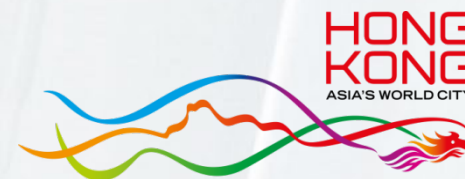





Office of the Government Chief Information Officer
The Government of the Hong Kong Special Administrative Region

ICT Manpower Development


27 April 2021




Innovation and Technology on the Top Policy Agenda



2017 Policy Address: to develop I&T in eight major areas: (a) increasing resources for R&D; (b) pooling together technology talent; (c) providing investment funding; (d) providing technological research infrastructure; (e) reviewing existing legislations and regulations; (f) opening up government data; (g) Government to lead changes to procurement arrangements; and (h) strengthening popular science education.



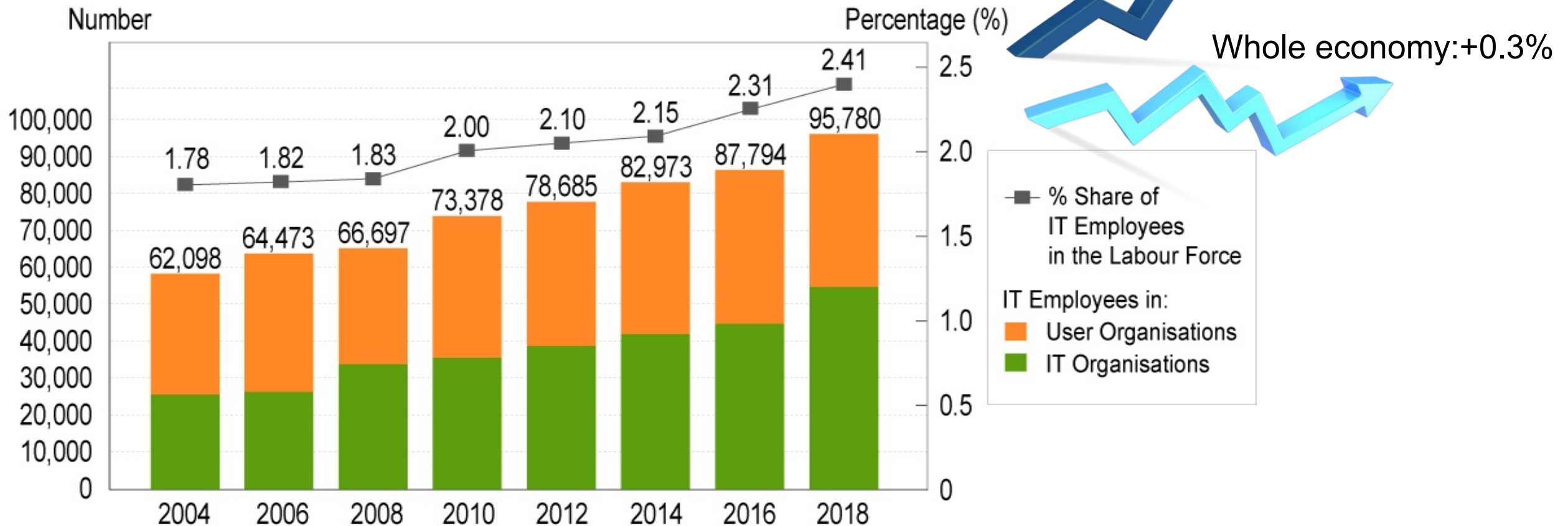
Smart City Blueprint 1.0 (Dec 2017): set out 76 initiatives under six smart areas, namely “Smart Mobility”, “Smart Living”, “Smart Environment”, “Smart People”, “Smart Government” and “Smart Economy”.



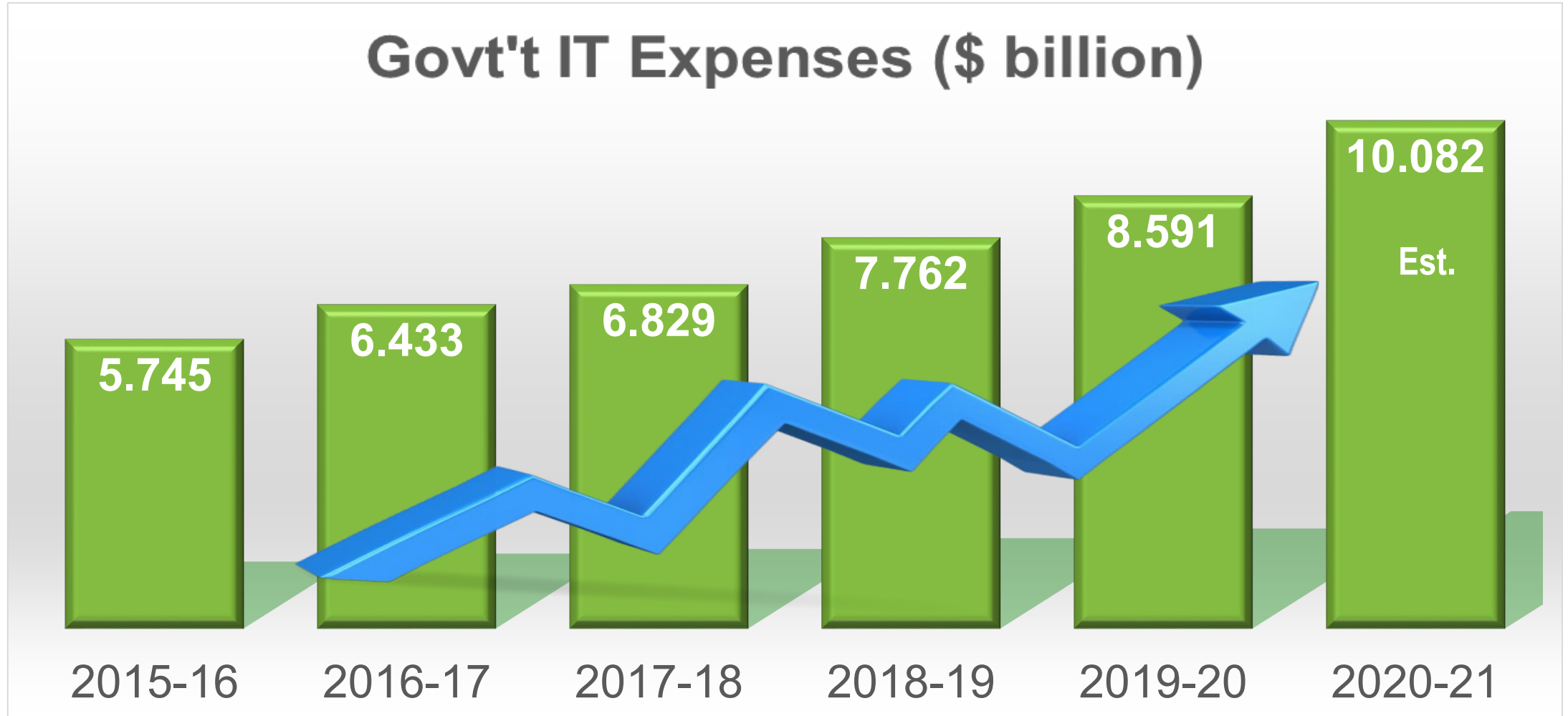
Smart City Blueprint 2.0 (Dec 2020): put forth over 130 initiatives which continue to enhance and expand existing city management measures and services. The new initiatives aim to bring benefits and convenience to the public so that residents can better perceive the benefits from smart city and innovation and technology (I&T) in their daily lives.

Hong Kong's IT Sector

No. of IT Employees in HK



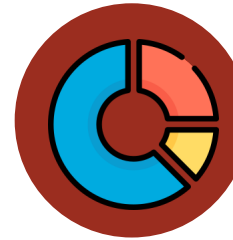
Government IT Expenses



Contribution to GDP by ICT Sector



Value Added of ICT Sector
\$156 billion



% in GDP (2018)
5.8%



Increase by Year
6.9%

Smart City Blueprint 2.0 – Smart People

Current Status



About **90%** of the half-day programmes of kindergartens joining the kindergarten education scheme are free



12 years' free primary and secondary education



60% of senior secondary students studied one or more STEM-related elective subjects in 2019/20 and all have to study Mathematics as a core (i.e. compulsory) subject



8 public universities funded by Government through the University Grants Committee (UGC)



2019/20

86 867 students studying UGC-funded undergraduate programmes

▲ **30 580** (35%) of them studied STEM-related programmes



2019/20

11 251 students studying UGC-funded taught and research postgraduate programmes

▲ **5 412** (48%) of them studied STEM-related postgraduate programmes



2018

R&D funding

▲ Gross domestic expenditure on R&D (GERD)
HK\$24,497 million
(+ 10% when compared with 2017 (HK\$22,213 million))



2019-20

About **62 000** civil servants attended various I&T-related training

Smart City Blueprint 2.0 – Smart People

Smart People Initiatives



Nurturing Young Talent

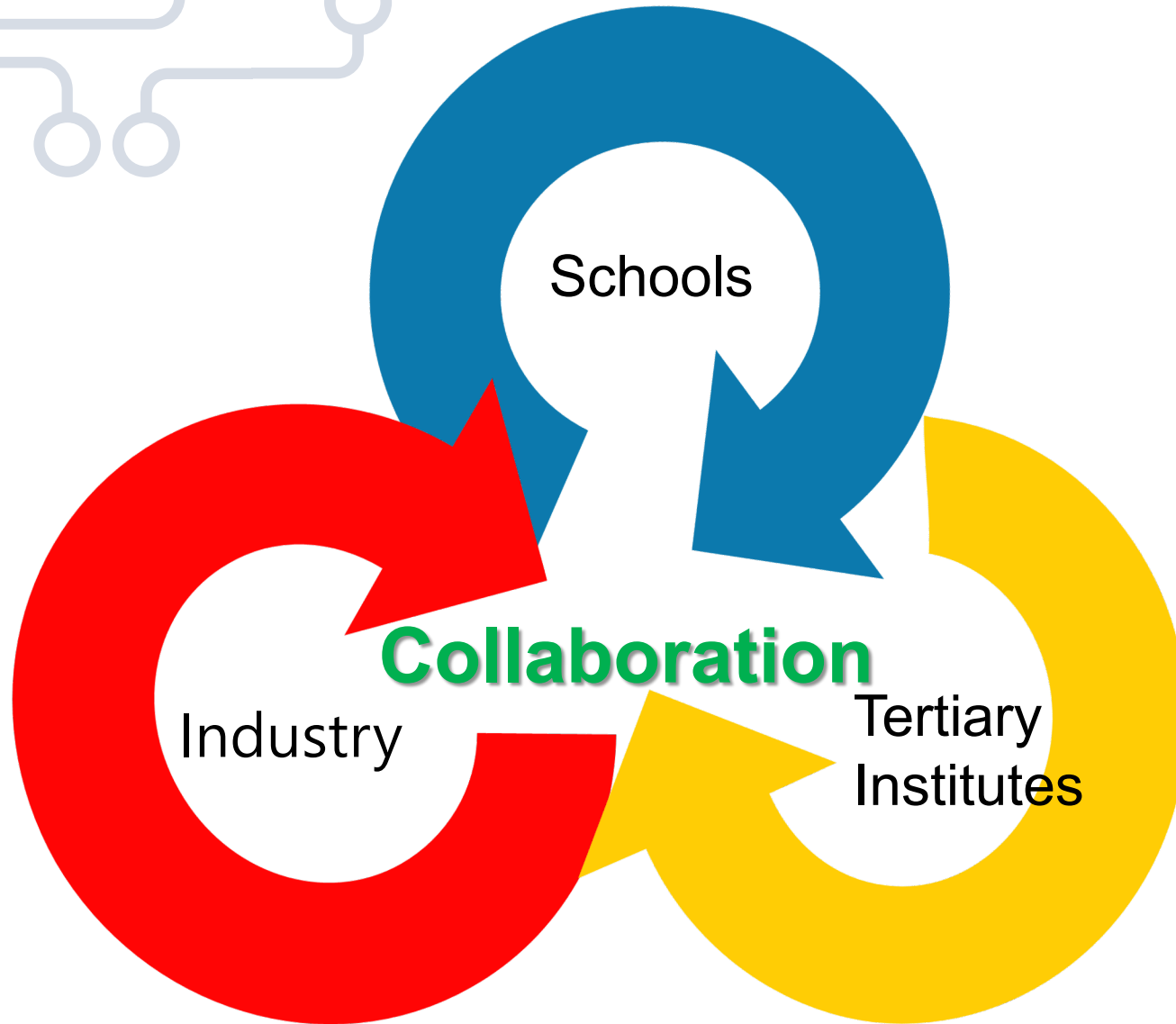
- Trainings on STEM education for curriculum coordinators
- IT Innovation Lab in Secondary Schools programme
- Enhance R&D with renowned institutions
- Research Talent Hub
- Attract and retain more I&T professionals
- Using blockchain technology to facilitate verification of tertiary education qualifications
- Youth Internship Programme in I&T Industries in the Guangdong-Hong Kong-Macao GBA

Innovation and Entrepreneurial Culture

- Financial and non-financial support to young entrepreneurs and start-ups
- Expand incubation programmes at Hong Kong Science Park and Cyberport Smart-Space
- Attract venture capital fund to support the development of I&T start-ups
- Continue to implement the STEM Internship Scheme
- Continue to strengthen training on application of technology for civil servants



Nurturing Young ICT Talent



The OGCIO continues to foster closer academia-industry collaboration. Through different human resource measures, it is committed to work together to create an environment where a well qualified ICT manpower can flourish and meet the needs of a digital economy.

Initiatives in Nurturing Young ICT Talent



The 2014-15 Budget



2014-15 Budget



ENRICHED IT PROGRAMME
資訊科技增潤計劃



The 2019-20 Budget



2019-20 Budget



IT Innovation Lab in Secondary Schools
中學IT創新實驗室計劃



2021-22 Budget



Knowing More About IT
奇趣IT識多啲

Enriched IT Programme in Secondary Schools



ENRICHED IT PROGRAMME 資訊科技增潤計劃

Over 750 students currently (1600 have participated)
~ 300 graduate students



Pui Ching Middle
School



STFA Yung Yau
College



Cheung Sha Wan
Catholic Sec. School



Christian Alliance SW
Chan Memorial College



Man Kwan
Pak Kau College



St. Paul's Convent
School



The Y.W.C.A. Hioe
Tjo Yoeng College



Tin Ka Ping
Secondary School



142 participating schools

432 activities sponsored

Around 20 000 participating students

Examples of EITA Activities



Fostering IT Learning Atmosphere in Secondary Schools



Fostering participation in and learning through competitions



Tech entrepreneurship in secondary schools



Collaboration among secondary schools, industry and academia

Wider opportunity in further studies



Fostering Active Participation in I&T Competitions

EITC partner schools won over 650 awards in the past 5 years.



APICTA Awards



Hong Kong ICT Awards



Infomatrix



Innovate for Future Competition



Hong Kong Youth
Science & Technology
Innovation Competition



Samsung Solve for
Tomorrow



Korea International
Women's Invention
Exposition



Greater Bay Area STEM
Excellence Award

Wider opportunity in further studies



Jordan Fung, an EITC student of Cheung Sha Wan Catholic Secondary School, at the age of 16, was selected to admit the Technion-Israel Institute of Technology.

AiTLE & William Jessup University (WJU): 1 Million HKD Scholarship Computer Science Competition for High School students



Tech entrepreneurship in secondary schools



The Innovators' Society of CSWCSS, Hong Kong Startup SEED Program - nurtured more than a dozen start-ups

An 18-year-old entrepreneur, Founder and CEO of the Pedosa Group widely recognised by United Nations, European Union and HKSAR.



IT Innovation Lab in Secondary Schools Programme



IT Innovation Lab in Secondary Schools

中學IT創新實驗室計劃

Objective:

- Enhance EITP and extend the programme to all publicly funded secondary schools
- Enhance the interest of young people (including secondary school students) in IT and innovative thinking and foster an IT learning atmosphere to encourage them to choose technology-related tertiary education programmes and pursue an I&T career in the future
- Lay a sound foundation in IT for young people during their secondary schooling, thereby promoting local popular science education and expanding the supply of I&T talent

IT Innovation Lab in Secondary Schools Programme

Funding Scope

IT Innovation Lab in
Secondary Schools
Programme

```
graph LR; A[IT Innovation Lab in Secondary Schools Programme] --> B[Part A: IT Equipment and Related Charges]; A --> C[Part B: Operating Expenses and Administrative Cost];
```

**Part A: IT Equipment and
Related Charges**

*Necessary for organising the related
activities*

**Part B: Operating Expenses
and Administrative Cost**

Application Statistics & Activities Statistics

Statistics of Applications from Schools and Current Approval Status



No. of Schools Applied : 132
No. of Applications Received : 143 (\$58 million)
No. of Approved Applications : 70 (\$27.9 million)
No. of Applications Not Supported : 5 (\$3 million)

Statistics of Approved Activities

No. of Approved Activities : 161 (from 70 approved applications)

% of Activities in AI: 30%
% of Activities in robotics : 19%
% of Activities in coding/algorithm : 17%
% of Activities in drone : 10%
% of Activities in AR/VR : 9%
% of Activities in IoT : 6%
% of Other Activities : 9%

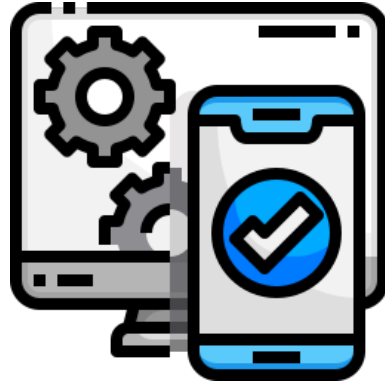


Examples of Applications

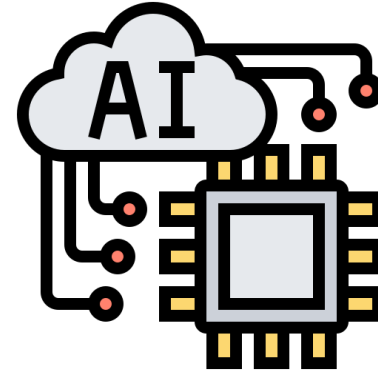
Coding Classes



Mobile app Classes



AI Courses



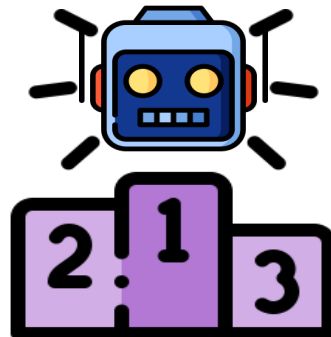
Big data workshops



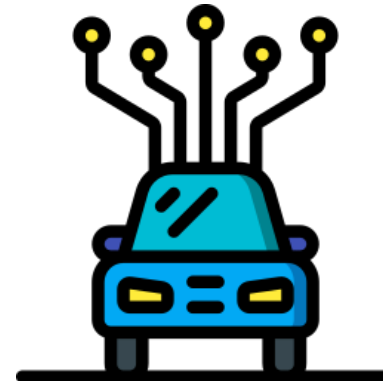
VR classes



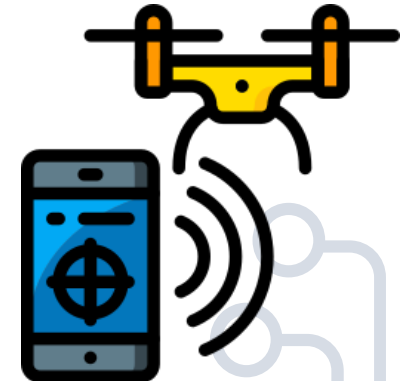
Robotics Competition



Vehicle coding



Drone coding mission



Reference List of Equipment (Examples)

Examples

Technology	Hardware / Software / Cloud Services	Level (Pre-requisite, if any)	Purpose and Description
Artificial Intelligence (AI)	Hardware – Vision Recognition Kits	Level : Moderate Pre-requisite : NIL	<ul style="list-style-type: none">- Hardware kits that equip with microcontroller board/embedded processor and camera- run pre-trained machine learning models such as recognising objects, e.g. animals, fruits- Supports common programming languages such as Python, etc.
Drone Coding	Hardware : Programmable Drones	Level : Moderate Pre-requisite : Nil	<p>Description :</p> <ul style="list-style-type: none">- block-based / text-based coding- programmable with Scratch, Swift, Javascript, Python, etc.- Connection via flight controllers or smartphones

Welcome suggestions

Reference List of IT-related Activities (Example)

Case : Introduction Workshop to Artificial Intelligence (AI)

Example

Objective	Introduce AI to students through a lecture and a practical session
Description	Students will learn the principle and daily application of AI through interactive lecture
<u>Activity Details</u>	
Hardware	Vision & voice capturing peripherals PC / laptop / tablet computer with Internet connection
Software	Common programming languages like Python
Cloud Services	AI service platform
Major Activities	1. Interactive lecture 2. Brainstorming session 3. Application design and programming
Learning Objective(s)	Understand AI application in our daily life / Combine imagination and computational thinking to innovate and build AI applications
Duration	Theoretical session: 4 hours Practical session: 8 hours
Difficulty	Medium
Target Level	S1 – S4
Target No. of Students	About 20 students per workshop

Welcome
suggestions

One-Stop Support Centre



IT 創新實驗室計劃

One-stop Support Centre

 **2116 9083**

 **it-lab@ogcio.gov.hk**

 **<https://www.it-lab.gov.hk>**

Sponsorship Programme for Fostering an IT Learning Atmosphere and Stimulating Students' Interest in IT in Secondary Schools

Ampower – “IT Talent Competition & Collaboration to Build POC Utilizing ABCD”	HKNETEA – “Hong Kong Fostering ICT Awards Scheme”	HKWTIA – “Innovation and Technology Festival to Secondary School Students”
<p>Jul – Oct 2021 : Workshops</p> <p>Nov 2021 : Competition</p> <p>Jan – Feb 2022 : Closing Ceremony cum Exhibition</p>	<p>Apr – Sep 2021 : Workshops</p> <p>Oct – Dec 2021 : Mentorship Programme</p> <p>Dec 2021 – Feb 2022 : Competition</p> <p>Mar 2022 : Award Ceremony & Showcase</p>	<p>6 Jul 2021 : Opening Ceremony</p> <p>Jul – Aug 2021 : Workshops</p> <p>6 Nov 2021 : Youth Hackathon</p> <p>18 Dec 2021 : Closing Ceremony & Booth Showcase</p>

Knowing More About IT Programme

Target: All publicly-funded primary schools in Hong Kong



Knowing More About IT

奇趣IT識多啲

Objective:

- stimulate primary school students' interest in IT and strengthen their basic IT knowledge through ECAs
- enhance their interest to pursue the study of STEM subjects and preparing for integration into the digital society in the future

Scope:

- from 2021/22 to 2023/24
- funding grant of up to \$400,000 (Max \$200,000 for equipment and related services)

Application process:

- Similar to IT Innovation Lab in Secondary Schools
- Open for application from primary schools in September 2021 tentatively
- Introductory briefings to primary schools in end June / early July tentatively

Invitation for Sponsorship Proposal:

- a sponsorship project to promote the programme to primary schools, particularly to engage the inactive schools


IT Career Role Models Platform

The banner features a central graphic with a grid of logos for various companies: Hewlett Packard Enterprise, Facebook, GLP Power Hong Kong Limited, Cherrypicks, IBM, FDM, Microsoft, and J.P. Morgan. Overlaid on this grid is the text "Welcome the industry join!" in a large, orange, 3D-style font. To the right of the grid is a large QR code. The background of the banner includes silhouettes of people and binary code.

IT Career Role Models Platform

Welcome the industry join!

Hewlett Packard Enterprise, Facebook, GLP Power Hong Kong Limited, Cherrypicks, IBM, FDM, Microsoft, J.P. Morgan



www.ogcio.gov.hk/itcareer

HKICTA – Student Innovation Award

The Student Innovation Award aims to encourage students to explore their creativity and potential, and also to recognise their achievements.



Student Innovation Award
學生創新獎



Open for enrolment from 23/4 to 16/7

