THE PRECURSOR OF AIT

The “SEATO Graduate School of Engineering (1959-1967)” was established by the Royal Decree at the campus of Chulalongkorn University, managed by a Board of Management appointed by the SEATO Council.

“Some critics believed the Pote Sarasin and the USA dream was simply an experiment that could not succeed and the new school would become a part of Chulalongkorn University. There was no precedent for such an institute anywhere in the world.”

H.E. Mr. Pote Sarasin, the first SEATO Secretary General, with AIT President Milton E. Bender.

STATUS CHANGE OF AIT IN 1967 – WHY?

“Because of the ambiguous legal status and its affiliation with SEATO, it was not possible to broaden the financial base and obtain contributions from other sources.”

(President Milton E. Bender in his Report to the Board of Trustees July 9, 1969)

“Extensive contacts have been made with a great many potential donors including countries, foundations, UN organizations, and individuals.”
SEATO RELEASED CONTROL OF ITS MOST SUCCESSFUL CULTURAL PROJECT.

THE HEADQUARTERS AGREEMENT
25 October 1967

PROMULGATION OF THE AGREEMENT BETWEEN THE GOVERNMENT OF THE KINGDOM OF THAILAND AND THE SOUTH EAST ASIA TREATY ORGANIZATION FOR THE ASIAN INSTITUTE OF TECHNOLOGY

By Royal Command, please be informed accordingly.

As the Minister of Foreign Affairs made the agreement in Bangkok with the South East Asia Treaty Organization for the Asian Institute of Technology, the contents are as follows. This agreement shall come into force between The Government of The Kingdom of Thailand and The South East Asia Treaty Organization as from the day of the latter of the Minister of Foreign Affairs, Bangkok of Thailand.

INAUGURATION OF MODERN AIT
1973
His Majesty King Bhumibol Adulyadej of Thailand graciously presided over the opening of AIT’s present day campus.

THE AIT’S DONOR-DRIVEN BUSINESS MODEL

2 KEY FACTORS FOR ITS SUCCESS IN THE GOLDEN DAYS
(1) Academic Quality (Driven by World-Known Seconded Faculty)
(2) “Cream of the Crop” Students (Driven by Generous Scholarships by Donors)

PAST AND PRESENT AIT PRESIDENTS
W. Kanok-Nukulchai

27/08/18
DONOR-DRIVEN MODEL – THE CHALLENGE

“If regional development continues to be the mission of AIT, the better we do our job, the sooner we will be out of job.”

Dr. Stephen Ogunlana
Former Professor of Construction Engineering
Asian Institute of Technology

Two critical challenges due to changes in world geopolitical landscape:

1) Exhaustion in the traditional ‘development funds’, to provide scholarships to top-class students.

2) Lack resources to compete with national full-fledge universities for world-class faculty and students.

STATUS-CHANGE ATTEMPT IN 2012 – A FALLECY

The clause of “mandatory financial contribution” in the original reason for the new Charter was finally removed from the draft and replaced by “voluntary contribution”, which did not carry the original spirit proposed by the host country, Thailand.

(AIT CRISIS 2010-2013)
(1) FLOOD

(2) LOSS OF PUBLIC TRUST

AIT trustees to re-issue degrees to students

Institute’s new charter not yet ratified by govt

The Asian Institute of Technology (AIT) is seeking its old board of trustees to issue degrees that are valid in Thailand, until concerns that hefty changes to its charter disfranchised students of their degrees.

Sapalit Ganaroon, deputy permanent secretary of the Foreign Ministry in his capacity as the chairman of the AIT’s board of trustees, said yesterday the board had resolved to re-issue degrees to AIT students.

They would be conferred on students who graduated in this and previous academic years whose degrees would be acceptable under Thai law and to the Office of the Higher Education Commission and the Office of the Civil Service Commission.

(3) FINANCIAL CRISIS

- General Reserve (cash) plunged to 35 mB, not enough for 1 month salary.
- RTG budgets were suspended.
- Flooded buildings & infrastructure needed urgent rehabilitation.

SOLVING AIT CRISIS 2013-2017
(1) RECONFIRM INSTITUTE STATUS

AIT remains its international status with no ownership, serving as a neutral platform for international cooperation with countries, foundations, UN organizations, and individuals, unlimitedly.

27/08/18 W. Kanok-Nukulchai

(2) IMPROVE MORALE

AARON SACHS AND ANUPAM KUNDU THOUGHTWORKS
MINDSET SHIFTS FOR ORGANIZATION TRANSFORMATION

From PROFIT to PURPOSE

From HIERARCHIES to NETWORKS

From CONTROLLING to EMPOWERING

From PLANNING to EXPERIMENTATION

From PRIVACY to TRANSPARENCY

27/08/18 W. Kanok-Nukulchai
ENCOURAGE FACULTY TEAM WORK

SET – School of Engineering & Technology
- CIE – Civil & Infrastructure Engineering
- ICT – Information & Communication Technologies
- ISE – Industrial Systems Engineering
- UG – Undergraduate

SERD – School of Environment, Resources & Development
- FAB – Food, Agriculture & Bioresources
- EECC – Energy, Environment & Climate Change
- DS – Development & Sustainability

DECENTRALIZATION OF GENERAL RESERVE

(3) SEEK GLOBAL BENCHMARK

Ranked World’s Top International University In 2015, 2017, 2018

(1) Teaching & Learning
(2) Research
(3) Knowledge Transfer
(4) International Dimension
(5) Regional Engagement
RESEARCH QUALITY

Number of Citations (in Five year intervals)

<table>
<thead>
<tr>
<th>Year Interval</th>
<th>Number of Citations</th>
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<td>2012-2016</td>
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(Source: Scopus Database)

Average Citations per Paper (in Five year intervals)

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</tbody>
</table>

(Source: Scopus Database)

27/08/18 W. Kanok-Nukulchai
(5) REINVENT CAMPUS ENVIRONMENT

THE AIT ENGINE (2018)

THE AIT Engine
- Faculty/Staff
- Facilities
- Management

OUTPUT
- Graduates
- Research
- Outreach

Impact
- 48%
- 60%
- 1%
- 51%
- 40%

FUNDING
- Tuition & Fees
- Research & Others

INPUT
- Students
- Scholarship Students

PRIVATE FUND & ENDOWMENT
- Scholarship Students
- Donors
- Sponsors
- Clients

Reputation

AIGoes GLOBAL!

REGIONAL

GLOBAL

AIT 1959

AIT 2017
The Past has gone, the Present is secured, what about the Future of AIT?

Global Megatrends
- Issues that have to do with planet.
- How human choose to live on this planet (social, economic, political).

Technology Disruption
- Issues about the exponential growth of disruptive technology.
- How human prepare for future unknowns, to avoid becoming useless class.

Global Megatrends
- Exponential Growth of Technology
- Technological Disruption
- Future of Higher Education (& AIT)

AIT goes Global
The greenhouse gas content of atmosphere is being altered by human activity. The result of this change is global warming.
The ratio of Japanese population aged over 65 years reached 26% in 2015, and is expected to rise to 40% by around 2060.

https://en.wikipedia.org/wiki/Aging_of_Japan

Global Megatrends

- Exponential Growth of Technology
- Technological Disruption
- Future of Higher Education (& AIT)

Name the 3 milestones in humankind history that have significantly changed the human lifestyle?
THREE MILESTONES TO CIVILIZATION

The Agricultural Revolution
16th and 17th Centuries

The Industrial Revolution
18th and 19th Centuries

The Digital Revolution
17th and 21st Centuries

FOUR MILESTONES IN HUMAN HISTORY

The A.I. Revolution
21st Century up

The Digital Revolution
19th and 21st Centuries

The Industrial Revolution
18th and 19th Centuries

The Agricultural Revolution
16th and 17th Centuries

Guest what might be the 4th Revolution that may completely change the lifestyle of humankind?

The Rise of Machines
The growth in the intelligence and capabilities of machines presents both a threat and an opportunity: Greater AI and automation free up time, but also threaten jobs - both low skilled and managerial/administrative roles.
“We are on the edge of change comparable to the rise of human life on Earth”. — Vernor Vinge

Singularity!

The reason that information technology grows exponentially is that we can use the latest technology to develop the next.

Dr. Ray Kurzweil, the Author of Best-Seller Book: “The Singularity is Near”
Global Megatrends
Exponential Growth of Technology
Technological Disruption
Future of Higher Education (& AIT)

TECHNOLOGY DISRUPTIONS
(Already Here)

<table>
<thead>
<tr>
<th>Old Technology</th>
<th>Disruptive Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slide Rule</td>
<td>Calculator</td>
</tr>
<tr>
<td>Fixed-Line Phone</td>
<td>Mobile Phone</td>
</tr>
<tr>
<td>Typewriter</td>
<td>Word Processor</td>
</tr>
</tbody>
</table>

TECHNOLOGY DISRUPTIONS
(Coming Soon…)

<table>
<thead>
<tr>
<th>Old Technology</th>
<th>Disruptive Technology</th>
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</thead>
<tbody>
<tr>
<td>Coal Fired Power Plant</td>
<td>Solar Energy</td>
</tr>
<tr>
<td>Physical Shops</td>
<td>Online Shops</td>
</tr>
<tr>
<td>Bank / Bank Notes</td>
<td>Blockchain / Bitcoin</td>
</tr>
<tr>
<td>Human ?</td>
<td>A.I. Robot</td>
</tr>
</tbody>
</table>
Sleeping Beauty wakes up after 50 years sleeping.

Sleep from 1900
Wake Up  1950

Sleep from 2000
Wake Up  2050

Peter Diamandis, Ray Kurzweil’s Mind-Boggling Predictions for the Next 25 Years, 2015
https://singularityhub.com/2015/01/26/ray-kurzweils-mind-boggling-predictions-for-the-next-25-years/

THE ARTIFICIAL INTELLIGENT REVOLUTION

See you in the late 21st Century!

“Computers will overtake humans with AI within the next 100 years. When that happens, we need to make sure the computers have goals aligned with ours.”

Stephen Hawking  May 12, 2015

Could AIT develop its Education Disrupter?

The 6 Ds Development of Disruption - a road map of rapid development leading to disruptive technologies

• digitization
• deception
• disruption
• demonetization
• dematerialization
• democratization
Digital information is easy to access, share, and distribute, it can spread at the speed of internet.

Initial period of growth is normally deceptive until the digital product breaks its linear expectation.

Sooner or later, traditional product will be outperformed and disrupted by digital technology.

Separated technologies that were once bulky and expensive are now all in a smart phone.
Money is increasingly a non-issue, as technology becomes cheaper, often to the point of being free.

Powerful technologies are no longer only for governments, large corporates, or the wealthy.

Global Megatrends

- Exponential Growth of Technology
- Technological Disruption
- Future of Higher Education (& AIT)

**AIT GOES GLOBAL**

**EDUCATION SYSTEM TODAY IS IRRELEVANT.**

Education system that exists today was designed to serve the industrial revolution in the 19th century. It needs reinvention so students can be groomed with “universal basic competence” to be able to adapt to the future world.
Should Industrial-Age Model of Education Create Graduates to Serve the Digital and AI Ages?

Why Lifelong Learning?

“Today’s education is not fit to the world of tomorrow.”

Even though knowledges (information) are available freely, it doesn’t mean any human is competent to learn.

“It is no longer possible to acquire knowledge once and spend the rest of one’s life applying them”
Every human individual should be equipped, at least, with **"Universal Basic Competence"**, required for his life-long learning in the future.

MY PROPOSAL

Worsak Kanok-Nukulchai

W. Kanok-Nukulchai

©WKanok-Nukulchai 27/08/18

UNIVERSAL BASIC COMPETENCE

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Semester 1</th>
<th>Summer</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td>Year 4</td>
<td>Pre-Professional</td>
<td>Internship</td>
<td>Pre-Professional</td>
</tr>
<tr>
<td>Year 3</td>
<td>STEM En</td>
<td>Character Qualities</td>
<td>STEM L</td>
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<tr>
<td>Year 2</td>
<td>STEM H</td>
<td>Competencies</td>
<td>STEM SS</td>
</tr>
<tr>
<td>Year 1</td>
<td>STEM</td>
<td>Foundational Literacies</td>
<td>STEM</td>
</tr>
</tbody>
</table>

S = Science, T = Technology, E = Engineering, M = Mathematics
H = Humanities, SS = Social Science, En = Entrepreneurship, L = Law

https://www.weforum.org/agenda/2016/05/5-charts-that-explain-the-future-of-education/
NEW ROLES OF HIGHER EDUCATION

Organized Info → Knowledge for Students

Teaching/Learning

Knowledge → New Knowledge / New Technology

Research

Adapting Knowledge/Technology → Industries

Engagement

Reinventing

New Knowledge/Technology → LLL for the mass

In the future world of VUCA (volatility, uncertainty, complexity, ambiguity), all global citizens have the right to “Universal Basic Competence” needed for lifelong learning.

40-50 Years Life Time

1-3 Years Graduate

Professional Credential

4 Years Undergraduate

Professional Orientation

21st CENTURY GLOBAL CITIZENS

Grooming “Universal Basic Competence”

Re-skilling & Reinventing

Universities are expected to offer programs for lifelong learning.

A UNIVERSITY MODEL OF THE FUTURE

(1) Global Megatrends

(2) Continuous Technological Changes

(3) Longer Health-Span

21st CENTURY UNIVERSITY

Professional Orientation

Re-skilling & Reinventing

21st CENTURY GLOBAL CITIZENS

Grooming “Universal Basic Competence”

Universities are expected to offer programs for lifelong learning.
Future Model of Higher Education

COMPONENTS OF EDUCATION SYSTEM

Information Delivery
1. Classroom Delivery
2. Books / Notes
3. Synchronous Online Delivery
4. Online Resources

Teaching / Learning
1. Face-to-Face Teaching
2. Synchronous Online Teaching
3. Asynchronous Online Learning

Students
1. Traditional Students
2. Professional Students
3. Lifelong Learners

Time Frame
1. Fixed Time Frame
2. Flexible Time Frame
3. Open-End System

Teachers
1. Global Authority
2. Local Authority
3. Coach / Tutor
4. Peers

References

HOW LONG WILL “THE AIT MODEL” SURVIVE?

BUSINESS AS USUAL IS DEAD
UNIVERSITY AS USUAL IS DYING