Head 155 — GOVERNMENT SECRETARIAT: INNOVATION AND TECHNOLOGY COMMISSION

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

Estimate 2022–23 ..... **$853.6m**

Establishment ceiling 2022–23 (notional annual mid-point salary value) representing an estimated 302 non-directorate posts as at 31 March 2022 and as at 31 March 2023..... **$223.6m**

In addition, there will be an estimated nine directorate posts as at 31 March 2022 and as at 31 March 2023.

Commitment balance..... **$431.6m**

Controlling Officer's Report

Programmes

Programme (1) Support for Research and Development **Programme (2) Promotion of Technological Entrepreneurship** **Programme (3) Planning for Innovation and Technology Development** **Programme (4) Infrastructural Support**	These programmes contribute to Policy Area 17: Information Technology and Broadcasting (Secretary for Innovation and Technology).
Programme (5) Quality Support	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).
Programme (6) Subvention: Hong Kong Productivity Council, Hong Kong Applied Science and Technology Research Institute Company Limited	This programme contributes to Policy Area 17: Information Technology and Broadcasting (Secretary for Innovation and Technology).

Detail

Programme (1): Support for Research and Development

	2020–21 (Actual)	2021–22 (Original)	2021–22 (Revised)	**2022–23 (Estimate)**
Financial provision ($m)	80.2	82.5	83.0 (+0.6%)	**82.3** (–0.8%) (or –0.2% on 2021–22 Original)

Aim

2 The aim is to promote and support applied research and development (R&D) activities which can contribute to innovation and technology (I&T) 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 R&D results to companies in the relevant industry. The Guangdong-Hong Kong Technology Cooperation Funding Scheme (TCFS) supports applied R&D projects which will facilitate R&D collaboration between organisations in Hong Kong and Guangdong/Shenzhen. The Mainland-Hong Kong Joint Funding Scheme (MHKJFS), introduced in April 2019, supports and encourages R&D collaboration between Hong Kong and the Mainland. The Partnership Research Programme (PRP), which merged the University-Industry Collaboration Programme (UICP) and the collaborative stream of the ITSP in January 2019, supports R&D projects undertaken by local universities and other public research institutions in collaboration with local companies. The Midstream Research Programme for Universities (MRP) supporting institutions funded by the University Grants Committee to carry out more theme-based mid-stream research in key technology areas was subsumed under ITSP, and the new round of applications for ITSP (Mid-stream, theme-based) would be invited in February 2022. The Public Sector Trial Scheme (PSTS) supports the production of prototypes/samples and/or conducting of trials in the public sector to promote the realisation and commercialisation of local R&D results. 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.

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 platforms and application systems, logistics and supply chain management enabling technologies, and information and communications technologies. 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 for 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 for designated universities to enhance their technology transfer capabilities.

6 Under the R&D Cash Rebate Scheme, companies participating in ITF-funded R&D projects or conducting R&D projects in partnership with designated local public research institutes enjoy a cash rebate of 40 per cent on their investments.

7 To assist more local technology companies in realising and commercialising their R&D outcomes and encourage public sector organisations to utilise more local R&D outcomes, the scope of funding of the PSTS has been extended to cover all technology companies conducting R&D activities in Hong Kong since March 2020. Furthermore, to combat the Coronavirus Disease 2019 (COVID-19) epidemic, a special call for projects under the PSTS was launched between March and April 2020 to support application of homegrown technologies for the prevention and control of the epidemic.

8 Companies can claim enhanced tax deduction for expenditure on qualifying R&D activity incurred on or after 1 April 2018. The Commissioner for Innovation and Technology is responsible for designating qualified local research institutions as "designated local research institution" (DLRI) under the Inland Revenue Ordinance (Cap. 112).

9 The performance under this programme is indicated by the extent to which the applied R&D activities receiving funding support are 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, TCFS, MHKJFS, PRP, PSTS, UICP, MRP, PAG, R&D centres and R&D Cash Rebate Scheme are as follows:

Indicators

	2020 (Actual)	2021 (Actual)	**2022 (Estimate)**
ITSPΨ			
applications received and processed	316	366	**420¶**
projects funded and being monitored	330	292	**269**
TCFSΨ			
applications received and processed	229	229	**199**
projects funded and being monitored	58	58	**89**
MHKJFSΨ			
applications received and processed	84	130	**108**
projects funded and being monitored	1	38	**61**
PRPΨ			
applications received and processed	63	57	**58**
projects funded and being monitored	53	103	**134**
UICP			
applications received and processed^	N.A.	N.A.	**N.A.**
projects funded and being monitored	78	49	**32**
MRP			
applications received and processed¶	98	71	**N.A.**
projects funded and being monitored	31	57	**58**

	2020 (Actual)	2021 (Actual)	**2022 (Estimate)**
PSTS#			
applications received and processed	343◊	37	**33**
projects funded and being monitored	101	110	**102**
PAG			
applications received and processed	218	146‡	**186**
projects funded	78	113	**152**
R&D centres' projectsΦ			
Automotive Platforms and Application Systems R&D Centre			
new projects	15	23	**21**
projects funded and being monitored	72	81	**90**
R&D Centre for information and communications technologies			
new projects	38	39	**37**
projects funded and being monitored	124	134	**146**
Logistics and Supply Chain MultiTech R&D Centre			
new projects	28	19δ	**25**
projects funded and being monitored	74	78	**77**
Nano and Advanced Materials Institute			
new projects	45	52	**53**
projects funded and being monitored	137	143	**166**
Hong Kong Research Institute of Textiles and Apparel			
new projects	18	20	**22**
projects funded and being monitored	62	71	**73**
R&D Cash Rebate Scheme			
applications received and processed	375	369	**369**
applications approved	311	368	**368**

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

¶ Indicator to be removed as from 2022. MRP has been subsumed under ITSP. Applications will be included under the indicator "ITSP" from February 2022 onwards.

^ UICP ceased to accept new applications from April 2019 onwards.

\# The figures include PSTS applications/projects in relation to completed ITF-funded R&D projects, incubatees and tenants of the Hong Kong Science and Technology Parks Corporation (HKSTPC) and Cyberport, and other technology companies conducting R&D activities in Hong Kong. They do not include applications submitted or projects undertaken by the five R&D centres, which are reported under the indicator "R&D centres' projects".

◊ The figure in 2020 is exceptionally high as it included the 321 applications received under the special call for projects to combat COVID-19 launched between March and April 2020.

‡ The negative impact of the COVID-19 pandemic on local and international business operations resulted in a decline in the number of applications received.

Φ All projects (including ITSP, TCFS, MHKJFS, PRP and PSTS projects) undertaken by R&D centres are included.

δ The Centre was preoccupied with initiatives which applied technology to combat the epidemic.

Matters Requiring Special Attention in 2022–23

10 During 2022–23, the Commission will continue to:

- administer the various funding programmes and monitor progress of the funded projects;
- support the activities of the five R&D centres with emphasis on commercialisation and technology transfer of funded projects;
- 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 institutes; and
- process applications for designation as DLRIs.

Programme (2): Promotion of Technological Entrepreneurship

	2020–21 (Actual)	2021–22 (Original)	2021–22 (Revised)	**2022–23 (Estimate)**
Financial provision ($m)	22.6	24.5	24.4 (–0.4%)	**25.6** (+4.9%) (or +4.5% on 2021–22 Original)

Aim

11 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.

Brief Description

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

13 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 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. The HKSTPC also launched in 2015 a Corporate Venture Fund (CVF). The CVF co-invests with private funding in promising technology start-ups, which are tenants in the Hong Kong Science Park (HKSP), or incubatees or graduates of its incubation programmes.

14 To stimulate private sector investments in I&T start-ups in Hong Kong, the Commission administers the Innovation and Technology Venture Fund (ITVF) to co-invest with venture capital funds selected as co-investment partners (CPs) in eligible local I&T start-ups.

15 During 2021–22, the Commission:

- administered the ESS and the TSSSU;
- monitored progress of the funded projects under the ESS and the SERAP;
- administered the ITVF, including the appointment of new CPs; and
- monitored the residual work relating to the ARF and the SERAP.

16 The key performance indicators are:

Indicators

	2020 (Actual)	2021 (Actual)	**2022 (Estimate)**
SERAP			
projects being monitoredμ	25	23	**9**
ESS			
applications received and processed	178	77	**81**
projects funded and being monitored	107	113	**120**

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

Matters Requiring Special Attention in 2022–23

17 During 2022–23, the Commission will continue to:

- administer the ESS and the TSSSU;
- monitor progress of the funded projects under the ESS and the SERAP;
- administer the ITVF, including the appointment of new CPs; and
- monitor the residual work relating to the ARF and the SERAP.

Programme (3): Planning for Innovation and Technology Development

	2020–21 (Actual)	2021–22 (Original)	2021–22 (Revised)	**2022–23 (Estimate)**
Financial provision ($m)	107.4	184.9	110.9 (–40.0%)	**182.4** (+64.5%) (or –1.4% on 2021–22 Original)

Aim

18 The aim is to support the formulation and co-ordination of I&T policies, sustain public awareness of I&T and promote technology adoption.

Brief Description

19 The Commission supports technology co-operation with the Mainland and overseas economies, and participates in relevant regional and international activities which help promote I&T.

20 To enhance public awareness and understanding of the importance of I&T, 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 I&T culture in the community.

21 To enhance the long-term competitiveness of local enterprises, the Commission administers the Technology Voucher Programme (TVP), which aims to subsidise local non-listed enterprises and organisations in using technological services and/or solutions to improve productivity, or upgrade or transform their business processes.

22 To promote re-industrialisation in Hong Kong, the Commission administers the Re-industrialisation Funding Scheme (RFS) which aims to subsidise manufacturers, on a matching basis, to set up new smart production lines in Hong Kong.

23 The Innovation and Technology Fund for Better Living (FBL), launched by the Innovation and Technology Bureau in May 2017 and transferred to the ITF in June 2021, aims to fund I&T projects which will make people's daily life more convenient, comfortable and safer, or address the needs of specific community groups.

24 The Commission also administers four programmes to pool together and nurture technology talents:

- Launched in July 2020, the Research Talent Hub (RTH) merged the former Researcher Programme and Postdoctoral Hub to provide financial support for eligible organisations/companies to engage research talents to carry out R&D work. 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 nurture a larger pool of research talents;
- Launched in June 2020 as a pilot, the STEM Internship Scheme was regularised in 2021 to subsidise university students in Science, Technology, Engineering and Mathematics (STEM) disciplines to gain I&T-related work experience through participation in short-term full-time internships, so as to enlarge the local I&T talent pool;
- the Technology Talent Admission Scheme (TechTAS) provides a fast-track arrangement for eligible companies to admit overseas and Mainland technology talent to undertake R&D work for them in Hong Kong; and
- the Reindustrialisation and Technology Training Programme (RTTP) subsidises local companies to train their staff in advanced technologies.

25 During 2021–22, 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-Pearl River Delta Joint Conference on Regional Co-operation in Science and Technology, and the Guangdong/Hong Kong Expert Group on Co-operation in Technology and Innovation;
- organised exhibitions and workshops as well as sponsored competitions to promote I&T to different sectors of the community through the GSP;
- sponsored and supported the Innovation and Technology Scholarship to nurture young talents to become future leaders in I&T;
- promoted the TVP via briefings and other channels through the Hong Kong Productivity Council (HKPC);
- oversaw the implementation of the Distance Business Programme under the Anti-epidemic Fund to support enterprises to continue business and provide services during the epidemic through adoption of IT solutions;
- regularised the STEM Internship Scheme to provide allowance to STEM students studying in universities funded by the University Grants Committee to undertake short-term full-time internships in I&T-related work;

- organised the InnoCarnival in October 2021; and
- organised the inaugural City Innovation and Technology Grand Challenge with the Grand Pitch held in October 2021.

26 The key performance indicators are:

Indicators

	2020 (Actual)	2021 (Actual)	**2022 (Estimate)**
GSP			
applications received and processed	44	59	**59**
projects funded and being monitored	108	147	**176**
FBLΩ			
applications received and processed	N.A.	55	**55**
projects funded and being monitored	N.A.	38	**40**
RTH			
applications received and processed	1 559	2 253	**2 697**
research talent positions funded	3 050	3 789	**4 265**
RTTP			
applications received and processed	905	2 345	**2 345**
trainings funded	2 130	6 228	**6 228**
TVP			
applications received and processed	1 670	5 421δ	**9 200δ**
projects funded and being monitored	2 825	6 039δ	**14 372δ**
RFS			
applications received and processed	7ε	18	**22**
projects funded and being monitored	5ε	8	**23**

Ω The FBL was transferred to the ITF in June 2021. This is a new indicator with reference to the relevant indicator under Head 135 — Government Secretariat: Innovation and Technology Bureau.

δ The figures increased significantly in 2021 and are expected to increase further in 2022 as a result of various enhancement measures introduced in 2020 and the heightened awareness of the need for digital transformation under the new normal of the COVID-19 epidemic.

ε The RFS was launched in July 2020, hence the figures for 2020 (Actual) were not full-year figures.

Matters Requiring Special Attention in 2022–23

27 During 2022–23, the Commission will continue to:

- administer the RTH, STEM Internship Scheme and TechTAS;
- strengthen technology co-operation with the Mainland under established co-operation mechanisms;
- administer the GSP, TVP, RFS, FBL and RTTP, and monitor progress of the funded projects;
- oversee the implementation of the Distance Business Programme under the Anti-epidemic Fund;
- promote an I&T culture to the general public and nurture more young innovators;
- nominate entries for the State Science and Technology Awards upon the request of the National Office for Science and Technology Awards; and
- organise promotional and educational activities to enhance public awareness of I&T development.

Programme (4): Infrastructural Support

	2020–21 (Actual)	2021–22 (Original)	2021–22 (Revised)	**2022–23 (Estimate)**
Financial provision ($m)	42.2	50.5	53.9 (+6.7%)	**59.3** (+10.0%) (or +17.4% on 2021–22 Original)

Aim

28 The aim is to develop world-class support infrastructure to facilitate technological upgrading and development of the industry and to promote I&T.

Brief Description

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

30 During 2021–22, the Commission:

- worked closely with the HKSTPC on various major initiatives, including InnoHK in HKSP, the Advanced Manufacturing Centre in Tseung Kwan O InnoPark and Microelectronics Centre in Yuen Long InnoPark;
- worked closely with the Hong Kong-Shenzhen Innovation and Technology Park Limited (HSITPL), a wholly-owned subsidiary of the HKSTPC, on the development of the Hong Kong-Shenzhen Innovation and Technology Park (HSITP) in the Lok Ma Chau Loop;
- worked closely with the ASTRI in strengthening its institutional and research capabilities; and
- monitored the delivery of value-added support services to the advanced manufacturing and related service industries by the HKPC.

Matters Requiring Special Attention in 2022–23

31 During 2022–23, the Commission will continue to:

- oversee the work of 28 InnoHK laboratories in two research clusters to promote global research collaboration in Hong Kong;
- work closely with the HKSTPC on the implementation of its various new developments and business plans of the HKSP and the InnoParks, including the Microelectronics Centre, Phase 2 of the Science Park Expansion Programme and the Shenzhen Branch of HKSP;
- work closely with the HSITPL on the implementation of Batch 1 and the planning of the other batches of the HSITP development; and
- assist the ASTRI in strengthening its R&D capabilities and leading research programmes.

Programme (5): Quality Support

	2020–21 (Actual)	2021–22 (Original)	2021–22 (Revised)	**2022–23 (Estimate)**
Financial provision ($m)	133.3	139.1	140.0 (+0.6%)	**140.3** (+0.2%) (or +0.9% on 2021–22 Original)

Aim

32 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 (T&C) sector in Hong Kong.

Brief Description

33 The Commission achieves this aim through the operation of the Standards and Calibration Laboratory (SCL), the Hong Kong Accreditation Service (HKAS), the Secretariat of the Hong Kong Council for Testing and Certification (HKCTC) and the provision of standard-related services.

34 SCL is the official custodian of physical measurement reference standards. 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.

35 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.

36 During 2021–22,

- SCL provided calibration services traceable to the International System of Units and proficiency testing services, and participated 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 provided accreditation services to laboratories, certification bodies and inspection bodies according to international standards and participated in international and regional accreditation co-operation bodies, namely the Asia Pacific Accreditation Cooperation (APAC), the International Laboratory Accreditation Cooperation (ILAC) and the International Accreditation Forum (IAF), to maintain its MRA status for worldwide recognition of endorsed reports and certificates issued by HKAS accredited organisations;
- HKAS provided standards sales and technical enquiry services as well as participated in international and regional fora, including the Asia-Pacific Economic Cooperation (APEC) Sub-Committee on Standards and Conformance, the International Organization for Standardization (ISO) and Pacific Area Standards Congress (PASC), on standards and conformance matters; and
- the Secretariat of the HKCTC continued to provide support to the HKCTC in implementing measures to support the development of the T&C sector, and launched the first T&C Manpower Development Award Scheme to recognise the T&C bodies which attach great importance to manpower development and encourage T&C practitioners to strive for improvement and professional development.

37 The key performance measures for the SCL, HKAS and standard-related services are:

Targets

	Target	2020 (Actual)	2021 (Actual)	**2022 (Plan)**
processing of quotation for calibration services within two working days (%)¶	97	97	100	**97**
calibration of equipment within 13 working days (%)Λ	95	95	99	**95**
processing of technical enquiries on product standards within one working day (%)δ	95	100	99	**95**
processing of quotations on standards within one working day (%)β	100	100	97#	**100**
processing of orders for licensed reproduction of standards within two working days (%)θ	100	100	93#	**100**
issue of letter for confirming accreditation assessments within four working days (%)	90	95	96	**90**
publishing updated information of accredited organisations on website within four working days (%)	90	92	96	**90**

¶ Revised description of the previous target "processing of quotation for calibration services" as from 2021.
Λ Revised description of the previous target "calibration of equipment" as from 2021.
δ Combining the previous targets "processing of simple enquiries on product standards" and "processing of complicated enquiries on product standards" into one target as from 2021.
β Revised description of the previous target "issue of quotations for standards" as from 2021.
The special work arrangement due to the COVID-19 pandemic has affected the actual performance in 2021.
θ Revised description of the previous target "processing of orders for licensed reproduction of standards" as from 2021.

Indicators

	2020 (Actual)	2021 (Actual)	**2022 (Estimate)**
SCL			
calibrations performed	1 060	1 410	**1 200**
revenue generated ($)	3,979,989	5,023,708	**4,400,000**
SCL's overseas CIPM MRA partners (cumulative)ϕ	106	103	**103**

	2020 (Actual)	2021 (Actual)	**2022 (Estimate)**
Standard-related services‡			
technical enquiries received	277	285	**290**
sales of standards			
enquiries received	44	100Ψ	**100**
quotations given	156	345Ψ	**350**
orders placed	27	72Ψ	**70**
revenue generated ($)	30,385	46,865	**47,000**
HOKLAS			
accredited laboratories (cumulative)	230	238ρ	**240**
newly accredited laboratories	14	18	**15**
assessments, re-assessments and surveillance visits conducted	277	378	**330**
overseas laboratory accreditation schemes entered into MRA with the HOKLAS (cumulative)	99	101	**101**
HKCAS			
accredited certification bodies (cumulative)	25	26§	**27**
newly accredited certification bodies	0	2	**1**
assessments, re-assessments and surveillance visits conducted	69	91	**80**
overseas certification bodies accreditation schemes entered into MRA with the HKCAS (cumulative)	73	76	**76**
HKIAS			
accredited inspection bodies (cumulative)	23	23λ	**24**
newly accredited inspection bodies	1	1	**1**
assessments, re-assessments and surveillance visits conducted	21	30	**25**
overseas inspection bodies accreditation schemes entered into MRA with the HKIAS (cumulative)	79	82	**82**

ϕ This indicator provides information on the extent of international recognition of SCL's measurement standards and calibration certificates. These figures include all CIPM MRA partners, which comprise overseas national metrology institutes and four international organisations, namely International Atomic Energy Agency, Joint Research Centre, World Meteorological Organization and European Space Agency.

‡ Revised description of the previous indicator "PSIB" as from 2022. The Product Standards Information Bureau (PSIB) was disbanded in 2021.

Ψ Starting from 2021, the figures include those standards sales enquiries, quotations and orders of government bureaux and departments

ρ The figure has taken into account ten laboratories which ceased accreditation in 2021.

§ The figure has taken into account one certification body which ceased accreditation in 2021.

λ The figure has taken into account one inspection body which ceased accreditation in 2021.

Matters Requiring Special Attention in 2022–23

38 During 2022–23, the Commission will continue to:

- provide support to the HKCTC in implementing measures to support the development of the T&C sector;
- pursue further liberalisation measures relevant to the T&C sector under the Mainland and Hong Kong Closer Economic Partnership Arrangement (CEPA);
- 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;
- provide calibration and proficiency testing services, and participate in international metrology activities of CIPM;
- provide standards sales and technical enquiry services;
- participate in APEC, ISO and PASC activities relating to standardisation;
- provide accreditation services under the HOKLAS, HKCAS and HKIAS; and
- participate in the activities of the APAC, the ILAC and the IAF to maintain the MRA status of the HKAS.

Programme (6): Subvention: Hong Kong Productivity Council, Hong Kong Applied Science and Technology Research Institute Company Limited

	2020–21 (Actual)	2021–22 (Original)	2021–22 (Revised)	**2022–23 (Estimate)**
Financial provision ($m)				
Hong Kong Productivity Council	212.2	212.2	212.2 (—)	**210.1** (–1.0%) (or –1.0% on 2021–22 Original)
Hong Kong Applied Science and Technology Research Institute Company Limited	169.9	173.8	165.9 (–4.5%)	**153.6** (–7.4%) (or –11.6% on 2021–22 Original)
Total	382.1	386.0	378.1 (–2.0%)	**363.7** (–3.8%) (or –5.8% on 2021–22 Original)

HKPC

Aim

39 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 competitiveness and sustainability.

Brief Description

40 The HKPC provides integrated support to innovative and growth-oriented Hong Kong firms across the value chain, including both manufacturing and service sectors, in particular small and medium enterprises (SMEs) and start-ups, with the main geographical focus on Hong Kong and the Guangdong-Hong Kong-Macao Greater Bay Area (Greater Bay Area) in the Mainland.

41 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 in intelligent manufacturing and re-industrialisation to assist industries in different sectors to set up smart production lines and transform to high value-added production;
- promoting FutureSkills from technological knowledge to STEM education and management to nurture future talents in I&T;
- promoting digitalisation and cyber security to assist local industries to utilise digital technologies and develop effective security strategies to transform operations and adapt to future challenges;
- providing environmental technology support to drive smart and green living; and
- operating the Automotive Platforms and Application Systems R&D Centre, which undertakes market-led R&D projects in collaboration with industry, universities and research institutions.

42 During 2021–22, the HKPC ran the following subsidiaries:

- the HKPC Technology (Holdings) Company Limited which functions as a vehicle for the commercialisation of patents, technologies and project deliverables of the HKPC and the Automotive Platforms and Application Systems R&D Centre; and
- the Productivity (Holdings) Limited which operates consulting firms in Shenzhen and Dongguan to strengthen the HKPC's integrated support and services for Hong Kong firms operating in the Greater Bay Area.

43 The key performance indicators for the HKPC are:

Indicators

	2020–21 (Actual)	2021–22 (Revised Estimate)	**2022–23 (Estimate)**
external income per employee ($m)	0.8	0.8	**0.8**
total income/total expenditure ratio (%)ψ	78.1	72.0	**72.0**
income from integrated service projects ($m)	392.9	451.0	**483.7**
income from fee-charging integrated learning course projects ($m)	25.2	20.0	**21.8**
no. of integrated service projects accepted	600	630	**630**
no.of people participated in fee-charging integrated learning courses	14 556	12 000	**12 500**
no. of people participated in the HKPC's seminars, workshops, conferences, exhibitions and non-fee charging training courses and study missions	34 106	23 000	**24 000**
no. of new R&D projectsβ	101	47	**60**
no. of new projects using HKPC's patents	42	11	**30**
customer satisfaction index	9.2	8.9	**8.9**

ψ Revised description of the previous indicator "overall income/expenditure ratio" as from 2022–23.
β The figures do not include projects undertaken by the Automotive Platforms and Application Systems R&D Centre, which are reported under the relevant indicators for the Centre in paragraph 9 above.

Matters Requiring Special Attention in 2022–23

44 During 2022–23, the HKPC will continue to:

- promote intelligent manufacturing and re-industrialisation by driving the adoption of Industry 4.0 and operating the INC Invention Centre Hong Kong jointly established with the Fraunhofer Institute for Production Technology in October 2018 and the Hong Kong Industrial Artificial Intelligence and Robotics Centre set up with RWTH Aachen Campus in 2021 in the AIR@InnoHK research cluster;
- provide digitalisation and cyber security support for enterprises to migrate to Enterprise 4.0 and engage in digital transformation for sustainable development;
- nurture future talents and promote new technology application and commercialisation through the HKPC Academy and the Inno Space;
- promote smart and green living by accelerating the adoption of green technologies and providing support to enterprises in managing their Environmental, Social, and Governance performance;
- provide integrated services to SMEs and start-ups through the SME ReachOut and SME One;
- enhance support to Hong Kong companies operating in the Greater Bay Area, through subsidiary consulting firms set up in Shenzhen and Dongguan and service platforms set up with local governments;
- implement designated government funding schemes as the secretariat for serving SMEs; and
- operate the Automotive Platforms and Application Systems R&D Centre.

ASTRI

Aim

45 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

46 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.

47 ASTRI is designated as the R&D Centre for information and communications technologies. ASTRI focuses its R&D on five core initiatives – financial technologies, intelligent manufacturing (focusing on artificial intelligence and robotics), smart city, health technologies, and application specific integrated circuits. Its operating strategy is to transfer the technologies and results developed from its R&D projects to the industry. 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.

48 The key performance indicators for ASTRI are:

Indicators

	2020 (Actual)	2021 (Actual)	**2022 (Estimate)**
no. of new full projects^	26	24	**31**
no. of new seed projects¶	12	15	**6**
no. of inventions (patents) filed	36 (72)	34 (68)	**34 (68)**
no. of technology transfers	42	55	**42**
no. of clients engaged in technology transfer	27	36	**32**
no. of members joining consortia formed by ASTRI	375	404	**441**
no. of technology workshop/seminars organised	85	184	**184**
no. of participants of seminars	15 029	26 925	**26 925**
amount of income from industry ($m)	103.5	91.1	**122.6**

^ 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.

Matters Requiring Special Attention in 2022–23

49 During 2022–23, 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 encouraging more collaborative projects;
- 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 and explore development potential in the Greater Bay Area;
- develop research capabilities in identified emerging technology areas;
- enhance institutional R&D infrastructure and research capabilities; and
- contribute to development of local high-technology human capital by recruiting local engineering graduates as research fellows under the RTH of the ITF.

ANALYSIS OF FINANCIAL PROVISION

Programme	2020–21 (Actual) ($m)	2021–22 (Original) ($m)	2021–22 (Revised) ($m)	**2022–23 (Estimate) ($m)**
(1) Support for Research and Development	80.2	82.5	83.0	**82.3**
(2) Promotion of Technological Entrepreneurship	22.6	24.5	24.4	**25.6**
(3) Planning for Innovation and Technology Development	107.4	184.9	110.9	**182.4**
(4) Infrastructural Support	42.2	50.5	53.9	**59.3**
(5) Quality Support	133.3	139.1	140.0	**140.3**
(6) Subvention: Hong Kong Productivity Council, Hong Kong Applied Science and Technology Research Institute Company Limited	382.1	386.0	378.1	**363.7**
	767.8	867.5	790.3	**853.6**
			(–8.9%)	**(+8.0%)**
				(or –1.6% on 2021–22 Original)

Analysis of Financial and Staffing Provision

Programme (1)

Provision for 2022–23 is $0.7 million (0.8%) lower than the revised estimate for 2021–22. This is mainly due to decreased provision for general departmental expenses.

Programme (2)

Provision for 2022–23 is $1.2 million (4.9%) higher than the revised estimate for 2021–22. This is mainly due to increased provision for salary.

Programme (3)

Provision for 2022–23 is $71.5 million (64.5%) higher than the revised estimate for 2021–22. This is mainly due to increased cash flow requirements for the City Innovation and Technology Grand Challenge.

Programme (4)

Provision for 2022–23 is $5.4 million (10.0%) higher than the revised estimate for 2021–22. This is mainly due to increased provision for salary and provision for general departmental expenses.

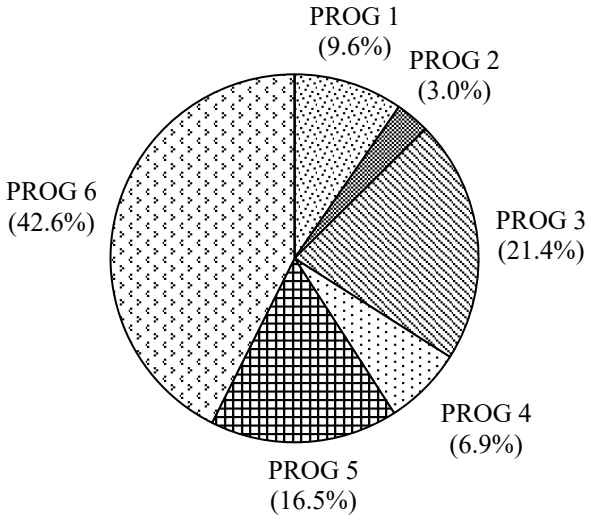
Programme (5)

Provision for 2022–23 is $0.3 million (0.2%) higher than the revised estimate for 2021–22. This is mainly due to increased provision for procurement of capital equipment and increased provision for salary, partly offset by decreased provision for general departmental expenses.

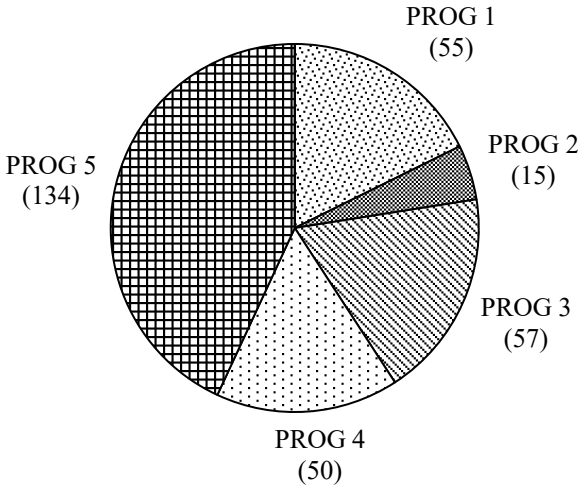
Programme (6)

Provision for 2022–23 is $14.4 million (3.8%) lower than the revised estimate for 2021–22. This is mainly due to decreased provision for the HKPC and ASTRI.

Allocation of provision to programmes (2022-23)

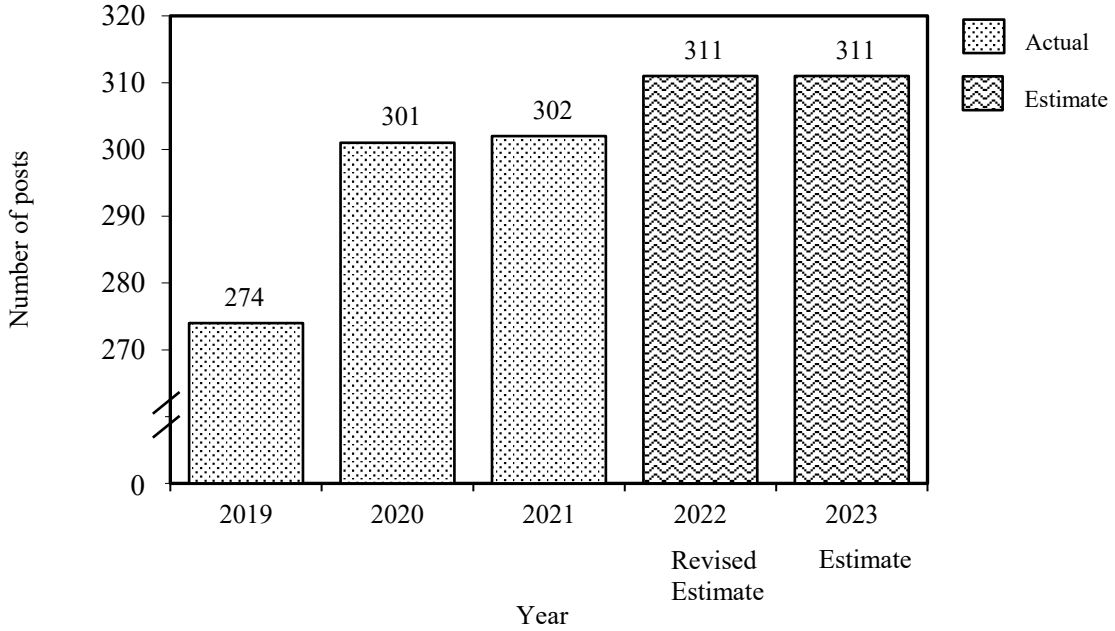


Staff by programme (as at 31 March 2023)



(No government staff under PROG 6)

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



Head 155 — GOVERNMENT SECRETARIAT: INNOVATION AND TECHNOLOGY COMMISSION

Sub-head (Code)		Actual expenditure 2020–21	Approved estimate 2021–22	Revised estimate 2021–22	**Estimate 2022–23**
		$'000	$'000	$'000	**$'000**
	Operating Account				
	Recurrent				
000	Operational expenses	717,509	743,279	738,726	**730,491**
	Total, Recurrent	717,509	743,279	738,726	**730,491**
	Non-Recurrent				
700	General non-recurrent	34,200	99,000	34,200	**105,000**
	Total, Non-Recurrent	34,200	99,000	34,200	**105,000**
	Total, Operating Account	751,709	842,279	772,926	**835,491**
	Capital Account				
	Plant, Equipment and Works				
661	Minor plant, vehicles and equipment (block vote)	16,100	17,344	17,344	**18,133**
	Total, Plant, Equipment and Works	16,100	17,344	17,344	**18,133**
	Subventions				
	Hong Kong Applied Science and Technology Research Institute (block vote)	—	7,900	—	**—**
	Total, Subventions	—	7,900	—	**—**
	Total, Capital Account	16,100	25,244	17,344	**18,133**
	Total Expenditure	767,809	867,523	790,270	**853,624**

Details of Expenditure by Subhead

The estimate of the amount required in 2022–23 for the salaries and expenses of the Innovation and Technology Commission is $853,624,000. This represents an increase of $63,354,000 over the revised estimate for 2021–22 and $85,815,000 over the actual expenditure in 2020–21.

Operating Account

Recurrent

2 Provision of $730,491,000 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 2022 will be 311 posts. No change in establishment is expected in 2022–23. Subject to certain conditions, the controlling officer may under delegated power create or delete non-directorate posts during 2022–23, but the notional annual mid-point salary value of all such posts must not exceed $223,631,000.

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

	2020–21 (Actual) ($'000)	2021–22 (Original) ($'000)	2021–22 (Revised) ($'000)	**2022–23 (Estimate) ($'000)**
Personal Emoluments				
- Salaries	216,775	236,594	223,109	**243,935**
- Allowances	7,775	7,917	6,691	**7,451**
- Job-related allowances	—	2	2	**2**
Personnel Related Expenses				
- Mandatory Provident Fund contribution	983	1,057	976	**707**
- Civil Service Provident Fund contribution	15,745	17,256	16,691	**20,079**
Departmental Expenses				
- General departmental expenses	94,161	102,330	113,134	**94,583**
Subventions				
- Hong Kong Productivity Council	212,219	212,219	212,219	**210,097**
- Hong Kong Applied Science and Technology Research Institute Company Limited	169,851	165,904	165,904	**153,637**
	717,509	743,279	738,726	**730,491**

Commitments

Sub-head (Code)	Item (Code)	Ambit	Approved commitment	Accumulated expenditure to 31.3.2021	Revised estimated expenditure for 2021–22	Balance
			$'000	$'000	$'000	$'000
Operating Account						
700		*General non-recurrent*				
	802	City Innovation and Technology Grand Challenge	500,000	34,200	34,200	431,600
		Total	500,000	34,200	34,200	431,600