

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

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

Estimate 2021–22	\$867.5m
Establishment ceiling 2021–22 (notional annual mid-point salary value) representing an estimated 309 non-directorate posts as at 31 March 2021 reducing by seven posts to 302 posts as at 31 March 2022.....	\$223.6m
In addition, there will be an estimated nine directorate posts as at 31 March 2021 and as at 31 March 2022.	
Commitment balance	\$465.8m

Controlling Officer’s Report

Programmes

Programme (1) Support for Research and Development	These programmes contribute to Policy Area 17: Information Technology and Broadcasting (Secretary for Innovation and Technology).
Programme (2) Promotion of Technological Entrepreneurship	
Programme (3) Planning for Innovation and Technology Development	
Programme (4) Infrastructural Support	
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

	2019–20 (Actual)	2020–21 (Original)	2020–21 (Revised)	2021–22 (Estimate)
Financial provision (\$m)	75.0	85.8	82.6 (–3.7%)	82.5 (–0.1%)
				(or –3.8% on 2020–21 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.

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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) supports 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 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 (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 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 funding scope 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 (CIT) 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

	2019 (Actual)	2020 (Actual)	2021 (Estimate)
ITSP			
applications received and processed	367	316	335
projects funded and being monitored	439	330	305
TCFS			
applications received and processed	163	229	176
projects funded and being monitored	64	58	89
MHKJFS			
applications received and processed	113	84	99
projects funded and being monitored	N.A.	1	23
PRP			
applications received and processed	58	63	61
projects funded and being monitored	15	53	80
UICP			
applications received and processed	22	N.A.	N.A.
projects funded and being monitored	101	78	53
MRP			
applications received and processed	0	98	89
projects funded and being monitored	25	31	45

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	2019 (Actual)	2020 (Actual)	2021 (Estimate)
PSTS#			
applications received and processed	N.A.	343 [◇]	28
projects funded and being monitored.....	N.A.	101	108
PAG			
applications received and processed	212	218	217
projects funded.....	164	78 [‡]	191
R&D centres' projects ^Φ			
Automotive Platforms and Application Systems R&D Centre			
new projects	19	15	21
projects funded and being monitored.....	68	72	89
R&D Centre for information and communications technologies			
new projects	48	38 ^δ	52
projects funded and being monitored.....	127	124	147
Logistics and Supply Chain MultiTech R&D Centre			
new projects	24	28	25
projects funded and being monitored.....	63	74	85
Nano and Advanced Materials Institute			
new projects	36	45	51
projects funded and being monitored.....	132	137	147
Hong Kong Research Institute of Textiles and Apparel			
new projects	15	18	20
projects funded and being monitored.....	69	62 ^ε	72^α
R&D Cash Rebate Scheme			
applications received and processed	362	375	375
applications approved	381	311 ^β	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".

^Ω The number of ITSP applications received and processed in 2019 and the number of projects funded and being monitored in 2020 dropped due to the merging of the collaborative stream of ITSP and UICP into the PRP in January 2019.

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

[¶] There was no MRP application received in 2019 as the solicitation exercise started in mid-December 2019.

[#] New indicator as from 2020. 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 outbreak of COVID-19 epidemic resulted in a delay of approval of applications by the implementation agent (the Hong Kong Productivity Council).

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

^δ The Centre needed more time to prepare some project proposals due to their complexity.

^ε The figure is lower than that of 2019 because more projects were completed in 2019. Separately, the uncertain business environment hindered local companies' investment in R&D, resulting in fewer new projects in 2019 and 2020.

^α The 2021 estimate is higher than the 2020 actual as a number of projects could not be completed in 2020 as originally scheduled due to the COVID-19 epidemic and are brought forward to 2021 as ongoing projects.

^β The 2020 figure is lower than that of 2019 as the processing of the applications had been significantly disrupted by the COVID-19 epidemic.

Matters Requiring Special Attention in 2021–22

10 During 2021–22, the Commission will continue to:

- administer the various funding programmes and monitor progress of the funded projects;
- support the activities of the R&D centres with emphasis on commercialisation and technology transfer of funded projects;

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- 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

	2019–20 (Actual)	2020–21 (Original)	2020–21 (Revised)	2021–22 (Estimate)
Financial provision (\$m)	23.2	27.5	25.6 (–6.9%)	24.5 (–4.3%)
				(or –10.9% on 2020–21 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 on I&T. 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.

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 2020–21, 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

	2019 (Actual)	2020 (Actual)	2021 (Estimate)
SERAP			
projects funded and being monitored μ	39	25	23
ESS			
applications received and processed	118	178	187
projects funded and being monitored.....	86	107	114

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

Matters Requiring Special Attention in 2021–22

17 During 2021–22, the Commission will continue to:

- administer the ESS and the TSSSU;
- monitor progress of the funded projects under the ESS and the SERAP;

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- administer the ITVF; and
- monitor the residual work relating to the ARF and the SERAP.

Programme (3): Planning for Innovation and Technology Development

	2019–20 (Actual)	2020–21 (Original)	2020–21 (Revised)	2021–22 (Estimate)
Financial provision (\$m)	66.3	141.6	123.6 (–12.7%)	184.9 (+49.6%)
				(or +30.6% on 2020–21 Original)

Aim

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

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.

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 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 (RP) and Postdoctoral Hub (PH) 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;
- the pilot STEM Internship Scheme launched in summer 2020 subsidises university students in Science, Technology, Engineering and Mathematics (STEM) disciplines to gain I&T-related work experience through participation in short-term internship, 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.

23 To promote re-industrialisation in Hong Kong, a new Re-industrialisation Funding Scheme (RFS) was launched under the ITF in July 2020 to subsidise manufacturers, on a matching basis, to set up new smart production lines in Hong Kong.

24 During 2020–21, 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 (PRD) 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;
- sponsored and supported the Innovation and Technology Scholarship to nurture young talents to become future leaders in I&T;
- conducted 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 2020;

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- increased the government funding ratio of each TVP project to 75 per cent and the cumulative funding ceiling per applicant to \$600,000, and enhanced the promotion of the TVP via briefings and other channels;
- launched 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;
- expanded the eligibility of the RP and the PH from ITF-funded R&D projects and incubatees and talents of the HKSTPC and Cyberport to cover all technology companies conducting R&D activities in Hong Kong, and merged the RP and PH into the RTH to provide more flexibility for eligible organisations/companies to recruit research talents for carrying out R&D work;
- administered the pilot STEM Internship Scheme in summer and winter 2020 to provide allowance to STEM students studying in universities funded by the University Grants Committee to undertake short-term internships in I&T-related work;
- launched the RFS in July 2020;
- launched the virtual InnoCarnival in December 2020; and
- launched the inaugural City Innovation and Technology Grand Challenge in December 2020.

25 The key performance indicators are:

Indicators

	2019 (Actual)	2020 (Actual)	2021 (Estimate)
GSP			
applications received and processed	43	44	44
projects funded and being monitored	100	108	131
RP [⊖]			
applications received and processed	1 093	N.A. ^Δ	N.A.
researcher positions funded.....	1 772	N.A. ^Δ	N.A.
PH [⊖]			
applications received and processed	608	N.A. ^Δ	N.A.
postdoctoral talent positions funded	863	N.A. ^Δ	N.A.
RTH [⊖]			
applications received and processed	N.A.	1 559 ^Δ	2 224
research talent positions funded.....	N.A.	3 050 ^Δ	3 701
RTTP			
applications received and processed	744	905	910
trainings funded ^φ	1 795	2 130	2 150
TVP ^δ			
applications received and processed	954	1 670	6 000
projects funded and being monitored.....	1 695	2 825	7 832
RFS ^φ			
applications received and processed	N.A.	7 ^ε	25
projects funded and being monitored.....	N.A.	5 ^ε	23

⊖ The RP and the PH have been merged into the RTH since 1 July 2020.

Δ Applications received and processed as well as positions funded under the RP and PH between 1 January and 1 July 2020 are subsumed under the RTH.

⊖ New indicators as from 2020. Applications received and processed as well as positions funded under the RP and PH between 1 January and 1 July 2020 are subsumed under the RTH.

φ Revised description of previous indicator “trainees funded” as from 2021 as each funded trainee may attend more than one training.

δ The figures increased significantly in 2020 and are expected to substantially increase further in 2021 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.

φ New indicators as from 2020.

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

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Matters Requiring Special Attention in 2021–22

26 During 2021–22, the Commission will continue to:

- administer the RTH and TechTAS;
- strengthen technology co-operation with the Mainland under established co-operation mechanisms and in accordance with the “Arrangement on Enhancing Innovation and Technology Co-operation between the Mainland and Hong Kong”;
- administer the GSP, TVP, RFS 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, such as by organising the City Innovation and Technology Grand Challenge;
- nominate entries for the State Science and Technology Awards; and
- organise promotional and educational activities to enhance public awareness of I&T development.

Programme (4): Infrastructural Support

	2019–20 (Actual)	2020–21 (Original)	2020–21 (Revised)	2021–22 (Estimate)
Financial provision (\$m)	57.0	46.2	45.5 (–1.5%)	50.5 (+11.0%)
				(or +9.3% on 2020–21 Original)

Aim

27 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

28 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 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.

29 During 2020–21, the Commission:

- worked closely with the HKSTPC on various major initiatives, including development of facilities for supporting researches on healthcare and artificial intelligence and robotics technologies in HKSP and the Advanced Manufacturing Centre under the revised Industrial Estate (IE) policy, and completion of the construction works of Data Technology Hub and InnoCell;
- 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 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 manufacturing and related service industries by the HKPC.

Matters Requiring Special Attention in 2021–22

30 During 2021–22, the Commission will continue to:

- oversee the work of the two InnoHK research clusters and keep in view the need for the third research cluster to further 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 IEs, including the Microelectronics Centre and Phase 2 of the Science Park Expansion Programme;
- work closely with the HSITPL on the planning and implementation of Batch 1 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 leading research programmes.

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Programme (5): Quality Support

	2019–20 (Actual)	2020–21 (Original)	2020–21 (Revised)	2021–22 (Estimate)
Financial provision (\$m)	145.5	143.3	142.5 (–0.6%)	139.1 (–2.4%)
				(or –2.9% on 2020–21 Original)

Aim

31 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

32 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).

33 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.

34 PSIB operates the product standards resource centre and acts as the Enquiry and Notification Point of Hong Kong, China under the World Trade Organization Agreement on Technical Barriers to Trade.

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 2020–21,

- SCL provided calibration service traceable to the International System of Units 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;
- PSIB provided standards sales and technical enquiry services and 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 testing and certification industry.

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

Targets

	Target	2019 (Actual)	2020 (Actual)	2021 (Plan)
processing of quotation for calibration services within two working days (%)§	97	100	97	97
calibration of equipment within 13 working days (%)λ.....	95	99	95	95
processing of technical enquiries on product standards within one working day (%)υ.....	95	100	100	95
processing of quotations on standards within one working day (%)Φ.....	100	100	100	100
processing of orders for licensed reproduction of standards within two working days (%)β.....	100	100	100	100
issue of letter for confirming accreditation assessments within four working days (%)τ.....	90	93	95	90
publishing updated information of accredited organisations on website within four working days (%)τ.....	90	99	92	90

§ Revision of previous target “processing of quotation for calibration services” as from 2021.

λ Revision of previous target “calibration of equipment” as from 2021.

υ 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.

Φ Revision of previous target “issue of quotations for standards” as from 2021.

β Revision of previous target “processing of orders for licensed reproduction of standards” as from 2021.

τ New target as from 2021.

Indicators

	2019 (Actual)	2020 (Actual)	2021 (Estimate)
SCL			
calibrations performed.....	1 160	1 060	1 000
revenue generated (\$)	4,197,661	3,979,989	3,800,000
SCL’s overseas CIPM MRA partners (cumulative)φ.....	106	106	106
PSIB			
technical enquiries received	302	277	280
sales of standards			
enquiries received.....	59	44	45
quotations given	262	156Ψ	160
orders placed	37	27Ψ	30
revenue generated (\$).....	60,770	30,385	30,500
HOKLAS			
accredited laboratories (cumulative)	225	230	232
newly accredited laboratories‡.....	11	14	15
assessments, re-assessments and surveillance visits conducted.....	345	277ρ	300
overseas laboratory accreditation schemes entered into MRA with the HOKLAS (cumulative).....	98	99	100
HKCAS			
accredited certification bodies (cumulative)	26	25	26
newly accredited certification bodies‡.....	2	0	1
assessments, re-assessments and surveillance visits conducted.....	96	69ρ	70
overseas certification bodies accreditation schemes entered into MRA with the HKCAS (cumulative)	73	73	74

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	2019 (Actual)	2020 (Actual)	2021 (Estimate)
HKIAS			
accredited inspection bodies (cumulative).....	22	23	23
newly accredited inspection bodies‡.....	1	1	1
assessments, re-assessments and surveillance visits conducted.....	25	21 ρ	21
overseas inspection bodies accreditation schemes entered into MRA with the HKIAS (cumulative).....	76	79	79

ϕ 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, Joint Research Centre, World Meteorological Organization and European Space Agency.

Ψ The number of quotations given by PSIB and orders placed in 2020 were lower than those in the previous year. This was mainly because of the absence of major updates of international popular standards in 2020 and the reduced economic activities due to the COVID-19 pandemic.

\ddagger New indicator as from 2021.

ρ Fewer visits were conducted in 2020 than 2019. This was mainly because of the reduced economic activities and travel restrictions due to the COVID-19 pandemic.

Matters Requiring Special Attention in 2021–22

38 During 2021–22, the Commission will continue to:

- provide support to the HKCTC in implementing measures to support the development of the testing and certification industry;
- pursue further liberalisation measures relevant to the testing and certification industry 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 service 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

	2019–20 (Actual)	2020–21 (Original)	2020–21 (Revised)	2021–22 (Estimate)
Financial provision (\$m)				
Hong Kong Productivity Council	212.2	212.2	212.2 (—)	212.2 (—)
				(or same as 2020–21 Original)
Hong Kong Applied Science and Technology Research Institute Company Limited	145.9	169.9	169.9 (—)	173.8 (+2.3%)
				(or +2.3% on 2020–21 Original)
Total	358.1	382.1	382.1 (—)	386.0 (+1.0%)
				(or +1.0% on 2020–21 Original)

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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, 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 to the manufacturing industries in the areas of smart manufacturing, intelligent automation, robotics, product innovation and technology commercialisation;
- promoting re-industrialisation and assisting 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 small and medium enterprises (SMEs), through organisational development, upskilling, process management, knowledge and innovation management and corporate sustainability;
- assisting information technology (IT) service providers, in particular SMEs, to enhance their ICT capabilities, 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 international standards, as well as environmental technology transfer; 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 2020–21, the HKPC ran the following subsidiaries:

- the HKPC Technology (Holdings) Company Limited which functions as a vehicle for commercialisation of patents, technologies and project deliverables of the HKPC and other research 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.

43 The key performance indicators for the HKPC are:

Indicators^A

	2019–20 (Actual)	2020–21 (Revised Estimate)	2021–22 (Estimate)
external income per employee (\$m) ^Λ	N.A.	0.8	0.8
overall income/expenditure ratio (%).....	73.7	68.1	70.2
income from integrated solutions (\$m).....	355.5	N.A.	N.A.
income from integrated service projects (\$m) ^α	N.A.	342.0	382.7
income from training courses (\$m).....	10.1	N.A.	N.A.
income from fee-charging integrated learning course projects (\$m) ^γ	N.A.	24.1	20.0
income from exhibitions/study missions/ conferences (\$m).....	6.6	N.A.	N.A.
no. of consultancy projects accepted.....	639	N.A.	N.A.
no. of integrated service projects accepted ^ω	N.A.	630	630
no. of people who attended the HKPC fee-charging training courses.....	6 065	N.A.	N.A.
no. of people participated in fee-charging integrated learning courses ^γ	N.A.	12 000	12 000
no. of people who attended the HKPC events/networking activities for associations/non-fee-charging seminars.....	19 945	N.A.	N.A.
no. of people participated in the HKPC's seminars, workshops, conferences, exhibitions and non-fee charging training courses and study missions ^ψ	N.A.	22 500	23 000
no. of people who participated in the HKPC exhibitions/study missions/conferences.....	5 790	N.A.	N.A.

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	2019–20 (Actual)	2020–21 (Revised Estimate)	2021–22 (Estimate)
no. of R&D projects ^β			
new projects	48	N.A.	N.A.
ongoing projects	158	N.A.	N.A.
no. of new R&D projects ^β	N.A.	45	47
no. of new projects using HKPC’s patents ^Λ	N.A.	11	11
customer satisfaction index ^Λ	N.A.	8.9	8.9

- Λ The HKPC reviewed the key performance indicators in 2020 and a new set of indicators has been adopted from 2020–21. A number of new indicators are added from 2020–21 onwards.
- α The new indicator “income from integrated service projects (\$m)” has replaced the original indicator “income from integrated solutions (\$m)” and part of the original indicator “income from exhibitions/study missions/conferences (\$m)” as from 2020–21 to cover income from consultancy projects and manufacturing support projects as well as income from exhibitions and conferences.
- γ The new indicator “income from fee-charging integrated learning course projects (\$m)” has replaced the original indicator “income from training courses (\$m)” and part of the original indicator “income from exhibitions/study missions/conferences (\$m)”, while the new indicator “no. of people participated in fee-charging integrated learning courses” has replaced the original indicator “no. of people who attended the HKPC fee-charging training courses” and part of the original indicator “no. of people who participated in the HKPC exhibitions/study missions/conferences” as from 2020–21, so that the two new indicators cover income from and number of people participating in fee-charging training courses/in-company training courses in Hong Kong as well as fee-charging training courses and study missions held outside Hong Kong respectively.
- ω The new indicator “no. of integrated service projects accepted” has replaced the original indicator “number of consultancy projects accepted” as from 2020–21, and covers manufacturing support projects, exhibitions and conferences in addition to consultancy projects.
- ψ The new indicator “no. of people participated in the HKPC’s seminars, workshops, conferences, exhibitions and non-fee charging training courses and study missions” has replaced the original indicator “no. of people who attended the HKPC events/networking activities for associations/non-fee-charging seminars” and part of the original indicator “no. of people who participated in the HKPC exhibitions/study missions/conferences” as from 2020–21 to cover seminars, workshops, conferences, exhibitions and non-fee-charging training courses and study missions organised and co-organised by HKPC.
- 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. The new indicator “no. of new R&D projects” covers new R&D projects launched by divisions of HKPC and has replaced the original indicator “no. of R&D projects – new projects”. “No. of R&D projects - on-going R&D projects” is no longer adopted as an indicator as the figure only reflects the status of workload at the end of the reporting period which can be affected by many factors including completion time of projects.

Matters Requiring Special Attention in 2021–22

44 During 2021–22, the HKPC will continue to:

- provide integrated support to innovative and growth-oriented Hong Kong companies across the value chain for their transition towards Industry 4.0 and Enterprise 4.0;
- provide Industry 4.0 consultancy services through the INC Invention Centre Hong Kong jointly established with the Fraunhofer Institute for Production Technology in October 2018 and assist the local business sector in embarking on digital transformation;
- promote re-industrialisation and move relevant enterprises towards high value-added production;
- promote smart living by offering smart solutions in mobility, gerontech, green technology, training and business transformation;
- nurture the start-up culture and STEM talents in Hong Kong through the Inno Space which serves as a collaborative partner to start-ups and makerspaces and a STEM hub of Technology and Technical Education;
- provide integrated services to SMEs and start-ups through SME ReachOut and SME One;
- enhance its support to Hong Kong companies operating in the Mainland and contribute to the Greater Bay Area development, through subsidiary consulting firms set up in Shenzhen and Dongguan and the HKPC Shenzhen Innovation and Technology Centre (Futian);
- assist local enterprises in developing brands, upgrading and restructuring operations, and promoting sales in the Mainland and Association of Southeast Asian Nations (ASEAN) markets, as well as other economies with which Hong Kong has signed Free Trade Agreements through the Dedicated Fund on Branding, Upgrading and Domestic Sales launched on 25 June 2012;

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- assist the recycling industry in upgrading its operational capabilities and efficiency for sustainable development through the Recycling Fund launched on 6 October 2015;
- promote the development of Chinese medicine and the Chinese medicine drug sectors through the Chinese Medicine Development Fund launched on 25 June 2019;
- encourage the logistics sector to apply technologies and/or information systems to enhance efficiency and productivity through the Pilot Subsidy Scheme for Third-party Logistics Service Providers launched on 12 October 2020; 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

	2019 (Actual)	2020 (Actual)	2021 (Estimate)
no. of new full projects [^]	24	26	39
no. of new seed projects [¶]	24	12	13
no. of inventions (patents) filed ^Δ	33 (68)	36 (72)	34 (68)
no. of technology transfers	48	42	50
no. of clients engaged in technology transfer	36	27	38
no. of members joining consortia formed by ASTRI	366	375	441
no. of technology workshop/seminars organised	70	85	85
no. of participants of seminars	14 250	15 029	15 029
amount of income from industry (\$m)	107.4	103.5	113.0

[^] 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.

^Δ Revised description of the previous indicator “no. of patents filed” as from 2021. One invention may generate multiple patent filings.

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Matters Requiring Special Attention in 2021–22

49 During 2021–22, 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 and create synergy through clustered-seed projects;
- enhance institutional 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.

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

ANALYSIS OF FINANCIAL PROVISION

Programme	2019–20 (Actual) (\$m)	2020–21 (Original) (\$m)	2020–21 (Revised) (\$m)	2021–22 (Estimate) (\$m)
(1) Support for Research and Development	75.0	85.8	82.6	82.5
(2) Promotion of Technological Entrepreneurship.....	23.2	27.5	25.6	24.5
(3) Planning for Innovation and Technology Development.....	66.3	141.6	123.6	184.9
(4) Infrastructural Support.....	57.0	46.2	45.5	50.5
(5) Quality Support.....	145.5	143.3	142.5	139.1
(6) Subvention: Hong Kong Productivity Council, Hong Kong Applied Science and Technology Research Institute Company Limited	358.1	382.1	382.1	386.0
	725.1	826.5	801.9 (–3.0%)	867.5 (+8.2%)
				(or +5.0% on 2020–21 Original)

Analysis of Financial and Staffing Provision

Programme (1)

Provision for 2021–22 is \$0.1 million (0.1%) lower than the revised estimate for 2020–21. This is mainly due to decreased provision for general departmental expenses.

Programme (2)

Provision for 2021–22 is \$1.1 million (4.3%) lower than the revised estimate for 2020–21. This is mainly due to decreased provision for general departmental expenses.

Programme (3)

Provision for 2021–22 is \$61.3 million (49.6%) higher than the revised estimate for 2020–21. This is mainly due to increased cash flow requirements for the City Innovation and Technology Grand Challenge, partly offset by the decreased provision for salary with the reduction of seven posts in 2021–22.

Programme (4)

Provision for 2021–22 is \$5.0 million (11.0%) higher than the revised estimate for 2020–21. This is mainly due to increased provision for salary with an increase of two posts in 2021–22.

Programme (5)

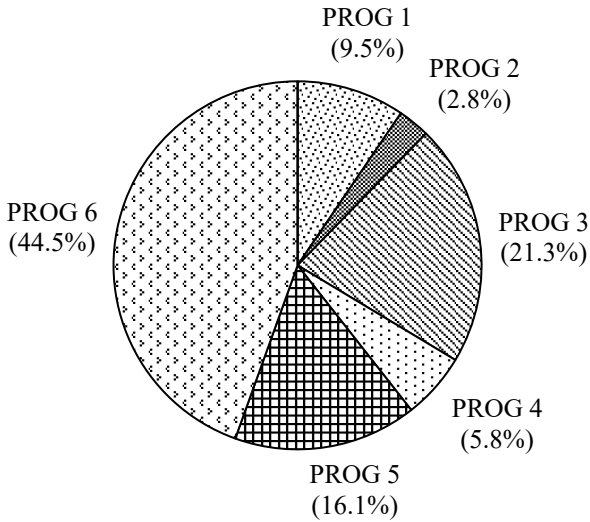
Provision for 2021–22 is \$3.4 million (2.4%) lower than the revised estimate for 2020–21. This is mainly due to decreased provision for procurement of capital equipment. In addition, there will be a decrease of two posts in 2021–22.

Programme (6)

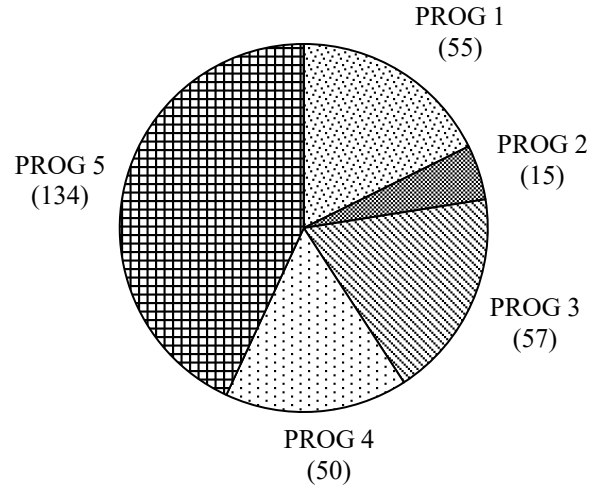
Provision for 2021–22 is \$3.9 million (1.0%) higher than the revised estimate for 2020–21. This is mainly due to increased provision for the ASTRI.

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*Allocation of provision
to programmes
(2021-22)*

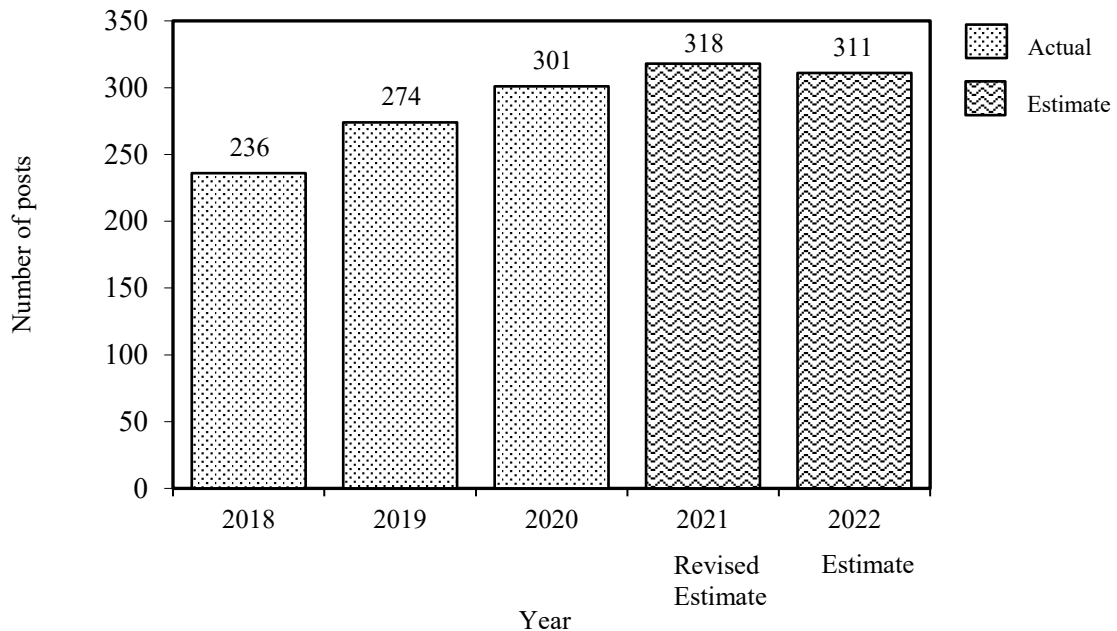


*Staff by programme
(as at 31 March 2022)*



(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 2019–20	Approved estimate 2020–21	Revised estimate 2020–21	Estimate 2021–22	
	\$'000	\$'000	\$'000	\$'000	
Operating Account					
Recurrent					
000	Operational expenses	694,437	745,020	741,249	743,279
	Total, Recurrent.....	<u>694,437</u>	<u>745,020</u>	<u>741,249</u>	<u>743,279</u>
Non-Recurrent					
700	General non-recurrent	—	55,000	34,200	99,000
	Total, Non-Recurrent.....	<u>—</u>	<u>55,000</u>	<u>34,200</u>	<u>99,000</u>
	Total, Operating Account	<u>694,437</u>	<u>800,020</u>	<u>775,449</u>	<u>842,279</u>
Capital Account					
Plant, Equipment and Works					
661	Minor plant, vehicles and equipment (block vote).....	28,376	26,467	26,467	17,344
	Total, Plant, Equipment and Works.....	<u>28,376</u>	<u>26,467</u>	<u>26,467</u>	<u>17,344</u>
Subventions					
88E	Hong Kong Applied Science and Technology Research Institute (block vote)§	2,255	—	—	7,900
	Total, Subventions	<u>2,255</u>	<u>—</u>	<u>—</u>	<u>7,900</u>
	Total, Capital Account.....	<u>30,631</u>	<u>26,467</u>	<u>26,467</u>	<u>25,244</u>
	Total Expenditure	<u><u>725,068</u></u>	<u><u>826,487</u></u>	<u><u>801,916</u></u>	<u><u>867,523</u></u>

§ Revision of the previous subhead description “Hong Kong Applied Science and Technology Research Institute - Office renovation, fitting-out, and reinstatement works (block vote)” as from 2021–22.

Head 155 — GOVERNMENT SECRETARIAT: INNOVATION AND TECHNOLOGY COMMISSION

Details of Expenditure by Subhead

The estimate of the amount required in 2021–22 for the salaries and expenses of the Innovation and Technology Commission is \$867,523,000. This represents an increase of \$65,607,000 over the revised estimate for 2020–21 and \$142,455,000 over the actual expenditure in 2019–20.

Operating Account

Recurrent

2 Provision of \$743,279,000 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 2021 will be 318 posts. It is expected that there will be a net decrease of seven posts in 2021–22. Subject to certain conditions, the controlling officer may under delegated power create or delete non-directorate posts during 2021–22, 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:

	2019–20 (Actual) (\$'000)	2020–21 (Original) (\$'000)	2020–21 (Revised) (\$'000)	2021–22 (Estimate) (\$'000)
Personal Emoluments				
- Salaries	204,817	225,919	223,486	236,594
- Allowances	7,706	8,098	9,182	7,917
- Job-related allowances.....	2	2	2	2
Personnel Related Expenses				
- Mandatory Provident Fund contribution	850	999	1,033	1,057
- Civil Service Provident Fund contribution	13,617	15,232	15,376	17,256
Departmental Expenses				
- General departmental expenses	111,578	112,700	110,100	102,330
Subventions				
- Hong Kong Productivity Council.....	212,219	212,219	212,219	212,219
- Hong Kong Applied Science and Technology Research Institute Company Limited	143,648	169,851	169,851	165,904
	694,437	745,020	741,249	743,279

Capital Account

Plant, Equipment and Works

5 Provision of \$17,344,000 under *Subhead 661 Minor plant, vehicles and equipment (block vote)* represents a decrease of \$9,123,000 (34.5%) against the revised estimate for 2020–21. This reflects the decreased requirement for scheduled replacement of minor plant and equipment.

Subventions

6 *Subhead 88E Hong Kong Applied Science and Technology Research Institute (block vote)* is for equipment and minor modification/renovation works each costing over \$200,000 but not exceeding \$10 million. The provision of \$7,900,000 is for the implementation of information technology projects for the Hong Kong Applied Science and Technology Research Institute.

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

Commitments

Sub-head (Code)	Item (Code)	Ambit	Approved commitment	Accumulated expenditure to 31.3.2020	Revised estimated expenditure for 2020–21	Balance
			\$'000	\$'000	\$'000	\$'000
<i>Operating Account</i>						
700		<i>General non-recurrent</i>				
	802	City Innovation and Technology Grand Challenge	500,000	—	34,200	465,800
		Total	<u>500,000</u>	<u>—</u>	<u>34,200</u>	<u>465,800</u>