Innovations in Asia Education

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The ingredient we start with is sand...

It's not just what we make.
It's what we make possible.

Intel Education

Our vision

Advance excellence in education worldwide

Our mission

Create and extend computing technology to enrich the lives of every student on earth this decade

The common goals:

- Lifelong success for students
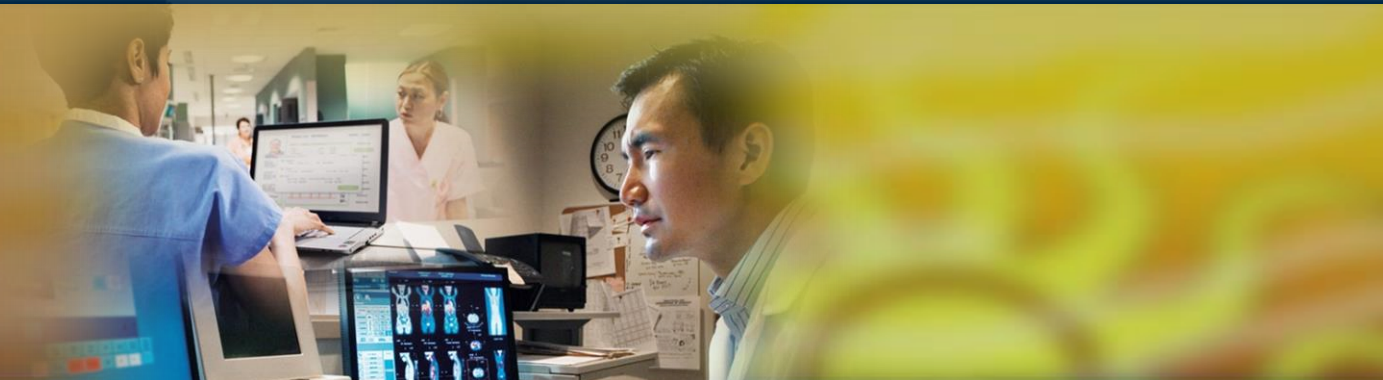- Stronger communities
- Innovative economies

Today's students are tomorrow's problem solvers

Intel Education
Initiatives for Preparing for Student Success & Driving Innovation

Economic Growth

Entrepreneurship

Global Challenge
APAC Challenge
Youth Enterprise
Social Innovation
E-basics

STEM

Students
as
Scientists
Global
Science
Fairs

Teacher PD

Intel Teach
Intel
Transforming
Learning

Digital Literacy

Intel Learn
Easy Steps

Higher Ed

Higher Education
-Curriculum
development
-Research
-Internships
-Academic Forum

Education

intel

Intel Education

150M students have used Intel solutions for learning

Transforming education in **100** countries

Professional development for **11M** teachers

7M students in Intel Intl. Science & Engineering Fair affiliated fairs

3M students trained in APAC on Digital Literacy Skills

4M employee volunteer hours for education

Donating **50k** Galileo board to Universities & Maker Fairs worldwide

$1B invested in the last decade

Source: Intel

PPP example 1# Digital Literacy Scale

Instructor Led or Self Paced Instruction

Android App for Mobile Learning

3m + youths in 8 countries (multi language, multi platforms)

Video Courses (Broadcast and On Demand)

Social Media Game

Impact in India : Bridging Digital Divide and Empowering Citizens

22nd August: Lunch of the NDLM and Declaration by Mr Sachin pilot, IT State Minister : Govt will aim to have at least 1 e-literate person per HH

18th Sept: National IT policy announced with the goal to make 1 per family e-literate.
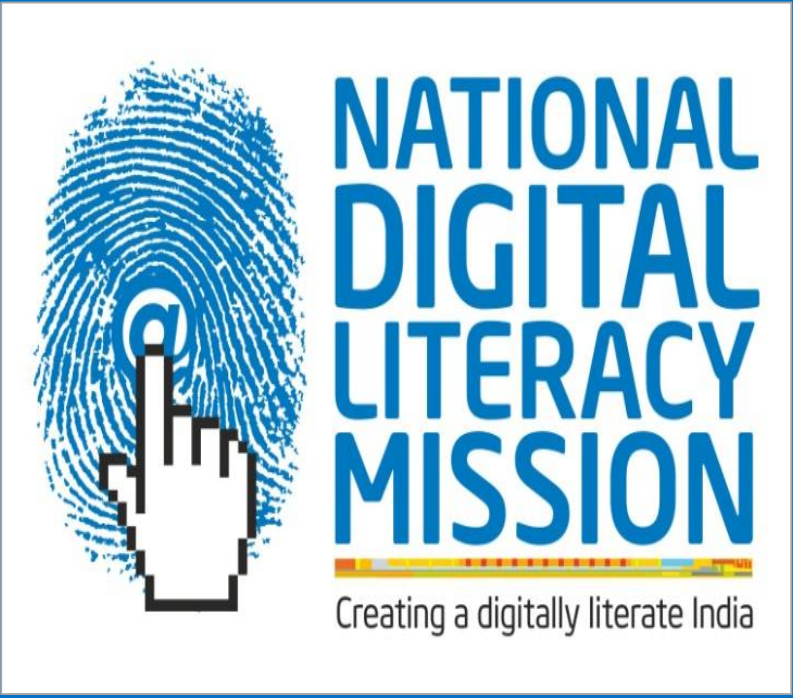
To cater to the urgent need for technology as an enabler of inclusion – Education, Health Care, Public Services, Finance

Government's National Optic Fiber Plan – connect with 250K villages by 2015

PPP example 2# HEAPP in Vietnam

GOVT
USAID
MOET
SHTP

INDUSTRY
INTEL
SIEMENS
CADENCE
DANAHER
NATIONAL
INSTRUMENTS
PEARSON

ACAMEDIA
ASU CTU
HCMUT
UTE   HUST
DUT CTTC
HVCT IUH

HEEAP

HEEAP 1.0
$5.5 million
2010– 2013
EE/ME
5 UNIV/3 Vo-TECH

HEEAP 2.0
$40 million
2013– 2017
EE/ME/Engineering
5 UNIV/3 Vo-Tech

Future
Enterprise-wide
Government –owned transformation
All universities

Vietnam on the way to producing Engineering and Vo-tech grads that are globally competitive

Leadership Development

625 current/future leaders Government/academia, administrative functions

From vision to assessment

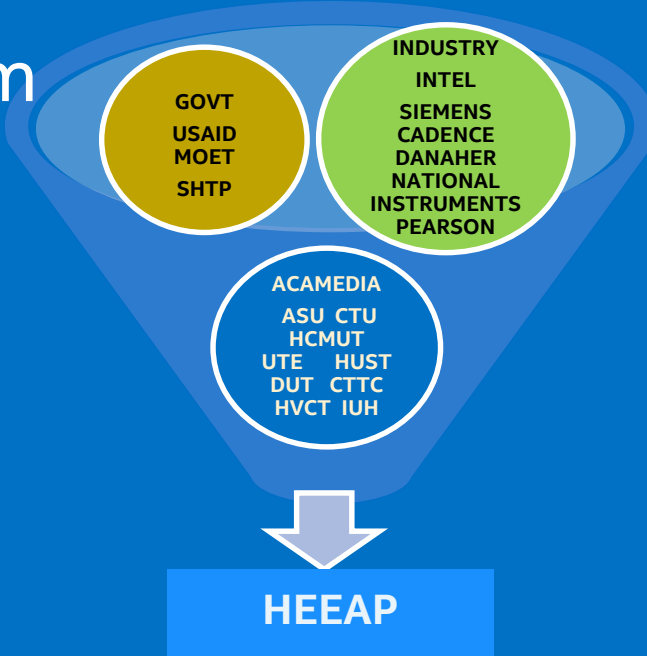Succession planning

At ASU and in-country

TOTAL COST: $6.4M

Faculty Development

1000+ faculty trained, ASU and in-country (TTT)

Implement TA/eLearning

Project-based teaching

Course evaluations

Student assessment

TOTAL COST: $22M*

Diversity& Instructional Expert

Diversity as a value: Education, Goals, Rewards

College infrastructure: diversity recruiting, support

Scholarships and marketing/promotions

PhD fellowships for current/future female faculty

TOTAL COST: $1.5M

Curriculum/Labs

Curriculum projects

In-kind donations

Physical buildings (colleges)

TOTAL COST: $150K cash (+$111M in kind)

Distance Education

Partner network

Course development

Course delivery

Course x-credits

Faculty collaboration

Industry needs

TOTAL COST: $2M

English

"Go English"—what, how, when

Vietnam ESL Portal
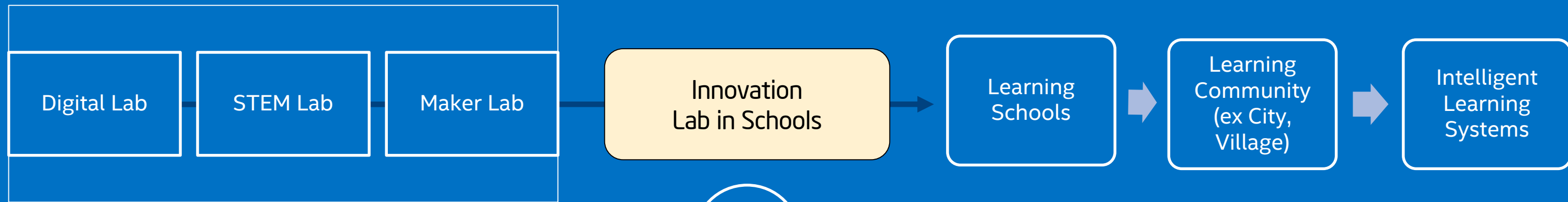
TOTAL COST: $2.5M

Vietnam – US joint statement (July 2013): Vietnam President Truong Tan Sang and US President Obama noted HEEAP as 1 of the top 2 successful model of bilateral education and exchange initiatives between Vietnam and US.

Going Forward : Innovation in Asia School Education

PPP model for going beyond conventional PC lab model to bring innovation in STEM + K12

Digital Lab → STEM Lab → Maker Lab → **Innovation Lab in Schools** → Learning Schools → Learning Community (ex City, Village) → Intelligent Learning Systems

Learning Leaders

Learning Teachers

Learning Students

Innovations in Learning with Technology

- Learning from Experts
- Learning with Others
- Learning through making
- Learning through Deep Practice
- Learning through Exploration
- Learning through Inquiry
- Learning from Assessment
- Learning in and across settings
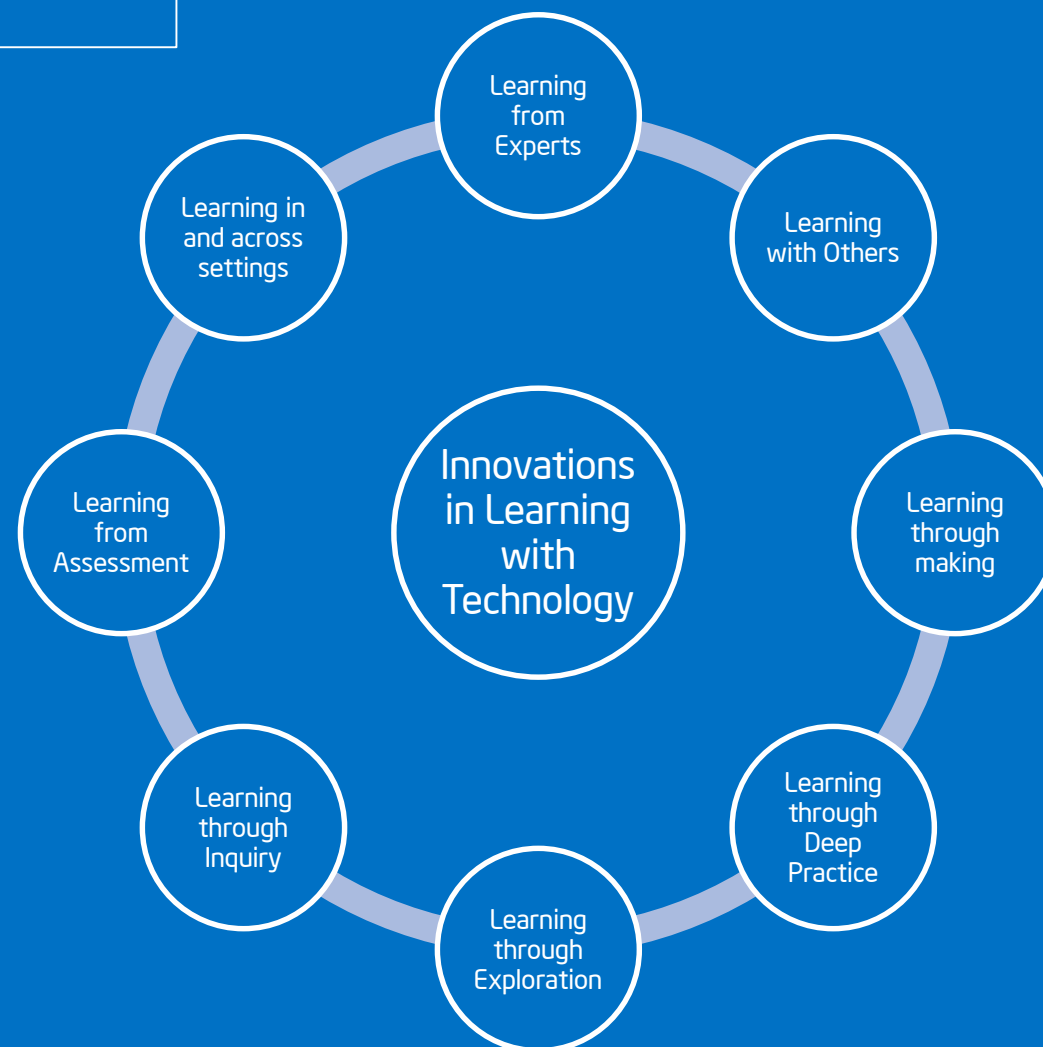
Smart and Safe Learning

Imagine every kid creating and making..

Our next generation of innovators and consumers

Mission ASIA (Asia pacific STEM education Innovation Acceleration)

Example : Innovation Labs in Bottom of Pyramid Rural School

Digital Lab in a Box – Marilog Davao, Philippines.

| Power (Addressing through Solar tech) | • Simple to maintain clean energy solution |

| ICT Devices Cost (Low cost, low power Teacher PC & Student Tablet) | • All devices are charged overnight, Does not require power or connectivity (6 hours of usage) |

| Connectivity (C3 Critical Link Micro server – with no connectivity) | • Rich local intranet content - Content can be updated remotely via low bandwidth connection
• Integrated Wi-Fi Access Point, One cable. Minimal furnishing & fixtures |

| Simple Implementation | • Relevant teacher training & community orientation, leadership support |

Successful Frugal Innovation approach for Community based ICT4D solution in School

Tablets

Teacher PC

Micro-Server
w/ Battery Pack
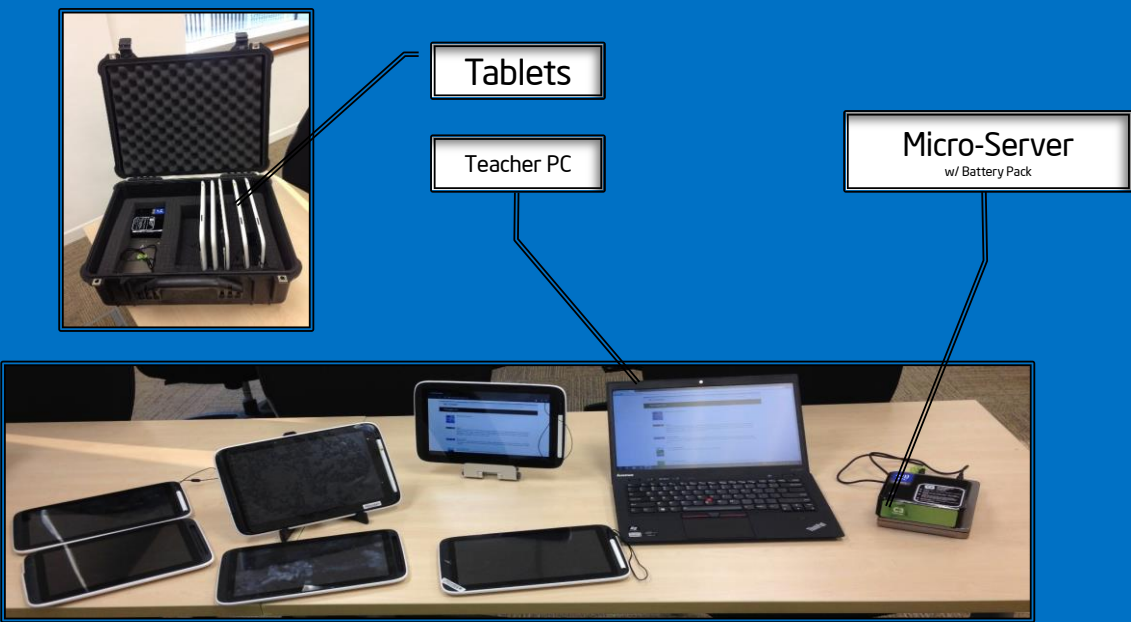
Description	Quant	Unit Cost	Cost	Subtotal
Student Tablet	20	200	$ 4,000	
Teacher Laptop	1	600	$ 600	
Server	1	800	$ 800	
Subtotal IT				$ 5,400
12VDC Integrated Solar System (120WattP)	1	500	$ 500	
60AmH Deep Cycle Battery	1	130	$ 130	
5VDC Integrated Solar System (75WattP)	2	400	$ 800	
40AmH Deep Cycle Battery	2	90	$ 180	
Subtotal Solar				$ 1,610
Cabinet	1	100	$ 100	
Installation	1	500	$ 500	
Subtotal Others				$ 600
Total Cost			$ 7,610	

Sample Cost of Digital Lab

Key Principles of Collaboration

Accelerate Innovation for Tangible Education Improvements

- Models for Education Access, Equity, Quality and Excellence – integrated education improvement in formal, non formal and informal sectors
- To make education more accessible, affordable, attractive & applicable

Focus on Policy Reforms and Strategic Outcome Indicators

- Innovation blueprint for ed transformation, incorporating emerging requirements like STEM Acceleration, Internet Safety
- Develop local capacities for outcome measurements – Incorporate learnings from New Pedagogies for Deep Learning, Collaborative Assessment, ATC21S

Spirit of Open Knowledge Sharing and Partnerships for Innovation in Ed

- 15 country experience in Asia:: Cycle of Start – Scale-Sustain-Systemize- Success-Showcase. Collaboration with government, academia, civil society, communities and business. Strategic long term partnerships with UNESCO, CGI, USAID.
- Develop local business ecosystem for service & sustenance + ownership

Sample Indicators of Success :

Input Indicators of Access & Equity :
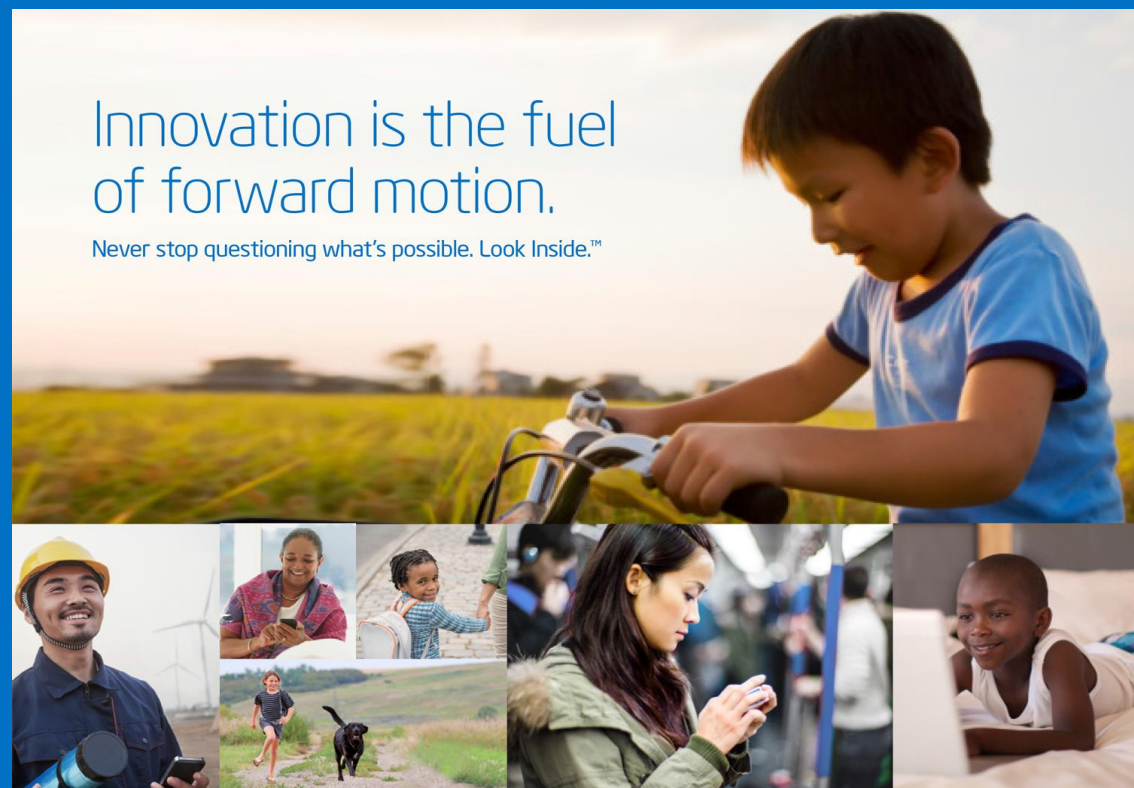
- ✓ Nu of students, teachers, labs
- ✓ Schools, cities/communities, countries as Intelligent Systems

Outcome Indicators of Quality & Excellence:

- ✓ Quality of Research based / Maker Innovations by students.
- ✓ 21st century skill (creativity, problem solving etc) in students

What can we do together based on your priorities?

Together we can unlock the best inside every student !