An Online Professional Education Program of Tsinghua Southeast Asia Center in Bali, Indonesia

HAPPY DIGITAL X: CITIES, SYSTEMS, PRODUCTS AND SERVICES
April 24-August 28, 2021
Registration Number 2125630001
“For Our Common Sustainable Future”
PROGRAM OVERVIEW

Considering the needs of Indonesia and region that will be home to 200 million new middle income earners, Tsinghua Southeast Asia Center at United in Diversity Bali Campus will educate city planners, system designers, product developers and entrepreneurs, and digital experts to become transformative leaders through the professional education program Happy Digital X: Cities, Systems, Products and Services. Participants will help build the next generation ICT augmented sustainable and happy cities.

The X of cities is the urban fabric itself, the plans and policies that guide a city’s development; the systems that provide infrastructure and public services, particularly linked to ICT, and the products and services used by inhabitants. This is the fabric that collectively brings happiness to urban residents – the Happy Digital X.

WHY CITIES?

The global economy is an economy of cities. More than half the world’s population live in cities, and more than half of all economic activity happens there. Rapid urbanization brings both opportunities and challenges. With a population approaching 300 million, blue and green biodiversity, and its importance for climate stability, the world needs Indonesia’s urban areas to develop sustainably.

Indonesian and Southeast Asian cities are going through a digital transformation. How cities function, how people work, interact, and transact is changing rapidly. It represents an ecosystem of digital innovation that can create cities that are more sustainable, equitable, and resilient – happy digital cities. Places where people are healthy and prosperous, environmental boundaries are respected, and business activities are oriented to the principles of better business better world. However, in governance, planning and urban design, implementing and monitoring, there is currently a lack of capacity to deliver on this vision. Happy Digital X is therefore a call to action.

THE NEEDS AND CHALLENGES

Urbanization means socio-economic growth is concentrated to big cities, with surrounding regions falling behind. The urban-rural synergy is difficult to deliver on and the development of cities is often marked by inefficient land-use practices that lead to agrarian conflicts. Many cities are also not sufficiently resilient, and increasing poverty rates, upsurge in pollution, public health emergencies and pressure on infrastructure and public services are some of the negative consequences of rapid urbanization.

Some cities and regencies have already shown interests in incorporating ICT in their development process. This indicates promising potential of the cities to leverage ICT implementations and innovations in the future.

SKILLS-TO-DEVELOP

Despite the promising potential they have, some cities and regencies are still facing talent scarcity, particularly for the skill-sets needed to develop happy digital cities. These include:

- Ability to incorporate SDGs and happiness principles into planning, implementation, and monitoring.
- Ability to understand complexity and the dynamic relationships between government, business, and civil society.
- Ability to formulate and carry out change management within and across organizations.
- Ability to lead and manage cross sector collaboration between government, business, and civil society.
- Ability to facilitate digital literacy improvement at the grassroots level to encourage better utilization of ICT to maximize it as a tool to manage social spaces and relationships.
- Ability to nurture mindsets, values, and cultures aligned with the sustainable development principles.

The Happy Digital X takes a systemic approach to happiness based on harmony of people, planet and the spirit. We will examine the societal dynamic to happiness, by exploring how digital interconnections between institutions and actors influence outcomes, and take a cross-disciplinary look at addressing common challenges through trust building. Those who participate in the Happy Digital X will be empowered to co-create a future of holistic happiness aligned to the Sustainable Development Goals.
Happy Digital X is a professional education program of Tsinghua Southeast Asia Center in UID Bali Campus, Indonesia, set up to study and deliver best practices in these areas.

The program is designed for transformative leaders in the age of the fourth industrial revolution. Individuals selected to join will be immersed in learning with city planners, innovative entrepreneurs, system designers, product developers and digital experts. They will form new collaborative networks, mindsets, practice, and co-create the next generation of happy and sustainable communities integrating data, AI, ICT, products and services. The bookends of the program are happiness and sustainability, and it is designed to contribute to the post-pandemic economic recovery.
PROGRAM OBJECTIVES & DETAILS

PROGRAM OBJECTIVES

The program in Happy Digital X will contribute to the development of Indonesian and Southeast Asian cities, systems, products, and services, and make efficient use of resources. It will help the nation to:

• Develop urban plans that meet civic goals and fosters happiness in the community;
• Promote sustainable development in the operation of cities including its systems, products and services;
• Prepare a cadre of educated digital experts, entrepreneurs and transformative leaders, in the domains of Happy Digital X, as we define them;
• Develop a referenceable roadmap for ICT deployment.

As the program evolved, we envision that it will also:

• Facilitate the digital transformation process towards happy digital cities, in the form of research, mentoring/consulting, and training/capacity building;
• Collaborate with governments to create pilots for a digital urban transformation initiative.

PROGRAM DETAILS

• Program Name: “Happy Digital X: Cities, Systems, Products and Services.”
• Program Type: Professional Education Certificate Program.
• Program Duration: 4 Months.
• Learning Format: Online - with optional in-person sessions if conditions allow.
• Learning Hours: 60 hours of virtual class
• Language of Instruction: English (with document and simultaneous translation available for Indonesian)
• Number of Participants: 68-80 Students.
• If the participant number is less than 50, the organizer has right not to start classes.
• Program Certificate: Upon completion of the program, participants will receive a certificate offered by Tsinghua University.
• Program Participants: HDX program is mainly open for applicants from Southeast Asian countries.

The program arrangement is tentative and subject to changes according to actual situation.
The program curriculum comprises of six threads, each with a set of knowledge, tools, and skills that culminates in challenge-oriented projects where participants will apply a combination of approaches to design and prototype implementable solutions to the grand challenges.
Our goal is to educate data-minded and data-literate professionals from various backgrounds, with the capacity to capture macro-level systems story, recognize problems and design solutions, and compose solutions at scale using ICT.

At the end of the program, the participants will equip themselves with measurable skills in six (6) areas:
- Organizational Transformation
- Urban design
- System design
- Product development – goods, services and entrepreneurial ventures:
  - Systems thinking: ICT integration into the city
  - Computational thinking: ICT awareness & competence

### FOUNDATION BLOCK: ORGANIZATIONAL TRANSFORMATION

- **Happiness**
  - Harmony, Contentment
- **Leadership**
  - Collective goals & action
- **Sustainability**
  - SDGs in context

#### DESIGN THINKING: For Cities, Systems, Products & Services
- Urban Design
- Consensus
- Digital City
- System Goals
- Interfaces
- Tradeoffs
- Product Design
- Deliver Value
- Scale Up

#### SYSTEMS THINKING: ICT Integration into the City
- City as a System
- Decisions
- Digital / Physical / Human Interaction
- Implementation

#### COMPUTATIONAL THINKING: ICT, Awareness & Competence
- Data & Its Organization
- Machine Learning, Algorithms
- Digital Publishing
- Cyber Security

### ACTION LEARNING: INTEGRATIVE PROJECT EXPERIENCES

- **New Policy**
  - Develop & Implement One Policy
- **Project Studio**
  - Problem, Solution, Implementation
- **Roadmaps**
  - Scenario Planning, Strategy
The challenge-motivated approach to curriculum design allows the Happy Digital X program to offer a cutting-edge learning experience that gives a learner-centric blended learning method, with the following sequence:

**Plenary**
Participants will attend plenaries to understand the context of the grand challenges facing society, with world-renown experts offering global views on the challenges and the needs of the involved stakeholders.

**Introduction to Thread**
An introduction session that will equip participants with knowledge and skills to contextualize the grand challenges into more feasible project-scale challenges.

**Skill Development Clinics**
A clinic where participants will develop the necessary tools and skills to address the challenges.

**Action Learning**
Mentorship with world-wide experts to help participants address challenges in impactful projects towards implementable solutions.

**Background Reading & Viewing**
Introduction to Thread
- Inspiration
  - Motivation
- Global View
- Grand Challenges
- Stakeholder Understanding

**Skill Development Clinics**
- Information
  - Survey of Thread
- Skills Intro
- Project Intro

**Action Learning**
- Exercise
  - Experience
  - Solutions Based on Grand Challenges

**Topical Advisors & Specialized Reading & Viewing**
Happy Digital X projects are derived from the UN SDGs and serve a number of important purposes. They allow participants to apply the learned principles, skills, and tools on a real complex challenge involving real stakeholders. Influenced by vision and mission of Tsinghua SEA and designed to reflect Happy Digital X key themes (i.e. happiness and sustainability, ICT transformation, and local projects with global impacts), these projects also capture real stakeholders needs. They thus serve as a bridge that allows the program to produce solutions and relevantly skilled workforce. Lastly, project outcomes also serve as our contribution to solving the grand challenges of our time, and to our goals of happiness and sustainability.
PROGRAM FACULTY

The faculty members are drawn from top global universities, UID Bali Campus, and other reputable institutions. Additionally, distinguished speakers from government and industry will be invited to participate in the learning process. Led by Professor Edward Crawley, MIT’s Ford Professor of Engineering and Honorary Professor of Tsinghua University, our faculty members will not only be scholars but also distinguished practitioners.

Edward Crawley
Founding Interim Provost,
Tsinghua Southeast Asia Center
Ford Professor of Engineering,
Massachusetts Institute of Technology

Edward Crawley is the Ford Professor of Engineering at MIT. From 2011 to 2016 he served as the founding president of the Skolkovo Institute of Science and Technology, Moscow, a new university focused on science and innovation. Prior to that he served as the Director of the Bernard M. Gordon – MIT Engineering Leadership Program, an effort to significantly strengthen the quality of engineering leadership education for competitiveness and innovation. From 2003 to 2006 he served as the Executive Director of the Cambridge – MIT Institute, a joint venture with Cambridge University, funded by the British government and industry, with a mission to understand and generalize how universities act as engines of innovation and economic growth. In this capacity he was in close consultation with the British Government on issues of science and innovation policy. For the previous seven years, he served as the Department Head of Aeronautics and Astronautics at MIT, leading the strategic realignment of the department. Prof Crawley was appointed as Founding Interim Provost of Tsinghua Southeast Asia Center in April 2020.

PROGRAM FACULTY

Victor Chan
Professor and Associate Dean of the Shenzhen International Graduate School, Co-Associate Director of the Tsinghua-Berkeley Shenzhen Institute, Tsinghua University

Wai Kin (Victor) Chan is Professor and Associate Dean of the Tsinghua Shenzhen International Graduate School and Co-Associate Director of the Tsinghua-Berkeley Shenzhen Institute, Tsinghua University, China. Prior to joining Tsinghua, he served on the faculty of the Department of Industrial and Systems Engineering at the Rensselaer Polytechnic Institute (RPI), Troy, NY. He received the B.E. degree from Shanghai Jiao Tong University, M.E. degree from the Tsinghua University, and Ph.D. degree from the University of California, Berkeley, respectively.

Dr. Chan has served as the lead editor of the 2017 Winter Simulation Conference, co-editor of the 2015 Winter Simulation Conference, program chair of the 2013 Industrial and System Engineering Research Conference, editor of the IEEE Conference on Automation Science and Engineering, and associate editor of the IIE Transactions, IEEE Transactions on Systems, Man, and Cybernetics, and Asia-Pacific Journal of Operational Research. In addition, Dr. Chan has served as program committee for a number of international conferences, and panelist for U.S. National Science Foundation (NSF), Swiss National Science Foundation (SNSF), and Macau Science and Technology Development Fund (FDCT). He is a member of Macau Science and Technology Innovation Development Committee.

His research interests include discrete-event simulation, agent-based simulation, big-data analytics and their applications in social networks, business big-data, service systems, healthcare, transportation, energy markets, and manufacturing.
PARTICIPATING ORGANIZATION

HAPPINESS SDG PYRAMID

TSINGHUA SOUTHEAST ASIA CENTER (TSINGHUA SEA)

Tsinghua SEA aims to contribute to a peaceful and prosperous united Indonesia and region, aligned with the Balinese Tri Hita Karana philosophy of three harmonies, the Tian Di Ren He values in Chinese, and the United Nations Sustainable Development Goals (UN SDGs). Central to this mission is the need to build an ecosystem focused on sustainability, with talent development, innovation and value creation for happiness, especially after the enormous uncertainty and change brought by COVID-19.

As a critical step in the Global Strategy of Tsinghua University, working together with United In Diversity (UID) Faoundation, the Tsinghua Southeast Asia Center serves as an important platform for the UN SDGs and will focus on talent development, academic exchange and cooperation throughout Southeast Asia and around the world.

UID is an education foundation co-founded by GITI Group and distinguished global and local partners with a mission to support harmony of people, planet and spiritual with multi-stakeholder partners in academia, public, private and civil society sectors.

TSINGHUA SHENZHEN INTERNATIONAL GRADUATE SCHOOL (TSINGHUA SIGS)

Launched in March of 2019, Tsinghua SIGS is a research and graduate education institution of Tsinghua University located in southern China. Building upon Tsinghua’s academic legacy and Shenzhen’s innovative resources, students and faculty are dedicated to tackling global challenges through cutting-edge research and collaboration.

Tsinghua SIGS aims to reshape graduate education as well as research and development to better serve local, national, regional, and global sustainable development. Here, we nurture the next generations of global leaders, tackle global challenges through international collaborations, and facilitate interdisciplinary research and industrial partnerships.

By diversifying faculty and student bodies, engaging in high-level collaboration with overseas partners, and internationalizing campus resources, Tsinghua SIGS will cultivate students’ global competencies and nurture them as future global leaders.
PARTICIPATING ORGANIZATION

TSINGHUA UNIVERSITY

The campus of Tsinghua University is situated in northwest Beijing on the site of the former imperial gardens of the Qing Dynasty, and surrounded by a number of historical sites.

Tsinghua University was established in 1911, originally under the name “Tsinghua Xuetang”. The school was renamed “Tsinghua School” in 1912. The university section was founded in 1925. The name “National Tsinghua University” was adopted in 1928.

The faculty greatly valued the interaction between Chinese and Western cultures, the sciences and humanities, the ancient and modern. Tsinghua scholars Wang Guowei, Liang Qichao, Chen Yinque and Zhao Yuanren, renowned as the “Four Tutors” in the Institute of Chinese Classics, advocated this belief and had a profound impact on Tsinghua’s later development.

Tsinghua University was forced to move to Kunming and join with Peking University and Nankai University to form the Southwest Associated University due to the Resistance War against the Japanese Invasion in 1937. In 1946 The University was moved back to its original location in Beijing after the war.

After the founding of the People’s Republic of China, the University was molded into a polytechnic institute focusing on engineering in the nationwide restructuring of universities and colleges undertaken in 1952. In November 1952, Mr. Jiang Nanxiang became the President of the University. He made significant contributions in leading Tsinghua to become the national center for training engineers and scientists with both professional proficiency and personal integrity.

Since China opened up to the world in 1978, Tsinghua University has developed at a breathtaking pace into a comprehensive research university. At present, the university has 21 schools and 59 departments with faculties in science, engineering, humanities, law, medicine, history, philosophy, economics, management, education and art.

With the motto of “Self-Discipline and Social Commitment” and the spirit of “Actions Speak Louder than Words”, Tsinghua University is dedicated to the well-being of Chinese society and to world development. As one of China’s most prestigious and influential universities, Tsinghua is committed to cultivating global citizens who will thrive in today’s world and become tomorrow’s leaders. Through the pursuit of education and research at the highest level of excellence, Tsinghua is developing innovative solutions that will help solve pressing problems in China and the world.

More information can be found on https://www.tsinghua.edu.cn/
PARTICIPANT REQUIREMENT

We are looking for participants with the following qualifications:

• Those who can support the co-creation of Indonesian and Southeast Asian happy digital ecosystems
• Leaders and early to mid-career top talents.
• Have working experience in the development of systems in cities, or innovative products and services in solving SDGs. Participants with backgrounds in ICT systems, public policy and finance are also welcome.
• Hold at least a Bachelor degree.
• Have minimum passive English proficiency.
• Possess operational familiarity with computers, application-level software, and internet-based platforms.
• Experience in engaging with multi-stakeholders to solve complex challenges.
• Strong commitment to develop their respective institution/community/city.
• Commit to actively and fully participate in all activities.
• Commit to securing funds for tuition fees.

FEES & PAYMENT

The program fees are USD 6,900/IDR 97,000,000 for participants from business sector and USD 5,900/IDR 83,000,000 for non-profit and government institutions. It should be paid by the participants once they have passed the selection process.

The tuition as above is for the 2021 Pilot Program—an online program with offline orientation opportunities.

Full payment is due two weeks after Letter of Acceptance is sent to the admitted participants, and shall be paid to the bank accounts as below, with USD payment to the bank account in USD and IDR payment to the bank account in IDR.

Bank Account Name: Yayasan Tsinghua Southeast Asia
Bank Name: Bank Ganesha
Bank Address: Wisma Hayam Wuruk Lt. 1&2, Jl. Hayam Wuruk No. 8, Jakarta Pusat 10120
Account No.: 0001-2-33370-0(USD)
SWIFT Code: GNESIDJA
Account No.: 0001-2-33367-0(Rp)
SWIFT Code: GNESIDJA

APPLICATION TIMELINE

The application process and dates are as follow:

• Second wave application period: 13 - 31 March 2021
• Completion of Admission Administration Requirement: 1-9 April 2021
• Start of program: 24 April 2021

HOW TO APPLY

Interested applicants may access the program registration form here

Applications must reach the organizers by 31 March 2021, 23:59 Jakarta time (GMT+7). Should you require further information about the registration process please contact us via email at uidbc@uid.or.id
Prospective participants with questions on the programme are encouraged to contact Tsinghua SEA at UID Bali Campus for further information.

Email: uidbc@uid.or.id
Call: +62817-435-930 (Cokorda Istri Dewi)
Call: +86400-818-0909 (Office of Lifelong Education Administration, Tsinghua University)
Website: https://happydigitalx.tsea.asia/

UID Bali Campus – Kura Kura Bali
Entrance via Jalan By Pass Ngurah Rai Simpang Serangan No. 1
Denpasar, Bali
Indonesia

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This brochure is valid until December 31, 2021

Kindly scan the QR code below to access our online application form