350	16.6	7 140	16.4	+ 800	+ 1.5
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	160	0.4	210	0.5	+ 50	+ 3.7
Other associate professionals	1 480	3.8	1 660	3.8	+ 190	+ 1.5
<b>Clerks</b>	<b>5 530</b>	<b>14.4</b>	<b>6 830</b>	<b>15.7</b>	<b>+ 1 300</b>	<b>+ 2.7</b>
Office clerks	2 330	6.1	2 530	5.8	+ 190	+ 1.0
Customer services clerks	760	2.0	830	1.9	+ 60	+ 1.0
IT assistants	2 440	6.4	3 480	8.0	+ 1 040	+ 4.6
<b>Service workers and shop sales workers</b>	<b>2 350</b>	<b>6.1</b>	<b>3 060</b>	<b>7.0</b>	<b>+ 710</b>	<b>+ 3.3</b>
Personal and protective services workers	160	0.4	170	0.4	^	+ 1.0
Salespersons and models	1 620	4.2	2 270	5.2	+ 650	+ 4.3
Other services workers	570	1.5	610	1.4	^	+ 1.0
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>1 200</b>	<b>3.1</b>	<b>620</b>	<b>1.4</b>	<b>- 580</b>	<b>- 8.0</b>
Building and extraction trades workers	210	0.5	110	0.2	- 100	- 8.0
Metal and machinery trades workers	540	1.4	280	0.6	- 260	- 8.0
Precision, handicraft, printing and related trades workers	320	0.8	170	0.4	- 160	- 8.0
Other craft and related workers	130	0.3	70	0.2	- 60	- 8.0
<b>Drivers, plant and machine operators, and assemblers</b>	<b>540</b>	<b>1.4</b>	<b>460</b>	<b>1.0</b>	<b>- 80</b>	<b>- 2.0</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	240	0.6	210	0.5	^	- 2.0
Drivers and mobile machine operators	290	0.8	250	0.6	^	- 2.0
<b>Elementary occupations</b>	<b>230</b>	<b>0.6</b>	<b>120</b>	<b>0.3</b>	<b>- 110</b>	<b>- 8.0</b>
Sales and services elementary occupations, and labourers	230	0.6	120	0.3	- 110	- 8.0
<b>Total</b>	<b>38 330</b>	<b>100.0</b>	<b>43 520</b>	<b>100.0</b>	<b>+ 5 190</b>	<b>+ 1.6</b>

- Means nil figure.

^ Means less than 50.

**Table A7.22 : Manpower Requirements of *Banking* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>26 770</b>	<b>29.3</b>	<b>38 590</b>	<b>34.1</b>	<b>+ 11 820</b>	<b>+ 4.7</b>
Corporate managers, Government administrators and foreign diplomats	25 450	27.8	36 690	32.4	+ 11 240	+ 4.7
Small business managers	1 320	1.4	1 900	1.7	+ 580	+ 4.7
<b>Professionals</b>	<b>11 050</b>	<b>12.1</b>	<b>16 370</b>	<b>14.5</b>	<b>+ 5 320</b>	<b>+ 5.0</b>
Engineering, physical, and mathematical science professionals	400	0.4	630	0.6	+ 240	+ 6.0
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	6 640	7.3	10 580	9.3	+ 3 940	+ 6.0
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	3 940	4.3	5 040	4.5	+ 1 100	+ 3.1
Other professionals	70	0.1	120	0.1	^	+ 6.0
<b>Associate professionals</b>	<b>24 750</b>	<b>27.1</b>	<b>35 840</b>	<b>31.7</b>	<b>+ 11 090</b>	<b>+ 4.7</b>
Engineering, physical, and mathematical science associate professionals	^	0.0	70	0.1	^	*
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	23 320	25.5	33 970	30.0	+ 10 650	+ 4.8
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	1 380	1.5	1 810	1.6	+ 420	+ 3.4
Other associate professionals	-	-	-	-	-	-
<b>Clerks</b>	<b>27 140</b>	<b>29.7</b>	<b>21 000</b>	<b>18.5</b>	<b>- 6 140</b>	<b>- 3.2</b>
Office clerks	18 430	20.1	14 240	12.6	- 4 190	- 3.2
Customer services clerks	8 640	9.4	6 670	5.9	- 1 960	- 3.2
IT assistants	70	0.1	80	0.1	^	+ 1.6
<b>Service workers and shop sales workers</b>	<b>190</b>	<b>0.2</b>	<b>340</b>	<b>0.3</b>	<b>+ 160</b>	<b>+ 8.0</b>
Personal and protective services workers	^	0.0	70	0.1	^	+ 8.0
Salespersons and models	150	0.2	270	0.2	+ 120	+ 8.0
Other services workers	-	-	-	-	-	-
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>^</b>	<b>0.0</b>	<b>^</b>	<b>0.0</b>	<b>^</b>	<b>*</b>
Building and extraction trades workers	^	0.0	^	0.0	^	*
Metal and machinery trades workers	^	0.0	^	0.0	^	*
Precision, handicraft, printing and related trades workers	-	-	-	-	-	-
Other craft and related workers	-	-	-	-	-	-
<b>Drivers, plant and machine operators, and assemblers</b>	<b>190</b>	<b>0.2</b>	<b>360</b>	<b>0.3</b>	<b>+ 170</b>	<b>+ 8.0</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	-	-	-	-	-	-
Drivers and mobile machine operators	190	0.2	360	0.3	+ 170	+ 8.0
<b>Elementary occupations</b>	<b>1 370</b>	<b>1.5</b>	<b>700</b>	<b>0.6</b>	<b>- 670</b>	<b>- 8.0</b>
Sales and services elementary occupations, and labourers	1 370	1.5	700	0.6	- 670	- 8.0
<b>Total</b>	<b>91 500</b>	<b>100.0</b>	<b>113 230</b>	<b>100.0</b>	<b>+ 21 730</b>	<b>+ 2.7</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.23 : Manpower Requirements of *Financial Institutions (other than Banks and Insurance)* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>17 080</b>	<b>23.8</b>	<b>23 940</b>	<b>26.7</b>	<b>+ 6 860</b>	<b>+ 4.3</b>
Corporate managers, Government administrators and foreign diplomats	8 480	11.8	11 880	13.3	+ 3 400	+ 4.3
Small business managers	8 600	12.0	12 060	13.5	+ 3 460	+ 4.3
<b>Professionals</b>	<b>11 160</b>	<b>15.5</b>	<b>17 480</b>	<b>19.5</b>	<b>+ 6 320</b>	<b>+ 5.8</b>
Engineering, physical, and mathematical science professionals	170	0.2	270	0.3	+ 100	+ 6.0
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	9 750	13.6	15 540	17.4	+ 5 790	+ 6.0
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	1 020	1.4	1 320	1.5	+ 300	+ 3.3
Other professionals	220	0.3	350	0.4	+ 130	+ 6.0
<b>Associate professionals</b>	<b>25 680</b>	<b>35.8</b>	<b>31 290</b>	<b>35.0</b>	<b>+ 5 610</b>	<b>+ 2.5</b>
Engineering, physical, and mathematical science associate professionals	^	0.0	^	0.0	^	*
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	25 110	35.0	30 550	34.1	+ 5 440	+ 2.5
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	540	0.8	710	0.8	+ 160	+ 3.3
Other associate professionals	-	-	-	-	-	-
<b>Clerks</b>	<b>15 700</b>	<b>21.9</b>	<b>15 260</b>	<b>17.0</b>	<b>- 440</b>	<b>- 0.4</b>
Office clerks	12 980	18.1	12 540	14.0	- 440	- 0.4
Customer services clerks	2 450	3.4	2 360	2.6	- 80	- 0.4
IT assistants	280	0.4	360	0.4	+ 80	+ 3.3
<b>Service workers and shop sales workers</b>	<b>160</b>	<b>0.2</b>	<b>240</b>	<b>0.3</b>	<b>+ 80</b>	<b>+ 4.9</b>
Personal and protective services workers	130	0.2	190	0.2	+ 60	+ 4.9
Salespersons and models	^	0.0	^	0.1	^	*
Other services workers	-	-	-	-	-	-
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>80</b>	<b>0.1</b>	<b>^</b>	<b>0.0</b>	<b>^</b>	<b>*</b>
Building and extraction trades workers	-	-	-	-	-	-
Metal and machinery trades workers	80	0.1	^	0.0	^	*
Precision, handicraft, printing and related trades workers	-	-	-	-	-	-
Other craft and related workers	-	-	-	-	-	-
<b>Drivers, plant and machine operators, and assemblers</b>	<b>630</b>	<b>0.9</b>	<b>600</b>	<b>0.7</b>	<b>^</b>	<b>- 0.6</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	-	-	-	-	-	-
Drivers and mobile machine operators	630	0.9	600	0.7	^	- 0.6
<b>Elementary occupations</b>	<b>1 270</b>	<b>1.8</b>	<b>650</b>	<b>0.7</b>	<b>- 620</b>	<b>- 8.0</b>
Sales and services elementary occupations, and labourers	1 270	1.8	650	0.7	- 620	- 8.0
<b>Total</b>	<b>71 770</b>	<b>100.0</b>	<b>89 510</b>	<b>100.0</b>	<b>+ 17 740</b>	<b>+ 2.8</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.24 : Manpower Requirements of *Insurance* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>7 600</b>	<b>17.4</b>	<b>11 520</b>	<b>22.9</b>	<b>+ 3 920</b>	<b>+ 5.3</b>
Corporate managers, Government administrators and foreign diplomats	3 180	7.3	4 820	9.6	+ 1 640	+ 5.3
Small business managers	4 420	10.1	6 700	13.3	+ 2 280	+ 5.3
<b>Professionals</b>	<b>2 420</b>	<b>5.5</b>	<b>3 970</b>	<b>7.9</b>	<b>+ 1 550</b>	<b>+ 6.4</b>
Engineering, physical, and mathematical science professionals	110	0.3	210	0.4	+ 100	+ 8.0
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	1 390	3.2	2 580	5.1	+ 1 180	+ 8.0
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	910	2.1	1 180	2.3	+ 270	+ 3.3
Other professionals	-	-	-	-	-	-
<b>Associate professionals</b>	<b>25 280</b>	<b>57.9</b>	<b>25 860</b>	<b>51.3</b>	<b>+ 580</b>	<b>+ 0.3</b>
Engineering, physical, and mathematical science associate professionals	^	0.0	^	0.0	^	*
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	24 810	56.8	25 250	50.1	+ 440	+ 0.2
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	450	1.0	590	1.2	+ 140	+ 3.4
Other associate professionals	-	-	-	-	-	-
<b>Clerks</b>	<b>8 220</b>	<b>18.8</b>	<b>8 920</b>	<b>17.7</b>	<b>+ 700</b>	<b>+ 1.0</b>
Office clerks	7 630	17.5	8 280	16.4	+ 650	+ 1.0
Customer services clerks	580	1.3	630	1.2	^	+ 1.0
IT assistants	^	0.0	^	0.0	^	*
<b>Service workers and shop sales workers</b>	-	-	-	-	-	-
Personal and protective services workers	-	-	-	-	-	-
Salespersons and models	-	-	-	-	-	-
Other services workers	-	-	-	-	-	-
<b>Agricultural and fishery workers</b>	-	-	-	-	-	-
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	-	-	-	-	-	-
Building and extraction trades workers	-	-	-	-	-	-
Metal and machinery trades workers	-	-	-	-	-	-
Precision, handicraft, printing and related trades workers	-	-	-	-	-	-
Other craft and related workers	-	-	-	-	-	-
<b>Drivers, plant and machine operators, and assemblers</b>	-	-	-	-	-	-
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	-	-	-	-	-	-
Drivers and mobile machine operators	-	-	-	-	-	-
<b>Elementary occupations</b>	<b>180</b>	<b>0.4</b>	<b>130</b>	<b>0.3</b>	<b>^</b>	<b>- 3.8</b>
Sales and services elementary occupations, and labourers	180	0.4	130	0.3	^	- 3.8
<b>Total</b>	<b>43 690</b>	<b>100.0</b>	<b>50 400</b>	<b>100.0</b>	<b>+ 6 700</b>	<b>+ 1.8</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.25 : Manpower Requirements of *Real Estate* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>8 780</b>	<b>7.4</b>	<b>11 570</b>	<b>8.6</b>	<b>+ 2 790</b>	<b>+ 3.5</b>
Corporate managers, Government administrators and foreign diplomats	2 430	2.0	3 210	2.4	+ 790	+ 3.6
Small business managers	6 350	5.3	8 360	6.2	+ 2 000	+ 3.5
<b>Professionals</b>	<b>2 760</b>	<b>2.3</b>	<b>3 700</b>	<b>2.7</b>	<b>+ 950</b>	<b>+ 3.8</b>
Engineering, physical, and mathematical science professionals	1 450	1.2	1 970	1.5	+ 520	+ 3.9
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	900	0.8	1 220	0.9	+ 320	+ 3.9
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	380	0.3	470	0.3	+ 90	+ 2.7
Other professionals	^	0.0	^	0.0	^	*
<b>Associate professionals</b>	<b>29 870</b>	<b>25.1</b>	<b>34 400</b>	<b>25.5</b>	<b>+ 4 530</b>	<b>+ 1.8</b>
Engineering, physical, and mathematical science associate professionals	3 310	2.8	3 810	2.8	+ 500	+ 1.8
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	26 210	22.0	30 150	22.3	+ 3 940	+ 1.8
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	290	0.2	380	0.3	+ 90	+ 3.3
Other associate professionals	60	0.0	70	0.0	^	+ 1.8
<b>Clerks</b>	<b>15 100</b>	<b>12.7</b>	<b>15 630</b>	<b>11.6</b>	<b>+ 530</b>	<b>+ 0.4</b>
Office clerks	11 830	9.9	12 240	9.1	+ 420	+ 0.4
Customer services clerks	3 270	2.7	3 390	2.5	+ 120	+ 0.4
IT assistants	-	-	-	-	-	-
<b>Service workers and shop sales workers</b>	<b>950</b>	<b>0.8</b>	<b>1 440</b>	<b>1.1</b>	<b>+ 490</b>	<b>+ 5.4</b>
Personal and protective services workers	330	0.3	510	0.4	+ 170	+ 5.4
Salespersons and models	^	0.0	^	0.0	^	*
Other services workers	590	0.5	890	0.7	+ 300	+ 5.4
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>5 640</b>	<b>4.7</b>	<b>6 320</b>	<b>4.7</b>	<b>+ 680</b>	<b>+ 1.4</b>
Building and extraction trades workers	920	0.8	1 030	0.8	+ 110	+ 1.4
Metal and machinery trades workers	4 660	3.9	5 220	3.9	+ 570	+ 1.4
Precision, handicraft, printing and related trades workers	^	0.0	^	0.0	^	*
Other craft and related workers	^	0.0	50	0.0	^	*
<b>Drivers, plant and machine operators, and assemblers</b>	<b>790</b>	<b>0.7</b>	<b>520</b>	<b>0.4</b>	<b>- 260</b>	<b>- 5.0</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	^	0.0	^	0.0	^	*
Drivers and mobile machine operators	770	0.6	510	0.4	- 260	- 5.0
<b>Elementary occupations</b>	<b>55 140</b>	<b>46.3</b>	<b>61 540</b>	<b>45.5</b>	<b>+ 6 400</b>	<b>+ 1.4</b>
Sales and services elementary occupations, and labourers	55 140	46.3	61 540	45.5	+ 6 400	+ 1.4
<b>Total</b>	<b>119 010</b>	<b>100.0</b>	<b>135 130</b>	<b>100.0</b>	<b>+ 16 110</b>	<b>+ 1.6</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.26 : Manpower Requirements of *Legal Services* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>810</b>	<b>3.9</b>	<b>1 200</b>	<b>4.6</b>	<b>+ 390</b>	<b>+ 5.1</b>
Corporate managers, Government administrators and foreign diplomats	350	1.7	520	2.0	+ 170	+ 5.1
Small business managers	460	2.2	680	2.6	+ 220	+ 5.1
<b>Professionals</b>	<b>6 790</b>	<b>33.2</b>	<b>8 870</b>	<b>34.0</b>	<b>+ 2 090</b>	<b>+ 3.4</b>
Engineering, physical, and mathematical science professionals	-	-	-	-	-	-
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	6 500	31.8	8 490	32.5	+ 2 000	+ 3.4
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	150	0.7	200	0.7	^	+ 3.5
Other professionals	140	0.7	190	0.7	^	+ 3.4
<b>Associate professionals</b>	<b>3 530</b>	<b>17.2</b>	<b>5 590</b>	<b>21.4</b>	<b>+ 2 060</b>	<b>+ 5.9</b>
Engineering, physical, and mathematical science associate professionals	-	-	-	-	-	-
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	3 250	15.9	5 170	19.8	+ 1 930	+ 6.0
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	260	1.2	380	1.4	+ 120	+ 5.0
Other associate professionals	^	0.1	^	0.1	^	*
<b>Clerks</b>	<b>8 480</b>	<b>41.4</b>	<b>9 790</b>	<b>37.5</b>	<b>+ 1 320</b>	<b>+ 1.8</b>
Office clerks	8 240	40.3	9 520	36.5	+ 1 280	+ 1.8
Customer services clerks	230	1.1	270	1.0	^	+ 1.8
IT assistants	-	-	-	-	-	-
<b>Service workers and shop sales workers</b>	<b>^</b>	<b>0.1</b>	<b>50</b>	<b>0.2</b>	<b>^</b>	<b>*</b>
Personal and protective services workers	^	0.1	50	0.2	^	*
Salespersons and models	-	-	-	-	-	-
Other services workers	-	-	-	-	-	-
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Building and extraction trades workers	-	-	-	-	-	-
Metal and machinery trades workers	-	-	-	-	-	-
Precision, handicraft, printing and related trades workers	-	-	-	-	-	-
Other craft and related workers	-	-	-	-	-	-
<b>Drivers, plant and machine operators, and assemblers</b>	<b>80</b>	<b>0.4</b>	<b>50</b>	<b>0.2</b>	<b>^</b>	<b>- 4.8</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	-	-	-	-	-	-
Drivers and mobile machine operators	80	0.4	50	0.2	^	- 4.8
<b>Elementary occupations</b>	<b>750</b>	<b>3.7</b>	<b>550</b>	<b>2.1</b>	<b>- 200</b>	<b>- 3.8</b>
Sales and services elementary occupations, and labourers	750	3.7	550	2.1	- 200	- 3.8
<b>Total</b>	<b>20 450</b>	<b>100.0</b>	<b>26 110</b>	<b>100.0</b>	<b>+ 5 660</b>	<b>+ 3.1</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.



**Table A7.27 : Manpower Requirements of Accounting, Auditing and Bookkeeping Services Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>2 210</b>	<b>8.2</b>	<b>3 330</b>	<b>10.1</b>	<b>+ 1 120</b>	<b>+ 5.3</b>
Corporate managers, Government administrators and foreign diplomats	660	2.5	1 000	3.0	+ 330	+ 5.2
Small business managers	1 550	5.8	2 340	7.1	+ 790	+ 5.3
<b>Professionals</b>	<b>7 230</b>	<b>27.0</b>	<b>9 670</b>	<b>29.4</b>	<b>+ 2 450</b>	<b>+ 3.7</b>
Engineering, physical, and mathematical science professionals	-	-	-	-	-	-
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	7 060	26.3	9 440	28.7	+ 2 390	+ 3.7
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	120	0.5	170	0.5	^	+ 3.8
Other professionals	^	0.2	60	0.2	^	*
<b>Associate professionals</b>	<b>8 230</b>	<b>30.7</b>	<b>10 930</b>	<b>33.2</b>	<b>+ 2 700</b>	<b>+ 3.6</b>
Engineering, physical, and mathematical science associate professionals	-	-	-	-	-	-
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	8 090	30.2	10 740	32.6	+ 2 650	+ 3.6
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	140	0.5	190	0.6	^	+ 3.5
Other associate professionals	-	-	-	-	-	-
<b>Clerks</b>	<b>8 560</b>	<b>31.9</b>	<b>8 260</b>	<b>25.1</b>	<b>- 300</b>	<b>- 0.5</b>
Office clerks	8 490	31.7	8 180	24.9	- 310	- 0.5
Customer services clerks	60	0.2	50	0.2	^	- 0.5
IT assistants	^	0.1	^	0.1	^	*
<b>Service workers and shop sales workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Personal and protective services workers	-	-	-	-	-	-
Salespersons and models	-	-	-	-	-	-
Other services workers	-	-	-	-	-	-
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Building and extraction trades workers	-	-	-	-	-	-
Metal and machinery trades workers	-	-	-	-	-	-
Precision, handicraft, printing and related trades workers	-	-	-	-	-	-
Other craft and related workers	-	-	-	-	-	-
<b>Drivers, plant and machine operators, and assemblers</b>	<b>^</b>	<b>0.1</b>	<b>^</b>	<b>0.1</b>	<b>^</b>	<b>*</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	-	-	-	-	-	-
Drivers and mobile machine operators	^	0.1	^	0.1	^	*
<b>Elementary occupations</b>	<b>550</b>	<b>2.1</b>	<b>700</b>	<b>2.1</b>	<b>+ 150</b>	<b>+ 3.0</b>
Sales and services elementary occupations, and labourers	550	2.1	700	2.1	+ 150	+ 3.0
<b>Total</b>	<b>26 800</b>	<b>100.0</b>	<b>32 920</b>	<b>100.0</b>	<b>+ 6 110</b>	<b>+ 2.6</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.28 : Manpower Requirements of *Engineering and Technical Services not Related to Construction and Real Estate Activities, Business Management and Consultancy Services* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>6 460</b>	<b>13.4</b>	<b>7 270</b>	<b>12.8</b>	<b>+ 810</b>	<b>+ 1.5</b>
Corporate managers, Government administrators and foreign diplomats	1 780	3.7	2 000	3.5	+ 210	+ 1.4
Small business managers	4 670	9.7	5 270	9.3	+ 600	+ 1.5
<b>Professionals</b>	<b>12 040</b>	<b>24.9</b>	<b>16 880</b>	<b>29.8</b>	<b>+ 4 840</b>	<b>+ 4.3</b>
Engineering, physical, and mathematical science professionals	5 790	12.0	8 150	14.4	+ 2 360	+ 4.4
Health and life science professionals	580	1.2	810	1.4	+ 230	+ 4.4
Legal, accounting, business and related professionals	3 530	7.3	4 970	8.8	+ 1 440	+ 4.4
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	680	1.4	900	1.6	+ 220	+ 3.6
Other professionals	1 460	3.0	2 050	3.6	+ 590	+ 4.4
<b>Associate professionals</b>	<b>18 200</b>	<b>37.7</b>	<b>22 070</b>	<b>39.0</b>	<b>+ 3 870</b>	<b>+ 2.4</b>
Engineering, physical, and mathematical science associate professionals	11 090	23.0	13 490	23.8	+ 2 400	+ 2.5
Health and life science associate professionals	480	1.0	580	1.0	+ 100	+ 2.4
Legal, accounting, business and related associate professionals	6 220	12.9	7 530	13.3	+ 1 310	+ 2.4
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	370	0.8	420	0.7	+ 60	+ 1.8
Other associate professionals	^	0.1	^	0.1	^	*
<b>Clerks</b>	<b>6 280</b>	<b>13.0</b>	<b>7 050</b>	<b>12.5</b>	<b>+ 770</b>	<b>+ 1.5</b>
Office clerks	4 790	9.9	5 340	9.4	+ 550	+ 1.4
Customer services clerks	1 180	2.5	1 320	2.3	+ 140	+ 1.4
IT assistants	300	0.6	390	0.7	+ 90	+ 3.3
<b>Service workers and shop sales workers</b>	<b>790</b>	<b>1.6</b>	<b>410</b>	<b>0.7</b>	<b>- 380</b>	<b>- 7.8</b>
Personal and protective services workers	440	0.9	230	0.4	- 220	- 8.0
Salespersons and models	340	0.7	180	0.3	- 160	- 7.6
Other services workers	-	-	-	-	-	-
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>2 020</b>	<b>4.2</b>	<b>1 350</b>	<b>2.4</b>	<b>- 670</b>	<b>- 4.9</b>
Building and extraction trades workers	310	0.6	210	0.4	- 100	- 4.9
Metal and machinery trades workers	1 230	2.5	820	1.4	- 410	- 4.9
Precision, handicraft, printing and related trades workers	280	0.6	190	0.3	- 90	- 4.9
Other craft and related workers	200	0.4	130	0.2	- 70	- 4.9
<b>Drivers, plant and machine operators, and assemblers</b>	<b>990</b>	<b>2.0</b>	<b>770</b>	<b>1.4</b>	<b>- 220</b>	<b>- 3.0</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	750	1.6	590	1.0	- 160	- 3.0
Drivers and mobile machine operators	240	0.5	180	0.3	- 50	- 3.0
<b>Elementary occupations</b>	<b>1 530</b>	<b>3.2</b>	<b>790</b>	<b>1.4</b>	<b>- 740</b>	<b>- 8.0</b>
Sales and services elementary occupations, and labourers	1 530	3.2	790	1.4	- 740	- 8.0
<b>Total</b>	<b>48 290</b>	<b>100.0</b>	<b>56 580</b>	<b>100.0</b>	<b>+ 8 290</b>	<b>+ 2.0</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.29 : Manpower Requirements of *Design, Advertising and Related Services* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>3 580</b>	<b>13.7</b>	<b>3 950</b>	<b>13.3</b>	<b>+ 370</b>	<b>+ 1.2</b>
Corporate managers, Government administrators and foreign diplomats	390	1.5	440	1.5	^	+ 1.2
Small business managers	3 190	12.2	3 520	11.8	+ 330	+ 1.2
<b>Professionals</b>	<b>1 060</b>	<b>4.1</b>	<b>1 550</b>	<b>5.2</b>	<b>+ 490</b>	<b>+ 4.9</b>
Engineering, physical, and mathematical science professionals	310	1.2	460	1.6	+ 150	+ 5.1
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	560	2.2	830	2.8	+ 270	+ 5.1
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	100	0.4	130	0.4	^	+ 3.3
Other professionals	90	0.3	130	0.4	^	+ 5.1
<b>Associate professionals</b>	<b>16 960</b>	<b>65.1</b>	<b>20 240</b>	<b>67.9</b>	<b>+ 3 290</b>	<b>+ 2.2</b>
Engineering, physical, and mathematical science associate professionals	6 070	23.3	7 250	24.3	+ 1 180	+ 2.2
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	10 880	41.8	12 990	43.6	+ 2 110	+ 2.2
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	-	-	-	-	-	-
Other associate professionals	-	-	-	-	-	-
<b>Clerks</b>	<b>3 020</b>	<b>11.6</b>	<b>2 780</b>	<b>9.3</b>	<b>- 240</b>	<b>- 1.0</b>
Office clerks	2 740	10.5	2 530	8.5	- 210	- 1.0
Customer services clerks	270	1.1	250	0.8	^	- 1.0
IT assistants	-	-	-	-	-	-
<b>Service workers and shop sales workers</b>	<b>350</b>	<b>1.4</b>	<b>650</b>	<b>2.2</b>	<b>+ 300</b>	<b>+ 8.0</b>
Personal and protective services workers	^	0.2	70	0.2	^	+ 8.0
Salespersons and models	270	1.0	510	1.7	+ 230	+ 8.0
Other services workers	^	0.2	70	0.2	^	+ 8.0
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>270</b>	<b>1.1</b>	<b>200</b>	<b>0.7</b>	<b>- 70</b>	<b>- 3.6</b>
Building and extraction trades workers	^	0.2	^	0.1	^	- 3.6
Metal and machinery trades workers	80	0.3	60	0.2	^	- 3.6
Precision, handicraft, printing and related trades workers	^	0.1	^	0.1	^	*
Other craft and related workers	110	0.4	80	0.3	^	- 3.6
<b>Drivers, plant and machine operators, and assemblers</b>	<b>90</b>	<b>0.4</b>	<b>^</b>	<b>0.2</b>	<b>^</b>	<b>*</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	^	0.1	^	0.0	^	*
Drivers and mobile machine operators	70	0.3	^	0.1	^	*
<b>Elementary occupations</b>	<b>710</b>	<b>2.7</b>	<b>360</b>	<b>1.2</b>	<b>- 340</b>	<b>- 8.0</b>
Sales and services elementary occupations, and labourers	710	2.7	360	1.2	- 340	- 8.0
<b>Total</b>	<b>26 040</b>	<b>100.0</b>	<b>29 800</b>	<b>100.0</b>	<b>+ 3 760</b>	<b>+ 1.7</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.30 : Manpower Requirements of Architectural, Surveying and Engineering Services Related to Real Estate and Construction Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>1 750</b>	<b>7.9</b>	<b>2 670</b>	<b>10.4</b>	<b>+ 920</b>	<b>+ 5.4</b>
Corporate managers, Government administrators and foreign diplomats	590	2.7	890	3.5	+ 300	+ 5.3
Small business managers	1 160	5.2	1 780	6.9	+ 620	+ 5.5
<b>Professionals</b>	<b>6 430</b>	<b>29.0</b>	<b>7 750</b>	<b>30.1</b>	<b>+ 1 320</b>	<b>+ 2.4</b>
Engineering, physical, and mathematical science professionals	4 550	20.5	5 350	20.8	+ 800	+ 2.1
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	350	1.6	410	1.6	+ 60	+ 2.0
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	1 490	6.7	1 940	7.5	+ 450	+ 3.4
Other professionals	^	0.2	50	0.2	^	*
<b>Associate professionals</b>	<b>7 830</b>	<b>35.4</b>	<b>8 600</b>	<b>33.4</b>	<b>+ 770</b>	<b>+ 1.2</b>
Engineering, physical, and mathematical science associate professionals	6 640	30.0	7 290	28.3	+ 650	+ 1.2
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	1 170	5.3	1 280	5.0	+ 120	+ 1.2
Teaching associate professionals	-	-	-	-	-	-
IT / Computer associate professionals	^	0.1	^	0.1	^	*
Other associate professionals	-	-	-	-	-	-
<b>Clerks</b>	<b>3 540</b>	<b>16.0</b>	<b>4 150</b>	<b>16.1</b>	<b>+ 610</b>	<b>+ 2.0</b>
Office clerks	3 490	15.7	4 080	15.9	+ 600	+ 2.0
Customer services clerks	50	0.2	60	0.2	^	+ 2.0
IT assistants	-	-	-	-	-	-
<b>Service workers and shop sales workers</b>	<b>^</b>	<b>0.2</b>	<b>70</b>	<b>0.3</b>	<b>^</b>	<b>*</b>
Personal and protective services workers	^	0.2	70	0.3	^	*
Salespersons and models	-	-	-	-	-	-
Other services workers	-	-	-	-	-	-
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>1 520</b>	<b>6.8</b>	<b>1 540</b>	<b>6.0</b>	<b>^</b>	<b>+ 0.2</b>
Building and extraction trades workers	270	1.2	280	1.1	^	+ 0.2
Metal and machinery trades workers	1 080	4.9	1 100	4.3	^	+ 0.2
Precision, handicraft, printing and related trades workers	^	0.1	^	0.1	^	*
Other craft and related workers	130	0.6	130	0.5	^	+ 0.2
<b>Drivers, plant and machine operators, and assemblers</b>	<b>290</b>	<b>1.3</b>	<b>230</b>	<b>0.9</b>	<b>- 60</b>	<b>- 2.8</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	80	0.4	60	0.2	^	- 2.8
Drivers and mobile machine operators	210	0.9	170	0.6	^	- 2.8
<b>Elementary occupations</b>	<b>750</b>	<b>3.4</b>	<b>740</b>	<b>2.9</b>	<b>^</b>	<b>- 0.2</b>
Sales and services elementary occupations, and labourers	750	3.4	740	2.9	^	- 0.2
<b>Total</b>	<b>22 150</b>	<b>100.0</b>	<b>25 750</b>	<b>100.0</b>	<b>+ 3 600</b>	<b>+ 1.9</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.31 : Manpower Requirements of *Miscellaneous Professional and Business Services* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>10 110</b>	<b>5.5</b>	<b>14 850</b>	<b>7.5</b>	<b>+ 4 740</b>	<b>+ 4.9</b>
Corporate managers, Government administrators and foreign diplomats	1 170	0.6	1 710	0.9	+ 540	+ 4.8
Small business managers	8 940	4.8	13 130	6.6	+ 4 200	+ 4.9
<b>Professionals</b>	<b>1 710</b>	<b>0.9</b>	<b>3 130</b>	<b>1.6</b>	<b>+ 1 420</b>	<b>+ 7.9</b>
Engineering, physical, and mathematical science professionals	430	0.2	800	0.4	+ 370	+ 8.0
Health and life science professionals	-	-	-	-	-	-
Legal, accounting, business and related professionals	870	0.5	1 610	0.8	+ 740	+ 8.0
Teaching professionals	-	-	-	-	-	-
IT / Computer professionals	70	0.0	110	0.1	^	+ 4.5
Other professionals	330	0.2	620	0.3	+ 280	+ 8.0
<b>Associate professionals</b>	<b>16 800</b>	<b>9.1</b>	<b>19 430</b>	<b>9.8</b>	<b>+ 2 630</b>	<b>+ 1.8</b>
Engineering, physical, and mathematical science associate professionals	1 190	0.6	1 380	0.7	+ 190	+ 1.8
Health and life science associate professionals	-	-	-	-	-	-
Legal, accounting, business and related associate professionals	15 090	8.1	17 430	8.8	+ 2 350	+ 1.8
Teaching associate professionals	150	0.1	170	0.1	^	+ 1.8
IT / Computer associate professionals	150	0.1	190	0.1	^	+ 3.2
Other associate professionals	230	0.1	270	0.1	^	+ 1.8
<b>Clerks</b>	<b>20 200</b>	<b>10.9</b>	<b>23 360</b>	<b>11.7</b>	<b>+ 3 160</b>	<b>+ 1.8</b>
Office clerks	12 730	6.9	14 710	7.4	+ 1 980	+ 1.8
Customer services clerks	7 260	3.9	8 390	4.2	+ 1 130	+ 1.8
IT assistants	200	0.1	260	0.1	+ 50	+ 3.0
<b>Service workers and shop sales workers</b>	<b>9 340</b>	<b>5.0</b>	<b>10 650</b>	<b>5.4</b>	<b>+ 1 310</b>	<b>+ 1.7</b>
Personal and protective services workers	7 950	4.3	9 070	4.6	+ 1 110	+ 1.7
Salespersons and models	910	0.5	1 030	0.5	+ 130	+ 1.7
Other services workers	480	0.3	550	0.3	+ 70	+ 1.7
<b>Agricultural and fishery workers</b>	<b>540</b>	<b>0.3</b>	<b>590</b>	<b>0.3</b>	<b>^</b>	<b>+ 0.9</b>
Agricultural and fishery workers	540	0.3	590	0.3	^	+ 0.9
<b>Craft and related workers</b>	<b>1 330</b>	<b>0.7</b>	<b>1 460</b>	<b>0.7</b>	<b>+ 130</b>	<b>+ 1.2</b>
Building and extraction trades workers	110	0.1	120	0.1	^	+ 1.2
Metal and machinery trades workers	990	0.5	1 080	0.5	+ 100	+ 1.2
Precision, handicraft, printing and related trades workers	^	0.0	^	0.0	^	*
Other craft and related workers	200	0.1	210	0.1	^	+ 1.2
<b>Drivers, plant and machine operators, and assemblers</b>	<b>2 510</b>	<b>1.4</b>	<b>2 660</b>	<b>1.3</b>	<b>+ 160</b>	<b>+ 0.8</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	-	-	-	-	-	-
Drivers and mobile machine operators	2 510	1.4	2 660	1.3	+ 160	+ 0.8
<b>Elementary occupations</b>	<b>122 680</b>	<b>66.2</b>	<b>122 850</b>	<b>61.7</b>	<b>+ 170</b>	<b>+ 0.0</b>
Sales and services elementary occupations, and labourers	122 680	66.2	122 850	61.7	+ 170	+ 0.0
<b>Total</b>	<b>185 220</b>	<b>100.0</b>	<b>198 990</b>	<b>100.0</b>	<b>+ 13 760</b>	<b>+ 0.9</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.32 : Manpower Requirements of *Human Health Activities* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>3 050</b>	<b>2.8</b>	<b>3 830</b>	<b>2.9</b>	<b>+ 780</b>	<b>+ 2.9</b>
Corporate managers, Government administrators and foreign diplomats	2 260	2.1	2 840	2.2	+ 580	+ 2.9
Small business managers	790	0.7	990	0.8	+ 200	+ 2.9
<b>Professionals</b>	<b>20 800</b>	<b>18.9</b>	<b>25 970</b>	<b>19.7</b>	<b>+ 5 170</b>	<b>+ 2.8</b>
Engineering, physical, and mathematical science professionals	70	0.1	90	0.1	^	+ 2.9
Health and life science professionals	19 380	17.7	24 330	18.5	+ 4 950	+ 2.9
Legal, accounting, business and related professionals	380	0.3	480	0.4	+ 100	+ 2.9
Teaching professionals	^	0.0	^	0.0	^	*
IT / Computer professionals	730	0.7	770	0.6	^	+ 0.7
Other professionals	210	0.2	270	0.2	+ 50	+ 2.9
<b>Associate professionals</b>	<b>41 210</b>	<b>37.5</b>	<b>50 640</b>	<b>38.4</b>	<b>+ 9 430</b>	<b>+ 2.6</b>
Engineering, physical, and mathematical science associate professionals	1 150	1.1	1 420	1.1	+ 270	+ 2.6
Health and life science associate professionals	38 020	34.6	46 760	35.5	+ 8 740	+ 2.6
Legal, accounting, business and related associate professionals	1 680	1.5	2 060	1.6	+ 390	+ 2.6
Teaching associate professionals	^	0.0	^	0.0	^	*
IT / Computer associate professionals	290	0.3	320	0.2	^	+ 1.2
Other associate professionals	^	0.0	^	0.0	^	+ 2.6
<b>Clerks</b>	<b>23 820</b>	<b>21.7</b>	<b>29 240</b>	<b>22.2</b>	<b>+ 5 420</b>	<b>+ 2.6</b>
Office clerks	12 180	11.1	14 990	11.4	+ 2 800	+ 2.6
Customer services clerks	11 200	10.2	13 780	10.5	+ 2 580	+ 2.6
IT assistants	440	0.4	470	0.4	^	+ 0.9
<b>Service workers and shop sales workers</b>	<b>6 610</b>	<b>6.0</b>	<b>8 120</b>	<b>6.2</b>	<b>+ 1 510</b>	<b>+ 2.6</b>
Personal and protective services workers	6 450	5.9	7 930	6.0	+ 1 480	+ 2.6
Salespersons and models	160	0.1	190	0.1	^	+ 2.2
Other services workers	-	-	-	-	-	-
<b>Agricultural and fishery workers</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural and fishery workers	-	-	-	-	-	-
<b>Craft and related workers</b>	<b>890</b>	<b>0.8</b>	<b>750</b>	<b>0.6</b>	<b>- 140</b>	<b>- 2.1</b>
Building and extraction trades workers	^	0.0	^	0.0	^	*
Metal and machinery trades workers	860	0.8	720	0.5	- 130	- 2.1
Precision, handicraft, printing and related trades workers	-	-	-	-	-	-
Other craft and related workers	-	-	-	-	-	-
<b>Drivers, plant and machine operators, and assemblers</b>	<b>840</b>	<b>0.8</b>	<b>690</b>	<b>0.5</b>	<b>- 150</b>	<b>- 2.4</b>
Industrial plant operators	-	-	-	-	-	-
Stationary machine operators and assemblers	^	0.0	^	0.0	^	*
Drivers and mobile machine operators	810	0.7	670	0.5	- 140	- 2.4
<b>Elementary occupations</b>	<b>12 580</b>	<b>11.5</b>	<b>12 470</b>	<b>9.5</b>	<b>- 110</b>	<b>- 0.1</b>
Sales and services elementary occupations, and labourers	12 580	11.5	12 470	9.5	- 110	- 0.1
<b>Total</b>	<b>109 810</b>	<b>100.0</b>	<b>131 720</b>	<b>100.0</b>	<b>+ 21 910</b>	<b>+ 2.3</b>

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.33 : Manpower Requirements of *Social and Personal Services (other than Human Health Activities)* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
<b>Managers and administrators</b>	<b>18 580</b>	<b>3.3</b>	<b>21 990</b>	<b>3.6</b>	<b>+ 3 400</b>	<b>+ 2.1</b>
Corporate managers, Government administrators and foreign diplomats	9 000	1.6	10 670	1.8	+ 1 670	+ 2.2
Small business managers	9 580	1.7	11 320	1.9	+ 1 730	+ 2.1
<b>Professionals</b>	<b>80 060</b>	<b>14.4</b>	<b>89 050</b>	<b>14.7</b>	<b>+ 8 990</b>	<b>+ 1.3</b>
Engineering, physical, and mathematical science professionals	4 180	0.8	4 660	0.8	+ 480	+ 1.4
Health and life science professionals	2 010	0.4	2 230	0.4	+ 230	+ 1.4
Legal, accounting, business and related professionals	3 140	0.6	3 500	0.6	+ 360	+ 1.4
Teaching professionals	51 030	9.2	56 870	9.4	+ 5 830	+ 1.4
IT / Computer professionals	2 740	0.5	2 890	0.5	+ 150	+ 0.7
Other professionals	16 960	3.1	18 900	3.1	+ 1 940	+ 1.4
<b>Associate professionals</b>	<b>129 590</b>	<b>23.3</b>	<b>150 080</b>	<b>24.8</b>	<b>+ 20 480</b>	<b>+ 1.9</b>
Engineering, physical, and mathematical science associate professionals	12 540	2.3	14 530	2.4	+ 1 990	+ 1.9
Health and life science associate professionals	6 000	1.1	6 950	1.1	+ 950	+ 1.9
Legal, accounting, business and related associate professionals	23 020	4.1	26 670	4.4	+ 3 650	+ 1.9
Teaching associate professionals	64 470	11.6	74 710	12.3	+ 10 230	+ 1.9
IT / Computer associate professionals	1 360	0.2	1 490	0.2	+ 130	+ 1.1
Other associate professionals	22 210	4.0	25 730	4.2	+ 3 530	+ 1.9
<b>Clerks</b>	<b>80 010</b>	<b>14.4</b>	<b>83 200</b>	<b>13.7</b>	<b>+ 3 180</b>	<b>+ 0.5</b>
Office clerks	63 250	11.4	65 740	10.8	+ 2 490	+ 0.5
Customer services clerks	15 620	2.8	16 230	2.7	+ 620	+ 0.5
IT assistants	1 150	0.2	1 230	0.2	+ 80	+ 0.8
<b>Service workers and shop sales workers</b>	<b>146 840</b>	<b>26.5</b>	<b>177 790</b>	<b>29.3</b>	<b>+ 30 950</b>	<b>+ 2.4</b>
Personal and protective services workers	136 960	24.7	165 820	27.4	+ 28 870	+ 2.4
Salespersons and models	1 700	0.3	2 050	0.3	+ 360	+ 2.4
Other services workers	8 190	1.5	9 910	1.6	+ 1 730	+ 2.4
<b>Agricultural and fishery workers</b>	<b>820</b>	<b>0.1</b>	<b>880</b>	<b>0.1</b>	<b>+ 60</b>	<b>+ 0.8</b>
Agricultural and fishery workers	820	0.1	880	0.1	+ 60	+ 0.8
<b>Craft and related workers</b>	<b>24 740</b>	<b>4.5</b>	<b>20 890</b>	<b>3.4</b>	<b>- 3 850</b>	<b>- 2.1</b>
Building and extraction trades workers	290	0.1	240	0.0	^	- 2.1
Metal and machinery trades workers	21 860	3.9	18 450	3.0	- 3 400	- 2.1
Precision, handicraft, printing and related trades workers	450	0.1	380	0.1	- 70	- 2.1
Other craft and related workers	2 150	0.4	1 810	0.3	- 330	- 2.1
<b>Drivers, plant and machine operators, and assemblers</b>	<b>7 340</b>	<b>1.3</b>	<b>5 360</b>	<b>0.9</b>	<b>- 1 980</b>	<b>- 3.8</b>
Industrial plant operators	^	0.0	^	0.0	^	*
Stationary machine operators and assemblers	780	0.1	570	0.1	- 210	- 3.8
Drivers and mobile machine operators	6 540	1.2	4 780	0.8	- 1 760	- 3.8
<b>Elementary occupations</b>	<b>67 150</b>	<b>12.1</b>	<b>56 690</b>	<b>9.4</b>	<b>- 10 460</b>	<b>- 2.1</b>
Sales and services elementary occupations, and labourers	67 150	12.1	56 690	9.4	- 10 460	- 2.1
<b>Total</b>	<b>555 140</b>	<b>100.0</b>	<b>605 910</b>	<b>100.0</b>	<b>+ 50 780</b>	<b>+ 1.1</b>

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.34 : Manpower Requirements of *Financial Services* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Managers and administrators	51 450	24.9	74 060	29.3	+ 22 600	+ 4.7
Professionals	24 620	11.9	37 820	14.9	+ 13 200	+ 5.5
Associate professionals	75 710	36.6	92 990	36.7	+ 17 280	+ 2.6
Clerks	51 060	24.7	45 180	17.8	- 5 880	- 1.5
Service workers and shop sales workers	350	0.2	580	0.2	+ 230	+ 6.6
Agricultural and fishery workers	-	-	-	-	-	-
Craft and related workers	110	0.1	60	0.0	- 60	- 8.0
Drivers, plant and machine operators, and assemblers	830	0.4	960	0.4	+ 130	+ 1.9
Elementary occupations	2 820	1.4	1 490	0.6	- 1 330	- 7.7
Total	206 960	100.0	253 140	100.0	+ 46 180	+ 2.5

- Means nil figure.

**Table A7.35 : Manpower Requirements of *Trading and Logistics* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Managers and administrators	136 310	17.9	146 530	18.7	+ 10 220	+ 0.9
Professionals	18 520	2.4	23 270	3.0	+ 4 750	+ 2.9
Associate professionals	178 700	23.5	196 520	25.1	+ 17 820	+ 1.2
Clerks	238 800	31.4	223 400	28.6	- 15 390	- 0.8
Service workers and shop sales workers	23 480	3.1	25 650	3.3	+ 2 170	+ 1.1
Agricultural and fishery workers	-	-	-	-	-	-
Craft and related workers	13 260	1.7	14 330	1.8	+ 1 070	+ 1.0
Drivers, plant and machine operators, and assemblers	76 440	10.1	76 510	9.8	+ 70	+ 0.0
Elementary occupations	75 050	9.9	75 460	9.7	+ 410	+ 0.1
Total	760 560	100.0	781 660	100.0	+ 21 100	+ 0.3

- Means nil figure.



**Table A7.36 : Manpower Requirements of *Professional Services* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Managers and administrators	23 860	8.3	29 390	8.5	+ 5 530	+ 2.6
Professionals	70 390	24.4	92 220	26.5	+ 21 830	+ 3.4
Associate professionals	106 490	36.9	130 830	37.7	+ 24 340	+ 2.6
Clerks	55 740	19.3	63 890	18.4	+ 8 150	+ 1.7
Service workers and shop sales workers	8 020	2.8	9 630	2.8	+ 1 620	+ 2.3
Agricultural and fishery workers	-	-	-	-	-	-
Craft and related workers	4 970	1.7	3 980	1.1	- 990	- 2.7
Drivers, plant and machine operators, and assemblers	2 340	0.8	1 840	0.5	- 500	- 3.0
Elementary occupations	16 880	5.8	15 620	4.5	- 1 270	- 1.0
<b>Total</b>	<b>288 700</b>	<b>100.0</b>	<b>347 400</b>	<b>100.0</b>	<b>+ 58 700</b>	<b>+ 2.3</b>

- Means nil figure.

**Table A7.37 : Manpower Requirements of *Tourism* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Managers and administrators	13 440	6.8	20 520	8.3	+ 7 080	+ 5.4
Professionals	2 880	1.5	4 340	1.8	+ 1 460	+ 5.3
Associate professionals	19 130	9.7	27 780	11.2	+ 8 650	+ 4.8
Clerks	23 160	11.7	28 780	11.6	+ 5 620	+ 2.8
Service workers and shop sales workers	85 320	43.2	108 700	43.9	+ 23 390	+ 3.1
Agricultural and fishery workers	-	-	-	-	-	-
Craft and related workers	5 560	2.8	5 440	2.2	- 120	- 0.3
Drivers, plant and machine operators, and assemblers	15 220	7.7	17 980	7.3	+ 2 760	+ 2.1
Elementary occupations	32 830	16.6	33 900	13.7	+ 1 070	+ 0.4
<b>Total</b>	<b>197 540</b>	<b>100.0</b>	<b>247 450</b>	<b>100.0</b>	<b>+ 49 900</b>	<b>+ 2.9</b>

- Means nil figure.

**Table A7.38 : Manpower Requirements of *Information Technology and Information Services* Industry by Occupation Group in 2010 and 2018**

Occupation Group	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Managers and administrators	8 820	16.2	9 700	15.0	+ 880	+ 1.2
Professionals	19 830	36.3	26 600	41.2	+ 6 770	+ 3.7
Associate professionals	15 830	29.0	17 580	27.2	+ 1 710	+ 1.3
Clerks	5 800	10.6	6 820	10.6	+ 1 020	+ 2.0
Service workers and shop sales workers	1 600	2.9	2 110	3.3	+ 500	+ 3.5
Agricultural and fishery workers	-	-	-	-	-	-
Craft and related workers	2 340	4.3	1 610	2.5	- 730	- 4.6
Drivers, plant and machine operators, and assemblers	80	0.1	^	0.1	^	*
Elementary occupations	290	0.5	150	0.2	- 140	- 7.9
Total	54 600	100.0	64 610	100.0	+ 10 010	+ 2.1

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.39 : Manpower Requirements of *Education Services* Industry by Occupation Group in 2009 and 2015**

Occupation Group	Actual manpower requirement in 2009		Projected manpower requirement in 2015		Projected change from 2009 to 2015	Projected average annual % change (2009-2015)
	Number	% share	Number	% share	Number	%
Managers and administrators	5 370	8.6	6 680	8.3	+ 1 300	+ 3.7
Professionals	19 260	30.9	25 310	31.4	+ 6 050	+ 4.7
Associate professionals	16 110	25.9	20 980	26.0	+ 4 870	+ 4.5
Clerks	8 030	12.9	10 370	12.9	+ 2 330	+ 4.3
Service workers and shop sales workers	7 330	11.8	9 500	11.8	+ 2 170	+ 4.4
Agricultural and fishery workers	-	-	-	-	-	-
Craft and related workers	930	1.5	1 190	1.5	+ 260	+ 4.1
Drivers, plant and machine operators, and assemblers	570	0.9	760	0.9	+ 180	+ 4.7
Elementary occupations	4 630	7.4	5 820	7.2	+ 1 190	+ 3.9
Total	62 240	100.0	80 590	100.0	+ 18 350	+ 4.4

- Means nil figure.

**Table A7.40 : Manpower Requirements of *Medical Services* Industry by Occupation Group in 2009 and 2015**

Occupation Group	Actual manpower requirement in 2009		Projected manpower requirement in 2015		Projected change from 2009 to 2015	Projected average annual % change (2009-2015)
	Number	% share	Number	% share	Number	%
Managers and administrators	2 990	4.2	3 940	4.6	+ 950	+ 4.7
Professionals	11 090	15.4	13 640	15.9	+ 2 550	+ 3.5
Associate professionals	24 260	33.7	29 210	34.0	+ 4 950	+ 3.1
Clerks	14 120	19.6	17 070	19.9	+ 2 950	+ 3.2
Service workers and shop sales workers	9 870	13.7	11 790	13.7	+ 1 920	+ 3.0
Agricultural and fishery workers	-	-	-	-	-	-
Craft and related workers	1 580	2.2	1 660	1.9	+ 80	+ 0.9
Drivers, plant and machine operators, and assemblers	570	0.8	540	0.6	^	- 0.7
Elementary occupations	7 510	10.4	8 110	9.4	+ 600	+ 1.3
Total	71 990	100.0	85 960	100.0	+ 13 970	+ 3.0

- Means nil figure.

^ Means less than 50.

**Table A7.41 : Manpower Requirements of *Testing and Certification Services* Industry by Occupation Group in 2009 and 2015**

Occupation Group	Actual manpower requirement in 2009		Projected manpower requirement in 2015		Projected change from 2009 to 2015	Projected average annual % change (2009-2015)
	Number	% share	Number	% share	Number	%
Managers and administrators	1 670	13.2	1 910	13.2	+ 240	+ 2.3
Professionals	3 690	29.3	4 230	29.3	+ 540	+ 2.3
Associate professionals	3 500	27.7	4 010	27.7	+ 510	+ 2.3
Clerks	1 910	15.2	2 430	16.8	+ 520	+ 4.1
Service workers and shop sales workers	500	4.0	570	4.0	+ 70	+ 2.3
Agricultural and fishery workers	-	-	-	-	-	-
Craft and related workers	500	4.0	480	3.3	^	- 0.6
Drivers, plant and machine operators, and assemblers	250	2.0	260	1.8	^	+ 0.7
Elementary occupations	580	4.6	550	3.8	^	- 1.1
<b>Total</b>	<b>12 610</b>	<b>100.0</b>	<b>14 450</b>	<b>100.0</b>	<b>+ 1 840</b>	<b>+ 2.3</b>

- Means nil figure.

^ Means less than 50.

**Table A7.42 : Manpower Requirements of *Environmental* Industries by Occupation Group in 2009 and 2015**

Occupation Group	Actual manpower requirement in 2009		Projected manpower requirement in 2015		Projected change from 2009 to 2015	Projected average annual % change (2009-2015)
	Number	% share	Number	% share	Number	%
Managers and administrators	2 210	6.8	3 410	8.2	+ 1 210	+ 7.5
Professionals	1 090	3.3	1 590	3.8	+ 510	+ 6.6
Associate professionals	4 220	13.0	5 670	13.6	+ 1 440	+ 5.0
Clerks	4 110	12.7	5 410	13.0	+ 1 300	+ 4.7
Service workers and shop sales workers	2 170	6.7	2 860	6.8	+ 690	+ 4.7
Agricultural and fishery workers	-	-	-	-	-	-
Craft and related workers	1 010	3.1	1 190	2.8	+ 180	+ 2.8
Drivers, plant and machine operators, and assemblers	640	2.0	870	2.1	+ 230	+ 5.4
Elementary occupations	16 980	52.4	20 720	49.7	+ 3 740	+ 3.4
<b>Total</b>	<b>32 410</b>	<b>100.0</b>	<b>41 720</b>	<b>100.0</b>	<b>+ 9 310</b>	<b>+ 4.3</b>

- Means nil figure.

**Table A7.43 : Manpower Requirements of *Innovation and Technology* Industry  
by Occupation Group in 2009 and 2015**

Occupation Group	Actual manpower requirement in 2009		Projected manpower requirement in 2015		Projected change from 2009 to 2015	Projected average annual % change (2009-2015)
	Number	% share	Number	% share	Number	%
Managers and administrators	1 100	4.0	1 020	2.9	- 80	- 1.2
Professionals	22 800	83.0	30 520	85.3	+ 7 720	+ 5.0
Associate professionals	3 020	11.0	3 790	10.6	+ 770	+ 3.8
Clerks	550	2.0	440	1.2	- 110	- 3.8
Service workers and shop sales workers	-	-	-	-	-	-
Agricultural and fishery workers	-	-	-	-	-	-
Craft and related workers	-	-	-	-	-	-
Drivers, plant and machine operators, and assemblers	-	-	-	-	-	-
Elementary occupations	-	-	-	-	-	-
<b>Total</b>	<b>27 470</b>	<b>100.0</b>	<b>35 770</b>	<b>100.0</b>	<b>+ 8 300</b>	<b>+ 4.5</b>

- Means nil figure.

**Table A7.44 : Manpower Requirements of *Cultural and Creative* Industries  
by Occupation Group in 2009 and 2015**

Occupation Group	Actual manpower requirement in 2009		Projected manpower requirement in 2015		Projected change from 2009 to 2015	Projected average annual % change (2009-2015)
	Number	% share	Number	% share	Number	%
Managers and administrators	21 300	11.3	24 140	11.7	+ 2 840	+ 2.1
Professionals	29 390	15.6	33 690	16.3	+ 4 300	+ 2.3
Associate professionals	53 710	28.5	58 890	28.4	+ 5 180	+ 1.5
Clerks	24 760	13.2	27 210	13.1	+ 2 450	+ 1.6
Service workers and shop sales workers	28 610	15.2	32 300	15.6	+ 3 690	+ 2.0
Agricultural and fishery workers	-	-	-	-	-	-
Craft and related workers	10 220	5.4	10 220	4.9	^	+ 0.0
Drivers, plant and machine operators, and assemblers	5 580	3.0	5 690	2.7	+ 110	+ 0.3
Elementary occupations	14 680	7.8	14 910	7.2	+ 240	+ 0.3
<b>Total</b>	<b>188 250</b>	<b>100.0</b>	<b>207 060</b>	<b>100.0</b>	<b>+ 18 810</b>	<b>+ 1.6</b>

- Means nil figure.

^ Means less than 50.

**Table A7.45 : Manpower Requirements of *Agriculture, Fishing and Quarrying* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	2 760	74.3	1 820	60.6	- 940	- 5.1
Upper secondary	570	15.4	800	26.7	+ 230	+ 4.3
Craft	-	-	-	-	-	-
Technician	^	1.0	^	1.3	^	*
Sub-degree	^	0.9	60	2.0	^	*
First degree	310	8.3	280	9.4	^	- 1.1
Postgraduate	-	-	-	-	-	-
Total	3 710	100.0	3 010	100.0	- 710	- 2.6

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.46 : Manpower Requirements of *Manufacturing* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	48 610	40.2	32 270	34.3	- 16 340	- 5.0
Upper secondary	45 810	37.8	35 880	38.1	- 9 930	- 3.0
Craft	950	0.8	740	0.8	- 220	- 3.2
Technician	3 990	3.3	3 270	3.5	- 720	- 2.5
Sub-degree	4 960	4.1	4 610	4.9	- 350	- 0.9
First degree	12 950	10.7	13 280	14.1	+ 330	+ 0.3
Postgraduate	3 760	3.1	4 040	4.3	+ 280	+ 0.9
Total	121 030	100.0	94 080	100.0	- 26 950	- 3.1

**Table A7.47 : Manpower Requirements of *Electricity, Gas, Water and Waste Management* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	3 840	25.3	2 910	17.0	- 930	- 3.4
Upper secondary	4 920	32.4	5 620	32.8	+ 700	+ 1.7
Craft	150	1.0	260	1.5	+ 110	+ 7.4
Technician	1 060	7.0	1 140	6.7	+ 80	+ 1.0
Sub-degree	1 070	7.0	1 600	9.3	+ 530	+ 5.2
First degree	3 090	20.4	3 890	22.8	+ 800	+ 2.9
Postgraduate	1 060	7.0	1 680	9.8	+ 620	+ 5.9
Total	15 180	100.0	17 100	100.0	+ 1 920	+ 1.5

**Table A7.48 : Manpower Requirements of *Construction* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	141 980	52.4	134 990	42.8	- 6 990	- 0.6
Upper secondary	80 250	29.6	107 550	34.1	+ 27 300	+ 3.7
Craft	3 520	1.3	3 580	1.1	+ 50	+ 0.2
Technician	8 440	3.1	12 930	4.1	+ 4 500	+ 5.5
Sub-degree	9 650	3.6	15 860	5.0	+ 6 220	+ 6.4
First degree	22 950	8.5	31 430	10.0	+ 8 470	+ 4.0
Postgraduate	4 330	1.6	8 840	2.8	+ 4 510	+ 9.3
Total	271 130	100.0	315 190	100.0	+ 44 060	+ 1.9

**Table A7.49 : Manpower Requirements of *Import and Export Trade* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	67 210	13.4	45 940	8.8	- 21 270	- 4.6
Upper secondary	239 930	47.7	233 730	44.6	- 6 200	- 0.3
Craft	1 160	0.2	2 550	0.5	+ 1 400	+ 10.4
Technician	23 610	4.7	28 310	5.4	+ 4 700	+ 2.3
Sub-degree	32 690	6.5	44 200	8.4	+ 11 510	+ 3.8
First degree	118 850	23.6	144 080	27.5	+ 25 230	+ 2.4
Postgraduate	19 920	4.0	25 050	4.8	+ 5 130	+ 2.9
Total	503 370	100.0	523 860	100.0	+ 20 490	+ 0.5

**Table A7.50 : Manpower Requirements of *Wholesale* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	24 650	38.1	19 770	35.3	- 4 880	- 2.7
Upper secondary	27 330	42.2	23 570	42.1	- 3 770	- 1.8
Craft	260	0.4	240	0.4	^	- 1.0
Technician	1 730	2.7	1 820	3.2	+ 90	+ 0.6
Sub-degree	2 740	4.2	3 110	5.6	+ 370	+ 1.6
First degree	6 860	10.6	6 300	11.3	- 560	- 1.1
Postgraduate	1 140	1.8	1 150	2.1	^	+ 0.2
Total	64 720	100.0	55 960	100.0	- 8 750	- 1.8

^ Means less than 50.



**Table A7.51 : Manpower Requirements of *Retail Trade* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	108 000	35.3	76 890	22.5	- 31 110	- 4.2
Upper secondary	152 520	49.9	195 440	57.2	+ 42 930	+ 3.1
Craft	380	0.1	930	0.3	+ 550	+ 11.8
Technician	6 660	2.2	12 220	3.6	+ 5 560	+ 7.9
Sub-degree	9 980	3.3	15 140	4.4	+ 5 160	+ 5.4
First degree	24 590	8.0	35 430	10.4	+ 10 840	+ 4.7
Postgraduate	3 810	1.2	5 890	1.7	+ 2 070	+ 5.6
Total	305 930	100.0	341 920	100.0	+ 35 990	+ 1.4

**Table A7.52 : Manpower Requirements of *Accommodation* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	10 530	25.6	8 480	16.8	- 2 060	- 2.7
Upper secondary	18 440	44.9	20 710	41.0	+ 2 270	+ 1.5
Craft	120	0.3	130	0.3	^	+ 1.7
Technician	3 070	7.5	4 500	8.9	+ 1 430	+ 4.9
Sub-degree	2 280	5.6	4 270	8.5	+ 1 990	+ 8.2
First degree	6 180	15.0	11 250	22.3	+ 5 060	+ 7.8
Postgraduate	480	1.2	1 140	2.3	+ 660	+ 11.4
Total	41 110	100.0	50 480	100.0	+ 9 370	+ 2.6

^ Means less than 50.

**Table A7.53 : Manpower Requirements of *Food Services* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	127 530	56.9	107 580	43.9	- 19 950	- 2.1
Upper secondary	84 910	37.9	117 260	47.9	+ 32 350	+ 4.1
Craft	1 130	0.5	1 580	0.6	+ 450	+ 4.3
Technician	2 620	1.2	4 360	1.8	+ 1 740	+ 6.6
Sub-degree	2 490	1.1	4 480	1.8	+ 1 990	+ 7.6
First degree	5 290	2.4	8 610	3.5	+ 3 320	+ 6.3
Postgraduate	330	0.1	940	0.4	+ 610	+ 14.0
Total	224 310	100.0	244 820	100.0	+ 20 520	+ 1.1

**Table A7.54 : Manpower Requirements of *Freight Transportation* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	68 720	41.0	56 040	31.5	- 12 680	- 2.5
Upper secondary	67 750	40.4	74 850	42.0	+ 7 100	+ 1.3
Craft	400	0.2	590	0.3	+ 190	+ 5.0
Technician	3 770	2.2	5 520	3.1	+ 1 750	+ 4.9
Sub-degree	5 880	3.5	9 560	5.4	+ 3 680	+ 6.3
First degree	18 500	11.0	26 450	14.8	+ 7 950	+ 4.6
Postgraduate	2 780	1.7	5 100	2.9	+ 2 320	+ 7.9
Total	167 810	100.0	178 120	100.0	+ 10 310	+ 0.7

**Table A7.55 : Manpower Requirements of *Miscellaneous Transportation Services* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	68 630	53.3	60 260	41.9	- 8 380	- 1.6
Upper secondary	44 290	34.4	60 680	42.1	+ 16 390	+ 4.0
Craft	670	0.5	810	0.6	+ 140	+ 2.4
Technician	2 600	2.0	4 670	3.2	+ 2 070	+ 7.6
Sub-degree	4 000	3.1	5 800	4.0	+ 1 800	+ 4.8
First degree	6 960	5.4	9 650	6.7	+ 2 690	+ 4.2
Postgraduate	1 670	1.3	2 110	1.5	+ 440	+ 2.9
Total	128 820	100.0	143 980	100.0	+ 15 150	+ 1.4

**Table A7.56 : Manpower Requirements of *Warehousing and Storage* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	1 610	25.2	1 000	12.8	- 610	- 5.8
Upper secondary	3 230	50.4	3 740	48.0	+ 520	+ 1.9
Craft	^	0.2	50	0.7	^	+ 17.5
Technician	240	3.8	560	7.2	+ 310	+ 10.9
Sub-degree	310	4.8	650	8.3	+ 340	+ 9.7
First degree	810	12.7	1 450	18.6	+ 640	+ 7.5
Postgraduate	180	2.8	340	4.4	+ 160	+ 8.3
Total	6 400	100.0	7 790	100.0	+ 1 400	+ 2.5

^ Means less than 50.

**Table A7.57 : Manpower Requirements of *Postal and Courier Industry* by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	4 560	25.0	3 400	21.4	- 1 160	- 3.6
Upper secondary	11 460	62.8	9 860	61.9	- 1 600	- 1.9
Craft	-	-	^	0.1	^	*
Technician	410	2.2	400	2.5	^	- 0.3
Sub-degree	250	1.4	360	2.3	+ 110	+ 4.6
First degree	1 340	7.4	1 570	9.9	+ 230	+ 2.0
Postgraduate	240	1.3	310	2.0	+ 70	+ 3.4
Total	18 260	100.0	15 920	100.0	- 2 340	- 1.7

- Means nil figure.

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.58 : Manpower Requirements of *Software Publishing and Telecommunication Activities* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	1 110	5.7	410	2.0	- 700	- 11.6
Upper secondary	7 770	39.9	6 320	31.4	- 1 450	- 2.6
Craft	^	0.0	^	0.0	^	*
Technician	1 030	5.3	1 350	6.7	+ 320	+ 3.4
Sub-degree	1 290	6.7	1 950	9.7	+ 650	+ 5.2
First degree	6 510	33.4	7 520	37.4	+ 1 010	+ 1.8
Postgraduate	1 750	9.0	2 540	12.7	+ 800	+ 4.8
Total	19 460	100.0	20 090	100.0	+ 630	+ 0.4

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.59 : Manpower Requirements of *Information Technology Related Services* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	270	0.8	130	0.3	- 140	- 8.9
Upper secondary	4 820	13.7	2 930	6.6	- 1 890	- 6.0
Craft	-	-	-	-	-	-
Technician	1 140	3.2	2 050	4.6	+ 910	+ 7.6
Sub-degree	2 780	7.9	4 730	10.6	+ 1 950	+ 6.9
First degree	21 080	60.0	26 550	59.7	+ 5 480	+ 2.9
Postgraduate	5 060	14.4	8 130	18.3	+ 3 070	+ 6.1
Total	35 140	100.0	44 510	100.0	+ 9 370	+ 3.0

- Means nil figure.

**Table A7.60 : Manpower Requirements of *Miscellaneous Activities Related to Information and Communications* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	3 020	7.9	1 950	4.5	- 1 070	- 5.3
Upper secondary	13 350	34.8	12 510	28.7	- 840	- 0.8
Craft	80	0.2	70	0.2	^	- 2.1
Technician	1 860	4.9	2 250	5.2	+ 380	+ 2.4
Sub-degree	3 250	8.5	3 590	8.3	+ 350	+ 1.3
First degree	14 410	37.6	18 860	43.3	+ 4 450	+ 3.4
Postgraduate	2 360	6.1	4 290	9.9	+ 1 940	+ 7.8
Total	38 330	100.0	43 520	100.0	+ 5 190	+ 1.6

^ Means less than 50.

**Table A7.61 : Manpower Requirements of *Banking* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	1 350	1.5	710	0.6	- 630	- 7.6
Upper secondary	31 740	34.7	21 240	18.8	- 10 500	- 4.9
Craft	-	-	-	-	-	-
Technician	3 020	3.3	2 680	2.4	- 340	- 1.5
Sub-degree	4 950	5.4	5 800	5.1	+ 850	+ 2.0
First degree	38 160	41.7	60 650	53.6	+ 22 490	+ 6.0
Postgraduate	12 270	13.4	22 140	19.6	+ 9 860	+ 7.7
Total	91 500	100.0	113 230	100.0	+ 21 730	+ 2.7

- Means nil figure.

**Table A7.62 : Manpower Requirements of *Financial institutions (other than Banks and Insurance)* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	3 270	4.6	1 540	1.7	- 1 730	- 9.0
Upper secondary	22 680	31.6	22 780	25.4	+ 100	+ 0.1
Craft	70	0.1	200	0.2	+ 120	+ 12.8
Technician	1 480	2.1	970	1.1	- 500	- 5.1
Sub-degree	3 580	5.0	5 070	5.7	+ 1 500	+ 4.5
First degree	30 360	42.3	41 720	46.6	+ 11 360	+ 4.1
Postgraduate	10 340	14.4	17 240	19.3	+ 6 900	+ 6.6
Total	71 770	100.0	89 510	100.0	+ 17 740	+ 2.8

**Table A7.63 : Manpower Requirements of *Insurance* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	1 620	3.7	480	0.9	- 1 150	- 14.2
Upper secondary	19 660	45.0	17 520	34.8	- 2 140	- 1.4
Craft	^	0.1	140	0.3	+ 110	*
Technician	1 500	3.4	1 510	3.0	^	+ 0.1
Sub-degree	3 400	7.8	5 220	10.4	+ 1 820	+ 5.5
First degree	14 450	33.1	20 270	40.2	+ 5 820	+ 4.3
Postgraduate	3 040	7.0	5 260	10.4	+ 2 220	+ 7.1
Total	43 690	100.0	50 400	100.0	+ 6 700	+ 1.8

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.64 : Manpower Requirements of *Real Estate* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	42 320	35.6	35 480	26.3	- 6 830	- 2.2
Upper secondary	47 080	39.6	56 250	41.6	+ 9 170	+ 2.2
Craft	360	0.3	440	0.3	+ 80	+ 2.6
Technician	4 000	3.4	4 520	3.3	+ 520	+ 1.5
Sub-degree	6 070	5.1	10 480	7.8	+ 4 420	+ 7.1
First degree	15 670	13.2	22 390	16.6	+ 6 720	+ 4.6
Postgraduate	3 520	3.0	5 560	4.1	+ 2 040	+ 5.9
Total	119 010	100.0	135 130	100.0	+ 16 110	+ 1.6

**Table A7.65 : Manpower Requirements of *Legal Services* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	750	3.7	270	1.0	- 490	- 12.2
Upper secondary	7 470	36.5	7 380	28.3	- 80	- 0.1
Craft	-	-	-	-	-	-
Technician	950	4.7	1 330	5.1	+ 380	+ 4.3
Sub-degree	1 230	6.0	2 580	9.9	+ 1 350	+ 9.7
First degree	7 210	35.3	9 850	37.7	+ 2 630	+ 4.0
Postgraduate	2 830	13.9	4 700	18.0	+ 1 870	+ 6.5
Total	20 450	100.0	26 110	100.0	+ 5 660	+ 3.1

- Means nil figure.

**Table A7.66 : Manpower Requirements of *Accounting, Auditing and Bookkeeping Services* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	640	2.4	590	1.8	- 50	- 1.0
Upper secondary	5 230	19.5	4 610	14.0	- 630	- 1.6
Craft	-	-	-	-	-	-
Technician	1 360	5.1	1 620	4.9	+ 260	+ 2.2
Sub-degree	1 570	5.9	2 410	7.3	+ 840	+ 5.5
First degree	16 510	61.6	21 030	63.9	+ 4 520	+ 3.1
Postgraduate	1 490	5.6	2 660	8.1	+ 1 180	+ 7.5
Total	26 800	100.0	32 920	100.0	+ 6 110	+ 2.6

- Means nil figure.



**Table A7.67 : Manpower Requirements of *Engineering and Technical Services not Related to Construction and Real Estate Activities, Business Management and Consultancy Services* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	3 320	6.9	1 330	2.3	- 1 990	- 10.8
Upper secondary	12 390	25.7	11 520	20.4	- 870	- 0.9
Craft	60	0.1	50	0.1	^	- 2.5
Technician	2 640	5.5	1 520	2.7	- 1 120	- 6.7
Sub-degree	3 970	8.2	4 820	8.5	+ 850	+ 2.4
First degree	18 770	38.9	26 530	46.9	+ 7 760	+ 4.4
Postgraduate	7 130	14.8	10 810	19.1	+ 3 680	+ 5.3
Total	48 290	100.0	56 580	100.0	+ 8 290	+ 2.0

^ Means less than 50.

**Table A7.68 : Manpower Requirements of *Design, Advertising and Related Services* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	1 550	6.0	1 010	3.4	- 540	- 5.2
Upper secondary	8 490	32.6	7 670	25.7	- 830	- 1.3
Craft	-	-	100	0.4	+ 100	-
Technician	2 630	10.1	2 750	9.2	+ 120	+ 0.5
Sub-degree	3 300	12.7	5 060	17.0	+ 1 760	+ 5.5
First degree	9 010	34.6	11 650	39.1	+ 2 640	+ 3.3
Postgraduate	1 060	4.1	1 570	5.3	+ 510	+ 5.0
Total	26 040	100.0	29 800	100.0	+ 3 760	+ 1.7

- Means nil figure.

**Table A7.69 : Manpower Requirements of Architectural, Surveying and Engineering Services related to Real Estate and Construction Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	1 490	6.7	850	3.3	- 630	- 6.7
Upper secondary	5 190	23.4	4 930	19.2	- 260	- 0.6
Craft	60	0.3	^	0.2	^	*
Technician	1 630	7.4	1 520	5.9	- 110	- 0.9
Sub-degree	2 180	9.8	3 210	12.5	+ 1 030	+ 5.0
First degree	8 670	39.1	10 240	39.8	+ 1 580	+ 2.1
Postgraduate	2 940	13.3	4 950	19.2	+ 2 010	+ 6.7
<b>Total</b>	<b>22 150</b>	<b>100.0</b>	<b>25 750</b>	<b>100.0</b>	<b>+ 3 600</b>	<b>+ 1.9</b>

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.70 : Manpower Requirements of Miscellaneous Professional and Business Services Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	106 760	57.6	95 150	47.8	- 11 600	- 1.4
Upper secondary	54 780	29.6	65 860	33.1	+ 11 080	+ 2.3
Craft	320	0.2	320	0.2	^	- 0.1
Technician	3 350	1.8	3 860	1.9	+ 510	+ 1.8
Sub-degree	5 460	2.9	10 160	5.1	+ 4 710	+ 8.1
First degree	12 810	6.9	19 740	9.9	+ 6 930	+ 5.6
Postgraduate	1 740	0.9	3 880	2.0	+ 2 140	+ 10.5
<b>Total</b>	<b>185 220</b>	<b>100.0</b>	<b>198 990</b>	<b>100.0</b>	<b>+ 13 760</b>	<b>+ 0.9</b>

^ Means less than 50.

**Table A7.71 : Manpower Requirements of *Human Health Activities* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	15 940	14.5	11 910	9.0	- 4 030	- 3.6
Upper secondary	27 750	25.3	29 240	22.2	+ 1 480	+ 0.7
Craft	160	0.1	630	0.5	+ 470	+ 18.5
Technician	2 790	2.5	2 950	2.2	+ 170	+ 0.7
Sub-degree	11 490	10.5	10 420	7.9	- 1 070	- 1.2
First degree	41 140	37.5	59 680	45.3	+ 18 540	+ 4.8
Postgraduate	10 540	9.6	16 890	12.8	+ 6 350	+ 6.1
Total	109 810	100.0	131 720	100.0	+ 21 910	+ 2.3

**Table A7.72 : Manpower Requirements of *Social and Personal Services (other than Human Health Activities)* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	121 110	21.8	83 580	13.8	- 37 530	- 4.5
Upper secondary	202 410	36.5	209 890	34.6	+ 7 480	+ 0.5
Craft	2 070	0.4	2 330	0.4	+ 270	+ 1.5
Technician	15 680	2.8	16 350	2.7	+ 680	+ 0.5
Sub-degree	35 940	6.5	56 310	9.3	+ 20 370	+ 5.8
First degree	129 690	23.4	168 890	27.9	+ 39 200	+ 3.4
Postgraduate	48 250	8.7	68 560	11.3	+ 20 310	+ 4.5
Total	555 140	100.0	605 910	100.0	+ 50 780	+ 1.1

**Table A7.73 : Manpower Requirements of *Financial Services* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	6 240	3.0	2 730	1.1	- 3 510	- 9.8
Upper secondary	74 080	35.8	61 540	24.3	- 12 540	- 2.3
Craft	100	0.0	330	0.1	+ 230	+ 16.2
Technician	6 000	2.9	5 170	2.0	- 840	- 1.9
Sub-degree	11 920	5.8	16 090	6.4	+ 4 170	+ 3.8
First degree	82 970	40.1	122 640	48.4	+ 39 670	+ 5.0
Postgraduate	25 660	12.4	44 640	17.6	+ 18 990	+ 7.2
Total	206 960	100.0	253 140	100.0	+ 46 180	+ 2.5

**Table A7.74 : Manpower Requirements of *Trading and Logistics* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	166 760	21.9	126 150	16.1	- 40 610	- 3.4
Upper secondary	349 710	46.0	345 750	44.2	- 3 950	- 0.1
Craft	1 840	0.2	3 460	0.4	+ 1 620	+ 8.2
Technician	29 760	3.9	36 600	4.7	+ 6 840	+ 2.6
Sub-degree	41 870	5.5	57 880	7.4	+ 16 010	+ 4.1
First degree	146 370	19.2	179 850	23.0	+ 33 480	+ 2.6
Postgraduate	24 260	3.2	31 960	4.1	+ 7 700	+ 3.5
Total	760 560	100.0	781 660	100.0	+ 21 100	+ 0.3

**Table A7.75 : Manpower Requirements of *Professional Services* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	23 960	8.3	16 080	4.6	- 7 880	- 4.9
Upper secondary	71 350	24.7	68 270	19.7	- 3 080	- 0.5
Craft	280	0.1	830	0.2	+ 550	+ 14.6
Technician	13 140	4.6	13 750	4.0	+ 600	+ 0.6
Sub-degree	26 520	9.2	33 220	9.6	+ 6 700	+ 2.9
First degree	122 390	42.4	165 530	47.6	+ 43 140	+ 3.8
Postgraduate	31 050	10.8	49 710	14.3	+ 18 660	+ 6.1
Total	288 700	100.0	347 400	100.0	+ 58 700	+ 2.3

**Table A7.76 : Manpower Requirements of *Tourism* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	80 870	40.9	72 630	29.4	- 8 240	- 1.3
Upper secondary	84 800	42.9	119 680	48.4	+ 34 880	+ 4.4
Craft	500	0.3	850	0.3	+ 360	+ 7.0
Technician	5 490	2.8	9 460	3.8	+ 3 980	+ 7.1
Sub-degree	6 590	3.3	11 940	4.8	+ 5 350	+ 7.7
First degree	16 800	8.5	28 140	11.4	+ 11 340	+ 6.7
Postgraduate	2 500	1.3	4 740	1.9	+ 2 240	+ 8.3
Total	197 540	100.0	247 450	100.0	+ 49 900	+ 2.9

**Table A7.77 : Manpower Requirements of *Information Technology and Information Services* Industry by Education Level in 2010 and 2018**

Education Level	Actual manpower requirement in 2010		Projected manpower requirement in 2018		Projected change from 2010 to 2018	Projected average annual % change (2010-2018)
	Number	% share	Number	% share	Number	%
Lower secondary and below	1 380	2.5	540	0.8	- 840	- 11.1
Upper secondary	12 590	23.1	9 250	14.3	- 3 340	- 3.8
Craft	^	0.0	^	0.0	^	*
Technician	2 170	4.0	3 400	5.3	+ 1 230	+ 5.8
Sub-degree	4 070	7.5	6 680	10.3	+ 2 600	+ 6.4
First degree	27 580	50.5	34 070	52.7	+ 6 490	+ 2.7
Postgraduate	6 810	12.5	10 670	16.5	+ 3 870	+ 5.8
Total	54 600	100.0	64 610	100.0	+ 10 010	+ 2.1

^ Means less than 50.

\* Figure is suppressed owing to small value of the estimate.

**Table A7.78 : Manpower Requirements of *Education Services* Industry by Education Level in 2009 and 2015**

Education Level	Actual manpower requirement in 2009		Projected manpower requirement in 2015		Projected change from 2009 to 2015	Projected average annual % change (2009-2015)
	Number	% share	Number	% share	Number	%
Lower secondary and below	7 880	12.7	9 550	11.9	+ 1 670	+ 3.3
Upper secondary	16 430	26.4	20 380	25.3	+ 3 950	+ 3.7
Craft	480	0.8	900	1.1	+ 430	+ 11.2
Technician	3 210	5.2	3 790	4.7	+ 570	+ 2.8
Sub-degree	4 850	7.8	6 340	7.9	+ 1 490	+ 4.6
First degree	22 890	36.8	31 050	38.5	+ 8 150	+ 5.2
Postgraduate	6 500	10.4	8 590	10.7	+ 2 090	+ 4.8
Total	62 240	100.0	80 590	100.0	+ 18 350	+ 4.4

**Table A7.79 : Manpower Requirements of *Medical Services* Industry by Education Level in 2009 and 2015**

Education Level	Actual manpower requirement in 2009		Projected manpower requirement in 2015		Projected change from 2009 to 2015	Projected average annual % change (2009-2015)
	Number	% share	Number	% share	Number	%
Lower secondary and below	12 920	17.9	11 750	13.7	- 1 170	- 1.6
Upper secondary	21 520	29.9	24 200	28.2	+ 2 680	+ 2.0
Craft	120	0.2	290	0.3	+ 170	+ 16.2
Technician	1 830	2.5	1 970	2.3	+ 140	+ 1.3
Sub-degree	6 570	9.1	6 890	8.0	+ 320	+ 0.8
First degree	23 230	32.3	32 460	37.8	+ 9 230	+ 5.7
Postgraduate	5 810	8.1	8 400	9.8	+ 2 590	+ 6.3
Total	71 990	100.0	85 960	100.0	+ 13 970	+ 3.0

**Table A7.80 : Manpower Requirements of *Testing and Certification Services* Industry by Education Level in 2009 and 2015**

Education Level	Actual manpower requirement in 2009		Projected manpower requirement in 2015		Projected change from 2009 to 2015	Projected average annual % change (2009-2015)
	Number	% share	Number	% share	Number	%
Lower secondary and below	750	6.0	600	4.2	- 150	- 3.6
Upper secondary	3 200	25.4	3 710	25.7	+ 500	+ 2.5
Craft	90	0.7	100	0.7	^	+ 2.0
Technician	1 870	14.8	2 150	14.9	+ 280	+ 2.4
Sub-degree	1 470	11.7	1 730	11.9	+ 250	+ 2.7
First degree	4 250	33.7	5 050	34.9	+ 790	+ 2.9
Postgraduate	970	7.7	1 120	7.7	+ 150	+ 2.4
Total	12 610	100.0	14 450	100.0	+ 1 840	+ 2.3

^ Means less than 50.

**Table A7.81 : Manpower Requirements of *Environmental* Industries by Education Level in 2009 and 2015**

Education Level	Actual manpower requirement in 2009		Projected manpower requirement in 2015		Projected change from 2009 to 2015	Projected average annual % change (2009-2015)
	Number	% share	Number	% share	Number	%
Lower secondary and below	15 990	49.3	18 030	43.2	+ 2 040	+ 2.0
Upper secondary	10 250	31.6	13 980	33.5	+ 3 730	+ 5.3
Craft	80	0.3	110	0.3	^	+ 4.5
Technician	860	2.6	1 140	2.7	+ 280	+ 4.8
Sub-degree	1 230	3.8	2 140	5.1	+ 910	+ 9.7
First degree	3 320	10.2	5 090	12.2	+ 1 780	+ 7.4
Postgraduate	690	2.1	1 230	3.0	+ 540	+ 10.2
Total	32 410	100.0	41 720	100.0	+ 9 310	+ 4.3

^ Means less than 50.



**Table A7.82 : Manpower Requirements of *Innovation and Technology* Industry by Education Level in 2009 and 2015**

Education Level	Actual manpower requirement in 2009		Projected manpower requirement in 2015		Projected change from 2009 to 2015	Projected average annual % change (2009-2015)
	Number	% share	Number	% share	Number	%
Lower secondary and below	-	-	-	-	-	-
Upper secondary	820	3.0	1 070	3.0	+ 250	+ 4.5
Craft	-	-	-	-	-	-
Technician	820	3.0	1 070	3.0	+ 250	+ 4.5
Sub-degree	1 370	5.0	1 590	4.5	+ 220	+ 2.5
First degree	13 190	48.0	17 440	48.8	+ 4 250	+ 4.8
Postgraduate	11 260	41.0	14 590	40.8	+ 3 330	+ 4.4
<b>Total</b>	<b>27 470</b>	<b>100.0</b>	<b>35 770</b>	<b>100.0</b>	<b>+ 8 300</b>	<b>+ 4.5</b>

- Means nil figure.

**Table A7.83 : Manpower Requirements of *Cultural and Creative* Industries by Education Level in 2009 and 2015**

Education Level	Actual manpower requirement in 2009		Projected manpower requirement in 2015		Projected change from 2009 to 2015	Projected average annual % change (2009-2015)
	Number	% share	Number	% share	Number	%
Lower secondary and below	37 260	19.8	33 500	16.2	- 3 770	- 1.8
Upper secondary	67 510	35.9	71 410	34.5	+ 3 900	+ 0.9
Craft	450	0.2	560	0.3	+ 110	+ 3.8
Technician	8 490	4.5	9 720	4.7	+ 1 230	+ 2.3
Sub-degree	12 990	6.9	16 470	8.0	+ 3 480	+ 4.0
First degree	50 390	26.8	60 050	29.0	+ 9 660	+ 3.0
Postgraduate	11 170	5.9	15 350	7.4	+ 4 180	+ 5.4
<b>Total</b>	<b>188 250</b>	<b>100.0</b>	<b>207 060</b>	<b>100.0</b>	<b>+ 18 810</b>	<b>+ 1.6</b>