

**Head 155 — GOVERNMENT SECRETARIAT:
INNOVATION AND TECHNOLOGY COMMISSION**

Controlling officer: the Commissioner for Innovation and Technology will account for expenditure under this Head.

Estimate 2017–18	\$621.2m
Establishment ceiling 2017–18 (notional annual mid-point salary value) representing an estimated 217 non-directorate posts as at 31 March 2017 rising by 14 posts to 231 posts as at 31 March 2018.....	\$142.8m
In addition, there will be an estimated eight directorate posts as at 31 March 2017 and as at 31 March 2018.	
Commitment balance	\$3.3m

Controlling Officer's Report

Programmes

<p>Programme (1) Support for Research and Development</p> <p>Programme (2) Fostering University-Industry Collaboration</p> <p>Programme (3) Promotion of Technological Entrepreneurship</p> <p>Programme (4) Planning for Innovation and Technology Development</p> <p>Programme (5) Infrastructural Support</p> <p>Programme (6) Quality Support</p>	<p>These programmes contribute to Policy Area 17: Information Technology and Broadcasting (Secretary for Innovation and Technology).</p> <p>This programme contributes to Policy Area 15: Health (Secretary for Food and Health) and Policy Area 17: Information Technology and Broadcasting (Secretary for Innovation and Technology).</p> <p>This programme contributes to Policy Area 17: Information Technology and Broadcasting (Secretary for Innovation and Technology).</p>
<p>Programme (7) Subvention: Hong Kong Productivity Council, Hong Kong Applied Science and Technology Research Institute Company Limited</p>	<p>This programme contributes to Policy Area 17: Information Technology and Broadcasting (Secretary for Innovation and Technology).</p>

Detail

Programme (1): Support for Research and Development

	2015–16 (Actual)	2016–17 (Original)	2016–17 (Revised)	2017–18 (Estimate)
Financial provision (\$m)	99.2	55.0	52.3 (–4.9%)	55.5 (+6.1%)
				(or +0.9% on 2016–17 Original)

Aim

2 The aim is to promote and support applied research and development (R&D) activities which can contribute to innovation and technology upgrading in industry.

Brief Description

3 The Commission achieves this aim by providing funding support and putting in place appropriate infrastructural facilities to encourage applied R&D activities. The Innovation and Technology Support Programme (ITSP) under the Innovation and Technology Fund (ITF) supports applied R&D projects with a view to transferring the results to companies in the relevant industry. The Guangdong-Hong Kong Technology Co-operation Funding Scheme (TCFS) under the ITSP supports applied R&D projects which will facilitate economic development in the Greater Pearl River Delta (PRD) region. A Midstream Research Programme for Universities was introduced in December 2016 to support institutions funded by the University Grants Committee to carry out more theme-based midstream research in key technology areas, which has the potential of leading to further downstream R&D work or product development. The Commission also administers the Patent Application Grant (PAG) to provide funding assistance to local companies and individuals applying for patent registration of their own inventions for the first time.

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4 Five R&D centres were established in April 2006 to drive and co-ordinate R&D efforts in five focus areas – namely, nanotechnology and advanced materials, textiles and clothing, automotive parts and accessory systems, logistics and supply chain management enabling technologies, and information and communications technologies (ICT). The R&D projects carried out by these centres, except for those contract researches the full costs of which are borne by sponsoring companies, are funded mainly by the ITF.

5 Funding assistance is provided to Partner State Key Laboratories in Hong Kong and Hong Kong Branches of Chinese National Engineering Research Centres to enhance their research capabilities. Financial support is also provided to six local universities to enhance their technology transfer capabilities.

6 To reinforce the research culture among companies and encourage them to establish stronger partnership with designated local public research institutions, the R&D Cash Rebate Scheme was introduced in April 2010. Under the Scheme, companies conducting applied R&D projects with the support of the ITF or in partnership with designated local public research institutions enjoy a cash rebate on their investments. The level of cash rebate was increased from 30 per cent to 40 per cent with effect from 24 February 2016. In order to provide a more stable and longer-term financial support to sustain our efforts in the promotion of private sector investment in R&D, the Scheme was subsumed under the ITF with effect from 1 April 2016.

7 The performance under this programme is indicated by the extent to which the applied R&D activities receiving funding support is of relevance to the industry and the extent to which the R&D centres accomplish their research programmes effectively. Performance indicators in respect of the ITSP, PAG, R&D centres, TCFS and R&D Cash Rebate Scheme are as follows:

Indicators

	2015 (Actual)	2016 (Actual)	2017 (Estimate)
ITSP Ψ			
applications received and processed	407	483	425
projects funded and being monitored	328	380	477
PAG			
applications received and processed	252	301	262
projects funded	161	166	160
R&D centres' projects γ			
Automotive Parts and Accessory Systems R&D Centre			
new projects	14	11 Ω	18
projects funded and being monitored	49	57	72
Hong Kong R&D Centre for Information and Communications Technologies			
new projects	40	29 Ω	51
projects funded and being monitored	104	93	106
Hong Kong R&D Centre for Logistics and Supply Chain Management Enabling Technologies			
new projects	19	15 Ω	22
projects funded and being monitored	50	45	59
Nano and Advanced Materials Institute			
new projects	64	44 Ω	55
projects funded and being monitored	118	137	173
Hong Kong Research Institute of Textiles and Apparel			
new projects	20	23	26
projects funded and being monitored	69	76	89
TCFS			
applications received and processed	40	88	63
projects funded and being monitored	76	68	89
R&D Cash Rebate Scheme			
applications received and processed	279	271	290
applications approved	251	255	270

Ψ The figures do not include applications submitted or projects undertaken by the five R&D centres, which are reported under the indicators "R&D centres' projects".

γ All projects (including TCFS projects and feasibility studies) undertaken and/or monitored by R&D centres are included.

Ω The Centres needed more time to prepare some project proposals due to their complexity, which will be submitted in early 2017.

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Matters Requiring Special Attention in 2017–18

- 8 During 2017–18, the Commission will continue to:
- administer the various funding programmes, including the Midstream Research Programme for Universities, and monitor progress of the funded projects;
 - support the activities of the R&D centres with emphasis on technology transfer of funded projects; and
 - administer the R&D Cash Rebate Scheme to reinforce the research culture among companies and encourage them to establish stronger partnership with designated local public research institutions.

Programme (2): Fostering University-Industry Collaboration

	2015–16 (Actual)	2016–17 (Original)	2016–17 (Revised)	2017–18 (Estimate)
Financial provision (\$m)	6.5	6.9	7.2 (+4.3%)	7.4 (+2.8%)
				(or +7.2% on 2016–17 Original)

Aim

- 9 The aim is to promote university-industry partnership in R&D projects.

Brief Description

10 The Commission achieves this aim through administering the University-Industry Collaboration Programme (UICP) under the ITF to support commercial R&D projects undertaken by companies in collaboration with local universities. Companies in the private sector are encouraged to invest and leverage on the knowledge and resources of local universities through three schemes under the UICP, namely, the Teaching Company Scheme, Matching Grant for Joint Research, and Industrial Research Chair Scheme. The Teaching Company Scheme provides financial incentives to local companies to take on graduate students from local universities to assist in proprietary R&D work. Under the Matching Grant for Joint Research, companies contribute half of the project cost of R&D projects taken up jointly with local universities. They are also able to hold the intellectual property rights arising from the projects. The Industrial Research Chair Scheme provides funding support to the research efforts of universities and industry in technology fields.

- 11 The UICP received a total of 28 applications requesting \$66.4 million in 2016.

- 12 The key performance indicators are:

Indicators

	2015 (Actual)	2016 (Actual)	2017 (Estimate)
UICP			
applications received and processed	22	28	25
projects funded and being monitored	76	77	77

Matters Requiring Special Attention in 2017–18

- 13 During 2017–18, the Commission will continue to administer the UICP and monitor progress of the funded projects.

Programme (3): Promotion of Technological Entrepreneurship

	2015–16 (Actual)	2016–17 (Original)	2016–17 (Revised)	2017–18 (Estimate)
Financial provision (\$m)	10.4	21.6	19.7 (–8.8%)	22.5 (+14.2%)
				(or +4.2% on 2016–17 Original)

Aim

- 14 The aim is to promote technological entrepreneurship in Hong Kong and provide essential support to technology-based entrepreneurial activities and technology R&D in the private sector.

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Brief Description

15 To encourage more private sector investment in R&D, the Commission launched in April 2015 a new Enterprise Support Scheme (ESS) under the ITF to replace the Small Entrepreneur Research Assistance Programme (SERAP). The ESS provides funding support to registered Hong Kong companies of all sizes to carry out R&D on innovation and technology. The Applied Research Fund (ARF) provides funding to technology companies in Hong Kong at the venture capital stage but has been in a winding down mode since 2005.

16 The Commission administers the Technology Start-up Support Scheme for Universities (TSSSU). The TSSSU provides funding to six local universities to support their teams to start technology businesses and commercialise their R&D results. In addition, the Commission works closely with the Hong Kong Science and Technology Parks Corporation (HKSTPC), which operates incubation programmes to provide technology start-ups with support in marketing, finance, technology and management in their critical initial years of operation. HKSTPC also launched in 2015 a Corporate Venture Fund (CVF). The CVF co-invests with private funding in promising technology start-ups, which are current tenants in the Hong Kong Science Park (HKSP), or incubatees or graduates of its incubation programmes. To provide more support to innovation and technology (I&T) start-ups in Hong Kong, the Commission will launch the Innovation and Technology Venture Fund (ITVF) in 2017. The ITVF will co-invest with private organisations, venture capital funds and angel investors in the eligible I&T start-ups in Hong Kong.

17 During 2016–17, the Commission:

- administered and monitored projects approved under the SERAP,
- administered TSSSU,
- publicised the ESS via talks and seminars,
- administered the ESS and monitored projects approved under it,
- administered the preparatory work relating to the ITVF, and
- monitored the residual work relating to the ARF.

18 The key performance measures are:

Indicators

	2015 (Actual)	2016 (Actual)	2017 (Estimate)
SERAP			
applications received and processed	21	N.A. ^μ	N.A. ^μ
projects funded and being monitored	112	91	80
ESS [‡]			
applications received and processed	151	160	170
projects funded and being monitored	2	22	45

^μ Applications for SERAP were no longer accepted since 28 April 2015.

[‡] New indicators as from 2016.

Matters Requiring Special Attention in 2017–18

19 During 2017–18, the Commission will continue to:

- administer the ESS,
- monitor progress of the funded projects under the SERAP and the ESS,
- administer TSSSU,
- launch and administer the ITVF, and
- monitor the residual work relating to the ARF.

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Programme (4): Planning for Innovation and Technology Development

	2015–16 (Actual)	2016–17 (Original)	2016–17 (Revised)	2017–18 (Estimate)
Financial provision (\$m)	36.4	42.2	46.5 (+10.2%)	55.8 (+20.0%)
				(or +32.2% on 2016–17 Original)

Aim

20 The aim is to support the formulation and co-ordination of innovation and technology policies and sustain public awareness of innovation and technology.

Brief Description

21 The Commission provides secretariat support to the Advisory Committee on Innovation and Technology, chaired by the Secretary for Innovation and Technology. The committee provides advice to the Government on the strategic and developmental enhancements of innovation and technology in Hong Kong.

22 The Commission supports technology co-operation with the Mainland and other overseas economies, and participates in relevant regional and international activities which help promote innovation and technology.

23 To enhance public awareness and understanding of the importance of innovation and technology, the Commission organises promotional events locally and administers the General Support Programme (GSP) under the ITF to fund projects such as seminars, exhibitions and student technology competitions which help foster an innovation and technology culture.

24 The Commission also administers an Internship Programme which provides financial support for organisations undertaking R&D projects funded by the ITF to recruit interns to assist in the projects. It aims to provide opportunities for graduates from tertiary institutions to acquire research and industrial experience, stimulate the interest of graduates in applied R&D activities and help create a larger pool of research talents. To step up efforts to support private investment in R&D and nurture more innovation and technology talents, the Internship Programme has been extended to cover R&D projects undertaken by incubatees and small and medium enterprise (SME) tenants of HKSTPC and Cyberport since December 2016.

25 To enhance the long-term competitiveness of local SMEs, a new Technology Voucher Programme (TVP) under the ITF was launched in November 2016 to subsidise them in using technological services and/or solutions to improve productivity, or upgrade or transform their business processes.

26 During 2016–17, the Commission:

- enhanced technology co-operation with the Mainland at the central, regional, provincial and municipal levels through various co-operation mechanisms, including the Mainland/Hong Kong Science and Technology Co-operation Committee, the Pan-PRD Joint Conference on Regional Co-operation in Science and Technology, the Guangdong/Hong Kong Expert Group on Co-operation in Innovation and Technology, and the Steering Group on Shenzhen/Hong Kong Co-operation in Innovation and Technology;
- organised the InnoTech Month (ITM) 2016 to promote innovation and technology to the general public, in particular the youth. Activities of the ITM included a nine-day InnoCarnival, road shows, seminars, competitions, technology workshops and publication of science education books for young children;
- supported the Innovation and Technology Scholarship Award Scheme to nurture young talents to become future leaders in innovation and technology;
- participated in the Innovation, Design and Technology Expo to promote the five R&D centres and to introduce the Commission's funding schemes to visitors;
- completed the nomination exercise for the Hong Kong Special Administrative Region in two categories of the State Science and Technology Awards, namely: the State Technological Invention Award and the State Scientific and Technological Progress Award;
- enhanced promotion at enterprise level through organising a "Hong Kong Pavilion" at the China Hi-Tech Fair 2016;
- increased the monthly allowance for interns under the Internship Programme;
- launched the TVP and publicised the TVP via briefings; and
- supported the development of Chinese medicines, and co-ordinated various parties in promoting the development of R&D and testing of Chinese medicines through a government-led committee.

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27 The key performance indicators are:

Indicators

	2015 (Actual)	2016 (Actual)	2017 (Estimate)
GSP			
applications received and processed	21	26	26
projects funded and being monitored	70	75	72
Internship Programme			
applications received and processed	353	358	1 254 8
intern positions funded	710	722	1 510 8

δ The figures were estimated to increase significantly in 2017 due to the extension of the Internship Programme in December 2016.

Matters Requiring Special Attention in 2017–18

28 During 2017–18, the Commission will continue to:

- strengthen technology co-operation with the Mainland through established co-operation mechanisms;
- administer the GSP, including the Internship Programme, and monitor progress of the funded projects;
- administer the TVP;
- promote innovation and technology culture to the general public and nurture more young innovative talents;
- nominate entries for the State Science and Technology Awards; and
- organise promotional and educational activities to enhance public awareness on I&T development.

Programme (5): Infrastructural Support

	2015–16 (Actual)	2016–17 (Original)	2016–17 (Revised)	2017–18 (Estimate)
Financial provision (\$m)	12.8	13.3	13.6 (+2.3%)	13.7 (+0.7%)
				(or +3.0% on 2016–17 Original)

Aim

29 The aim is to develop world-class support infrastructure to facilitate technological upgrading and development of the industry and to promote innovation and technology.

Brief Description

30 The Commission achieves the aim through planning, supporting and overseeing technological infrastructural projects; and participating actively in the formulation and implementation of planning and development policies by other government bureaux and departments which impinge on innovation and technology development in Hong Kong. The Commission works closely with relevant industry support organisations such as the HKSTPC, the Hong Kong Applied Science and Technology Research Institute Company Limited (ASTRI) and the Hong Kong Productivity Council (HKPC) in the process.

31 During 2016–17, the Commission:

- worked closely with the HKSTPC on various major initiatives, including implementation of Stage 1 of the Science Park Expansion Programme, and development of the Advanced Manufacturing Centre and Data Technology Hub under the revised Industrial Estate (IE) policy;
- worked closely with the ASTRI in strengthening their institutional and research capabilities to develop its ICT R&D Centre; and
- monitored the delivery of value-added support services to the manufacturing and related service industries by the HKPC.

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32 During 2017–18, the Commission will continue to:

- work closely with the HKSTPC on the implementation of its various new developments and business plans of the HKSP and the IEs;
- work closely with the HKSTPC on the preparatory work for the development of the Hong Kong/Shenzhen Innovation and Technology Park in the Lok Ma Chau Loop; and
- assist the ASTRI in strengthening its R&D capabilities and lead research programmes of its core competences as organised under seven Technology Divisions, namely: Integrated Circuit (IC) Design (Analog), IC Design (Digital), Opto-electronics, Electronics Components, Software and Systems, Security and Data Sciences, and Communications Technologies.

Programme (6): Quality Support

	2015–16 (Actual)	2016–17 (Original)	2016–17 (Revised)	2017–18 (Estimate)
Financial provision (\$m)	113.3	113.4	114.7 (+1.1%)	109.7 (–4.4%)
				(or –3.3% on 2016–17 Original)

Aim

33 The aim is to promote internationally accepted standards and conformity assessment services to underpin technological development and international trade, and the development of the testing and certification industry in Hong Kong.

Brief Description

34 The Commission achieves this aim through the operation of the Standards and Calibration Laboratory (SCL), the Product Standards Information Bureau (PSIB), the Hong Kong Accreditation Service (HKAS) and the Secretariat of the Hong Kong Council for Testing and Certification (HKCTC).

35 Through participation in Mutual Recognition Arrangement (MRA) drawn up by the International Committee for Weights and Measures (CIPM), SCL's calibration certificates are accepted worldwide.

36 Through the MRAs signed with international and regional organisations of accreditation bodies, the endorsed test reports and accredited certificates issued by organisations accredited by the HKAS under the Hong Kong Laboratory Accreditation Scheme (HOKLAS), the Hong Kong Certification Body Accreditation Scheme (HKCAS) and the Hong Kong Inspection Body Accreditation Scheme (HKIAS) are recognised worldwide.

37 During 2016–17,

- SCL took part in the following international metrology activities to substantiate its CIPM MRA claims for worldwide recognition:
 - participation in the inter-laboratory comparisons of measurement standards and proficiency testing programmes,
 - participation in the peer reviews of the capabilities and quality systems of other CIPM MRA partners,
 - publication of its technical achievements at international conferences and journals, and
 - participation in the Asia-Pacific Metrology Programme General Assembly/Technical Committees;
- HKAS extended its accreditation service to conformity assessment bodies for:
 - certification of quality management system and environmental management system for water supply and recycling industry, and
 - construction product certification on paint products and aggregate for concrete;
- the PSIB participated in the Asia-Pacific Economic Cooperation (APEC) Sub-Committee on Standards and Conformance, the International Organization for Standardization (ISO) and Pacific Area Standards Congress (PASC); and
- the Secretariat of the HKCTC continued to provide support to the HKCTC in implementing measures to support the development of the testing and certification industry.

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38 The key performance measures for the SCL, PSIB and HKAS are:

Targets

	Target working days	2015 (Actual)	2016 (Actual)	2017 (Plan)
processing of quotation for calibration services.....	2	2	2	2
calibration of equipment.....	13	13	13	13
processing of simple enquiries on product standards.....	1	1	1	1
processing of complicated enquiries on product standards.....	8	8	8	8
issue of quotations for documented standards.....	1	1	1	1
processing of orders for photocopies of documented standards.....	2	2	2	2

Indicators

	2015 (Actual)	2016 (Actual)	2017 (Estimate)
SCL			
calibrations performed.....	1 163	1 174	1 175
revenue generated (\$).....	2,820,050	3,543,120	3,550,000
SCL's overseas CIPM MRA partners (cumulative)§.....	98	102	102
PSIB			
technical enquiries.....	384	375	380
sales and photocopying of documented standardsΔ			
enquiries.....	204	125	130
quotations given.....	964	720	680
orders placed.....	94	74	75
revenue generated (\$).....	86,657	77,600	77,600
HOKLAS			
accredited laboratories (cumulative)@.....	210	218	221
assessments, re-assessments and surveillance visits conducted.....	427	403	420
overseas laboratory accreditation schemes with MRA with the HOKLAS (cumulative).....	86	88	88
HKCAS			
accredited certification bodies (cumulative).....	23	24	25
assessments, re-assessments and surveillance visits conducted.....	59	69	60
overseas certification bodies accreditation schemes with MRA with the HKCAS (cumulative).....	61	62	62
HKIAS			
accredited inspection bodies (cumulative)ω.....	20	19	20
assessments, re-assessments and surveillance visits conducted.....	29	24	24
overseas inspection bodies accreditation schemes with MRA with the HKIAS (cumulative).....	56	60	60

§ This indicator provides information on how well SCL's measurement standards and calibration certificates are recognised internationally. These figures include all CIPM MRA partners, which comprise overseas national metrology institutes and four international organisations, namely: International Atomic Energy Agency (IAEA), Institute for Reference Materials and Measurements (IRMM), World Meteorological Organization (WMO) and European Space Agency (ESA).

Δ New versions of ISO 9000, ISO 9001 and ISO 14001 standards were published in September 2015. Since these standards are widely used in business sectors, there was a substantial increase of PSIB's standards sales figures in the last quarter of 2015. It was estimated in early 2016 that sales of these new standards might continue in 2016. It however turned out that the increased level of sales only occurred in the first quarter of 2016. The sales level then returned to the level as in previous years.

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- @ The registration numbering system for Proficiency Testing Providers (PTP) and Reference Material Producers (RMP) was revised in 2015. Under this system, accredited laboratories that are also accredited as PTP and/or RMP may choose to use their laboratory registration number for PTP and/or RMP accreditations as well. Accredited laboratories choosing this registration numbering system will be counted once in this indicator.
- ⊖ An inspection body voluntarily terminated its accreditation in 2015 based on its business decision. As such, the number of accredited inspection bodies under HKIAS decreased by one.

Matters Requiring Special Attention in 2017–18

39 During 2017–18, the Commission will continue to:

- provide support to the HKCTC in implementing measures to support the development of the testing and certification industry;
- implement various liberalisation measures relevant to the testing and certification industry under the Mainland and Hong Kong Closer Economic Partnership Arrangement (CEPA);
- participate in activities to promote the MRAs of the Asia Pacific Laboratory Accreditation Co-operation, the International Laboratory Accreditation Co-operation, the Pacific Accreditation Co-operation and the International Accreditation Forum;
- develop plans to extend accreditation services to other areas to support industry and continue to work closely with the HKCTC to promote existing accreditation services to industry;
- participate in the activities of the CIPM MRA and the Asia Pacific Metrology Programme;
- participate in more projects on inter-laboratory comparison of measurement standards;
- strengthen interactions between staff of the SCL and local metrology users with a view to disseminating measurement techniques and knowledge to local industries;
- conduct visits to SCL customers to gauge their needs and offer professional advice on-site;
- participate in APEC, ISO and PASC activities in the areas of standards and conformance; and
- participate in international standardisation activities.

Programme (7): Subvention: Hong Kong Productivity Council, Hong Kong Applied Science and Technology Research Institute Company Limited

	2015–16 (Actual)	2016–17 (Original)	2016–17 (Revised)	2017–18 (Estimate)
Financial provision (\$m)				
Hong Kong Productivity Council	197.7	195.9	200.9 (+2.6%)	213.0 (+6.0%) (or +8.7% on 2016–17 Original)
Hong Kong Applied Science and Technology Research Institute Company Limited	141.5	140.0	140.0 (—)	143.6 (+2.6%) (or +2.6% on 2016–17 Original)
Total	339.2	335.9	340.9 (+1.5%)	356.6 (+4.6%) (or +6.2% on 2016–17 Original)

HKPC

Aim

40 The aim is to promote productivity excellence through the provision of integrated support across the value chain of the industry, in order to achieve more effective utilisation of resources, enhance the value-added content of products and services, and enhance the industry's international competitiveness and sustainability.

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Brief Description

41 The HKPC provides integrated support to innovative and growth-oriented Hong Kong firms across the value chain. Its principal sectoral focus is on manufacturing, particularly in Hong Kong's foundation industries, and related service activities. The main geographical focus is Hong Kong and the Mainland.

42 The work of the HKPC is anchored on its core competence of manufacturing technologies, management systems, information technologies and environmental technologies, including the following:

- providing one-stop services to the manufacturing industries, particularly the foundation industries, in the areas of manufacturing and materials technology, product design and development, technology commercialisation and i-manufacturing;
- promoting re-industrialisation and assisting the relevant enterprises in moving towards high value-added production;
- promoting the application of good management practices and continuous benchmarking across the value chain for innovative and growth oriented enterprises, especially SMEs, through operation management, human resources management, innovation management, knowledge management, strategic business management, corporate social responsibility and sectoral platforming with quality certification schemes;
- assisting information technology (IT) service providers, in particular SMEs, to improve their quality, capacity and productivity, and supporting the integration of IT services across the value chain;
- providing environmental technology support in green manufacturing, efficient energy and resource usage, compliance with environmental legislation and internal standards, as well as environmental methods and technology transfer; and
- operating the Automotive Parts and Accessory Systems R&D Centre which undertakes market-led R&D projects in collaboration with industry, universities and research institutions.

43 During 2016–17, the HKPC ran the following subsidiaries:

- the HKPC Technology (Holdings) Company Limited which functions as a vehicle for commercialisation of patents, technologies and projects deliverables of the HKPC and other R&D institutes; and
- the Productivity (Holdings) Limited which operates consulting firms in PRD to strengthen the HKPC's integrated support and services for Hong Kong firms operating in the Mainland.

44 The key performance indicators for the HKPC are:

Indicators

	2015–16 (Actual)	2016–17 (Revised Estimate)	2017–18 (Estimate)
overall income/expenditure ratio (%).....	70.7	69.0	69.6
income from consultancy/technical assistance (\$m).....	307.7	312.6	346.6
income from training courses (\$m) ^α	8.9	17.6	14.0
income from exhibitions/study missions/conferences (\$m).....	4.8	3.9	7.2
income from manufacturing support/process control (\$m) ^λ	23.6	36.6	33.7
no. of consultancy projects accepted.....	917	1 020	968
no. of people who attended the HKPC fee-charging training courses ^α	4 248	3 390	3 000
no. of people who attended the HKPC events/networking activities for associations/non-fee-charging seminars.....	20 620	22 000	22 000
no. of people who participated in the HKPC exhibitions/study missions/conferences ^α	2 221	4 000	4 000
no. of R&D projects ^β			
new projects.....	38	30	35
on-going projects.....	99	49	65

^α The estimated amount of income from and the number of participants in fee-charging training courses decrease in 2017–18 because more HKPC training resources will be devoted to organising non-fee-charging courses to respond to market needs.

^λ The estimated income from manufacturing support/process control will decrease in 2017–18 because some manufacturing support services have been incorporated into consultancy projects, in line with market demand for integrated solutions.

^α The revised indicator includes the number of people who attended HKPC exhibitions which was reported under a separate indicator. In line with the indicator on income from these activities, the revised indicator can better reflect the overall performance.

^β The figures do not include projects undertaken by the Automotive Parts and Accessory Systems R&D Centre independently, which are reported under the relevant indicators for the Centre under paragraph 7 above.

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Matters Requiring Special Attention in 2017–18

45 During 2017–18, the HKPC will continue to:

- provide integrated support to innovative and growth-oriented Hong Kong companies across the value chain, with the main sectoral focus on manufacturing, particularly in Hong Kong's foundation industries, and related service industries for their transition towards Industry 4.0;
- promote re-industrialisation and move relevant enterprises towards high value-added production;
- assist local manufacturers in industrial upgrading, business transformation or relocating their operations under the challenges of the Mainland's processing trade policy, such as through the Enterprise Support Programme under the Dedicated Fund on Branding, Upgrading and Domestic Sales and the integrated support centre SME One launched on 25 June 2012 and 17 July 2012 respectively;
- help the retail industry, in particular SMEs, adopt relevant information and communications technology and other technologies to enhance productivity and manage manpower demand through the Retail Technology Adoption Assistance Scheme for Manpower Demand Management launched on 1 December 2014;
- assist the recycling industry to upgrade its operational capabilities and efficiency for sustainable development through the Recycling Fund launched on 6 October 2015;
- enhance its support to Hong Kong companies operating in the PRD, through subsidiary consulting firms set up in Shenzhen and Dongguan;
- operate the Automotive Parts and Accessory Systems R&D Centre;
- promote the adoption of cleaner production technologies and practices in Hong Kong and the PRD through such initiatives as the Cleaner Production Partnership Programme; and
- support R&D institutions in commercialising advanced manufacturing and processing technologies, and promote technology commercialisation and effective intellectual property management to Hong Kong and Mainland enterprises.

ASTRI

Aim

46 The aim is to provide research capability for Hong Kong's technological development and stimulate the growth of technology-based industry in Hong Kong, and to enhance Hong Kong's competitiveness in technology-based industries through applied research.

Brief Description

47 ASTRI's missions are to:

- perform high quality R&D and transfer the technologies developed to industry,
- promote greater application of technology in industry,
- become a focal point for attracting international R&D talent to work in Hong Kong,
- enhance Hong Kong's technological human resources development,
- act as a spawning ground for technology entrepreneurs, and
- provide a focal point for industry-university collaboration.

48 ASTRI is designated as the R&D Centre for Information and Communications Technologies. Its core R&D competences are organised under seven Technology Divisions, namely: Advanced Digital Systems, Mixed Signal System IC, Opto-electronics, Electronics Components, Intelligent Software and Systems, Security and Data Sciences, and Communications Technologies. Five areas of applications including financial technologies, intelligent manufacturing, next generation networks, health technology and smart city are identified for major pursuit. Its operating strategy is to transfer the technologies and results developed from its R&D projects to the industry through licensing, contract research and spinning-off new technology companies. This process will elevate the technology level of Hong Kong industry and accelerate the expansion of its technology industry base to create new employment opportunities and enhance competitiveness. Over the years, ASTRI has become more customer-focused in its R&D business.

**Head 155 — GOVERNMENT SECRETARIAT:
INNOVATION AND TECHNOLOGY COMMISSION**

49 The key performance indicators for ASTRI are:

Indicators

	2015 (Actual)	2016 (Actual)	2017 (Estimate)
no. of new full projects [^]	22	12	27
no. of new seed projects [¶]	18	17	24
no. of patents filed [#]	23	26	28
no. of technology transfers	59	55	60
no. of clients engaged in technology transfer	47	45	42
no. of members joining consortia formed by ASTRI	333	337	340
no. of technology workshop/seminars organised	60	75	78
no. of participants of seminars	7 022	10 670	10 800
amount of income from industry (\$m)	81.6	74.0	82.0

[^] Full projects are R&D projects with more than \$2 million funding support from the ITF, including collaborative projects with the industry.

[¶] Seed projects are feasibility studies for developing substantive R&D project proposals. The maximum ITF funding support for each of them is \$2.8 million.

[#] Refers to the number of inventions filed. One invention may generate multiple patent filings.

Matters Requiring Special Attention in 2017–18

50 During 2017–18, the ASTRI will continue to:

- transfer technologies developed from its R&D projects to industry and commercialise project deliverables through implementing corporate-level initiatives and encourage more collaborative projects;
- align its R&D directions with that of the 13th Five-Year Plan to implement major technology projects, to develop strategic emerging industries, and to conduct basic research and frontier technologies;
- strengthen co-operation with the industry, public organisations and universities in R&D, for example, through the establishment of joint laboratories/R&D centres and alliances;
- collaborate with enterprises and research institutions in the Mainland and overseas;
- develop research capabilities in identified emerging technology areas and create synergy through clustered-seed projects;
- carry out the research projects initiated in 2016–17 and before;
- enhance institutional R&D infrastructure and research capabilities; and
- contribute to development of local high-technology human capital by recruiting local engineering graduates as fellows under the ITF Internship Programme.

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ANALYSIS OF FINANCIAL PROVISION

Programme	2015–16 (Actual) (\$m)	2016–17 (Original) (\$m)	2016–17 (Revised) (\$m)	2017–18 (Estimate) (\$m)
(1) Support for Research and Development	99.2	55.0	52.3	55.5
(2) Fostering University-Industry Collaboration	6.5	6.9	7.2	7.4
(3) Promotion of Technological Entrepreneurship	10.4	21.6	19.7	22.5
(4) Planning for Innovation and Technology Development	36.4	42.2	46.5	55.8
(5) Infrastructural Support	12.8	13.3	13.6	13.7
(6) Quality Support	113.3	113.4	114.7	109.7
(7) Subvention: Hong Kong Productivity Council, Hong Kong Applied Science and Technology Research Institute Company Limited.....	339.2	335.9	340.9	356.6
	617.8	588.3	594.9 (+1.1%)	621.2 (+4.4%)
				(or +5.6% on 2016–17 Original)

Analysis of Financial and Staffing Provision

Programme (1)

Provision for 2017–18 is \$3.2 million (6.1%) higher than the revised estimate for 2016–17. This is mainly due to increased provision for salary and general departmental expenses.

Programme (2)

Provision for 2017–18 is \$0.2 million (2.8%) higher than the revised estimate for 2016–17. This is mainly due to increased provision for salary.

Programme (3)

Provision for 2017–18 is \$2.8 million (14.2%) higher than the revised estimate for 2016–17. This is mainly due to increased provision for salary and general departmental expenses.

Programme (4)

Provision for 2017–18 is \$9.3 million (20.0%) higher than the revised estimate for 2016–17. This is mainly due to increased provision for salary and general departmental expenses. In addition, there will be an increase of 14 posts in 2017–18.

Programme (5)

Provision for 2017–18 is \$0.1 million (0.7%) higher than the revised estimate for 2016–17. This is mainly due to increased provision for salary.

Programme (6)

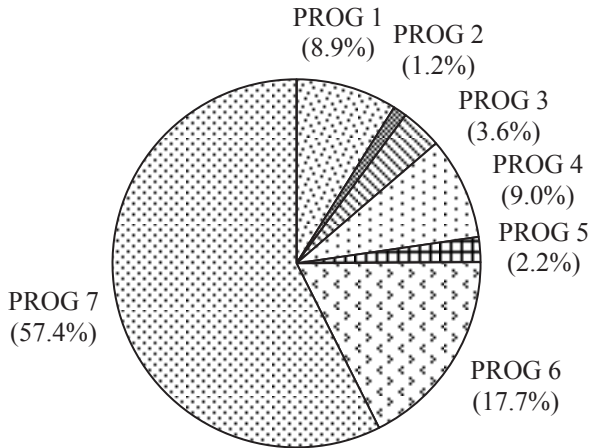
Provision for 2017–18 is \$5.0 million (4.4%) lower than the revised estimate for 2016–17. This is mainly due to decreased provision for procurement of capital equipment.

Programme (7)

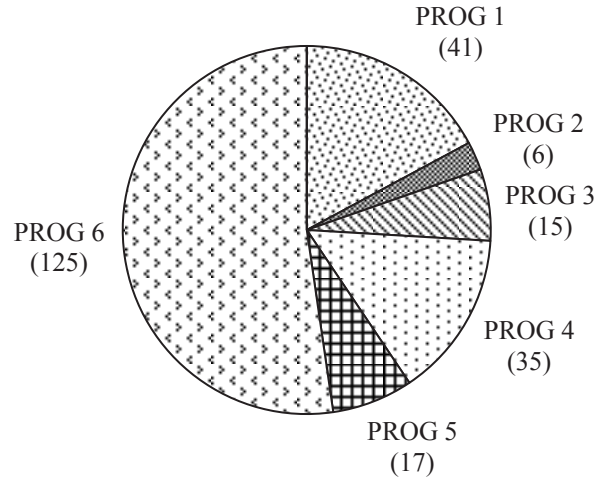
Provision for 2017–18 is \$15.7 million (4.6%) higher than the revised estimate for 2016–17. This is mainly due to increased provision for the HKPC and ASTRI.

**Head 155 — GOVERNMENT SECRETARIAT:
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*Allocation of provision
to programmes
(2017-18)*

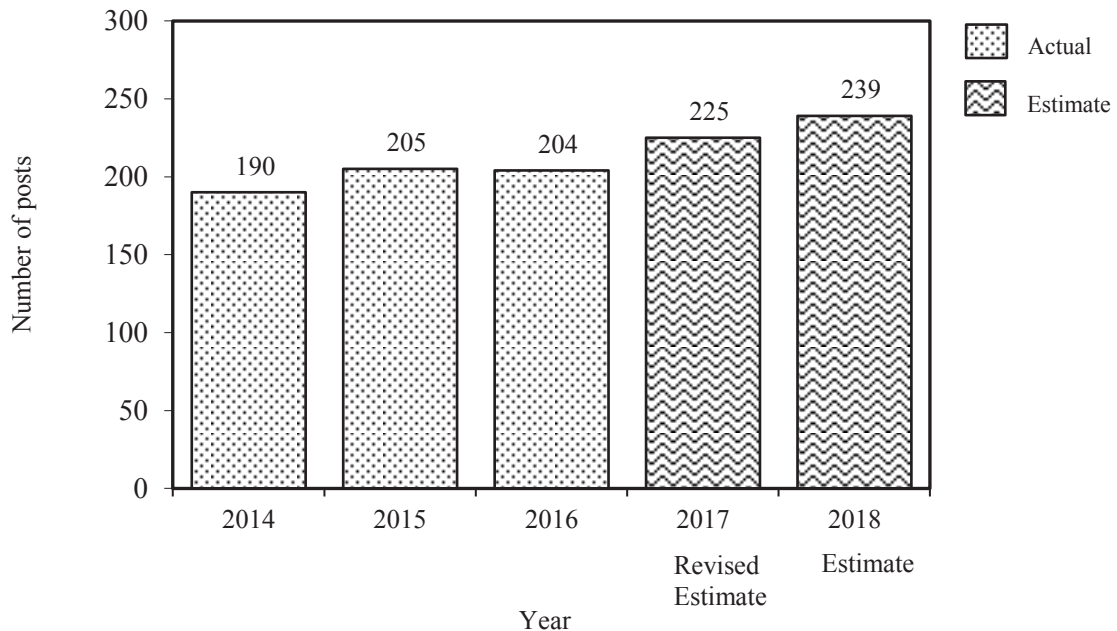


*Staff by programme
(as at 31 March 2018)*



(No government staff under PROG 7)

*Changes in the size of the establishment
(as at 31 March)*



**Head 155 — GOVERNMENT SECRETARIAT:
INNOVATION AND TECHNOLOGY COMMISSION**

Sub-head (Code)	Actual expenditure 2015–16	Approved estimate 2016–17	Revised estimate 2016–17	Estimate 2017–18	
	\$'000	\$'000	\$'000	\$'000	
Operating Account					
Recurrent					
000	Operational expenses	554,515	573,913	581,361	612,545
	Total, Recurrent.....	<u>554,515</u>	<u>573,913</u>	<u>581,361</u>	<u>612,545</u>
Non-Recurrent					
	General non-recurrent	54,198	— ^Φ	—	—
	Total, Non-Recurrent.....	<u>54,198</u>	<u>—</u>	<u>—</u>	<u>—</u>
	Total, Operating Account	<u>608,713</u>	<u>573,913</u>	<u>581,361</u>	<u>612,545</u>
Capital Account					
Plant, Equipment and Works					
603	Plant, vehicles and equipment.....	3,645	4,487	3,634	1,978
661	Minor plant, vehicles and equipment (block vote).....	5,394	9,946	9,946	6,653
	Total, Plant, Equipment and Works.....	<u>9,039</u>	<u>14,433</u>	<u>13,580</u>	<u>8,631</u>
	Total, Capital Account.....	<u>9,039</u>	<u>14,433</u>	<u>13,580</u>	<u>8,631</u>
	Total Expenditure	<u><u>617,752</u></u>	<u><u>588,346</u></u>	<u><u>594,941</u></u>	<u><u>621,176</u></u>

Φ The general non-recurrent item of Research and Development Cash Rebate Scheme was subsumed under the Innovation and Technology Fund with effect from 1 April 2016.

Head 155 — GOVERNMENT SECRETARIAT: INNOVATION AND TECHNOLOGY COMMISSION

Details of Expenditure by Subhead

The estimate of the amount required in 2017–18 for the salaries and expenses of the Innovation and Technology Commission is \$621,176,000. This represents an increase of \$26,235,000 over the revised estimate for 2016–17 and \$3,424,000 over the actual expenditure in 2015–16.

Operating Account

Recurrent

2 Provision of \$612,545,000 under *Subhead 000 Operational expenses* is for the salaries, allowances and other operating expenses of the Innovation and Technology Commission.

3 The establishment as at 31 March 2017 will be 225 posts. It is expected that there will be an increase of 14 posts in 2017–18. Subject to certain conditions, the controlling officer may under delegated power create or delete non-directorate posts during 2017–18, but the notional annual mid-point salary value of all such posts must not exceed \$142,819,000.

4 An analysis of the financial provision under *Subhead 000 Operational expenses* is as follows:

	2015–16 (Actual) (\$'000)	2016–17 (Original) (\$'000)	2016–17 (Revised) (\$'000)	2017–18 (Estimate) (\$'000)
Personal Emoluments				
- Salaries.....	134,593	152,065	147,670	160,017
- Allowances.....	1,527	2,126	3,744	5,254
- Job-related allowances.....	—	2	2	2
Personnel Related Expenses				
- Mandatory Provident Fund contribution.....	480	372	509	439
- Civil Service Provident Fund contribution.....	3,628	4,611	5,889	6,967
Departmental Expenses				
- General departmental expenses	75,055	78,794	82,665	83,263
Subventions				
- Hong Kong Productivity Council	197,754	195,880	200,819	212,955
- Hong Kong Applied Science and Technology Research Institute Company Limited.....	141,478	140,063	140,063	143,648
	554,515	573,913	581,361	612,545

Capital Account

Plant, Equipment and Works

5 Provision of \$6,653,000 under *Subhead 661 Minor plant, vehicles and equipment (block vote)* represents a decrease of \$3,293,000 (33.1%) against the revised estimate for 2016–17. This reflects the decreased requirement for scheduled replacement of minor plant and equipment.

**Head 155 — GOVERNMENT SECRETARIAT:
INNOVATION AND TECHNOLOGY COMMISSION**

Commitments

Sub-head (Code)	Item (Code)	Ambit	Approved commitment	Accumulated expenditure to 31.3.2016	Revised estimated expenditure for 2016–17	Balance
			\$'000	\$'000	\$'000	\$'000
<i>Capital Account</i>						
603		<i>Plant, vehicles and equipment</i>				
	859	For Low Frequency Laboratory of Standards and Calibration Laboratory to replace the quantum hall resistance system	3,500	204	—	3,296
		Total	<u>3,500</u>	<u>204</u>	<u>—</u>	<u>3,296</u>