Tech Start-ups Support Program in Asia and the Pacific

9-12 April 2019
Seoul, Republic of South Korea

ADB

sba
Seoul Business Agency

Knowledge Series No. 9

**Workshop on Tech Start-ups Support
Program in Asia and the Pacific
Seoul, Republic of South Korea
9-12 April 2019**

**Co-Organized by the
Digital Technology for Development Unit
Sustainable Development and Climate Change Department
Asian Development Bank**

Seoul Business Agency (SBA)

Contents

Workshop Overview

Developing member countries (DMCs) of the Asian Development Bank (ADB) are attaining middle-income country status, but often face challenges in progressing into high-income status.

Realizing the potential contribution of the tech start-ups to economic growth and job creation depends on the enabling environment, including the existence of business opportunities, entrepreneurial culture, supportive business and technical infrastructure, and availability of and access to key human and financial resources.

To promote tech start-ups and entrepreneurship, many governments have implemented various initiatives to address the issues of shortages in skills needed for the digital economy, weak capital markets supporting start-ups, weak professional networks among digital entrepreneurs, lack of national strategies to develop high-level technologies. For countries that aspire to transform their economies with innovation, the weak ecosystem for startups is one of key barriers.

Traditionally, ADB's support for job creation has mainly focused on the financing for small and medium enterprises (SMEs), but this approach will not be enough in the knowledge economy where technical skills are more important to compete in the market. The development community, including ADB, must take a more a holistic approach to cover broader aspects of the business ecosystem, including regulatory sandboxing, skills development, academia-industry collaboration, and incubation, in addition to financing programs.

In this context, ADB initiated a capacity development program to help DMCs develop an enabling environment for the digital economy, focusing on the technology-oriented start-ups, in partnership with a variety of public and private partners.

To start the capacity development program, ADB organized a joint workshop on "Tech Start-ups Support Program in Asia and the Pacific" on 9-12 April 2019 in Seoul, Republic of South Korea.

The workshop aimed to identify programmatic approaches for promoting entrepreneurship and tech startups across the countries participating in the workshop. Through interactive discussions, participants learned about opportunities and challenges for developing tech startup ecosystems.

During the workshop, global ICT companies shared their programs for supporting tech start-ups and technology education, and participants visited some accelerator and incubation program in South Korea.

Highlights

Participants

80 participants from developing member countries, international development partners, academia, and the private sector (from developed and developing countries in Asia and the Pacific), as well as ADB staff related to operations in industry development, SME financing, skills development and higher education

Speakers

International speakers from the public and private sectors on ICT sector development

Objectives

Share knowledge and experience, and to discuss potential bilateral or multilateral partnerships on the tech startup support programs among participating countries

Programme

Workshop participants (Photo credit: Edsel Roman/ADB)

DAY 1 (9 April 2019) I Venue: Seoul Business Agency (SBA)	
Time	**Speaker/Organisation**
08:30 - 09:00 a.m.	Registration
09:00 - 09:20 a.m.	Opening and Welcome Remarks	• Young Seung Chang, President, Seoul Business Agency (SBA) • Thomas Abell, Chief of Digital Technology for Development, Asian Development Bank (ADB)
09:20 - 09:30 a.m.	Workshop Overview	Seok Yong Yoon, Principal Public Management Specialist (e-Governance), ADB
PART 1: ECOSYSTEM FOR TECH START-UPS		
09:30 - 10:00 a.m.	**SESSION 1: ECOSYSTEM FOR TECH START-UPS** • Five Reasons Why the Korean Start-up Ecosystem is Booming • Start-up Ecosystem in Silicon Valley • Amazon Web Services: Start-Up Innovation	Moderator: Seok Yong Yoon, Principal Public Management Specialist (e-Governance), ADB • Jungwook Lim, Managing Director, Start-up Alliance • Thomas Abell, Chief of Digital Technology for Development, ADB • Sam Harris, Head of EdTech and EdStart Program in Asia Pacific, Amazon Web Services
11:00 - 11:15 a.m.	Group Photo & Coffee Break	
Session 2: Public Health System		
11:15 - 12:30 p.m.	**SESSION 2: GOVERNMENT POLICIES AND PROGRAMS** • Seoul Metropolitan Government's Policies and Programs to Support Start-ups • Supporting Technological Transformation in Indonesia • PPP Model as a Sustainable Model in Boosting Start-up Ecosystem	Moderator: Dennis De Jesus, Knowledge Management Coordinator, ADB • Pan Kyu Choi, Director of Investment & Business Incubation Division, Seoul Metropolitan Government • Yurendra Basnett, Country Economist, ADB • Mammad Karimov, Head of the INNOLAND Incubation and Acceleration Center, Azerbaijan
12:30 - 13:30 p.m.	Lunch Break	

SITE VISITS	
Time	**Site Venue**
13:30-15:30 p.m.	Seoul Start Up Hub (http://seoulstartuphub.com)
15:30-18:00 p.m.	Tech Incubator Program for Start-ups (TIPS) TOWN (http://www.jointips.or.kr) TIPS TOWN Tour, Soo Taek Lim, Partner, ENSL Partners (http://www.enslpartners.com)
18:00-20:00 p.m.	Dinner hosted by Seoul Business Agency
DAY 2 (10 April 2019) I Venue: Seoul Business Agency (SBA)	
PART 2: START-UP ACCELERATION AND INCUBATION	

08:30 - 10:00 a.m.	**SESSION 3. PRIVATE SECTOR-LED INCUBATION PROGRAMS** • SparkLabs, a Seoul-based accelerator for early-stage Korean start-ups • AWS Start-up and Partners Enablement Program	Moderator: Aimee Hampel-Milagrosa, Economist, ADB • Eugene Kim, Partner, SparkLabs • Thomas Abell, Chief of Digital Technology for Development, ADB • Smita Roy, Partner Programs and Strategy, Worldwide Public Sector, Amazon Web Services
10:00 - 10:30 a.m.	Coffee Break	
10:30 - 12:00 p.m.	**SESSION 4. UNIVERSITY-LED INCUBATION PROGRAMS** • Leading the Way to the Future: Yonsei Enterprise Support Foundation Program • Stimulating Entrepreneurship Activity at SUNY Korea from Scratch: The Case of the Center for Global Entrepreneurship • AWS Educate & Academy Program	Moderator: Brajesh Panth, Chief of Education Sector Group, ADB • Sung Joo Bae, Associate Professor of Technology Management, Yonsei University School of Business • Chihmao Hsieh, Research Professor, SUNY Korea • Shang Gao, Head of Educate Program in Southeast Asia, Amazon Web Services
SITE VISITS		
13:30-14:30 p.m.	(Team A) **Born2Global Center** Pangyo Techno Valley • Introduction of Pan-Gyo Techno Valley and Born2Global Center • Start-ups' showcase: presentation of start-ups at Born2Global Center • Born2Global Tour	(Team B) **NCSOFT** • Introduction of NCSOFT, Alicia Kang, Manager, Global Communication Division, Public Relations Team • NCSOFT Tour
14:30-16:00 p.m.	**NCSOFT** • Introduction of NCSOFT, Alicia Kang, Manager, Global Communication Division, Public Relations Team • NCSOFT Tour	**Born2Global Center** Pangyo Techno Valley • Introduction of Pan-Gyo Techno Valley and Born2Global Center • Start-ups' showcase: presentation of start-ups at Born2Global Center • Born2Global Tour
16:00 p.m.	**Return to hotel**	

Programme

DAY 3 (11 April 2019)	
Time	**Speaker/Organisation**
PART 3: ACADEMIA-RESEARCH-INDUSTRY COOPERATION	

Time	SESSION 5. ACADEMIA-INDUSTRY COOPERATION AT KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY (KAIST)	
10:50 - 12:30 p.m. Venue: KAIST		Moderator: Shanti Jagannathan, Principal Education Specialist, ADB
	• Innovation of KAIST through University-Industry Collaboration • Entrepreneurship and Innovation of KAIST: Start-up	• Wonjoon Kim, Director of Center for Innovation and Future Strategy • Steve Ahn, Professor of K-School and Director of Division of Start-up Support, KAIST
	Site Visit: Start-up KAIST	
14:00–16:00 p.m. Venue: ETRI	**SESSION 6. RESEARCH-INDUSTRY LINKAGE AT ELECTRONIC AND TELECOMMUNICATION RESEARCH INSTITUTE (ETRI)** • National R&D and Innovation System: Korean Experiences by ETRI • Technology Commercialization Program by ETRI Holdings	Moderator: Ryotaro Hayashi, Social Sector Economist, ADB • Jong Heung Park, Executive Director, Electronics and Telecommunications Research Institute
16:00–19:00 p.m.	Return to hotel	

DAY 4 (12 April 2019) • Venue: Seoul Business Agency	
PART 4: FINANCING TECH START-UPS	

Time	Session	Speaker/Organisation
09:00–10:20 a.m.	**SESSION 7. ANGEL AND VENTURE CAPITAL** • Korean Unicorns on the Rise • Aggregating Industry Demand for Tech in Asia: Case Studies in the Mekong • MindsLab	Moderator: Pei-Chun Tsai, Public Management Specialist, ADB • Kihong Bae, Co-Founder & Managing Partner, Strong Ventures • Dominic Mellor, Senior Investment Specialist, ADB • Taejoon Yoo, CEO and Founder of MindsLab
10:40–12:00 a.m.	**SESSION 8. INNOVATIVE FINANCING FOR SMES AND START-UPS** • ADB's Support on SME Financing System: Korean Experiences by ETRI • Korea's Experiences on SME and Start-up Financing • Managing a Mission-driven For-profits Start-up from Home: Queenrides	Moderator: Alexander Joseph Julian, Financial Sector Economist, ADB • Seung Min Lee, Senior Financial Sector Specialist, ADB • Hee-Jun Lee, Senior Manager, Corporate Financing Division, Small and Medium Business Corporation • Iim Fahima Jachja, Founder and CEO of Queenrides, Indonesia
13:00–15:00 p.m.	**SESSION 9: GROUP DISCUSSION** • Group discussions and presentations • 1:1 or 1:N tailored meetings (on request)	Facilitator: Marc Lepage, Principal IT Specialist (Technology Innovation), ADB
15:00–16:30 p.m.	Wrap-up / Closing	

Opening Remarks

"Innovative startups are a new driving force for the future."

Young-seung Chang, president of Seoul Business Agency (SBA), made this statement as he welcomed participants to the four-day workshop on Tech Start-ups and Support Programs in Asia.

In his opening remarks, he said it is this belief that emboldened the Seoul Metropolitan Government to turn the capital city of Seoul into one of the world's top five hubs for start-up companies. "It is our goal to play a crucial role in fast-tracking aspiring start-ups to success by fostering talent with innovative ideas, securing more incubating spaces, and offering funding and grants," he added.

Aligned with this vision, the SBA, since it was established in 1998, has been implementing the policies of the Seoul Metropolitan Government to support early-stage start-ups through a "systematic incubation program."

The SBA President said the workshop includes a site visit to the Seoul Startup Hub, which serves as a "central platform that connects all the players in the start-up ecosystem in Seoul and as a forward operating base to nurture new global unicorns."

"Seoul Startup Hub aims to bring together a global network of accelerators and venture capitalists across Asia as a driving force for the Asian start-up ecosystem," said Mr. Chang.

To this end, he said Seoul Startup Hub has taken the first step by proposing the establishment of the Asia Startup Ecosystem Alliance (ASEA). "We will spare no effort in laying the foundation where start-ups can work beyond borders and benefit from the cross-border flow of support by sharing infrastructure and resources across the Asian region. A tighter bond and concerted effort will create a significant synergistic effect on all the participants in the Asian start-up ecosystem," he added.

For his part, **Thomas Abell, Chief of Digital Technology for Development of the Asian Development Bank (ADB)**, said the future will be a lot more about technology so ADB recognizes the potential impact of nurturing the tech start-up ecosystem in the region.

"ADB has traditionally been an infrastructure bank. Technology will improve existing infrastructure and the tech start-up ecosystem is where the energy is," said Mr. Abell.

However, he said investments in technology are "a lot harder than traditional because the tech landscape changes rapidly." This makes it imperative for ADB to forge a deep connection with the tech start-up ecosystem so it can constantly mine fresh ideas and deepen connections.

With ADB's assistance, developing member countries will be able to create and suppport a robust tech start-up ecosystem where players can compete and integrate with the global business environment.

"We will spare no effort in laying the foundation where start-ups can work beyond borders and benefit from the cross-border flow of support by sharing infrastructure and resources across the Asian region."

YOUNG-SEUNG CHANG
President
Seoul Business Agency

"Technology will improve existing infrastructure and the tech start-up ecosystem is where the energy is."

THOMAS ABELL
Chief of Digital Technology
for Development
Asian Development Bank

Part 1: Eco-System for Tech Start-ups
Session 1: Ecosystem for Tech Start-ups

Seok Yong Yoon (left), Principal Public Management Specialist (e-Governance) of ADB, moderated the session on "Ecosystem for Tech Start-ups," which featured distinguished speakers (L-R): Thomas Abell, Chief of Digital Technology for Development at ADB; Sam Harris, Head of EdTech and EdStart Program in Asia Pacific at Amazon Web Services; and Jungwook Lim, Managing Director of Start-up Alliance (Photo credit: ADB/Edsel Roman)

In pursuit of sweet success, start-ups need at least five important ingredients: a culture that inspires innovation and entrepreneurship; sound government policies that nurture start-ups; an ecosystem ready to pump money into, support, or acquire promising startups; and access to short- and long-term capital.

In this session, distinguished speakers presented their views on the evolution of tech start-up ecosystems in the United States and South Korea, and the opportunities and challenges for developing member countries (DMCs) in building such ecosystems.

The Case of Silicon Valley
When it comes to tech, Silicon Valley is considered the world's mecca. While it is a relatively small 67-kilometer corridor between San Francisco and San Jose, California, it was able to give birth to tech titans such as Apple, Google, Cisco, Intel, Oracle, and Hewlett Packard.

In his presentation, **Thomas Abell, Chief of Digital Technology for Development at Asian Development Bank (ADB),** shared the lessons he learned from years of working as software engineer in Silicon Valley for tech companies such as Accenture, Qualcomm, Hewlett Packard, Google, Microsoft, Samsung, Motorola, United Technologies, Sony, and Lenovo.

Mr. Abell said there are basically two key drivers to the current boom of tech start-ups:

1. The availability of new technologies, such as cloud computing, offers start-ups on-demand access to full business services. This has been driving down the cost of starting a business over the years.

2. Competition is confined only to certain areas where large tech firms are dominant so there is plenty of room left for new types of small businesses.

However, while access to tech is increasing, he said equally important is knowing which is commercially viable or just hype. Mr. Abell shared the Gartner Hype Cycles, which offer start-ups an insight into how a technology or application will evolve over time. He sees blockchain technology and 3D printing as "over-hyped" predictions and believes agriculture, which employs 70% of the world's poor, offers start-ups an opportunity to make a real difference in the real economy and unleash huge market potential.

Sam Harris, Head of EdTech and EdStart Program in Asia Pacific at Amazon Web Services (AWS), said the cost of launching a start-up has been on a dramatic decline over the years, and cloud computing has been a major driver. AWS, which has the "largest number of start-up customers," has enabled on-demand delivery of computing power, database storage, and other resources via the internet.

Mr. Harris presented how AWS helps start-ups with low-cost and easy-to-use infrastructure needed to scale and grow. AWS EdStart is an educational technology startup accelerator designed to help entrepreneurs build the next generation of online learning analytics, and campus management solutions on the AWS Cloud. AWS Activate program gives start-ups access to the resources they need to quickly get started on AWS. For the public sector, AWS has a global program called AWS CloudStart to support the digital transformation of economic development organizations and stimulate business growth.

Korea's Silicon Valley Ambitions

An ambition to be the "Silicon Valley of Asia" has been firing up the spirit of innovation in South Korea in recent years. **Jungwook Lim, managing director of Start-up Alliance** (*https://start-upall. kr*) and former CEO of Lycos Inc., said, "The Korean startup ecosystem is thriving."

In his presentation, Mr. Lim cited "Five Reasons Why the Korean Start-Up Ecosystem is Booming":

1. *Strong support from the government:* Under the current administration of President Moon Jae-in, "growth on innovation" gets top priority. Among its new policies were: the creation of a Cabinet-level Ministry of SMEs and Startups, the Presidential Committee on the Fourth Industrial Revolution, two funding agencies that gave birth to hundreds of new venture capital (VC) funds in Korea, an education program through the Young Entrepreneurship Academy, and agencies that match investment funds by the government, among others.

2. *Emergence of start-up communities*: A vibrant start-up community emerged. Gangnam became the "Center of Start-up Fever" as big names such as the Lotte group and Naver provide funds and office space to promising startups. Naver and the Ministry of Science, ICT, and Future Planning also set up the Startup Alliance to create a positive start-up ecosystem in Korea.

3. *Influx of capable entrepreneurial talents into startup world:* Entrepreneurs who have studied abroad or in prestigious research universities in Korea, worked in global consulting firms or big corporations, started their own businesses in Korea and became successful role models. There has also been an increasing number of female and serial entrepreneurs.

4. *Growing number of aggressive venture investors:* VC started to boom, with prominent entrepreneurs as well as foreign VCs providing money to many start-ups. Among them is Han Kim, General Partner and co-founder of Altos Ventures, who owns four out of six of Korean unicorns in his portfolio.

5. *Korean millennials love to use startup products:* Mr. Lim said Korea is a great test bed for start-ups to pilot their program since its population is very open to change. Young Koreans are also very adept with apps and social media and there is a cultural comfort with technology.

COST TO LAUNCH A START-UP

99% decline

from $5 million in 1999 to $50,000 in 2010

Source: Sam Harris, Amazon Web Services / https://bothsidesofthetable.com/why-has-seed-investing-declined-and-what-does-this-mean-for-the-future-6a9572357130

GLOBAL UNICORNS

6 Korean start-ups among the in the 300+ global unicorns (private firms valued at over $1 billion)

Source: Jungwook Lim, Startup Alliance

VENTURE CAPITAL INVESTMENTS IN KOREA

US$3B+

in 2018 vs. $1.4 billion in 2014

Source: Jungwook Lim, Startup Alliance

KOREAN START-UPS

500+ have received venture capital investment of at least US$1 million

Source: Jungwook Lim, Startup Alliance

Session 2: Government Policies and Programs

Dennis De Jesus (left), Knowledge Management Coordinator of ADB, moderated the session on "Government Policies and Programs," which featured distinguished speakers (L-R): Yurendra Basnett, Country Economist at ADB; Mammad Karimov, Head of the INNOLAND Incubation and Acceleration Center in Azerbaijan; and Pan Kyu Choi, Director of Investment & Business Incubation Division at Seoul Metropolitan Government (Photo credit: ADB/Edsel Roman)

Think of start-ups and the role of entrepreneurs is top of mind. Governments, however, have a critical role to play in developing a start-up culture by creating better policies, reducing tax burden, easing migration of talented workers, having developed infrastructure, among other things.

In this session, distinguished speakers shared their insights and experiences on having an enabling environment for a tech start-up ecosystem to thrive.

Korean Model

The Republic of South Korea has a bold ambition to be a regional start-up hub. As of 2017, there are close to 30,000 start-ups employing over 100,000 people in the country. More than $500 million is invested in late-stage start-ups every year *(Source: John Yoon, Startup Radar, http://startupradar.asia)*.

Thanks to having the highest government backing per capita for start-ups, the country is making entrepreneurship and innovation key cornerstones of its successful economy. In 2015, the government made an initial investment of $3 billion. Just three years later, it rolled out the first tranche of a $9-billion investment fund designed to boost start-ups in growth areas such as drone technology, artificial intelligence and fintech.

In his presentation, **Pan Kyu Choi, Director of Investment & Business Incubation Division, Seoul Metropolitan Government (SMG),** said the City of Seoul has been launching several initiatives, including matching funds with private investors, establishing international entrepreneurship programs at universities, and opening up research institutes.

During the nascent period of start-up development in 1995, the capital city opened the Seoul High-Tech Venture Center. This was followed by the establishment of four start-up facilities in 2005, which has since increased to 44 locations, offering 11 basic services such as training, counseling, mentoring, consulting, research and development, and hosting corporate events.

The capital city also opened the Seoul Startup Hub, the largest startup incubator in Korea, to foster entrepreneurship for local as well as foreign innovators through its all-in-one platform. *(See page 8 for more information on Seoul Startup Hub)*

The City set up a KRW1.2-trillion innovation growth fund in 2018 aiming to produce eight teams of potential global unicorns over 4 years. It also plans to create 21 more support facilities by 2022 that will

benefit 1,600 start-ups annually. To help university start-up resources stimulate and integrate into the ecosystem, it plans to build campus towns around universities in 60 locations by 2025. Lastly, to facilitate the integration of Korean start-ups into the global ecosystem, the City will expand the operation of global start-up centers, offer housing spaces for foreign entrepreneurs, and subsidies for foreign investors when hiring foreign professionals aimed to attract global talent.

Azerbaijan Model

Known for its striking architectural contrasts and rich cultural heritage, the Republic of Azerbaijan is in the midst of a dramatic transformation, witnessing the emergence of a tech startup ecosystem, boosted by petroleum-based revenues and a rising tourism industry.

Mammad Karimov, head of the INNOLAND Incubation and Acceleration Center in Azerbaijan, said the landlocked Central Asian nation with a population of 10 million had spent six years and a lot of resources to establish a tech start-up ecosystem.

In his presentation, Mr. Karimov presented the Public-Private Partnership (PPP) model in boosting a start-up ecosystem in Azerbaijan. He said the government used a six-pronged strategy to work with the private sector: 1) consolidation; 2) education; 3) having the government as a first client; 4) joint or match funds; 5) tech diaspora; and 6) launch pad for the region.

To support the establishment of start-up ecosystem and encourage private sector innovation in Azerbaijan and outside its borders, the government created the INNOLAND Incubation and Acceleration Center under the Public Service and Social Innovations agency. INNOLAND offers incubation, acceleration, a co-working space, and an IT Training and Education Center for start-ups. Since 2012, the government has also been providing public services through the ASAN one-stop shop and its "ASAN xidmet" serves as a "benchmark for innovation initiatives."

Given its small population, Azerbaijan faces a challenge when it comes to human capital. "We don't have many tech start-ups because we have few engineers," said Mr. Karimov. This is why the government launched a five-year program to build an army of coders, developers, entrepreneurs, among others. Its target is to produce 1,000 start-ups, 10,000 software developers, and 10 successful companies with valuation of more than $10 million by 2025.

To achieve this, the government wants to attract highly qualified Azerbaijanis living outside the country to offer mentorships, angel investments, recruitment, among others. Azerbaijan also has an ambition to be a regional launch pad for tech start-ups, banking on its people (Azerbaijanis speak three languages), cheaper workforce, and close proximity to international borders.

Challenge for Indonesia

In 2017, the Ministry of Finance of Indonesia and the ADB embarked on a research study to assess the impact of the Fourth Industrial Revolution (4IR) on Indonesia's economy. This was in line with the Government's desire to craft informed policies that support technological change in the country.

Yurendra Basnett, Country Economist of ADB in Indonesia, presented the preliminary findings of the study, among which revealed that the country's productivity will increase by up to 11% by 2040 if it were to adopt 4IR technology.

However, technology is also seen to displace certain tasks and women workers, as technology supports more flexible working options for women, policies and norms still do not allow them to take advantage of these. "There's no unique 'fit-for-purpose' solution for all sectors. We need to enhance coordination among policy institutions" as the country promotes itself as as investment haven for leading 21st-century technology, said Mr. Basnett.

START-UP SUPPORT FACILITIES

65

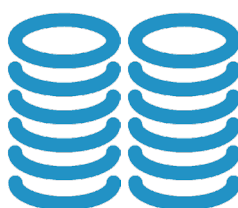Number of start-up support facilities in Seoul by 2022

Source: Pan Kyu Choi, Seoul Metropolitan Government

INNOVATION GROWTH FUND

1.2 trillion

Korean Won

Source: Pan Kyu Choi, Seoul Metropolitan Government

AZERBAIJAN'S 2025 TARGETS

1,000
tech start-ups

10,000
software developers

10
start-ups with valuation of >$10M

Source: Mammad Karimov, Managing Director, Innoland

Site Visit:
Seoul Startup Hub

The headquarters of the Seoul Startup Hub in Mapo-gu, Seoul (Photo credit: Seoul Startup Hub)

The Seoul Startup Hub (SSH) is Korea's largest start-up incubator. It is part of the Seoul Metropolitan Government's roadmap to making the capital city a regional startup hub.

Since its launch in June 2017, the government-backed hub has already fostered nearly 800 start-ups, including 10 global start-ups, said its director Moon Kyong-il.

The hub is a critical component of Korea's tech start-up ecosystem as it helps foster collaboration with private professional partners, including global incubators, investors, law and accounting service providers, and patent advisories.

Located in Gongdeok-dong, a neighborhood of the Mapo district, SSH consists of a 10-floor main building and a four-floor annex building.

The hub provides a diverse range of support services for foreign and local innovators through its all-in-one platform. During the site visit on April 9, 2019, workshop participants were given a tour of the business space and support facilities for start-ups, as well as the public areas for citizens to share. It also offers any start-up with less than seven years of experience to apply for an office in the hub without having to pay rent.

Workshop participants coming down to the lobby area of Seoul Startup Hub. (Photo Credit: ADB/Sheila Pesayco)

Site Visit:
Tech Incubator Program for Start-ups (TIPS) Town

Participants listen to a presentation at the Tech Incubator Program for Start-ups (TIPS) TOWN. (Photo Credit: ADB/Edsel Roman)
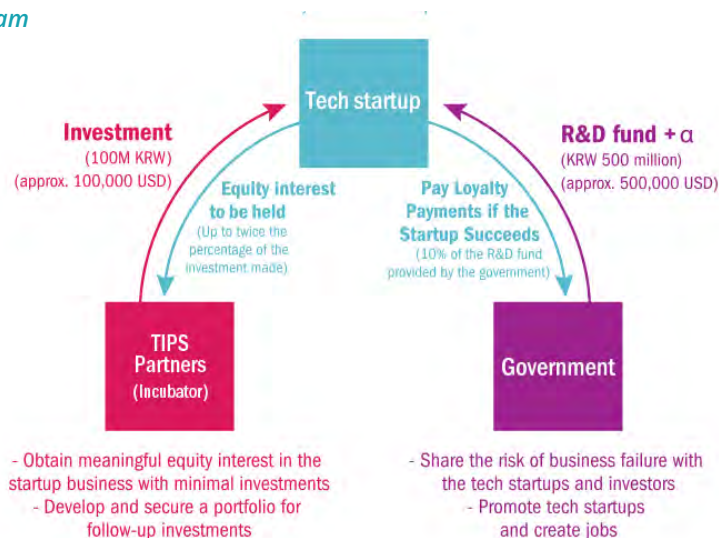
At the heart of Korea's start-up scene is where startups, investors, and supporting organizations work together. It is called "TIPS Town."

TIPS stands for Tech Incubator Program for Start-ups and it is designed to identify and nurture the most promising start-ups with innovative ideas and groundbreaking technologies in Korea.

TIPS Town connects start-ups with capital, support, services, and most importantly, nurturing a community of experts.

To support these start-ups when entering the global marketplace, TIPS Town appoints and designates successful venture founders as incubators or accelerators. They eventually become angel investors and leaders of technological enterprises. TIPS Town offers seamless service encompassing angel investor networking, incubating, mentoring/professional support and matching R&D funds.

By creating an environment of collaboration and success, TIPS Town cultivates the country's most disruptive companies, serving as the core of the start-up ecosystem and innovation platform both locally and internationally.

Tech startup

Investment
(100M KRW)
(approx. 100,000 USD)

R&D fund + α
(KRW 500 million)
(approx. 500,000 USD)

Equity interest to be held
(Up to twice the percentage of the investment made)

Pay Loyalty Payments if the Startup Succeeds
(10% of the R&D fund provided by the government)

TIPS Partners
(Incubator)

Government

- Obtain meaningful equity interest in the startup business with minimal investments
- Develop and secure a portfolio for follow-up investments

- Share the risk of business failure with the tech startups and investors
- Promote tech startups and create jobs

TIPS TOWN BY THE NUMBERS

76+
Start-ups supported

660
Residents

13+
Supporting organizations

Source: TIPS Town website, http://www.jointips.or.kr

Part 2: Start-up Acceleration and Incubation
Session 3: Private Sector-Led Incubation Programs

Aimee Hampel-Milagrosa (left), economist at ADB, moderated the session on "Private Sector-Led Incubation Programs," which featured distinguished speakers Eugene Kim of SparkLabs (center), and Smita Roy of Amazon Web Services. (Photo credit: ADB/ Edsel Roman)

Start-ups have turned to business incubators and accelerators to scale their business. The concept makes a lot of sense for budding entrepreneurs who want to hitch on successful models and transition to a sustainable enterprise.

Incubators help boost an entrepreneur's chances of success by providing resources — from rent-free office space and shared services, mentoring, consulting services, legal counsel, and seed money. In exchange, they take a small equity stake in the company.

"This model has been around since the 1950s, when most incubators were attached to universities. Today, start-up incubators are sponsored by private companies, municipal entities, and public institutions, like colleges and universities. Many start-up incubators cater to technology companies," according to *The Hartford Business Owner's Playbook*.[1]

Citing a study by the PappaJohn Entrepreneurial Center, it said 60% of new start-ups fail, but 90% of start-ups nurtured by incubators thrive after three years and 87% are still in business five years after launch.

SparkLabs: Korea's first start-up accelerator
In his presentation, **Eugene Kim, partner at SparkLabs,** shared how the company started as South Korea's first start-up accelerator to become one of the biggest accelerators working with more than 200 start-ups around the world.

Founded in 2013, SparkLabs was founded by entrepreneurs for entrepreneurs in South Korea. It focuses on startup companies from the Internet, online gaming, mobile, ecommerce, and digital media sectors.

Mr. Kim said SparkLabs finds top start-ups in the ecosystem, provide them with a three-month mentorship program that involves matching each start-up with 4 to 6 prominent global mentors to succeed and grow. They will also be offered a platform to get funding from a top-calibre network of entrepreneurs, venture capitalists, angel investors, and executives. Chosen start-ups will be afforded free office space in MARU180 and over $900,000 worth of perks such as cloud services, legal counsel, and SendGrid.

[1] *https://www.thehartford.com/business-playbook/in-depth/startup-business-incubators*

SparkLabs does not charge consultancy and other fees, but takes an equity stake by investing at least $50,000 in the chosen start-up for up to 6% equity.

 "The only way we grow is when they grow," Mr. Kim said.These days, Mr. Kim said becoming a successful start-up is not just all about the money. "The money required to start a business has never been cheaper because of technology. The cost of starting a start-up has gone down to almost zero. Everyone has access to the internet and a computer so start-ups can avail of a lot of free services," he explained. "Nowadays, it's all about execution: prove that you can grow your own business instead getting a business partner right away." He said the average cost for a start-up to accelerate its business is $713,000.

The SparkLabs Group now includes the SparkLabs accelerator network, seed-stage fund SparkLabs Global Ventures, early-stage fund SparkLabs Ventures in South Korea, and early-stage blockchain fund SparkChain Capital. It is a member of the Global Accelerator Network, the global champion of the seed-stage, mentorship-driven accelerator model and includes 70 to 100 of the most respected accelerators from six continents around the world.

AWS helps public sector start-ups

Start-ups are driving innovation in the public sector around the globe. In her presentation, **Smita Roy, Partner for Programs and Strategy, Worldwide Public Sector at Amazon Web Services (AWS)**, presented the AWS Startup and Partner Enablement Program which aims to "drive impactful innovation into the public sector through engagement with the global start-up community." AWS defines a public sector start-up as those that focus their technology and business

innovation on federal/central and local/municipal governments, primary and secondary education, nonprofits, and non-governmental organizations. "They empower public sector entities with technology that can improve public-private engagement." AWS has worked with these start-ups to develop next-generation technology for law enforcement, fire departments, and other first responders; and other critical programs.

Ms. Roy said the AWS Partner Transformation Program is a comprehensive, 100-day training and enablement program designed to help partners build a successful cloud business on AWS. "Whether you are new to the cloud or in the advanced stages of building your cloud business, the program provides public sector partners with the guidance to accelerate the development of your AWS skills and expertise to better serve your customers' journey to the cloud," she explained.

By being part of the Amazon Partner Network (APN), start-ups can benefit from business, technical, marketing, and go-to-market support to build a successful AWS-based business, she added.
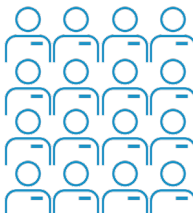

HOW STARTUP FUNDING WORKS — BY ANNA VITAL — A HYPOTHETICAL STARTUP GOES FROM IDEA TO IPO
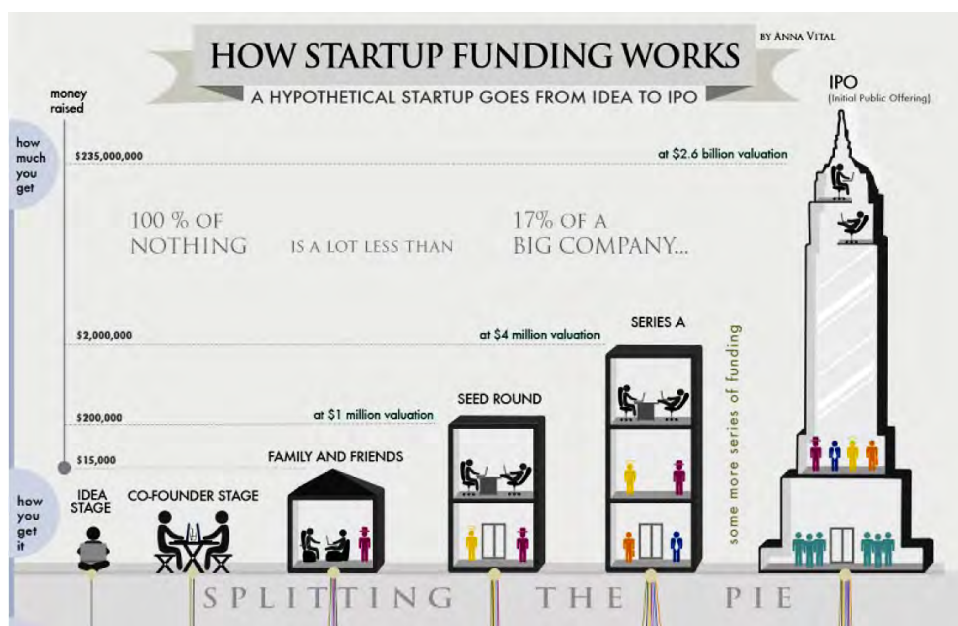
SPARKLABS BY THE NUMBERS

PORTFOLIO COMPANIES

$1B+
Total market capitalization (13 batches) since 2016

JOBS GENERATED BY PORTFOLIO COMPANIES

1,201

MENTORS

130+
experienced entrepreneurs, thought leaders, experts in over 12 countries

Source: SparkLabs, www.sparklabs.co.kr

Session 4: University-Led Incubation Programs

Brajesh Panth (2nd from right), Chief of Education Sector Group at ADB, moderated the session on "University-Led Incubation Programs," which featured distinguished speakers (L-R): Chihmao Hsieh of SUNY Korea, Shang Gao of Amazon Web Services, and Sung Joo Bae of Yonsei University, (Photo credit: ADB/Edsel Roman)

It is quite commonplace to hear of fledgling start-ups that started their humble roots in a college dorm room or a utility room. Increasingly, universities are answering the call to help incubate new ideas and technologies, reducing the start-up's initial cost by providing free space and equipment.

In this session, distinguished speakers shared their insights into university-led incubation programs and how academics and innovation go hand in hand to create broad societal and economic benefits.

YES Foundation

The Republic of South Korea is considered a "latecomer" when it comes to technology evolution. Unlike countries like the United States, Korea followed the Japan model in which the government first selected a few industries first for R&D. As such, many industries were developed successfully following the pattern of reverse technological evolution, said **Sung Joo Bae, associate professor of Management of Technology and Associate Director of Yonsei Enterprise Support (YES) Foundation at the Yonsei University School of Business.**

As the number of Korean start-up companies increase, many students have taken interest in starting their own businesses. In 1998, Yonsei University heeded the call and created the YES Foundation, with a vision to be the "best incubator of enterprises in Asia." A combined office community and business incubator based at Yonsei University, YESF was created to encourage students to turn their innovative ideas into reality.

In 2018, YESF was selected by the Ministry of Small and Medium Enterprises and Startups (MSS) as the leading university that supports lab start-ups. It receives funding from MSS, the City of Seoul, and Yonsei University, offering financial support for any group of students of more than three currently attending college within Seoul.

In the past four years, Prof. Sung Joo said there has been a strong surge in start-up activities as students shift to more entrepreneurial activities "because some companies are not hiring as much." YESF selects 50 start-up teams per year based on three standards: CEO, teamwork, and ideas. It provides each team with an office space free of charge.

Among the diverse range of support that YESF provides is the extension of the students' leave of absence to allow them to focus on their business without the added stress of schoolwork. YESF also awards scholarships based on a mileage system, in

which students can collect "venture points" by taking start-up curriculums and participating in its activities. Other programs are the Yonsei Startup Challenge, Startup Camp (a one-day program designed to spark interest in start-ups), and the Student Venture Center (a venue for each start-up to present their business status and accomplishments, share feedback, and get insights from successful CEOs).

"Our challenge is to support all stages of start-up development beyond their campus life," added Prof. Sung Joo. This led to the creation of the Business Incubation (BI) Center, which provides commercialization support. A total of 152 start-ups have graduated from the program since 1998, six of which have become KOSDAQ-listed or M&A.

SUNY Korea

Another university firing up the spirit of entrepreneurship in Korea is the State University of New York (SUNY), located just 20 minutes from Incheon Airport. Founded in 2012, it is the first American university and the first international campus established in Korea. It offers Stony Brook degrees in computer science, technology systems management, and other technical courses, including fashion technology. Students get to spend three years in Korea and a year in New York.

In his presentation **Chihmao Hsieh, Research Professor at SUNY Korea,** presented the Center for Global Entrepreneurship (CGE) at SUNY Korea, which started in 2017 with a mission to serve as a "networking point" among students and faculty, and global and local entrepreneurship communities.

CGE also offers a set of in-house programs ranging from ideation hackathons to workshops on sales or negotiation and business modeling to mentorship opportunities. The primary metric for the Center is the support for incubation of student start-up companies at SUNY Korea.

To fulfill its mission, SUNY partnered with more than 45 professional start-ups incubated in Incheon Technopark's Incheon Global Startup Campus, and fostered collaboration across its different departments. In addition to its numerous governmental partnerships, it also runs parallel efforts such as ideation competitions and IGNITE (for Inspiring Goals Now In Technology & Entrepreneurship) mini grants that makes funds available to expose students to national competitions and expositions.

Online Learning with AWS

"There are three things essential to start-ups: idea, money, and skills. You may have a good business idea but how do you learn the skills? Build the foundation of your knowledge first. The cloud is the foundation. Cloud computing has been the #1 LinkedIn skill for three years in a row," said **Shang Gao, head of AWS Educate Program in Southeast Asia at Amazon Web Services (AWS).**

In her presentation, she showed how the global tech giant Amazon has been leveraging its massive platform to create web-based careers such as data science, machine learning, software development, and other skills needed in the Fourth Industrial Revolution.

Through AWS Educate, a complimentary online educational platform, AWS makes use of cloud technology to provide tech-centered skills training and resources to educators and students all over the world. "Globally, more than 2,000 educational institutions are onboard and we just reached 500,000 students," she added.

In the Philippines, AWS developed and launched its first-in-the-world event called Siklab Pilipinas, a four-day intensive technology skills training event that helps equip graduating students and educators with cloud computing skills. The event, which drew 800 students and 500 educators, was developed based on the contents of AWS for AWS Cloud. It is a combination of lectures and hands-on trainings.

YES FOUNDATION

152

companies graduated from Business Incubation Center since 1998
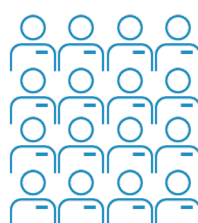
Source: Sung Joo Bae, YES Foundation

SUNY KOREA

962

students from 42 countries, 85% of whom are Koreans

Source: Dr. Chihmao Hsieh, Center for Global Entrepreneurship at SUNY Korea

AWS EDUCATE

2,000+
educational institutions

500,000
students

Source: Shang Gao, Amazon Web Services

Site Visit:
Born2Global Center

K-ICT Born2Global Centre (B2G) envisions to become a common platform for investors, accelerators, and support agencies to help start-ups penetrate and thrive in the global market.

Founded in September 2013, B2G is a government agency under the Ministry of Science and ICT of the Republic of South Korea. Each year, it selects over 100 start-ups with high potential for entering the global market. Over 50 start-ups are selected to reside in the business space "K-Global Startup Hub" and receive consulting services at the Startup Campus located in Pangyo Techno Valley, dubbed as the "Silicon Valley" of South Korea. The 582,000-square feet Startup Campus serves as the launch pad for tech start-up stars to connect with the global market.

B2G provides services such as professional consulting from its team of international lawyers, patent agents, and accountants on issues companies face when starting or expanding its business in the global market. It also gives training services to start-ups by hosting conferences, seminars, and meetings.

"B2G helps innovative technology companies develop necessary capabilities to enter the foreign market, based on our experience," said **B2G president Dr. Kim Jong Gap**. The upgraded B2G Membership Program allows members to approach local customers by entering the local market to increase the chance of their successful overseas expansion.

(Top) Headquarters of K-ICT Born2Global at the Startup Campus in Pangyo Techno Valley. (Below) Dr. Kim Jong-gap, head of K-ICT Born2Global. (Photo Credits: Born2Global, ADB/Sheila Pesayco)

Site Visit: NCSOFT

When it comes to gaming, South Koreans are among the world's biggest fanatics. This, in fact, has propelled them to the so-called "Unicorn Club" or start-ups that have reached valuations of over US$1 billion, in which four out of 10 are Korean gaming companies.

NCSOFT is one of these unicorns. It was founded in March 1997 by T.J. Kim, a 30-year-old engineer who worked for Hyundai Electronics in R&D and in the division that operated Korea's first internet provider. NCSOFT was initially positioned as a systems integration company until Kim and several key employees, all enthusiastic gamers, pivoted. Now, NCSOFT is known as the world's premier publisher and developer of massively multiplayer online games (MMORPG).

In just a year after NCSoft was established, the company launched Lineage, one of Korea's first MMORPGs, in which players fight and explore their way through a medieval fantasy setting. Three years later, the game had more than 3 million subscribers paying about $25 a month.

During the site visit, Alicia Kang, manager of NCSOFT's Global Communication Division, toured workshop participants to the high-tech facilities of the company headquarters in Pangyo, South Korea.

With more than 20 years of history as a leader in the MMORPG space, NCSOFT has set a high bar set for creating a mobile game based on its top franchises.

(Top) Alicia Kang, Manager of the Global Communication Division, Public Relations Team, at NCSOFT, gives the workshop participants a tour of the high-tech library of the company. (Below) NCSOFT's headquarters in Pangyo Techno Valley. (Photo Credits: ADB/Sheila Pesayco, NCSOFT)

It is now in the process of launching an RPG pedigree with high-powered graphics that is bound to redefine mobile gaming.

Part 3: Academia-Research-Industry Cooperation
Session 5: Academia-Industry Cooperation at Korea Advanced Institute of Science and Technology (KAIST)

Wonjoon Kim, Director of Center for Innovation and Future Strategy at KAIST, presents to workshop participants. (Photo credit: ADB/Edsel Roman)

If some Korean tech start-ups with valuations of over US$1 billion (called "unicorns" in Silicon Valley and worldwide) have one thing in common, it is that they were founded by young Koreans who studied in KAIST.

It thus comes as no surprise that KAIST has been hailed as the "most innovative university" in the region by Reuters. For three consecutive years now, KAIST has been topping the annual ranking of Asia Pacific's Most Innovative Universities, a Reuters list that identifies and ranks the educational institutions doing the most to advance science, invent new technologies, and power new markets and industries. Globally, KAIST ranked 43rd in the 2015 World University Rankings published by QS.

KAIST is the nation's oldest research-oriented science and engineering university, with campuses in Daejeon, Seoul and Busan. It was established in 1971 by the Republic of South Korea as the nation's first research-oriented science and engineering institution. With a current student population of nearly 12,000, KAIST was modeled after engineering schools in the United States. Only the top 1% of Korean high school students qualify to enter KAIST, all supported by government scholarship grants and exempted from military service.

Dr. Wonjoon Kim, director of the Center for Innovation and Future Strategy, told workshop participants how KAIST plays a role in realizing Korea's ambition to be the "Silicon Valley of Asia" and emerge as a global start-up hub. "University-industry collaboration is one of the key factors for economic growth," he stressed.

In the case of South Korea, he said it has adopted a "radical innovation strategy" which enabled it to leapfrog its position in the Global Value Chain (GVC).

From being an agriculture-based economic backwater in the 1960s, South Korea has emerged as the 11th largest in the world in terms of GDP in 2016. Its government first made a strategic selection of key industries such as steel, shipbuilding, and automobile that have high-value potential, then made research and development (R&D) and human and intellectual capital as critical components of its national development strategy. This strategy led to the establishment of two important government research institutions: Korea Institute of Science and Technology (KIST) and Korea Advanced Institute of Science (KAIS). Both were merged in 1981 to form the Korea Advanced Institute of Science and Technology but differing research philosophies made them split into two institutions 1989.

"Korea is successful with government support. Trapped in our own success, the Korean government is thinking we could do the same thing, starting our own environment, helping start-ups. They intervened too much but cannot understand everything in a changing world. They are very important for funds. But the less intervention from the government, the better."

DR. STEVE AHN
Professor, K-School
Director, KAIST Division of Start-up Support

HOW KAIST SUPPORTS START-UPS

K-SCHOOL

Academic program for entrepreneurship education, offering master and minor programs to foster start-up innovation and an entrepreneurial culture.

START-UP LEAVE OF ABSENCE

Policy that allows KAIST students to take a leave of absence to pursue their start-up dreams

START-UP VILLAGE

A dormitory where up to 72 students building a start-up can stay and work

E*5 KAIST

A student start-up audition program since 2012 that provides structural and practical support for those who have start-up ideas that can be realized into the market; winning team can get up to 10,000,000 Korean won in financial support

GLOBAL ENTREPRENEURSHIP CAMP

Venue to develop ideas and concepts into commercial products and services by cooperatively working with like-minded entrepreneurs from several partner universities across the globe

---

Throughout its 48-year history, KAIST has been true to its founding philosophy: "to (be a) model a research-focused university and to foster elite human resources in science and technology needed by the nation." Dr. Kim said KAIST has been leading innovations and introduced "many firsts in tech in different fields in Korea," such as the first internet system, satellite, artificial intelligence and having a supercomputer center. "It's good to focus on R&D but this should always align with the national industrial strategy," he said.

Since 2012, however, South Korea's economy has been experiencing a slowdown so KAIST has set out a new strategy: to nurture tech start-ups and establish a vibrant ecosystem. This would wean away economic dependence on *chaebols*, or family-owned conglomerates such as Samsung, LG, and Hyundai.

Dr. Steve Ahn, director of the Institute for Startup KAIST and K-School, said if there are three "secret sauces" to the success of KAIST, these are: strong political will from the South Korean government to support R&D and integrate it in the national industrial development strategy, strong funding support, and high academic independence.

Dr. Ahn is among those leading the charge to create Korean models for global technology start-ups. Prior to mentoring start-up teams at KAIST, Dr. Ahn worked at Samsung Electronics and built his wealth from Leadis Technology, a fabless semiconductor company he founded in Silicon Valley that became a NASDAQ-listed supplier of display driver IC's for mobile phones like Nokia.

"To be a successful start-up, you need ideas, will, knowledge, and money. KAIST refers students to venture capital firms," he said. While KAIST depends heavily on government support, he said "there's too much intervention (from the government) so those start-ups that do not succeed still survive based on government support. We should get rid of this."

Session 6: Research-Industry Linkage at Electronic and Telecommunication Research Institute (ETRI)

Workshop participants check out the 3D printing technology at ETRI (Photo credit: ADB/Edsel Roman)

South Korea has been crowned the "most innovative country" by New York-based media firm Bloomberg for six straight years. The Bloomberg Innovation Index ranks innovation by a country's spending as a percentage of GDP on R&D intensity, manufacturing value-added, productivity, high-tech density, tertiary efficiency, researcher concentration and patent activity.

Dr. Ilsue Roh, Senior Researcher at the International Cooperation Division of Electronic and Telecommunications Research Institute (ETRI), said the Republic of South Korea has allotted $20.4 billion for R&D, "almost 5% of the total national budget." In terms of GDP-R&D ratio, the country has 4.55%, ranked fifth among OECD member countries after the United States, China, Japan, and Germany.

So how did Korea, once considered the wasteland of science and technology, became a leading nation when it comes to ICT innovation? Dr. Roh attributed this to having world-renowned institutions such as ETRI.

Major contributions

Since it was founded in 1976, ETRI has been making great strides to enable Korea to achieve remarkable growth in the field of ICT.

As a global ICT research institute, ETRI has been developing many world's firsts and the best technologies. In the 1980s, ETRI made it possible for Koreans to own one phone per house with the development of the Time Division Exchange (TDX), a fully digital electronic switching system.

In the 1990s, ETRI commercialized CDMA for the very first time in the world. But its biggest contribution to the Korean economy is the development of the 4 M DRAM, which marked the introduction into the sub-micron era of industrial integrated circuit technology, in 1993. Korea has since started to dominate the world semiconductor industry and in 2018 alone, exported $126.7 billion of DRAM.

"This even exceeded the (total exports in the) airline industry, and (those of) Japanese and German automakers," said Dr. Roh.

In the next decade, ETRI developed the Terrestrial DMB, WiBro, and 4G LTE Advanced Technology which became the foundation of mobile communication.

Building on its past successes, ETRI continues to focus on R&D to maintain its place among the world's best research institutions.

How ETRI operates

In his presentation, **Dr. Jong Heung Park, Executive Director of ETRI**, said the institute derives royalty to sustain its operations. Every year, over 200 technologies of ETRI get transferred for commercialization. "ETRI is in the middle of university and industry. University focuses on core and basic researches, industry develops advanced applied technologies. Sometimes, ETRI works with universities for the industry, and sometimes we work with industries for universities," Dr. Park explained.

As a result of this strong collaboration with the academe and industry, ETRI has gained a reputation for its patent prowess. In 2014, United States-based journal *Intellectual Property Today* ranked ETRI No. 1 out of 237 universities, state-backed agencies and research centers across the world in terms of number of patents applied.

Dr. Park said the Korean institute has produced 16,062 applied patents in the past five years, and 3,000 patents every year. "We have more than 300,000 patents and more than 2,000 engineers who work on 500 projects annually," he added.

Assisting start-ups and SMEs

ETRI gets a boost in its bottom line whenever a technology gets commercialized successfully and used by industries for their products. Nonetheless, Dr. Park said the institute also plays a role in the development of tech start-ups and small and medium enterprises (SMEs).

"Big companies such as Samsung are capable of climbing the Technology Readiness Levels 1 (university level) to 9 (industry/real world). They have a lot of high technology, people, and resources," Dr. Park explained. "But SMEs, even if they want to, will not be able to cover that area. They can't afford to because of limited resources and human power so they just focus on making the product and making a profit on a very short term." ETRI is able to support tech start-ups and SMEs by sharing these resources.

As ETRI is a government-funded research institution, it cannot directly provide funding for start-ups. In 2010, the institute founded ETRI Holdings as a "tech-to-biz" accelerator. ETRI Holdings finds startups and matches appropriate technologies of ETRI. In addition, it invests by sharing technologies with start-ups and offers incubation and management services (e.g., business model verification, mentoring, incubation, promotion, legal and accounting support). It even provides co-working with partners and global networks. To date, ETRI Holdings has handled a total of 59 spin-offs and joint ventures, of which one had an initial public offering.

With the vision of being an "ICT Innovator For a Great Tomorrow', ETRI continues to push the boundaries in developing creative and innovative technologies, not just for Korea but for the global ICT industry and beyond. It fulfills this vision through its dual role: as a technology innovator, "securing core original technology to lead a new ICT paradigm"; and as a technology provider to industry, "expanding growth support for SMEs to foster competitive business, including globalization," Dr. Park said.

ETRI AT A GLANCE

PERSONNEL

92%

of 2,249 personnel are research and technical staff; 8% are Board members or administtrative staff

QUALITY

50%

of personnel (1,133) have doctoral, 44% have masteral, and 6% have bachelor's degrees

2018 R&D BUDGET

US$560M

15% comes from the government, and 70% from project-based sources

PATENTS

300,000+

produced;
16,062 applied
in the past 5 years

MAJOR RESEARCH ACHIEVEMENTS

363 trillion KRW
ETRI revenues from developing the 4G LTE Advanced Technology

42 trillion KRW
ETRI revenues from CDMA

1 trillion KRW
Revenues from Portable Korean-English automatic interpretation

Part 4: Financing Tech Start-ups
Session 7: Angel and Venture Capital

Pei-Chun Tsai (left), Public Management Specialist at ADB, moderated the session on "Angel and Venture Capital," which featured distinguished speakers (L-R) Taejoon Yoo of MindsLab, Kihong Bae of Strong Ventures, and Dominic Mellor of ADB. (Photo credit: ADB/Edsel Roman)

In 2014, MINDs Lab was incorporated in South Korea as a company that analyzes Big Data mined from social media. Unlike in the United States, however, Koreans only use popular social media platform Twitter for political posts so getting insights for companies posed a challenge.

MINDs Lab's parent firm tried to sell the company because of financial difficulties. Former PricewaterhouseCoopers consultant Taejoon Yoo, however, saw opportunity in the shift to data analysis so he and his partners took interest in the losing firm.

In March 2015, MindsLab made a "pivot" in its business model and embarked on customer analytics. In the same year, it caught the eye of a venture capital (VC) firm.

But MindsLab's big break came after March 2016 when Korean professional Go player Se-dol Lee tried to beat artificial intelligence AlphaGo, a program designed by Google DeepMind. AlphaGo's victory led to the so-called "AlphaGo shock," sparking huge and unprecedented interest in AI technology.

MindsLab seized the opportunity and launched an AI cloud suite that offers customer center analysis, automation, and virtual assistance. Just a month after the launch, the company successfully attracted another VC and propelled the company to further growth. Now, MindsLab is an AI platform company that provides an integrated AI solution, including everything from core algorithms to AI consulting services.

MindsLab CEO and founder Taejoon Yoo said the firm offers evolutionary AI platform "maum.ai" which serves as a platform to implement a variety of AI services. Its advanced technology has been receiving significant attention both in Korea and abroad. In 2017, MindsLab became the only Korean company recognized as the best and most innovative small and medium enterprise at the ITU Telecom World 2017. It also landed on Forbes Asia's list of "10 South Korean Start-ups Breaking Out in 2017."

Currently, MindsLab has more than 200 employees and related companies in four different countries working on 100 AI projects. It has also completed a series-C investment that raised 17.3 billion Korean won for the company.

Lessons for start-ups

"So many companies had to close down for refusing change," said Mr. Yoo. And this culture of risk aversion, which comes from fear of failure, is what has been preventing many start-ups to grow.

"Investing is all about the risk return profile, not just about the risk. The problem with Korean investors is they tend to focus on risk only. There's a social stigma on failure. If you fail once, you're going to have that failure tagged on you until the day you die. It's like that for most Asian countries," said **Kihong Bae, co-founder and managing partner of Strong Ventures**.

Strong Ventures is a micro VC that has been investing (less than $50 million) in Korean start-ups since 2012. "We have a very strong Korea focus. We invest in Korea and Los Angeles, California, where the Korean population is very strong. We only invest in Korean companies in L.A. We try to connect Korea and the U.S.," Mr. Bae explained.

He considers Korea as "the most viral country for B2C unicorns," having emerged as the sixth-largest home for companies with a valuation of over US$1 billion. Mr. Bae attributed this to the following:

*   Population density (Korea being the third most dense in the world)
*   World-class infrastructure (92.4% of Koreans use the internet and have access to the world's fastest internet speed);
*   Cultural homogeneity ("If something takes off in Seoul today, the next day everybody is looking at the same thing and they're listening to the same thing");
*   Extremely high education level (75% of high school students go to college); and
*   Low customer acquisition cost ("one of the lowest in the world").

Mr. Bae believes there could have been more Korean unicorns if the country is able to address three main stumbling blocks.

First is regulatory impediments to start-up development. "Out of 335 global unicorns, 57 of them will be illegal in Korea because of regulations" that tend to protect vested interests. "Once we get rid of these, unicorns will take off," he said.

The second is the size of Korean VCs. "The problem is that we have many Korean VCs but we do not have mega VCs that will invest US$100-200 million in a company" that wants to grow into a billion-dollar unicorn. Third: VCs are averse to failure. "VC is a homerun business; you make 100 investments, 80 will die within five years. But the 20 who survived will be so successful. There's an Asian mindset that says, 'No pain, no gain.' But a lot of Koreans don't take it very well," he added.

How ADB can help

To help start-ups or early-stage companies deploy and scale technologies and business models to make an impact, the Asian Development Bank (ADB) created ADB Ventures (*www.adbventures.org*). Its goal is to "aggregate the needs of multiple clients within the same sector to reduce market risk," explained **Dominic Mellor, Senior Investment Specialist at ADB**.

He said ADB is leveraging on its core strengths, such as having a "patient capital" to the tune of US$102 billion, so it can invest in ventures that will help channel finance into innovative and affordable technologies that tackle the development challenges among developing member countries (DMCs).

He cited the success of the Mekong Business Initiative, an advisory and advocacy facility which promotes private sector development in the Greater Mekong Sub-region. Its sectoral approach led to technology solutions that impact on tourism, agriculture, financial technology, smart city, and women empowerment. In 2019-2020, ADB Ventures will focus on funding smart energy and grids, sustainable travel and tourism, sustainable agriculture, and green and inclusive fintech.

KOREAN START-UP REGULATION

57

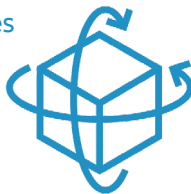of the 335 global unicorns are illegal in Korea

— Kihong Bae, Co-Founder & Managing Partner, Strong Ventures

BUSINESS TRANSFORMATION

"So many companies had to close down for refusing change. To be successful, you must learn how to pivot."

— Taejoon Yoo, CEO and Founder of MindsLab

ADB VENTURES FACILITY (PHASE 1: 2019-2022)

$60 million

for ADB Ventures Investment Fund that targets early-stage companies with bankable impact and "Tech-for-Impact Labs"

Source: ADB Ventures

Session 8: Innovative Financing for SMEs and Start-ups

Alexander Joseph Julian (left), economist at ADB, moderated the session on "Innovative Financing for SMEs and Start-ups," which featured distinguished speakers (L-R): Iim Fahima Jachja of Queenrides, Indonesia; Seung Min Lee of ADB; and Hee-Jun Lee of Small and Medium Business Corporation. (Photo credit: ADB/Edsel Roman)

Poor access to finance and a difficult business environment are holding back micro, small and medium-sized enterprises (MSMEs) from contributing to economic wealth generation in their countries.

The Asian Development Bank (ADB) estimates that SMEs make up about 60% of national labor forces in Asia and the Pacific. In his presentation, **Seung Min Lee, Senior Financial Sector Specialist at ADB**, said a study found that women-led MSMEs account for more than half of the US$2.1 trillion in finance gap in East Asia and the Pacific alone.

Citing an ADB survey on SMEs in various countries, Mr. Lee said the financing gap is attributed to several factors, namely, high regulatory environment followed by high interest rates, complicated procedures, and short loan terms. "These are structural and fundamental problems related to the financial sector like collateral requirement. This suggests lack of proper financial infrastructure supporting secure lending for banks, including the lack of a collateral registry system, proper rating system, and proper legal framework," he explained.

To help address these sector issues, ADB set out a new long-term corporate strategy called Strategy 2030, which includes improving the environment for SMEs with the end-goal of alleviating poverty and inequality in its developing member countries (DMCs). "We approach SME development as part of financial inclusion to provide independence and financial support for SMEs in the rural areas," Mr. Lee said.

ADB uses these modalities in SME financing support:
*   Technical assistance: ADB provides policy services with expertise and develops capacity building or support to the country in carrying out research in specific areas;
*   Lending (policy-based loan): ADB uses support program loans in addressing institutional or regulatory reforms. These are provided to governments with a commitment to make policy reforms. "We typically use financial intermediation loan which will provide loans to target SMEs through the banking sector, financial intermediaries, or loan-making financial institutions. We do it this way because we want the financial sector to play more role," Mr. Lee explained.

WOMEN DRIVERS **ARE EASY TARGET** OF ROAD CRIMES.

TIME FOR INDONESIA WOMEN TO BE CONSCIOUS TO RIDE SAFE.

I SUPPORT #WOMEN RIDE SAFE
WWW.QUEENRIDES.COM

Korean experience

Sharing Korea's experiences in SME and start-up financing, **Hee-Jun Lee, senior manager at Korea SMEs and Startups Agency (KOSME)**, said the agency has been supporting the growth of the SME ecosystem for the past four decades since its establishment in 1979. It serves as a one-stop comprehensive support organization for Korean SMEs by extending support services, including policy loans, export marketing, job matchmaking, among others.

It currently owns five training institutes in the country and operates a Smart Factory Learning Center that can be used by entrepreneurs for free. Through its Youth Startup Academy, entrepreneurs benefit from one-on-one coaching, use of equipment, and other support so SMEs can be viable for financing.

Riding on online monetization

In her talk, **Iim Fahima Jachja, founder and CEO of Queenrides, Indonesia**, shared her insights in running "a mission-driven, for-profit start-up from home."

Queenrides rides on a growing online community of 200,000 members to sustain its advocacy of road safety for women. Aside from reading articles about lifestyle and financial management, members can also attend workshops covering topics like sexual health and family planning.

"Transportation and the automative industry are very masculine. No one is aware of the issue of female drivers. We changed the way most safety-riding campaigns are done which have a very masculine approach. We created the world's only and first online platform for women riders with the approach 'safety, style, beauty'," explained Ms. Jachja.

The company derives most of its funding from B2B brands that target women, especially in fashion. "Our high-fashion approach creates word of mouth online. If we go with the typical rural approach, we will never get any attention," Ms. Jachja said. "Even before the digital platform of Queenrides was launched, it's already monetized through social media."

She takes pride in the young mothers who make up 20% of the company's workforce and works from home. Ms. Jachja said her vision for Queenrides is to become a global company managed from home in the next eight years. "Social good is often associated with non-profit. This is a myth. Social good can work together with profit," she added.

INNOVATIVE FUNDING SOURCE

"We have been monetizing the platform even before we officially launched it."

— Iim Fahima Jachja, Founder & CEO, Queenrides

QUEENRIDES

200,000+

community members in Indonesia empowering women to ride safely

---

WOMEN-LED MSME FINANCE GAP

$1.2 trillion

out of $2 trillion in total MSME finance gap in East Asia and the Pacific

Source: Shigehiro Shinojaki, recomposed from IFC, 2017

Session 9: Group Discussions and Presentations

Participants were grouped and asked to present the start-up ecosystem in their respective countries, and share the insights they gained from the four-day workshop. This session was moderated by **Marc Lepage, Principal IT Specialist (Technology Innovation) at ADB**.

Below are summaries from the group presentations:

Azerbaijan

- **Current situation:** Boosted by petroleum-based revenues and a growing tourism industry, this diminutive Central Asian nation is seeing an emergence of a fledgling tech startup ecosystem.

- **Measures to support start-ups:**
    - The State Fund for Development of Information Technologies under the Ministry of Communications and High Technologies was established to provide needed investment in start-ups.
    - A Golden IT Triangle, which consists of the High Tech Park, the IT University, and the State Fund for the Development of Information Technologies, was created
    - The government built an incubation center and plans to open three more. The private sector also established 15 incubators.
    - Fiscal and regulatory incentives are given to entrepreneurs in retail trade. Start-ups may avail of a 3-year tax-free regime. The government is also developing a cluster mechanism to boost regional IT zones with tax breaks.

- **Development bottlenecks:** Lack of people with technical skills and entrepreneurial experience, and with the technical expertise needed to start and support start-ups in Azerbaijan. The government sent out almost 4,000 citizens abroad to gain local expertise.

Bangladesh

- **Current situation:** The country aims to reap the demographic dividend as 60% of its population are below 30. Its start-up ecosystem is very young but the country has set out "Vision 2021" which embodies its goal to move to becoming a knowledge-based economy.

- **Measures to support start-ups:**
    - Startup Dhaka has been promoting the start-up ecosystem in Bangladesh for more than five years now. It runs accelerator programs, workshops, and online and offline courses
    - There are very few venture capital firms and accelerators. One is BD Venture Limited, a VC that facilitates start-up investment, offers consultancy and other relevant services.
    - R&D is mostly done by academe.

- **Development bottlenecks:**
    - Legislation is not yet in place.
    - Lack of appropriate human resources and culture. Lack of entrepreneurship courses in universities.
    - Limited SME financing and VCs. Mostly non-technical ventures.
    - R&D financing is very limited, lack of monitoring.

- **Key takeaways from the workshop:**
    - Understanding of the start-up ecosystem which can be practiced in Bangladesh; and
    - Need for start-up-friendly and coherent policies for the government, private sector, and universities.

Bhutan

- **Current situation:** Legislations and policies are all top-down (government-driven) and mostly involves two parties in an MOU. Start-up and SME financing and VCs are negligible. R&D is being done but not industry-related.

- **Measures to support start-ups:**
  - The government recently established Thimphu Tech park, Bhutan Innovation and Technology Centre, and Start-up Centre for CSI. These institutions help in nurturing new business ideas and innovations.

- **Development bottlenecks:**
  - Financial scarcity
  - Small market due to geography of the nation
  - Technology lags behind
  - Lack of ecosystem and industrial linkages

- **Key takeaways from the workshop:**
  - Technological development is directly proportional to revenue generation or economic growth.
  - Start-up is a business with a profound ecosystem.

Cambodia

- **Current situation:** The country started to put together all its strategies in building a start-up ecosystem only in 2018. These strategies fall under the Entrepreneurship Promotion Center.

- **Measures to support start-ups (2018-2019):** Skills Development Fund, SMEs Tax Incentive, SME Bank, Capacity Building Research Development Fund, TECHNO Startup Center, Entrepreneurship Development Fund. In addition, the government mapped out an Action Plan for Global Cooperation to link up with VCs, accelerators, incubators, and other bilateral and multilateral partner agencies like ADB.

- **Development bottleneck:**
  - 80% of SMEs and start-ups cannot comply with government regulations so the State simplified its accounting system and gave a 5-year tax exemption.

Georgia

- **Measures to support start-ups:**
  - The Government of Georgia made innovation and technological development a top priority. In 2014, it established the Innovation and Technology Agency under the the Ministry of Economy and Sustainable Development to promote and create an innovation ecosystem.
  - In 2016, the Agency started implementing legal reform in the innovation sphere, created an innovation infrastructure, educational activities to support innovations and entrepreneurship, offered technical support for innovation and entrepreneurship, gave access to financing and R&D, established international cooperation.

Indonesia

- **Current situation:** The world's largest island country also has the most number of unicorns in Southeast Asia and one of the biggest hubs of investment from VCs in Asia.

- **Measures to support start-ups:**
  - Finance Ministry supports policies to improve the start-up ecosystem and facilitate the birth of more unicorns through the improvement of human resources, infrastructure and allocation of adequate funding to support research.
  - The government is working towards becoming Southeast Asia's largest digital economy through the 2020 Go Digital Vision. The ongoing Palapa Ring Project, to be finished by 2021 and funded by 1.25% of telcos' gross income, is expected to increase high speed internet connectivity throughout the country, especially in rural areas

- **Development bottlenecks:** The government must act less as a regulator, but more of a facilitator, even more as an accelerator.

Session 9: Group Discussions and Presentations *(continued)*

Kazakhstan

- **Current situation:** The start-up ecosystem started to get a boost in 2018-2022 under the Digital Kazakhstan State Program.

- **Measures to support start-ups:**
  - Establishment of the Astana Hub to create a system for start-up development, including interaction with local businesses and government. It seeks to find and create Kazakh experts in specific areas to offer their know-how internationally, such as in the field of smart city technologies. It currently houses more than 155 start-ups.
  - QazTech Ventures promotes technology entrepreneurship in the country through venture financing, business incubation and technology consulting tools. It currently supports 50 start-ups.
  - The country has a legislation framework conducive to start-up growth, including a tax, VC, and English laws.

- **Development bottlenecks:**
  - No highly experienced and well-resourced venture fund managers;
  - State funding mechanism of IT start-ups for Astana Hub;
  - Lack of coordination and challenges of inter-agency communication.

- **Key takeaways from the workshop:**
  - Government support is critical in building the start-up ecosystem even in such developed country as Korea.
  - Collaboration among industry, university, and entrepreneurs is crucial to the success of start-ups.
  - A good educational system that supports entrepreneurship and start-ups is important.

Kyrgztan

- **Current situation:** The country has a High Technologies Park (HTP) set up in 2011 that serves as State support for the development of the software development industry.

- **Measures to support start-ups:**
  - HTP residents enjoy tax breaks while employees only pay a 5% income tax.
  - As a result of the HTP creation, the country is able to achieve $8.5 billion in exports in 5 years.

Lao PDR

- **Current situation:** Legislation on SME development and promotion put in place only in 2017 although SMEs comprise 99.8% of the Lao economy.

- **Measures to support start-ups:**
  - SME Fund established since 2012 but only five commercial banks are providing SMEs with credit lines and the fund size is limited at US$19 million. The government committed to increase the SME Fund to US$23 million annually.

- **Development bottlenecks:**
  - There are no specific regulations or policies to fostering start-up development in Lao.
  - Lao people have limited entrepreneurial mindset.
  - The educational system has not been focusing on entrepreneurship curriculums.

- **Key takeaways from the workshop:**
  - Understanding the ecosystem and stakeholders involved in the development of start-ups is important.
  - Knowing the roles and importance of incubation centers for nurturing entrepreneurship is critical.

Sri Lanka

- **Current situation:** 50% of Sri Lanka's GDP comes from SMEs. The government has laid out a National Small and Medium Enterprises (SME) Policy, developed by the Ministry of Industry and Commerce and the National Enterprise Development Authority (NEDA).

- **Measures to support start-ups:**
  - NEDA, which is under the purview of the Industry and Commerce Ministry, created the country's first-ever SME incubator located in a university.
  - Start-ups benefit from a growing angel investor scene showcased by the annual Lankan Angel Network reunions that attract more than 100 angels from all around Sri Lanka and India.

Uzbekistan

- **Current situation:** In 2017, the government of Uzbekistan adopted a 2017-2021 National Development Strategy with five priority areas, including reforms in economic development. These reforms cover financial and informational support for entrepreneurship in Uzbekistan.

- **Measures to support start-ups:**
  - Under a program called "Every Family-Entrepreneur," families who want to set up a business can avail of a "systematic practical assistance," including a US$5,000 loan and tax incentives.
  - Young entrepreneurs can also lease an office, avail of office equipment, and gain internet access in 10 co-working centers established in the regions.

- **Development bottlenecks:**
  - Lack of resources;
  - Large companies are not used to attract start-ups;
  - Inadequate academic programs for start-ups;
  - Absence of business incubators

Vietnam

- **Current situation:** Vietnam has a robust digital infrastructure (73% of the population are using a smartphone and 67% use the internet).
- In 2018, fintech, e-commerce, and tourism are the top 3 investment areas in the country. There were 92 investment deals with a total value of US$889 million.

- **Measures to support start-ups:**
  - About 40 venture capital funds currently operate, most of them are foreign investment funds. In 2018, four big VCs with a capital of US$100 million and up were launched to help start-ups.
  - The government, experts, and domestic and international start-up communities participate in TECHFEST 2018, Vietnam's largest start-up event.
  - There are around 70 co-working spaces across the country.
  - Universities actively support start-ups by forming clubs, centers for innovative start-ups and incubators and holding start-up events and competitions.
  - There are a host of policies and legislation such as the "National Program to Support Innovative Startup Ecosystem by the year 2025." There are also plans to create fintech and P2P lending sandboxes; establish a National Innovation Center, National Startup Center, and a Startup Support Alliance; and enact regulations regarding equity-based crowdfunding, and a start-up IPO market.

- **Development bottlenecks:**
  - Regulations on start-ups;
  - Changing the mindset within the government and among ecosystem stakeholders;
  - Limited financial resources; and
  - Coordination within the ecosystems.

- **Key takeaways from the workshop:**
  - Government facilates but not lead.
  - Financial support is essential.
  - Regulations need to be open and accommodating to innovation.
  - Have a risk-taking mindset.
  - Importance of industry-university-investors-government collaboration.

Knowledge Series No. 9

Digital Technology for Development Unit
Sustainable Development and Climate Change Department
Asian Development Bank

Seoul Business Agency