

# **Request for Proposals for Development and Implementation of Enriched IT Class Programme**

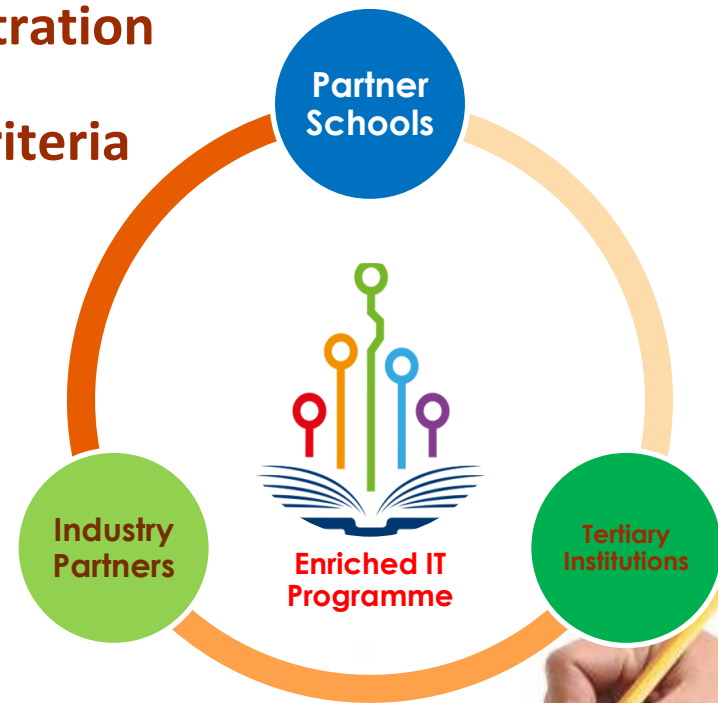
**11-13 March 2015**



# RFP Document

## Major Points to Elaborate

1. Objectives & Guiding Principles of Enriched IT Class Programme
2. Obligations & Requirements on Partner Schools
3. Funding Arrangement & Administration
4. Evaluation Process & Selection Criteria



# Background (1)

- Embedded in practically all economic sectors, IT is a major driving force for continuous social and economic developments
- IT underpins innovation, competitiveness and long-term growth
- Increasing demand for IT talents and professionals
- Many examples of renowned IT talents around the world who were inspired at a young age and soon became leading figures in the IT sector

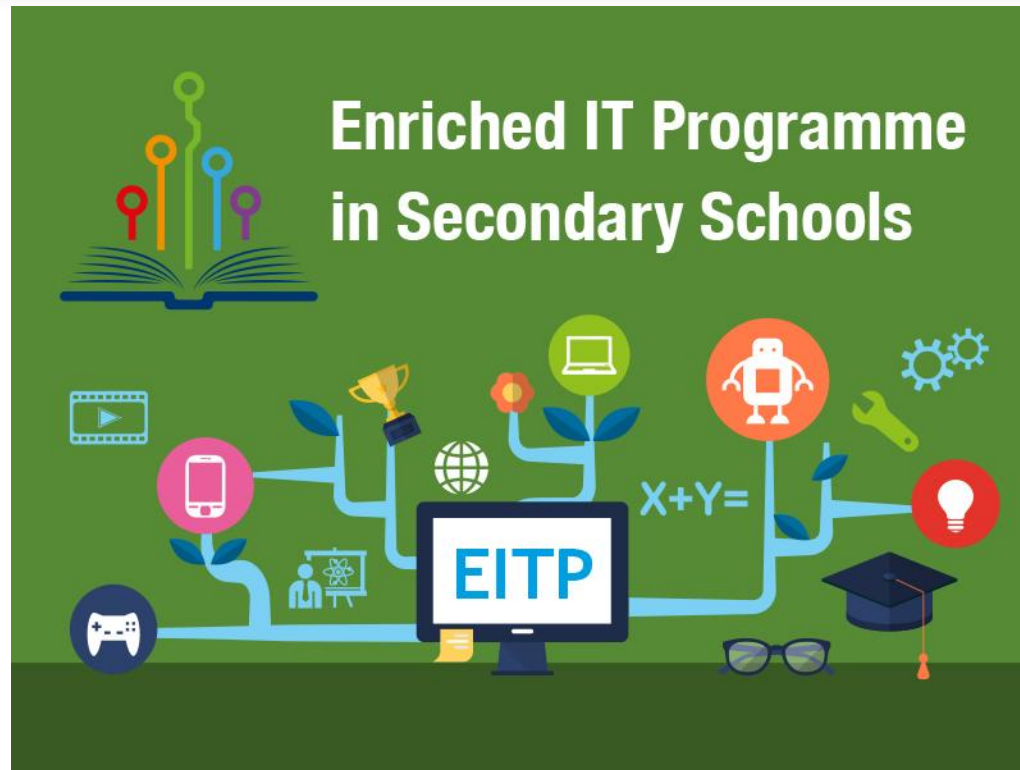


# Background (2)

- Schools are the **best ground** to scout & develop IT talents
- Early exposure coupled with intensive training on **logical thinking and creative problem solving**
- Nurture talented students into innovative & capable IT professional & tech entrepreneurs
- Conducive to future development of students in any careers/domains



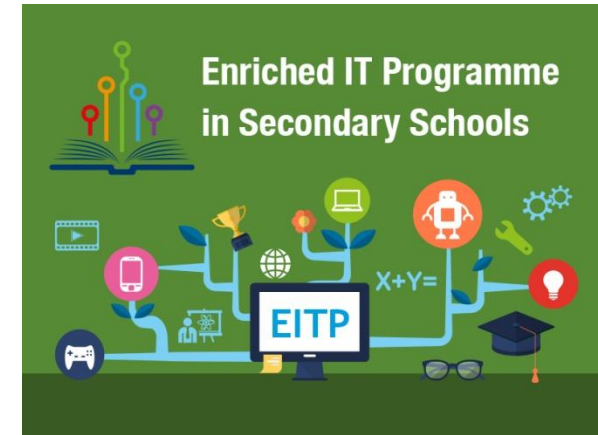
# Enriched IT Programme



- A collaborative effort of secondary schools to work with tertiary institutions and industry to cultivate IT talents early in secondary studies



# Two-pronged Enriched IT Programme in Secondary Schools



**Enriched  
IT Class  
Programme**

**Enriched  
IT Activities  
Programme**

# Enriched IT Class Programme

- **Develop & implement Enriched IT Class Programme in Secondary Schools to provide intensive IT enrichment training to Secondary 2 to Secondary 6 students with an aim to identify & cultivate young IT talents early**
- **Partner schools should commit to run IT Class for eight school years from 2015/16 to 2022/23**
- **Schools work with tertiary institutions, industry and business organisations for collaborative teaching and mentoring, industrial visits and exposure, competitions and exhibitions, work practicum etc.**



# Enriched IT Activities Programme

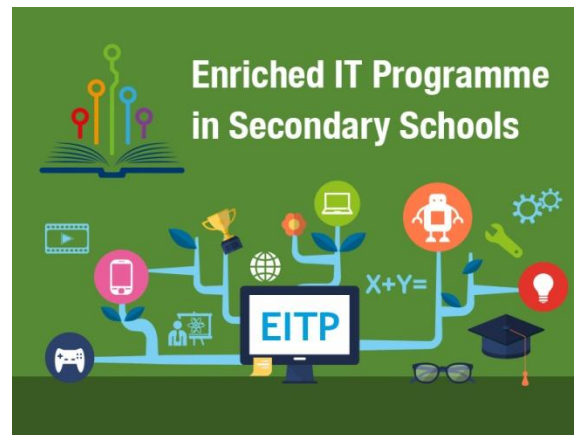
- Interested secondary schools & partner schools to organise about 50 IT activities each year
- Foster a pro-IT atmosphere in the school community
- Examples of IT activities can be intensive programme for IT competitions, programming workshops, IT projects, codefest, etc.
- Address in a separate RFP exercise





# Steering Committee

- Set up in Aug 2014 to steer & oversee the implementation of Enriched IT Programme in Secondary Schools
- **Composition:** OGCIO & EDB, academia, IT industry & relevant organisations
- Set out guiding principles & formulate curriculum framework for Enriched IT Class Programme



# Objectives and Guiding Principles Enriched IT Class Programme



# Objectives of Enriched IT Class

## Objectives

- **Select up to eight partner schools which will set aside one class of normal size in each level/form from S2 to S6 for intensive IT training**
- **IT Class students will devote on average 3 extra class hours a week to attend a more structured and enriched IT curriculum, seasoned with professional exposures and project-based learning activities to develop their computational thinking, problem-solving ability, creativity and innovative talents**
- **IT Class students would be proficient in computational thinking and capable of using such ability to innovate at a young age, which would enable them to move further and faster with higher achievements in their studies and careers**



# Guiding Principles of Enriched IT Class (1)

## Guiding Principles

- **Steering Committee has set out the guiding principles for running Enriched IT Class Programme:**
  - The IT Class should aim at developing students' passion, interest and curiosity in IT, creativity and innovative talents, computational thinking and problem-solving ability through self-directed learning and exploration in IT domains and project-based learning activities**
  - The IT Class should target at students who are interested and talented in IT. Partner schools should be responsible for identifying and recruiting students with potential and aptitude irrespective of their academic performance**



# Guiding Principles of Enriched IT Class (2)

## Guiding Principles (cont')

- (c) The Steering Committee has formulated the curriculum framework for the IT Class, which aimed at guiding the secondary schools in creating and providing an environment and modes of learning conducive to unleash IT Class students' talents and potential
- (d) Partner schools will be given the flexibility to develop customised school-based IT enrichment curriculum with modes and styles of learning most appropriate to their IT Class students
- (e) The Steering Committee will work with partner schools to enlist support and commitment from tertiary institutions, industry and business organisations to run IT Class, e.g. collaborative teaching and mentoring, industrial visits and exposure, competitions and exhibitions, work practicum, etc.



# Obligations and Requirements on Partner Schools



# Obligations & Requirements on Partner Schools (1)

## School's Vision and Support

- Articulate school's vision and objectives to meet the Programme objectives
- Set desired outcomes with KPIs in running IT Class
- Establish governance and management mechanism
- Support of school's **SMC/IMC** and **PTA**

## Size of Operation (for 8 school years)

- For partner schools starting IT Class with **S2** in 2015/16 school year

School Year	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23
No. of Class	1	2	3	4	4	3	2	1
Form	S2	S3	S4	S5	S6			
		S2	S3	S4	S5	S6		
			S2	S3	S4	S5	S6	
				S2	S3	S4	S5	S6

Total number of  
IT Class = **20**



# Obligations & Requirements on Partner Schools (2)

## Size of Operation (for 8 school years) (cont')

- For partner schools starting IT Class with S4 in tandem with S2 in 2015/16 school year

School Year	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23
No of Class	2	4	5	5	4	3	2	1
Form	S2	S3	S4	S5	S6			
		S2	S3	S4	S5	S6		
			S2	S3	S4	S5	S6	
				S2	S3	S4	S5	S6
		S4	S5	S6				

Total number of IT Class = 26

## Learning Class Hours

- > 30 students per class for S2 and S3, and > 25 students for S4 to S6
- 3 extra class hours a week
- A total of at least 96 class hours each year (3 hrs x 16 wks x 2 semesters)





# Curriculum Framework

The **Steering Committee** has formulated the **curriculum framework** for the **IT Class**, which aimed at guiding the secondary schools in creating and providing an **environment and modes of learning** conducive to unleash IT Class students' talents and potential.

	1 <sup>st</sup> Term	2 <sup>nd</sup> Term
S2	S2(1) - Creative Thinking	S2(3) - Digital Games
	S2(2) - Mobile Apps	Elective Module (designed by partner schools)
S3	S3(1) - Problem Solving & Programming	S3(3) – 3D Modeling & Augmented Reality
	S3(2) – Robotics & Sensors	Elective Module (designed by partner schools)
S4	S4(1) – Software Development & Technology Appreciation 1	
	S4 Project (designed by partner schools)	
S5	S5(1) – Software Development & Technology Appreciation 2	
	S5 Project (designed by partner schools)	
S6	S6(1) – Communication & Collaboration	Work Practicum (2 weeks duration)



# Curriculum Modules (S2 – S3)

- **At least 8 modules of 24 class hours each module from the customised school-based curriculum**
  - **6 Core Modules:** ‘Creative thinking’, ‘mobile apps’, ‘digital games’, ‘problem solving & programming’, ‘robotics & sensors’ and ‘3D modelling & augmented reality’
  - **At least 2 Elective Modules** designed by partner school (Extended core modules or new topics)

	1 <sup>st</sup> Term	2 <sup>nd</sup> Term
S2	S2(1) - Creative Thinking	S2(3) - Digital Games
	S2(2) - Mobile Apps	Elective Module (designed by partner schools)
S3	S3(1) - Problem Solving & Programming	S3(3) – 3D Modeling & Augmented Reality
	S3(2) – Robotics & Sensors	Elective Module (designed by partner schools)



# Curriculum Modules (S4 – S6)

- **Core modules:** ‘software development & technology appreciation’ and ‘communication & collaboration’
- **S4 and S5 Project Modules** to develop students’ abilities in self-directed learning and exploration in IT domains

	1 <sup>st</sup> Term	2 <sup>nd</sup> Term
S4	S4(1) – Software Development & Technology Appreciation 1	
	S4 Project (designed by partner schools)	
S5	S5(1) – Software Development & Technology Appreciation 2	
	S5 Project (designed by partner schools)	
S6	S6(1) – Communication & Collaboration	Work Practicum (2 weeks duration)



# Customised Curriculum/Teaching Modules

Partner schools should develop customised school-based IT curriculum and teaching plan for each module with modes and styles of learning and activities most appropriate to the IT class students.

## Core Modules

- Steering Committee has outlined the 'Objectives', and 'Intended Learning Outcomes' as guidance of 'what to achieve'
- Partner schools to design 'what to learn', 'how to deliver' & 'how to assess'

## Elective Modules

- Partner schools to design at least 2 Elective Modules. These modules can be extended core modules or new topics



# Project Modules (S4 – S5) & Work Practicum (S6)

## Project Modules

- Partner schools should design at least two **Project Briefs** each for S4 & S5 on selected theme or domains
- Students are expected to learn and apply IT knowledge of the selected domain to solve real-life problems
- Partner schools should facilitate students to participate in **competitions and exhibitions**

## Work Practicum

- Partner schools are responsible for arranging **work practicum** opportunities (for 2 weeks) preferably related to their S4 and S5 projects



# Obligations & Requirements on Partner Schools (3)

## IT Activities for Other Students

- At least 3 activities related to IT class training each year
- At least 30 students of which one-third from other schools
- e.g. short courses, seminars, programming workshops, etc

## Management and Teaching Team

- Teachers with subject expertise to deliver the curriculum (> 50%)
- Work with the Steering Committee to enlist commitment from relevant organisations (e.g. collaborating teaching, competitions, work practicums, industrial visits etc.)



# Obligations & Requirements on Partner Schools (4)

## Student and Class Administration Support

- Measures to identify, scout & develop students for IT Class
- Measures to facilitate students from other schools to enroll in IT class
- Measures to facilitate students to attend class and participate in activities

## Key Performance Indicators (KPIs)

- KPIs on student admission, attendance, dropout, progression, achievements and parent satisfaction, and develop means to collect student performance data (80% student attendance rate)
- Longitudinal tracking of students' outcomes (10 years)  
e.g. university admission, career choices



# Obligations & Requirements on Partner Schools (5)

## Resources, Facilities and Services

- **Pragmatic approach and plan for injection of necessary resources to support the operation of IT Class and IT Activities**
- **Resource Plan should include additional resources required for teaching and administration, additional IT facilities and teaching software, materials and equipment**





# Obligations & Requirements on Partner Schools (6)

## Governance

- **Person-in-charge appointed by School Supervisor**
- **Planning and implementation documents submitted by partner schools in June every year to the Steering Committee for endorsement:**
  - (a) School-based IT Enrichment Curriculum**
  - (b) Teaching Plan for Each Module**
  - (c) IT Activity Plan**
  - (d) Resource Plan**
  - (e) Promotion and Recruitment Plan**
  - (f) IT Class Administration Guide**

## Performance Monitoring and Review

- **Annual Performance Report to the Steering Committee**

# Obligations & Requirements on Partner Schools (7)

## Programme Deliverables

- 1. Vision and Objectives Statement**
- 2. Customised School-based IT Enrichment Curriculum**
- 3. Annual Module Teaching Plan and Teaching Schedule**
- 4. Annual IT Activity Plan**
- 5. Annual Resource Plan**
- 6. Annual Promotion and Recruitment Plan**
- 7. IT Class Administration Guide**
- 8. Sharing of Experience and Deliverables of IT Class and IT Activities**
- 9. Annual Performance Report**
- 10. Term Review and Programme Review**
- 11. Functions, Activities and Services to operate IT Class and IT Activities**



# Funding Arrangement and Administration



# Funding Arrangement & Administration (1)

## Funding Arrangement and Administration

- **\$1 million One-off Grant for IT Facility released to partner school in accordance with annual IT Resource Plan**

## Annual Class Grant

- **For partner schools starting IT Class with S2 (\$5M for 8 school years)**

School Year	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	<u>Total</u>
No of Class	1	2	3	4	4	3	2	1	<u>20</u>
Class Grant (\$'000)	250	500	750	1,000	1,000	750	500	250	<u>5,000</u>

- **For partner schools starting IT Class with S2 and S4 (\$6.5M for 8 school years)**

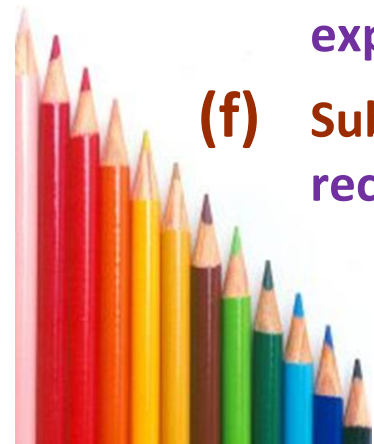
School Year	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	<u>Total</u>
No of Class	2	4	5	5	4	3	2	1	<u>26</u>
Class Grant (\$'000)	500	1,000	1,250	1,250	1,000	750	500	250	<u>6,500</u>



# Funding Arrangement & Administration (2)

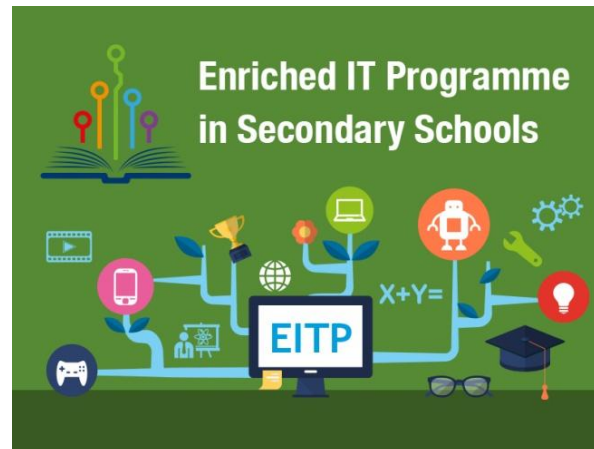
## Funding Arrangement and Administration (con't)

- Partner schools can deploy **Annual Class Grant** in the following areas:
  - (a) Engagement of teaching personnel and/or teaching service, such as from tertiary institutions, industry corporations and teaching service providers
  - (b) Employment of administrative / technical support personnel and/or services
  - (c) Consumables for organisation of IT Activities
  - (d) Promotion of IT Class and IT Activities including recruitment of IT Class students
  - (e) Subsidising registration fees, travelling expenses and accommodation expense of students in participating IT and Informatics competitions
  - (f) Subsidizing examination fees of students in acquiring industry recognised certificates



# Timeline

Activities	Schedule
Proposal submission period	9 Feb - 31 March 2015
Evaluation	Apr – May 2015
- Presentation by applicant schools	mid Apr – early May 2015
Endorsement of planning & implementation documents including school-based IT enrichment curriculum, teaching plans, IT activity plan, resource plan, promotion & recruitment plan, etc	Jun 2015
Enrollment of 1 <sup>st</sup> cohort of Enriched IT Class students	Aug 2015
Starting 1 <sup>st</sup> cohort of Enriched IT Class	Sep 2015



# Enriched IT Class Programme

