2018
KOREA STARTUP INDEX
Dear Friends,

Thanks to the interest and enthusiasm of our readers, the fifth edition of the Korea Startup Index has been published this year.

The birth of companies with innovative technology and endless possibilities is imperative all around the world. Possibilities are created only when members of startup ecosystems from different nations come together and combine their strengths.

Since its inception in 2013, the Born2Global Centre has been striving to foster companies with innovative technology that will become leaders of Korean startup ecosystem.

As part of such efforts, Born2Global has studied investment trends and surveyed ICT companies to analyze the status of the Korean startup ecosystem and its success stories around the globe.

To everyone interested in the Korean startup ecosystem, we hope that this report provides you with meaningful and valuable information.

Finally, we would like to applaud all of you who are working hard to improve startup ecosystem throughout various countries even at this very moment.

Sincerely,

Jong-Sup Kim
Chief Executive Director
Born2Global Centre
Global Map of Startup Ecosystems

**STARTUP GLOBAL TRENDS**

**Business Environment**
- Score to rank the business environment (based on business cooperation, Intellectual property protection, startup related-laws)

**Startup Environment**
- Degree of ease with which startups can be launched, a subjective reflection of the processes and steps to get a startup off the ground

**Investor Protection**
- Degree to which the environment is favorable to investors, as indicated by the ease with which investors for holding startups is assured to legal patent law

**Number of Days to Launch**
- Average number of days for a startup to launch

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**Business Environment Rankings by Country**
- **Hong Kong**: 4
- **Korea**: 5
- **USA**: 8
- **UK**: 9
- **UAE**: 11
- **China**: 24
- **France**: 32
- **Japan**: 39
- **Mexico**: 54
- **India**: 77
- **Brazil**: 109

**Startup Environment Rankings by Country**
- **Hong Kong**: 4
- **Korea**: 5
- **USA**: 8
- **UK**: 9
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- **France**: 32
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- **India**: 77
- **Brazil**: 109

*Source: Doing Business 2018 World Bank Group Flagship Report*

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**Promotion of the scaling up of innovative startups**
- **Hong Kong**: (Score: 84.10)
- **Japan**: (Score: 79.65)
- **India**: (Score: 73.30)
- **Brazil**: (Score: 64.40)

**Capital of the European Tech ecosystem**
- **Berlin**: (Score: 82.20)
- **London**: (Score: 81.60)
- **Paris**: (Score: 80.90)
- **Zurich**: (Score: 79.60)

**European startup powerhouse**
- **Germany**: (Score: 83.50)
- **France**: (Score: 82.20)
- **UK**: (Score: 81.60)
- **Netherlands**: (Score: 80.90)

**Rising global startup powerhouse**
- **Canada**: (Score: 81.60)
- **Israel**: (Score: 80.90)
- **Italy**: (Score: 80.30)
- **Spain**: (Score: 79.60)

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**Solidifying its status as a leading startup country**
- **Australia**: 8 (Score: 42.70)
- **Canada**: 53 (Score: 91.23)
- **Germany**: 50 (Score: 64.67)
- **Average 5.6 Day**

**A home for startups in Central and South America**
- **Argentina**: 74 (Score: 72.00)
- **Brazil**: 72 (Score: 58.50)
- **Average 8.6 Day**

**A rising IT-based startup powerhouse**
- **Canada**: 109 (Score: 91.01)
- **India**: 68 (Score: 46.50)
- **Average 20.5 Day**

**A growing startup hub in the Middle East**
- **Egypt**: 111 (Score: 81.20)
- **Israel**: 137 (Score: 80.90)
- **United Arab Emirates**: 77 (Score: 62.20)

**Indian startups, an elephant starting to run fast**
- **India**: 114 (Score: 63.50)
- **United Arab Emirates**: 38 (Score: 66.80)
- **Average 3.5 Day**

**A center of global businesses**
- **China**: (Score: 83.50)
- **France**: (Score: 82.20)
- **UK**: (Score: 81.60)
- **USA**: (Score: 80.90)

**Indian startups, an elephant starting to run fast**
- **India**: 114 (Score: 63.50)
- **United Arab Emirates**: 38 (Score: 66.80)
- **Average 3.5 Day**

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**Startup Ecosystems Rankings by Country**
- **Korea**: 11
- **UK**: 19
- **UAE**: 25
- **China**: 28
- **France**: 30
- **USA**: 53
- **Japan**: 93
- **Mexico**: 94
- **Germany**: 114
- **India**: 137
- **Brazil**: 140

**Business Environment: Average 5.6 Day**
- **Hong Kong**: 8
- **Korea**: 53
- **USA**: 50
- **UK**: 50
- **UAE**: 50

**Startup Environment: Average 4.5 Day**
- **Hong Kong**: 109
- **Korea**: 68
- **USA**: 54
- **UK**: 119
- **UAE**: 119

**Average 3.5 Day**
- **Germany**: 114
- **France**: 38
- **Japan**: 77
- **Mexico**: 77
- **India**: 77

**Average 2.5 Day**
- **China**: 137
- **Brazil**: 140

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**Global Startup Index 2018**

**HIGHLIGHTS**
Introduction

A Virtuous Cycle of Funding Emerging in the Startup Industry

www.born2global.com
www.facebook.com/born2global
www.linkedin.com/company/born2global
Foreword
Depending on the business, it is sometimes better for a company to be acquired by a bigger company to realize a synergy effect and increase its market share. In addition, small companies can engage in strategic mergers to boost their market value. This is the reason mergers and acquisitions (M&As) are important in the venture capital industry.

In Korea Startup Ecosystem 2017, we mentioned unicorns (privately held startup companies valued at over USD 1 billion). At the time, we expressed concern about the fact that new Korean unicorns had not emerged for a long time. A little over a year has passed since then, and much has changed. Unicorns with an aggregate market value of over KRW 1 trillion, including Viva Republica, Woowas Brothers Corp., L&P Cosmetic Co., and Krafton, have emerged one after another. These are the results of the mobile revolution and venture boom that swept Korea in the late 2000s. But there is something else on which we need to focus: the exit stage for startups, which had been the most frustrating part of Korea’s startup ecosystem. From the perspective of venture capital firms, it refers to the return on their investment, while the founders of startups and other venture-backed companies see it as the reward for their corporatization process and the realization of the company’s value. The exit stage is important because it is an essential part of the virtuous cycle of the startup ecosystem. The process of coming up with an idea, launching a startup, making sales, marketing products and services, and reaping profits, which are all crucial aspects of starting and growing a venture-backed company, is an extremely difficult process. At every step, there is the danger of business bankruptcy and abandonment. Every entrepreneur dreams of an IPO and listing their company on the stock market to grow even larger. And that is considered the best path to success for a startup. However, it is unnecessary and impossible for every company to do so. Depending on the business, it is sometimes better for a company to be acquired by a bigger company to realize a synergy effect and increase its market share. In addition, small companies can engage in strategic mergers to boost their market value. This is the reason mergers and acquisitions (M&As) are important in the venture capital industry.

From this perspective, Korea’s startup ecosystem is still in the construction process. According to the Korea Information Society Development Institute and Korean Venture Capital Association, M&As accounted for less than three percent (in terms of capital) of exit strategies in 2018. Compared to the one percent recorded in 2013 and 2014, the proportion of M&As has increased. However, M&As have still not been established as a significant exit strategy in the market. Compared to the Korean venture capital market, the American market is much bigger, and funds recovery in that market has grown for two consecutive years since 2016. Last year, the American venture capital market recorded the largest funds recovery in history. In particular, the size of M&As grew by 42 percent, from USD 38.3 billion in 2017 to USD 54.4 billion in 2018. Currently, IPOs serve merely as a funds recovery method that promotes capital circulation in the Korean startup ecosystem. Although they remain small in number, the series of large-scale IPOs that are carried out every year has been laying the groundwork for a virtuous cycle of capital. The funds recovery period, which used to be over 10 years from the time of VC investment, has been shortened to around six or seven years.
Examining the long-term market trends and collecting and analyzing data on changes in indices provide us with valuable information about what is lacking in the market and what market participants want. The indices of Korea’s venture capital industry show that Korea is active in launching startups and has a lot of related government support and policies. On the other hand, there are significant difficulties in terms of funds recovery, particularly in M&As. These statistics show what is most needed to revitalize Korea’s venture capital ecosystem, with the aspect leaving much to be desired in the Korea market, compared to overseas countries, being M&As.

The largest M&A in Korea’s venture capital history is Kakao’s acquisition of LOC&ALL, which had become famous as the creator of the Kimgisa navigation app, for KRW 62.6 billion in 2015. In the four years since then, there has not been another such dramatic startup acquisition and it is even rarer for an overseas company to acquire a Korean venture-backed company. The last such case was Tapjoy’s acquisition of 5Rocks in 2014.

In the absence of factors that serve to officially clarify the value of companies, such as M&As, profitability improvements, or IPOs, it is difficult for industries to advance. Unless profitability can be proven, no one will make investments, and skilled people will not come together. In other words, it is difficult for a virtuous cycle to be established in the startup ecosystem.

According to CB Insights, a market survey organization, there were 326 unicorn companies worldwide as of the end of 2018. Among these, 156 were American companies and 92 were Chinese. Although unicorns have emerged in the Korean venture capital ecosystem, there have been only six such companies so far but there is hope. Among these six, four reached unicorn status only recently, showing that the mobile boom that began in the late 2000s is finally bearing fruit after over 10 years.

Although investment by overseas companies in Korean startups remains slow, it is hopeful that Korean startups are actively entering global markets. SendBird and Allganize, which were founded in Silicon Valley, are making progress in areas with which typical Korean startups are unfamiliar, such as in the AI and B2B industries. Although it is difficult for Korean startups to receive funding from foreign investors, these companies have entered the foreign market and successfully attracted investment there. Over the past five years, the Born2Global Centre has helped hundreds of Korean startups advance or establish companies overseas, such as in Silicon Valley.

This year’s white paper reflects such atmosphere and focuses on the details of startups that are actively entering the global market. We look forward to the day when global startups that are working tirelessly to pioneer new markets go beyond their unicorn status to reach the level of decacorns (venture-backed companies valued at over USD 10 billion).
Born2Global
Annual Report
Startup Innovative Hub

It has been seven years since we opened a hub for the global advancement of promising technology companies. Every year, we select over 100 startups with excellent technological capacity and business potential to be members and provide them with a comprehensive range of services. The B2G Startup Innovative Hub is a year-long intensive program that discovers outstanding new startups and large companies around the world. With our superior package of programs, including B2G Labs, B2G Partnerships, B2G Magic Strategy, B2G Market Fit, B2G Access, B2G Road Show, B2G Pioneering, B2G Discovery, B2G Studies, and B2G Startup Hub, we help companies improve their products, grow their businesses, and expand their networks.

**B2G Labs**
Provide innovative, best-in-class consulting

**B2G Partnership**
Partnerships with companies using an open innovation approach

**B2G Magic Strategy**
Share insights and guidance from dedicated mentors and key decision makers

**B2G Access**
Discover and match businesses with the target customers

**B2G Road Show**
Demonstrate and scale industry solutions globally

**B2G Pioneering**
Expand and establish businesses in various countries from bottom to top

**B2G Discovery**
Build innovative solutions with speed and agility

**B2G Studies**
Uncover industry trends and drive insights

**B2G Startup Hub**
Build a creative system designed to inspire creative ideas

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**Born2Global STATISTICS**

- Total 355.30
- Patents Applications 642
- Patents 24
- Invention 69
- Incubation 9781
- Graduates 414
- Attraction Endowment 395.30
B2G Labs
Provide innovation, best-in-class consulting

B2G2Global has signed agreements with 64 global consulting firms in the United States, Europe, Japan, China, Southeast Asia, and other major countries and regions around the world to provide startups with consultations on all subjects necessary for their entry into the global market.

Legal Consulting
- Legal strategic consultation
- Business intellectual property consultation
- Integrated global intellectual property consultation
- Advocacy consultation
- Strategic cooperation, legal protection, and commercialization consultation
- Corporate trademark, international trademark registration, and trademark conversion consultation

Accounting Consulting
- Overall financial (including IFRS international financial statement)
- Risk management and control system
- Strategy and risk management consultation
- Strategy and risk management consultation
- Business intellectual property protection, strategy and risk management consultation
- Business intellectual property protection, strategy and risk management consultation
- Business intellectual property protection, strategy and risk management consultation
- Business intellectual property protection, strategy and risk management consultation

Creative Marketing Consulting
- Strategic consultation, business strategy, advertising, and business management consultation
- Strategic consultation, business strategy, advertising, and business management consultation
- Strategic consultation, business strategy, advertising, and business management consultation
- Strategic consultation, business strategy, advertising, and business management consultation

Financial support for startups is relatively weak, and B2G2Global’s legal and accounting consultation costs are of great benefit to us.

B2G2Global’s legal and accounting consultation costs are of great benefit to us.
B2G Partnership
Partner with top-tier companies using an open innovation approach.

Through strategic partnerships with global companies, the B2G Partnership program helps companies identify their technological innovations and grow together. By offering access to experts and platforms through its network of global companies, including Renault, Volkswagen, and others, Born2Global is creating the third of startups for technology support and business expansion.

B2G Magic Strategy
Share insights and guidance from dedicated mentors and key decision makers.

Through invitational workshops and conferences with global experts, the B2G Magic Strategy provides a specialized program that focuses on capacity building and market information exchange for companies.

B2G Market Fit
Share insights and guidance from dedicated mentors and key decision makers.

Born2Global provides a product-market-fit (PMF) program, that focuses on strategies for entering the local market with the aim of gaining innovative technology companies better awareness of the global market. The B2G MarketFit program provides opportunities for companies to connect with potential customers in their target markets and verify markets in an effort to help them gain insights about the local market.

Through road shows that have helped us find customers as well as its assistance with patent applications, overseas press releases, and other matters necessary for our advancement into overseas markets, Born2Global has been a major source of support for ulalaLAB.

Born2Global’s support was instrumental in carrying out our experimental strategy to target the global market.
B2G Access
Demonstrate and scale industry solutions.

B2G Pioneering
Expand and establish businesses in various countries from bottom to top.

B2G Discovery
Build innovative solutions with speed and agility.

B2G Road Show
Beyond building and sales improvement efforts of companies through demand-linked partnerships with major local channels, including global companies, investors, and accelerators.

B2G Startup Hub
Build a creative system designed to inspire creative ideas.

B2G Studios
Uncover industry trends and drive insights.

Born2Global’s systematic support has been a huge help for JLK Inspection’s advancement into the global market. Thanks to the multifaceted support we received, we have been able to accelerate our plans for global market entry.

- JLK Inspection -
## Key Activities & Achievements

<table>
<thead>
<tr>
<th>Investment Attracted</th>
<th>Attracted KRW 1 billion in investment from Korea Technology Finance Corporation (KOTEC)</th>
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<tbody>
<tr>
<td>Apposter</td>
<td>Attracted KRW 1 billion in investment from KTB Network</td>
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<tr>
<td>Jocoos</td>
<td>Attracted KRW 3.6 billion in investment from Korea Investment Partners</td>
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<tr>
<td>Uberple</td>
<td>Attracted KRW 10 billion in investments from KB Investment, Medici Investment, Intervest, SL Investment, BNH Investment, etc.</td>
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<tr>
<td>JLK Inspection</td>
<td>Attracted KRW 3 billion in investment from Korea Investment Partners</td>
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<tr>
<td>Norma Inc.</td>
<td>Attracted KRW 2 billion in investments from STIC Investment and Magna Investment</td>
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<tr>
<td>ulalaLAB</td>
<td>Attracted KRW 6 billion in investments from NHN Payco, Samsung Venture Investment, DSC Investment, Kakao Ventures, and Stonebridge Capital</td>
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<tr>
<td>Dable</td>
<td>Attracted KRW 11.5 billion in investments from Korea Investment Partners, Company K Partners, Partners Investment, Huaiy Investment, ES Investor, and NP Equity Partners</td>
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<tr>
<td>Riid</td>
<td>Attracted an investment from LB Investment</td>
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<tr>
<td>Corners</td>
<td>Attracted KRW 3 billion in investments from Telkom Indonesia’s MDI Ventures and Japan’s Colopl Next</td>
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<td>ASD Korea</td>
<td>Attracted KRW 500 million in investment from The Wells Investment</td>
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<tr>
<td>Zikto</td>
<td>Attracted KRW 16 billion in investments from Intervest, SoftBank Ventures, Kakao Ventures, Mirae Asset Venture Investment, KT Investment, etc.</td>
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<tr>
<td>Lunit</td>
<td>Attracted KRW 350 million in investments from Actner Lab, BANDI Consortia, etc.</td>
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<td>Taggle</td>
<td>Attracted KRW 27.5 billion in investments from Hyundai Motor Company and Mirae Asset</td>
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<tr>
<td>Mesh Korea</td>
<td>Attracted KRW 1.6 billion in investments from Big Basin Capital, How Investment, SGA Blockchain, etc.</td>
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<tr>
<td>Sodacrew</td>
<td>Attracted an investment from Spring Camp</td>
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<tr>
<td>CoolJamm Company</td>
<td>Attracted KRW 3.5 billion in investments from Carelabs, private equity funds, etc.</td>
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<tr>
<td>Humanscape</td>
<td>Attracted KRW 4 billion in investments from Kakao Ventures, DSC Investment, Korea Asset Investment Securities, Naver, and Platinum Technology Investment</td>
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<tr>
<td>LetinAR</td>
<td>Attracted KRW 4 billion in investments from Hastings Asset Management, Daesung Venture Capital, Sejong Venture Partners, and Samsung Venture Investment</td>
</tr>
<tr>
<td>Looxid Labs</td>
<td>Attracted KRW 11.7 billion in investments from Green Cross Holdings, Smilegate Investment, SBI Investment, HB Investment, and Futureplay</td>
</tr>
<tr>
<td>Vuno</td>
<td>Attracted KRW 17 billion in investments from Premier Partners, POSCO Technology Investment, Delta Investment, KDB (Korea Development Bank), CAPE Investment &amp; Securities, Kolmar Korea, and Angel Ventures</td>
</tr>
<tr>
<td>B2LiNK</td>
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</tbody>
</table>
Awards

NexCloud
CSE 2018 Innovation Honoree

LinxFlow
CSE 2018 Innovation Honoree

Lumos Labs
CSE 2018 Innovation Honoree

Mongobi
Winner of the 18th Tokyo International Gift Show Grand Prix

NexCloud
Recipient of a commendation from the Minister of Health and Welfare at the 39th General Assembly of the Korea Medical Devices Industrial Cooperation Association

Rarabbit
Winner of the Minister of the Interior and Safety Award at the 24th Network Security Conference-Korea/PerSec-KR 2018

Mobi Korea
Winner of the Grand Prize at the 21st Korea Logistics Awards in the Logistics Startup category

MINDiS Lab
Winner of the Minister of Trade, Industry and Energy Award at the 2018 Korea ImpAct-tech Awards

pulse
Winner of the 2018 World IT Show (WITs) Innovation Award

MINDiS Lab
Winner of the Minister of Trade, Industry and Energy Award at the 15th Korea Startup Awards

The Wave, Talk
Runner-up for the Pioneering Early Stage Investments (RESI) Conference Innovation Challenge 2018

SecuLetter
Winner of the Grand Prize at the 2018 Security Start-up Forum

NexCloud
Winner of the Best Apps and Equipment Award and Best Accessible Technology Award at the Blackwood Design Awards 2018

NexCloud
Winner of the San Francisco Design Week Awards 2018 in the Virtual Reality category

NexCloud
Winner of the 2018 Frost & Sullivan Excellence in Best Practices Awards

Sky Labs
Best Presentation in the Digital Health category at European Society of Cardiology Congress

12th
Winner of the Grand Prize at the 1st DBI Financial Group Platform and FinTech Content

Exlab
Winner of the Grand Prize at the 2018 Korea ICT Innovation Awards

AETAM Ventures
Best Design Award at the Korea Electronics Show (KES) Innovation Awards

Sky Labs
Winner of the Young Investigator’s Award at the 62nd Annual Scientific Meeting of the Korean Society of Cardiology

Bright Labs
Winner of the 2018 Global Sources Mobile Electronic Show

Mobi
CSE 2018 Innovation Honoree

LinxFlow
CSE 2018 Innovation Honoree

Lumos
CSE 2018 Innovation Honoree

Magic
CSE 2018 Innovation Honoree

Contracts Signed

SmartStud
Signed an MOU with Sangam Communications on development of media solutions

SmartStud
Signed an MOU with the Catholic University of Pusan on joint research and job creation

SmartStud
Signed a business agreement with Samsung Medical Center on creation of AI-based diagnostic assistance system

NexCloud
Signed a business agreement with 9Fare on clinical testing, product development, and cooperation in marketing

SmartStudy
Signed a character licensing agreement with Tr Bolton Korea

Vinee
Signed a business agreement with KT on cooperation in digital healthcare

Vinee
Signed a business agreement with KT on cooperation in digital healthcare

Vinee
Signed an MOU with Humax, a digital banking platform, to provide its service

Vinee
Signed an MOU with Nanoim to cooperate on next-generation security content

Vinee
Signed an MOU with Hyundai Engineering & Construction to cooperate on development of IoT smart homes

NexCloud
Signed an exclusive supply contract with Nihon Kohden, the largest medical device company in Japan

Morcom
Acquired by JSTech, a display equipment manufacturer

Vinee
Signed an MOU with Samsung Electronics for CRM project cooperation

Vinee
Signed a strategic business agreement with Korea University Medical Center’s Precision Medicine Hospital Information System Development Group on provision of patient-customized medical services
Key Activities & Achievements

- Sky Lake: Signed an LOI with Charite, the largest university clinic in Europe
- Wavemakerlab: Signed an MOU with e-slide to address youth unemployment
- Mesh Korea: Signed an official sales agency contract with "Order with KakaoTalk"
- 12pm: Signed an agreement with SMG - a Philippines telecommunications company to provide online platform
- Wavemakerlab: Signed a strategic investment agreement with Japan’s Hitachi
- InnoVision: Signed an agreement with the Korea Trainer Association (KTA)
- Buzzel: Signed a strategic partnership agreement with Liv Mint, KB Financial Group’s integrated membership platform
- Salted Venture: Signed a business partnership agreement with the Korea Cluster Association (KCA)
- Buzzel: Acquired SaltedApp, India’s leading mobile screen content curator
- Heath Labs: Signed an agreement with AMC Media, a subsidiary of AMC Group
- Payment: Launched SmartQu: an O2O service, with KB Kookmin Bank
- Quick Security: Signed a business agreement with MySafe, a smart contract security firm
- Heath Labs: Signed an MOU with Sony Advancor and Korea (TAK) Information to cooperate on an expansion of EPP - enterprise resource planning and groupware-related business
- Salted Venture: Signed a strategic partnership with Italy’s Ares
- Salted Venture: Signed an agreement with CDP Venture, an Indian blockchain company
- Heath Labs: Signed an agreement with Dongsuk University (JS) Medical Science Research Institute (JSR)
- Youngmoonsoft Lab: Signed an agreement with Dongguk University (JS) for AI-based integrated solution for stroke patients
- LuxiTech: Signed a partnership agreement with Wavemakeprice for lunch of the mobile lock screen applications, "Wavemakeprice Sladi"
- Heath Labs: Signed an agreement with Hana Card for AppBank service
- Hankook NFC: Signed a business agreement with Dongsuk University (JS) Medical Science Research Institute (JSR)
- JU.K detection: Signed a business agreement with Robotec Foundation, a blockchain platform
- People and Technology: Signed a business cooperation agreement with MySafe and Softweb Solution
- VisualCamp: Provided paper-tracing technology to the Electronics and Telecommunications Research Institute (ETRI)
- IP: Signed PlayLab, a KPEN, Inc.
- BICube: Signed a business cooperation agreement with Dongsuk University (JS) for development of an intelligent big data cloud computing infrastructure
- Payment: Signed a business cooperation agreement with KB Kookmin Bank’s blockchain platform
- Inno3ules: Signed an MOU with KakaoTalk to cooperate in a byzantine share business of Japanese
- Inno3ules: Signed an agreement with Korea University Medical Center Gumi Hospital to research AI-based medical medical lab

BICube: Promoted development of a blockchain-based information exchange system with Mungib Hospital
Stealien: Signed a cooperation agreement with CyberHUB, an information security consulting firm, to joint management of services
Hankook NFC: Signed an MOU with VNP Technology, a Vietnamese electronic payment services provider, to provide smartphone transaction services for merchants
Draft Technologies: Signed an MOU with korexion on development and promotion of a joint enterprise business model
Mesh Korea: Installed WOONGB Stations at SK Networks
VisualCamp: Signed a business contract with Busan Metropolitan City Office of Education for software education
VisualCamp: Signed a business contract with Teesvent’s Floor
VisualCamp: Signed an exclusive supply contract with Softworld
ZTY Corporation: Signed an MOU with KPMG’s Hong Kong branch, a KPMG branch in Hong Kong
VisualCamp: Signed a business contract with Primav, a Chinese VR device manufacturer
VisualCamp: Signed a business cooperation contract with KDB, a cryptocurrency exchange
2013.09-2018.12

2018

January 25 - The Renault Group visits BzG

January 26 - Investment Promotion Agency from Zurich, Switzerland, visits BzG

February 8 - ParisGo visits BzG

February 26 - Thailand’s Digital Economy Promotion Agency visits BzG

March 7 - Joint hosting of the 1st Korea-Japan Next Generation ICT Business Leaders Exchange Meeting

March 12 - First recruitment of member startups

March 22 - Attendance at invitational seminar at InnoSight Ventures in the United States

March 22 - Vietnam Roadshow

March 26 - United Arab Emirates Roadshow

April 4 - Ministry of Finance and IRDP (Institute of Research and Development for Public Enterprises) visits BzG

April 9 - Attendance at invitational workshop at L’Atelier in the United States

April 15 - First members’ lock-off event

April 20 - Training session on mobility trends

April 24 - Tenant company meetup

April 26 - Attendance at invitational meetup at the Qatar Financial Centre (QFC) in Qatar

April 27 - Attendance at invitational meeting at the World Intellectual Property Organization (WIPO) in Switzerland

May 12 - Participation in the Korea-China Startup Cooperation Round Table

May 24 - Netherlands Roadshow

June 05 - KT Open Innovation visits BzG

June 11 - Go-To-Market UK Roadshow

June 19 - Attendance at invitational meetup for Expo 2020 Dubai

June 20 - IDB (Inter-America Development Bank) visits BzG

June 20 - Korea Software Industry Association and KIC Europe visit BzG

June 20 - Thailand Roadshow

July 10 - Demo Day held in New Delhi (India)

2018

July 11 - MDU signed with India’s NASSCOM 10000 Startups

July 11 - International Roundtable Meeting

July 23 - Taiwan Roadshow

July 24 - Patents Roundtable

July 27 - Joining hosting of BlockchainTech Conference

August 20 - Second recruitment of startup members

September 4 - Attendance at invitational workshop at Volkswagen

September 5 - Meetup to discuss legal issues when entering the Chinese market

September 12 - Participation in Korean-South and Central America Startup Cooperation Round Table

September 17 - MDU signed with Taiwan’s Yuanta Financial Holding

September 19 - Second members’ kick-off

October 4 - Hong Kong’s BRMC visits BzG

October 4 - Hong Kong’s BRMC visits BzG

October 11 - BzG’s Business Seminar

October 15 - IP pitching seminar

October 16 - United Arab Emirates Roadshow

October 30 - IDBI visits BzG

November 1 - Joint hosting of 2nd Korea-Japan Next Generation ICT Business Leaders Exchange Meeting

November 1 - Hong Kong Chamber of Commerce visits BzG

November 5 - The Renault Group visits BzG

November 6 - IDBI visits BzG

November 6 - Tenant company meetup

November 9 - Hosting of Demo Day in Silicon Valley, USA

November 12 - China PIF Program Workshop

November 14 - US PIF Program Workshop
Timeline

2018

November 30 - Southwest Asia PMF Program Workshop
November 26 - China PMF Program
November 28 - Hosting of Blockchain + Healthcare Tech Conference
December 5 - Demo Day held in Shenzhen (China)
December 6 - Participation in the HKTDC SmartBiz Expo (Hong Kong)
December 7 - Attendance at Global Brain Alliance Forum in Japan
December 9 - Southeast Asia PMF Program
December 12 - Hosting of Alumni Night
December 16 - US PMF Program
December 17 - Singapore Roadshow

2017

January 6 - Participation in CIS 2017
February 9 - Held meetup with tenant companies
February 13 - Signed MOU with Reit and IPO Capital
February 15 - Go-to-market Russia Roadshow
February 23 - Signed MOU with KB Financial Group
February 28 - Signed MOU with Kangwon University
February 24 - Recruited first group of members
February 27 - Received delegation of Afghan e-government officials
March 6 - Participated in MVIC 2017
March 16 - Received representatives of Hong Kong Cyberport
March 24 - Published the 2017 Korea Startup Index
April 5 - Held meetup with tenant companies
April 10 - Recruited representatives of Bayer
April 12 - Held first member’s kick-off
April 13 - Held channel/partner companies’ kick-off

2018

April 19 - Held second conference for startups
April 24 - Go-to-market Europe Roadshow
April 27 - Held marketing seminar
May 11 - Held meetup with Bayer
May 11 - French Startup Ecosystem Seminar
May 11 - Participated in Go-to-market Japan Road Show
May 16 - Held seminar on laws
May 19 - Go-to-market Europe Road Show
May 29 - Participated in UK Mega Tech Mission
June 6 - Demo Day in Russia
June 12 - Recruited second group of members
June 13 - Hosted “Startup Meet Outsourcing” in cooperation with the Korean-German Chamber of Commerce and Industry (KHK Korea) and D.Campus
June 21 - First domestic Demo Day
June 30 - Attended MVIC 2017
July 4 - BGD-KB Financial Group Roadshow in Korea
July 4 - Meetup with tenant companies
July 5 - Meetup with DreamX Ventures
July 7 - Patent seminar
July 12 - Second Member’s kick-off
July 12 - Received Prime Minister Lee Nak-yeon at the BGD Centre
August 1 - Received delegation of the UK Department for Digital, Culture, Media & Sport
August 3 - Received representatives of ShockOut Investment
August 5 - Hosted the Start Tel Asia Competition in cooperation with Naver Group and the Embassy of Israel
August 21 - Received representatives of the Qatar Business Incubation Center (QBIC)
August 30 - Meetup with MIT Bootcamp
2017

September 1 – Go-to-market Europe Road Show
September 14 – Participated in IPA 2017
September 15 – G2V
September 17 – Participated in China Hi-Tech Fair
September 18 – Participated in Software 2017
September 19 – Offered a training session on Chinese market trends and marketing strategies
September 20 – Offered a training session on building firms in China and drafting related contracts
September 21 – Offered a training session on building firms in China and drafting related contracts
September 27 – Offered a training session on building firms in China and drafting related contracts
September 28 – Offered a training session on building firms in China and drafting related contracts
September 28 – MOU signed with Groupe Renault
October 12 – Offered a training session on accounting and tax matters related to attracting overseas investment
October 17 – Meetup with tenant companies
October 18 – Offered a training session on the necessary national certificates and certificates for different industries
October 23 – Received the president of the IDES
October 25 – Domestic road show in cooperation with LG Idice
October 29 – Go-to-market Taiwan Road Show
November 1 – Offered a training session on customer development for startups planning to enter the American market
November 9 – Offered a training session on business strategies based on the acquisition of Chinese intellectual property rights
November 15 – Offered a practical training session for startups on legal matters
November 16 – Participated in the G2V Demo Day
November 17 – TV Day in cooperation with the Korea Credit Guarantee Fund and Shinhan Bank
November 22 – Offered a training session on accounting and tax management in the United States, with a focus on auditing
November 24 – Meetup with Groupe Renault
November 28 – Open seminar for employees of startups

2016

November 11 – Go-to-market Europe Road Show
November 12 – Offered a training session on strategies for entering the ASEAN market and filing patent applications
November 13 – Participated in SUPT 2017
November 15 – MOU with Huawei Group, Shinhan Bank, and the Korean-China Culture Association
November 30 – Open seminar for startups on labor issues
December 4 – Product-Market Fit (PMF) program
December 8 – Go-to-market Middle East Road Show
December 8 – Go-to-market Japan Road Show
December 11 – Beijing (Dalian) Demo Day
December 13 – PR Seminar
December 15 – Meetup with startup founders in northern Europe
December 19 – B2G Alumni Night
February 3 – IT MEGA-VISION (co-hosted)
February 4 – Seminar on the expansion of startups into the U.S.
February 16 – Publication of the Korea Startup Index 2015
March 8 – First recruitment of member startups
March 9 – Seminar with European investors
March 20 – MIT Global Entrepreneurship Bootcamp (co-hosted)
March 22 – Opening ceremony for the Startup Campus
March 24 – Meetup with tenant companies
March 31 – Kick-off ceremony for KIEF (Korean Startup Ecosystem Forum)
April 4 – Seminar with Chinese experts
April 7 – Seminar with the Southeast Asian accelerator MNGC
April 20 – Members’ lock-in
May 2 – Business strategy training for startups
May 3 – Meetup with tenant companies
Timeline

2016

May 9 — Strategy training for startups looking to expand into Europe
May 9 — Second recruitment of member startups
May 12 — MOU signed with the City of Chengdu
May 12 — Training on U.S. tax and accounting for startups
May 10 — Training on Chinese laws for startups
May 17 — Seminar with the U.S.-based accelerator Dsina Academy
May 18 — Meetup with tenant companies
May 25 — First domestic Demo Day
May 27 — MOU signed with Yozma Group
May 31 — Go-to-market Europe Road Show

June 1 — MOU signed with Idefest
June 2 — Demo Day in Paris, France
June 6 — MOU signed with Korean startups
June 21 — Business management strategy training for startups

June 28 — Corporate valuation training for startups
July 5 — MOU signed with Samsung KPMG
July 9 — Third recruitment of members
July 12 — Seminar on trends in China
July 12 — Meetup with tenant companies
July 19 — Patent training for startups
July 30 — Demo Day in Los Angeles, U.S.

August 9 — Training on how to establish subsidiaries in China and the tax system for startups
August 10 — MOU signed with Bayer Korea
August 10 — Recruitment of trainees for the 6th B2G Academy
August 19 — Legal counseling for startups looking to expand into the U.S.
August 24 — Training on venture capital and online management
August 30 — Training on design intellectual property rights for startups

August 30 — Entrance ceremony for the 6th B2G Academy
September 4 — Fourth recruitment of member startups
September 23 — Go-to-market U.S. Road Show
October 10 — Go-to-market Southeast Asia Road Show
October 13 — Completion ceremony for the 6th B2G Academy
October 16 — Recruitment of trainees for the 7th B2G Academy
October 21 — Launch of visa/international labor consulting support program
October 25 — Training on the latest technology trends in the U.S. market
October 25 — Entrance ceremony for the 7th B2G Academy
October 26 — K-Global Connect Pangea Festival
October 26 — Second domestic Demo Day
October 26 — Case study on U.S. market culture and marketing
October 27 — Training on startup marketing strategy based on case studies and analyses of competitors
November 1 — Training on manners in international business
November 2 — Training on data-based marketing and sales performance optimization
November 3 — Demo Day in Silicon Valley, the U.S.
November 3 — Training on the U.S. legal system and expansion of startups into the U.S. market
November 8 — Training on strategy for expanding into Silicon Valley and related case studies
November 9 — Training on product planning
November 10 — Training on contract writing based on case studies
November 15 — Training on sales meeting preparation and strategy
November 16 — Training on design and marketing strategy
November 16 — League of Accelereum 2016 co-hosted
November 17 — Training on how to conduct sales meetings
November 22 — Training on business development strategies and methods
November 23 — Training on mobile marketing strategy
Timeline

2016

November 24 - Training on investment attraction strategy
November 29 - Go-to-market Europe Road Show
November 30 - Training and practice sessions on business meeting preparation
December 01 - Training on search engine optimization and keyword research practices
December 01 - Competition ceremony for the 7th B2G Academy
December 02 - Mini-demonstration Demo Day
December 08 - Recruitment of tenant companies
December 19 - B2G Alumni Night
December 21 - MOU signed with Tsinghua University and Tsinghua Holdings
December 22 - Demo Day in Beijing, China

2015

January 15 - Daegu Road Show
January 20 - MOU signed with POSTECH’s Research and Business Development Foundation
January 29 - Jeonju Road Show
January 30 - Seoul Road Show
February 03 - Demo Day in Los Angeles, U.S.
February 05 - First recruitment of member startups
February 04 - Demo Day in Orange County, U.S.
February 11 - B2G Business Link Day with Google
March 17 - First members’ kick-off
March 18 - B2G with Google® service demonstration
March 18 - Launch of CP Channel Partners
March 23 - Mini-Day with Netherlands’ startup ecosystems
March 27 - Demo Day in Brussels, Belgium
March 27 - Demo Day in Lyon, France

March 31 - Recruitment of trainees for the 4th B2G Academy
April 04 - Change of corporate name to "H-ICT BornGlobal Center"
April 15 - Entrance ceremony for the 4th B2G Academy
April 17 - Startup-public relations seminar
April 27 - Startup-public relations seminar
May 07 - First-domestic Demo Day
May 18 - Pitch training for startups
May 22 - B2G Day - Skill-up
May 22 - Pitch training for startups
June 01 - Second recruitment of member startups
June 02 - ENR: 2015-2016-ICT Industry Development Strategy
June 02 - Entrance ceremony for the 4th B2G Academy
June 06 - Pitch training for startups
June 22 - Demo Day in London, UK
June 25 - B2G with Ericsson - Link Day
July 13 - Second members’ kick-off
July 21 - Pitch training for startups
July 23 - 4th Global Connect Paragon
July 31 - Recruitment of trainees for the 5th B2G Academy
August 20 - Demo Day in Beijing, China
August 25 - Pitch training
August 26 - Entrance ceremony for the 5th B2G Academy
August 26 - Entrepreneurship training
August 27 - Second domestic Demo Day
September 03 - Training and tips on how to prepare a business plan from an investment analyst
September 06 - Training on how to prepare and utilize Business Model Canvas
### Timeline

#### 2015

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>September 9</td>
<td>Training on branding techniques and public relations strategies</td>
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<td>September 10</td>
<td>Pitch training for startups</td>
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<td>September 15</td>
<td>Demo Day in Tokyo, Japan</td>
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<td>October 6</td>
<td>BSG Day in the U.S.</td>
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<td>October 7</td>
<td>Training on domestic and international laws important to startups</td>
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<td>October 14</td>
<td>Training on basic patent issues for startups</td>
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<tr>
<td>October 14</td>
<td>Training on basic tax and accounting procedures for startups</td>
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<tr>
<td>October 14</td>
<td>BSG with Indiegogo - Link Day</td>
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<tr>
<td>October 14</td>
<td>Pitch training for startups</td>
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<td>October 21</td>
<td>Training on pitching strategy and practice</td>
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<td>November 5</td>
<td>Second domestic Demo Day</td>
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<tr>
<td>November 16</td>
<td>Demo Day in Silicon Valley, U.S.</td>
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</tbody>
</table>

#### 2014

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>February 6</td>
<td>Recruitment ofnéees for the 2nd BGS Academy</td>
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<tr>
<td>February 10</td>
<td>MOU signed with Harbin Institute of Technology and Innovation</td>
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<tr>
<td>February 14</td>
<td>MOU signed with Kyungbok University</td>
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<td>February 15</td>
<td>First domestic Demo Day</td>
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<td>February 28</td>
<td>Growth strategy seminar with an M&amp;A expert from Silicon Valley</td>
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<tr>
<td>March 4</td>
<td>Entrance ceremony for the 2nd BGS Academy</td>
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<tr>
<td>March 6</td>
<td>Training on business strategy establishment and business plan preparation for startups</td>
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<td>March 7</td>
<td>Danny’s Day</td>
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<td>March 11</td>
<td>Case studies of excellent business plans</td>
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<td>March 13</td>
<td>Training on the importance of teamwork through case studies</td>
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<td>March 14</td>
<td>MOU signed with the Korea Regional SW Industry Promotion Council</td>
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<td>March 18</td>
<td>Training on startup positioning strategy</td>
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<td>March 19</td>
<td>Second domestic Demo Day</td>
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<td>March 20</td>
<td>Oceanview’s 3rd edition</td>
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<td>March 25</td>
<td>Training on how to establish a company and related laws</td>
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<td>March 28</td>
<td>Training on practical accounting for startups</td>
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<td>March 28</td>
<td>MOU signed with the Korea University Council of Research &amp; Industry Cooperation</td>
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<tr>
<td>April 1</td>
<td>Case study on intellectual property rights disputes</td>
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<tr>
<td>April 3</td>
<td>Training on corporate fundraising and management</td>
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<tr>
<td>April 4</td>
<td>MOU signed with Kyungbok University</td>
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<td>April 8</td>
<td>Training on manners in international business</td>
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<td>April 10</td>
<td>Training on presentation technology and pitching strategy</td>
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<td>April 15</td>
<td>Training on digital marketing strategy</td>
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<td>April 17</td>
<td>Training on technical improvement and cooperation with partners</td>
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<td>April 18</td>
<td>Global startup consulting road show</td>
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<td>April 22</td>
<td>Third domestic Demo Day</td>
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<tr>
<td>April 28</td>
<td>Completion ceremony for the 2nd BGS Academy</td>
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<td>April 29</td>
<td>MOU signed with OpenTrade</td>
</tr>
</tbody>
</table>
2014

May 29 - MOU signed with Hancher University’s Industry-Academic Cooperation Foundation
May 30 - Seminar on the startup community
June 30 - Training on B2G investment
July 1 - B2G Business Link Day with Orange Labs
July 14 - Demo Day in Singapore
July 20 - B2G Dialogue with Megellan Technology Investment
July 21 - MOU signed with Naver and K-Beauty Innovation Center
August 6 - B2G Dialogue with Mega Investment
August 21 - B2G Business Link Day with KT
August 21 - Recruitment of trainees for the 3rd B2G Academy
August 22 - B2G Dialogue with East Gate Partners
September 18 - Entrance ceremony for the 3rd B2G Academy
October 7 - Seminar with Golden Gate Ventures
October 8 - Marketing Meetup
October 8 - Patient Meetup
October 8 - Recruitment of participants for the go-to-market local marketing support program
October 13 - Training on procedures for signing investment contracts and startup valuations
October 15 - Accounting Meetup
October 17 - Training on key provisions of investment contracts
October 22 - B2G Dialogue with Qualcomm Ventures
October 24 - Reception for the Korea-UK network
November 4 - Demo Day in Silicon Valley, U.S.
November 6 - Patient Meetup
November 6 - Competition ceremony for the 3rd B2G Academy
November 12 - B2G Dialogue with Sogang University Investment

2013

November 17 - MOU signed with London & Partners
November 30 - B2G Global Investment Forum in Seoul
December 11 - “Seo ICT Venture, Create the Future” festival
December 22 - Conference for startups

September 3 - Opening of Global Startup Centre
October 16 - MOU signed with the Incheon IT Promotion Agency (ITPA)
October 28 - Entrance ceremony for the 1st B2G Academy
October 28 - Training on venture businesses and entrepreneurship
October 30 - Global IT merger-trend training
November 1 - Training on business model design and business feasibility analysis
November 4 - Training on team building for startups
November 6 - Success stories from startup founders
November 8 - Training on intellectual property rights
November 11 - Training on making elevator pitches
November 13 - Training on SWOT analysis
November 15 - Training on profit and loss analysis
November 18 - Training on startup ecosystems in Korea, Japan, and China
November 30 - Training on legal reviews in connection with MOUs, LOAs, and MEMUs
November 22 - Training on basic accounting involved in establishing a company
November 25 - Training on presentation strategy
November 36 - MOU signed with the Busan Economic Promotion Agency
November 27 - Training on global technology trends
November 29 - Training on corporate fund raising and management
December 3 - Training on sales and negotiation techniques
December 5 - MOU signed with Inha University’s Industry-Academic Cooperation Foundation
Timeline

2013

December 6 – Training on B2B and B2C marketing
December 6 – MOU signed with Hannam University’s Startup Support Team
December 9 – Training on startup promotion and marketing strategies
December 11 – Training on building sales channels using private and public sector resources
December 13 – Case studies on venture capital investment
December 16 – Networking with domestic venture capital and angel investors
December 18 – MOU signed with the Korean Business Incubation Association (KOBIA)
December 19 – Completion ceremony for the 1st B2G Academy
Startup Investment Trends in Korea

- Startup Investment Trends in Korea

www.born2global.com
www.facebook.com/born2global
www.linkedin.com/company/born2global
Startup Investment Trends in Korea
New venture capital investment doubles in four years

New venture capital investment in companies recorded KRW 3.42 trillion in 2018, reaching a record high. Since the previous record high of KRW 2.86 trillion in 2015, exceeding the new investment of KRW 2.21 trillion during the first venture boom in 2000, the amount of new venture capital investment in Korea is breaking records every year. This implies that Korean venture capital firms are maintaining their steady investment in startups despite doubts in the global market regarding the latter’s potential for growth.

According to the Korea Venture Capital Association (KVCA), new venture capital investment in 2018 (KRW 3.42 trillion) increased by KRW 1.45 trillion over 2017 (KRW 2.38 trillion), representing an increase of 43.8 percent in just one year. New investment from Korean VC firms has increased for six consecutive years since 2012, and the amount invested has nearly tripled during this time. The increase in new investment was particularly steep between 2014 and 2018, as the amount nearly doubled in just four years.

![Amount of New VC Investment in Korea by Year](chart.png)

This trend continues even in 2019. According to KVCA, new investment from VC firms in January 2019 recorded KRW 236.8 billion, showing an increase of 36.6 percent year-over-year (YOY). The number of firms receiving that investment has also increased greatly from 114 to 137.
Number of companies receiving investment increasing rapidly

The number of companies receiving investment from VC firms is increasing every year. According to KVCA, the number of new companies that received investment from VC firms in 2018 equaled 1,359 – 10 percent higher than the 1,266 in 2017. This figure has nearly doubled in five years from the 755 companies receiving investment in 2013. The number of companies that received investment from VC firms has also been increasing steadily, from 901 in 2014 to 1,045 in 2015, 1,191 in 2016, and 1,266 in 2017.

The amount of new venture capital invested in startups is also increasing every year. In 2013, the average amount in the Korean market was KRW 1.83 billion. This figure grew to KRW 2.3 billion in 2015 and again to KRW 2.45 billion in 2016. This increase implies that conditions have improved for new startups to make use of these funds.

VC firm investment in the healthcare industry saw a decline in 2017 after steadily increasing from KRW 202.8 billion in 2014 to KRW 317 billion in 2015 and KRW 468.6 billion in 2016. In 2017, this investment fell to KRW 378.8 billion, representing a 20 percent decrease from the previous year. This sharp decline was prompted by Harm Pharmaceuticals’s clinical trial failure in late 2016. However,

Investment in healthcare industry sector bounced back the next year, with new investment in the healthcare industry and medical sectors reaching a record high of KRW 841.7 billion in 2018.

Investment in the IT service sector has been skyrocketing as well. Although there are concerns regarding divestment, various mobile internet attempts are attracting investment. New investment in the IT service sector fell short of KRW 200 billion in 2014, but exceeded KRW 400 billion in 2015, KRW 500 billion in 2017, and KRW 700 billion in 2018, increasing 3.5 times in just four years.

The 43 percent increase in new investment in 2018 over the previous year was rather even across all sectors. However, the manufacturing and game sectors did not see a significant increase. New investment in the manufacturing sector fell from the previous year despite overall favorable investment conditions. According to the KVCA, new venture capital investment in the ICT manufacturing sector was only KRW 144.9 billion in 2018, or a 4.9 percent decrease from the previous year. The amount of new investment reached KRW 295.5 billion in 2013, but halved in five years.
Investment in the game industry also remained stagnant overall. New investment in 2018 recorded KRW 141.1 billion—an 11.2 percent increase over the previous year. However, this year’s increase marked a decrease in new investment in the sector in 2016, which reached KRW 142.7 billion. New investment in the game industry has stagnated around KRW 150 billion for the past five years, which indicates conservative investment conditions for the industry in Korea.

The proportion of investment in early-stage companies under three years old, often referred to as startups, has increased steadily since 2009. Considering that the proportion of investment in early-stage companies was quite low prior to that time, the increasing trend is likely related to changes in industries, such as the rapid increase in the number of new companies in the mobile sector following the development of smartphones, which led to increased investment in such firms. However, the upward trend of the proportion of investment in early-stage companies weakened in 2017 and 2018.

According to the KvCA, new investment in early-stage companies under three years old accounted for only 28.6 percent of all investment in 2018, which was a significant drop from 32.7 percent the previous year and 36.8 percent in 2016.

On the other hand, the proportion of investment in middle-stage companies (over three years and under seven years old) is steadily increasing. According to the KvCA, venture capital investment in middle-stage companies recorded 34.8 percent in 2018, which is the highest figure since 2007. This shift in the focus of Korean venture capital investment toward middle- and late-stage companies is closely related to changes in industries. The IT industry, previously driven by the mobile sector and attracting large amounts of early investment, has advanced and matured, along with most other industries. In response, investors are shifting their focus from early-stage companies, which carry relatively higher risk, to middle- and late-stage companies. Although the proportion of investment is relatively low, the recent upward trend of investment in middle-stage companies, which had been the most sluggish in the past, is expected to contribute to the balanced development of industries.

As of the end of October 2017, the number and size of venture capital funds, which are investment sources for venture-backed companies, had gradually risen. This is good news in terms of financial resources, as it indicates that investment capacity for startups and other venture-backed companies is increasing.
Angel Investment

Angel investment reaches highest in 18 years

After years of decline, angel investment rebounded, irrevocably after the worst global financial crisis in recent history. In 2000, angel investment reached KRW 650 billion, when the so-called "startup bubble" was at its peak. After the startup bubble burst, angel investment decreased dramatically and remained in decline for a decade. This situation began to change after 2011. Since dropping to KRW 29.6 billion in 2011, angel investment has been increasing gradually, reaching KRW 56.7 billion in 2012, double the amount in the previous year. In 2015, it exceeded KRW 100 billion, marking a new high since 2003, and recorded KRW 147.7 billion (direct private investment) in 2016, surpassing the amount of angel investment in the previous year by over 20 percent.

Increase in the Number of VC Funds

According to the KVKCA, there were 807 venture capital funds in Korea as of the end of 2018, representing a 12.4 percent YOY increase. The number and size of venture capital funds are on an increasing trend. The fund budget (for working capital) recorded KRW 24.78 trillion as of the end of 2018, showing an increase of about KRW 3.6 trillion from KRW 20.44 trillion in 2017 and nearly doubling the KRW 13.46 trillion recorded in 2014.

The aggregate budget of new VC funds has also been on an increasing trend in recent years, as it has exceeded KRW 2 trillion every year since 2014. The budget of new funds, which stood at KRW 2.62 trillion in 2014, increased to KRW 2.63 trillion in 2015 and KRW 3.35 trillion in 2016. In 2017, the aggregate budget of new VC funds reached a total of KRW 4.61 trillion and further increased to KRW 4.67 in 2018.

This steady increase in the number of operating funds means that investment resources and capacity are increasing. It also means that continuous effort is being made to find new investment opportunities. Investment is also affected by the characteristics of new funds and the success of certain firms.

Rapid Increase in Angel Investment

With active formation of private investment funds and increased investment through those funds, angel investment has been rapidly increasing. The amount invested through private investment funds was meager until 2010 but began to increase gradually in 2011. According to the Ministry of SMEs and Startups, total angel investment, including investments by private investment funds, recorded KRW 160.5 billion in 2015 and skyrocketed to KRW 212.6 billion in 2016. It went on to KRW 303.5 billion in 2017, exceeding KRW 300 billion for the first time since 2003, and recorded KRW 439.4 billion in 2018, marking a new 18-year high since the first venture boom in 2000.
Number of angel investors increases rapidly

The rapid increase in angel investment was largely supported by an increase in the number of private investment funds. According to the Ministry of SMEs and Startups and the Korea Business Angels Association, the number of private investment funds multiplied from two in 2011 to 29 in 2013 and 55 in 2014, before rising dramatically to 211 in 2016. Such funds have been gaining so much traction because, rather than having people collect investment information and make decisions independently, they allow individuals to share the burden of risk and increase opportunity.

Angel investment is also increasing as the Korean government has expanded related tax benefits, offering a 100 percent deduction of the invested amount from taxable income for angel investors investing up to KRW 30 million, and a 70 percent deduction for those investing between KRW 30 million and KRW 50 million. Originally, the Korean government offered a 100 percent deduction for investment of KRW 15 million or less, and a 50 percent deduction for investment of between KRW 15 million and KRW 50 million.

With these expanded tax incentives, more people are trying their hand in this area. As of the end of 2017, there were 14,827 angel investors registered at the Angel Investment Support Center - an increase of over 2,200 from 2016. While the number of angel investors had dropped to 819 in 2011, it has been increasing steadily since then, recovering to the early 2000s level.

IPOs

In the startup ecosystems of the United States, European countries, and other advanced nations, initial public offerings (IPOs) are the most effective means by which investors and startup founders can recoup some of their investment and reinvest it to promote company growth. In Korea, however, it is still quite rare and viewed as unusual for startups to go public. According to the Korea Venture Business Association and the KIVCA, only 40 venture-backed companies (companies in which venture capital firms invested) were listed on the KOSDAQ in 2017 (excluding SPACs, etc.). Considering there were 33 venture-backed companies listed in 2016, this represents a small increase. The investment recovery market, however, is still not at the level it should be. The number of venture-backed companies listed on the KOSDAQ has since increased to 47, but the share of venture-backed companies going public continues to remain under 10 percent.

Recovery in Angel Investment (% of Investors)

Every year, the numbers of startups and venture investments are marking record highs, but only a few of these startups actually receive venture capital investment. Moreover, it is rare for even venture-backed companies to be listed on public market exchanges such as the KOSDAQ or sold to other companies. Recently, the number of angel investors has increased dramatically and the number of people investing in startups has been increasing, but it is rare for investors to successfully recover even part of their principal and reinvest it. This means that a huge amount of capital is injected into the startup ecosystem every year without an adequate exit. This is the current state of venture capital investment in Korea.
IPOs are the most effective means of principal recovery and the most important component of the startup ecosystem, yet they remain merely symbolic actions in Korea. Fortunately, the share of divestment through IPOs, which had been extremely rare, has gradually increased since 2014. The share of such divestment for VC firms fell short of 10 percent prior to 2010, exceeded 10 percent in 2010 and reached 25 percent in 2014. Since 2016, this figure remains in the 30 percent range.

Aside from IPOs, global venture capital firms regularly use mergers and acquisitions (M&As) as the preferred means of earning returns on their investments. However, M&A action is even rarer than IPOs in Korea. As a result, Korean VC firms and angel investors generally recover their capital through over-the-counter (OTC) market sales, which involves a high level of uncertainty and unpredictability in terms of receiving full price. According to the KVCA and the Ministry of SMEs and Startups, OTC sales and redemptions accounted for the largest proportion, at 52.1 percent, of the various ways of recovering venture capital investment in Korea. This was followed by IPOs (32.5 percent), while M&A action only recorded 2.5 percent. One positive characteristic to note is that the proportion of IPOs has been increasing somewhat over previous years, driven by revitalization of the IPO market and the Korean government’s active policy efforts to facilitate listing on the KOSDAQ of the third market.

Limited role of VC firms

According to the Korea Venture Business Association’s “2018 Detailed Survey on the Status of Startups,” startups that received investment from VC firms believed that the role of VC firms was limited to investing capital. According to the survey, only about 1,800, or 5.2 percent, of a total 35,187 startups (as of 2018) received venture capital investment, with only 8.6 percent of that number receiving support from VC firms other than in terms of capital. The other 99.4 percent responded that they had received no support from VC firms other than invested capital.

Such responses from startup companies may be based merely on preconceptions. However, if the responses are reflections of reality, they run counter to the gradually-expanding role of global VC firms. On top of funding, such firms that are active overseas, including well-known VC firms from Silicon Valley, support startups in various ways, including consulting on business strategies and management, expanding networks, and recruiting personnel. Once these startups grow bigger, VC firms make additional investments or list or sell the companies to make larger profits. In other words, various activities performed by VC firms contribute considerably to establishing a structure that strengthens both VC firms and startups.
Crowdfunding

A portmanteau of "crowd" and "funding," crowdfunding refers to the practice of raising monetary contributions from unspecifi ed small investors by startup founders and others who acquire funds through intermediaries (small online investment brokers) via the Internet. Specifically, equity crowdfunding has been gaining particular attention as a type of crowdfunding where backers receive equity shares in the company, differentiating it from donation-based crowdfunding.

In February 2016, when investment crowdfunding was first introduced in Korea, a total of KRW 120 million was issued for KRW 120 million in subscriptions. After that, however, issue prices fell far short of offering prices. In June 2016, only KRW 820 million was issued for KRW 2.28 billion in subscriptions. In 2017, however, the success rate increased, and the difference between issue and subscription prices has been narrowing. Over the course of 2016, an average of about 10 crowdfunding campaigns a month were successful, but that figure increased to 15 a month in 2017, with the success rate climbing from 45.1 percent to 64.3 percent over the same period. In June 2017, the number of successful campaigns a month exceeded 20 for the first time, with the issue price rising to KRW 3.05 billion, almost double the subscription price of KRW 1.79 billion.

Crowdfunding grew steadily in 2018. The growth of equity crowdfunding, however, has weakened despite an overall increase in the crowdfunding market. According to the Korea Securities Depository

and CrowdfNet, there were 429 companies that succeeded in securing funding through equity investment crowdfunding as of January 31, 2019, with the amount of capital acquired from successful crowdfunding projects (aggregate total) equaling KRW 79.6 billion. In 2016, when crowdfunding was first introduced in Korea, 115 companies secured funding this way, a number that increased to 180 by 2017. However, this rapid increase came to a halt in 2018, with the number of companies securing funding through equity crowdfunding remaining at 185. In fact, attempts at crowdfunding decreased from 295 in 2017 to 287 in 2018. Although it is remarkable that the success rate for equity crowdfunding has gone up, the falling number of attempts at crowdfunding indicates that companies are approaching this market cautiously.

The Korean government is supporting market growth by relaxing related regulations. With revision of the Enforcement Decree to the Financial Investment Services and Capital Markets Act in April 2018, individuals can now invest more in equity crowdfunding. In the past, individuals were allowed to invest only up to KRW 2 million per company and KRW 5 million a year in equity crowdfunding. Through the revision, these limits were raised to KRW 5 million per company and KRW 10 million a year. Regulations became more relaxed with enactment of the revised Financial Investment Services and Capital Markets Act in January 2019. The amount of capital a company can secure through crowdfunding has increased from KRW 700 million to KRW 1.5 billion. Along with an increase in the amount individuals can invest, this increase allows companies to secure more capital through crowdfunding.
Korea Investment Partners

Korea Investment Partners is the largest venture capital firm in Korea, managing an investment fund worth KRW 1.966 trillion that was created in 2008. Since its founding in 1998, it has invested a total of KRW 2.4 trillion, of which KRW 1 trillion was invested in the past year alone. Accordingly, it also has the largest number of personnel dedicated to investment. The company employs 40 experts, 10 of whom are assessment experts with over 10 years of experience in the field and 18 of whom are assessment experts who majored in science and engineering. Including support personnel, Korea Investment Partners employs over 60 investment-related employees.

The firm has been increasing its investments every year as well. Korea Investment Partners invested KRW 71.5 billion in 30 different companies in 2010; KRW 83.7 billion in 34 companies in 2011; and KRW 100.5 billion in 41 companies in 2012. In addition, the firm made KRW 120.3 billion in investments in 39 venture-backed companies in 2013; KRW 131.5 billion in 61 companies in 2014; and KRW 258.4 billion in 81 companies in 2015, showing significant growth every year.

The company’s major successes include: Ostem Implant (invested KRW 5.2 billion and recovered KRW 37.2 billion), YG Entertainment (invested KRW 7.4 billion and recovered KRW 68.7 billion), Kakao Corp. (invested KRW 5 billion and recovered KRW 81.8 billion), and Bodyfriend (invested KRW 4.4 billion and recovered KRW 18.5 billion).

SoftBank Ventures Korea

SoftBank Ventures Korea is an investment company that was established by Japan’s SoftBank Group Corp. Although it is a foreign holding company, SoftBank Ventures Korea has grown with the Korean venture industry since it was founded in 2002, during the startup bubble. The company is known for consistently investing in Korean startups and venture-backed companies and has invested in companies in diverse sectors, including Internet, technology, venture-backed biotech, medical equipment, and manufacturing companies. As of the end of 2016, SoftBank Ventures Korea has invested in over 200 startups, of which early-stage startups account for 46 percent of its total investments. The company cooperates with its parent company, SoftBank, and actively invests in startups that have either entered or wish to enter the global market. Also, about 30 percent of the company’s total investments are overseas. As of the end of October 2017, SoftBank Ventures Korea operates a total of 13 funds, two of which were created in 2017. SoftBank Ventures Korea was an early investor in SundayTo, a South Korean company that created the popular mobile game Anipang and ushered in a new era of mobile games. In addition to SundayTo, the company has made initial investments in Knowe, Cocoa, TrueBalance, RISquares, and other promising Korean venture-backed companies.

Smilegate Investment

Smilegate Investment is a first-generation Korean venture capital firm that was founded in 1995 as MVP Capital. Originally a game developer that tapped the Chinese market with its online game Crocodile, Smilegate acquired MVP Capital in 2011 and changed the firm’s name to Smilegate Investment. Since creating its first investment fund in 2000, Smilegate Investment has gone on to establish 30 investment funds, through which it has invested in more than 200 firms. With more than 30 dedicated investment experts on its staff, the company invested nearly KRW 100 billion in 2016.

The company is actively investing in Internet and game companies, including Seed Nine, P2PBest, and Developies, as well as in distribution and service companies, such as RSG Retail. In 2017, Smilegate Investment created three new investment funds, including Smilegate Growth Fund No. 1, to bring the total number of funds it currently operates to 21.
Korean Startup Ecosystem
### Research Overview

**Purpose**
This survey aims to examine the characteristics of Korean startups and competitiveness of the Korean startup ecosystem through intensive research on the status of Korean startups in Seoul and Gyeonggi Province—areas with major concentrations of startups.

**Methodology**
- **Research:** MACROUL, EMBRAN
- **Analysis:** Korea Enterprise Institute

**Design**
- Online and offline surveys were conducted on startups located in Seoul and Gyeonggi Province. In order to increase the level of confidence in the responses, the surveys minimized snowball sampling and found survey targets through startup incubation and investment organizations.
- A total of 294 ICT startups in Seoul and Gyeonggi Province

**Period**
- Thursday, February 28 to Thursday, March 21, 2019 (about 3 weeks)

**Analysis**
- Frequency analysis, descriptive statistical analysis, and cross analysis using SPSS Statistics.

**Type of Contact**
1. Company Information
2. Foundation
3. Founder’s Background
4. Talent & Experience
5. Funding & Shares
6. Market Reach & Competency
7. Startup Environment Assessment

### Research Sample

<table>
<thead>
<tr>
<th>Pre-Seed round</th>
<th>Seed round</th>
<th>Series A round</th>
<th>Series B round</th>
<th>Exit round</th>
</tr>
</thead>
<tbody>
<tr>
<td>151</td>
<td>72</td>
<td>40</td>
<td>18</td>
<td>4</td>
</tr>
</tbody>
</table>

- **Pre-Seed round**
  - Raised funding from family or friends or informal investors
- **Seed round**
  - Raised investment from initial investors or accelerators
- **Series A round**
  - Raised additional round funding from venture capital firms
- **Series B round**
  - Raised additional round funding from venture capital firms
- **Exit round**
  - Sold to large enterprises (SIG, KBC, etc.)

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**Korea Startup Ecosystem**
Status of Korean Startups

**Status of Startups**

- **2.9 people** (total number of team members)
- **30.6%** (Preferred region: No. 1 Gangnam-gu / No. 2 Seongnam-si)
- **42.2%** (Initial capital: Less than KRW 30 million)
- **30.6%** (Team members consist of work colleagues)

*Net capital invested in initial phase of startup*

**Characteristics of Startups**

- **93.7%** (Startups are different from new IT companies)
- **22.2%** (Mobile internet business area)
- **15.8%** (Technologies difficult to imitate)
- **15.3%** (Future growth potential)

**Startup Ecosystem**

The most preferred regions for startups are Gangnam-gu, Seoul, and Seongnam-si, Gyeonggi Province. Startup activity is vibrant and concentrated in these regions on the map.

*Source: Naver, Google, KIIA, Seoul Startup Hub, The Accelerator Forum, BII-FIET, Ministry of SMEs and Startups*
## Proportion of Foreign Employees*

<table>
<thead>
<tr>
<th>Year</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>16.3%</td>
</tr>
<tr>
<td>2017</td>
<td>18.7%</td>
</tr>
<tr>
<td>2018</td>
<td>20.4%</td>
</tr>
</tbody>
</table>

*Proportion of companies that have hired 1 or more foreigners

## Proportion of Women in the Startup Ecosystem*

<table>
<thead>
<tr>
<th>Year</th>
<th>Women founders</th>
<th>Proportion of women employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>8.5%</td>
<td>67.1%</td>
</tr>
<tr>
<td>2017</td>
<td>8.3%</td>
<td>64.3%</td>
</tr>
<tr>
<td>2018</td>
<td>6.1%</td>
<td>66.3%</td>
</tr>
</tbody>
</table>

*Proportion of companies that have hired 1 or more women

## Amount of Initial Investment

<table>
<thead>
<tr>
<th>Stage</th>
<th>Initial Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Seed</td>
<td>KRW 798.33 billion</td>
</tr>
<tr>
<td>Seed</td>
<td>KRW 303.97 million</td>
</tr>
<tr>
<td>Series A</td>
<td>KRW 1.598 billion</td>
</tr>
<tr>
<td>Series B or later</td>
<td>KRW 4.457 billion</td>
</tr>
</tbody>
</table>

## Startup Characteristics by Investment Stage

<table>
<thead>
<tr>
<th>Category</th>
<th>Pre-Seed</th>
<th>Seed</th>
<th>Series A</th>
<th>Series B</th>
<th>Exit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years since founding</td>
<td>4.2</td>
<td>3.4</td>
<td>4.3</td>
<td>5.7</td>
<td>6.3</td>
</tr>
<tr>
<td>Number of employees</td>
<td>7.9</td>
<td>8.8</td>
<td>13.8</td>
<td>36.3</td>
<td>13.8</td>
</tr>
<tr>
<td>Number of female employees</td>
<td>4.7</td>
<td>6.6</td>
<td>7.4</td>
<td>18.4</td>
<td>22.3</td>
</tr>
<tr>
<td>Number of women</td>
<td>1.8</td>
<td>2.2</td>
<td>3.2</td>
<td>8.1</td>
<td>13.8</td>
</tr>
<tr>
<td>Number of foreign employees</td>
<td>0.2</td>
<td>0.4</td>
<td>0.5</td>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>Sales</td>
<td>851%</td>
<td>77.9%</td>
<td>97.3%</td>
<td>88.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Value of series</td>
<td>KRW 712.56 million</td>
<td>KRW 622.31 million</td>
<td>KRW 485.02 million</td>
<td>KRW 1.76 billion</td>
<td>KRW 185.22 million</td>
</tr>
<tr>
<td>Overseas expansion</td>
<td>19.9%</td>
<td>33.3%</td>
<td>45.2%</td>
<td>66.7%</td>
<td>75.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>151</td>
</tr>
</tbody>
</table>
Analysis of Korean Startups
Company

Analysis of Korean Startups

Company
Foundation
Founder
Talent & Experience
Funding
Market Reach
Supporter & Policy Maker Insights

* As the percentages in the tables of the Analysis of Korean Startups have been rounded up to the nearest hundredth, the sum of the subsections may be different from the total amount.

Year of Establishment

<table>
<thead>
<tr>
<th>Year of Establishment</th>
<th>2013 or earlier</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017 or later</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>39.3</td>
<td>16.7</td>
<td>23.4</td>
<td>19.7</td>
<td>6.8</td>
</tr>
<tr>
<td>*% response: 99.7%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Of the 393 companies, 117 (30.0%) were founded in 2013, while 52 (13.2%) were established in 2014, 62 (15.8%) in 2015, 39 (10.0%) in 2016, and 80 (20.3%) in 2017 or later.
- A comparison by investment stages showed that the overall number of years since founding increased as the investment stages progressed from Pre-Seed to Seed.

Number of Team Members

<table>
<thead>
<tr>
<th>Number of Team Members</th>
<th>In the time of founding</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Seed</td>
<td>Seed</td>
</tr>
<tr>
<td>1</td>
<td>16</td>
<td>27</td>
</tr>
<tr>
<td>2</td>
<td>53</td>
<td>84</td>
</tr>
<tr>
<td>3</td>
<td>126</td>
<td>64</td>
</tr>
<tr>
<td>4 or more</td>
<td>23</td>
<td>45</td>
</tr>
<tr>
<td>Average</td>
<td>2.0 people</td>
<td>11.2 people</td>
</tr>
</tbody>
</table>

- There was an average of 9.6 startup team members at the time of founding, while there was on average (1.6 current team members. The largest number of startup team members was 134. The company that has seen the largest increase in the number of team members goes from 6 to 114, representing a 19-fold increase.
- There were 38 companies whose team members decreased since startup founding, while 38 companies were found to have maintained the same number of team members.
- A comparison by investment stages showed that the number of team members (both at the founding and as of current data) as investment stages progressed from Pre-Seed to Seed.

Comparison by year

- Number of startups is shown as of December 31st of each year.

- During the analysis period, there were 31% fewer startups in 2015 than in 2014, while the number of startups increased by 16.7% in 2016 and 17.0% in 2017.
- The number of startups increased by 16.7% in 2018 compared to 2017, and the number of startups increased by 32.7% in 2019.

- The proportion of startups that are five years old and over is increasing, while the proportion of startups that are four years old or less is decreasing.

- The proportion of startups that are six years old and over is increasing.

- The proportion of startups that are seven years old and over is increasing.

- The proportion of startups that are eight years old and over is increasing.

- The proportion of startups that are nine years old and over is increasing.

- The proportion of startups that are 10 years old and over is increasing.

- The proportion of startups that are 11 years old and over is increasing.
### Location

- **Seoul:** 187 companies (43.6%)
- **Gangnam:** 82 companies (19.0%)
- **Gyeonggi Province:** 60 companies (14.0%)
- **Busan:** 18 companies (4.4%)
- **Gwangju:** 17 companies (4.0%)
- **Incheon:** 15 companies (3.6%)
- **Daegu:** 11 companies (2.7%)
- **Jeju Island:** 10 companies (2.4%)
- **Gunsan:** 9 companies (2.2%)
- **Seongnam:** 6 companies (1.5%)
- **Cheonan:** 6 companies (1.5%)

*Analysis showed that the largest number of companies were currently located in Seoul (187 companies or 43.6%), followed by Gangnam, Gyeonggi Province (82 companies or 19.0%).*

### Seoul

- **Gangnam:** 82 companies (50)
- **Seongnam:** 40 companies (21)
- **Seoul:** 20 companies (11)
- **Gwangju:** 16 companies (9)
- **Seongnam:** 15 companies (8)
- **Incheon:** 10 companies (6)
- **Busan:** 9 companies (5)
- **Gunsan:** 8 companies (4)
- **Cheonan:** 7 companies (4)
- **Seongnam:** 6 companies (3)

*Most companies in Seoul were located in Gangnam—4 (17.7%), followed by Mapo 3 (11.0) and Seongdong 8 (7.1%).*

### Change in CEO

- **No change:** 275 (92.3%)
- **Replaced (from inside):** 16 (5.4%)
- **Replacement (inside promotion):** 7 (2.4%)
- **Replacement (from outside):** 10 (3.4%)

*The proportion of startups that had replaced their CEO since founding was 6.8 percent. The reasons for replacement were: 1) need for a business person with expertise in the project company’s core business (4.3%); 2) need for the founder to focus on technology development and marketing (3.5%); and 3) personal reasons of the founder(s), such as deterioration of health (2.4%).*

### Korea Startup Index 2019

- **Overall growth rate:** 6.1% in 2018, from 96.0% to 93.5%

- **Startups in Gangnam:** 100, an increase of 9.3%

*Comparison with the results of the 2017 study showed that the number of startups where the founder remained the CEO increased slightly, from 96.0 percent to 93.5 percent in 2018.*
Major Investment Themes

(Multiple answers)

<table>
<thead>
<tr>
<th>Theme</th>
<th>2019 (%)</th>
<th>2020 (%)</th>
<th>2021 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile internet</td>
<td>59</td>
<td>50</td>
<td>36</td>
</tr>
<tr>
<td>AI</td>
<td>38</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>Biotech</td>
<td>28</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Digital Health &amp; Fitness Things</td>
<td>14</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>Robotics</td>
<td>8</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Renewable Energy</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Energy Storage</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Blockchain</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Internet of Things</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Changes in Equity Capital (at time of founding)

<table>
<thead>
<tr>
<th>Equity Capital</th>
<th>At time of founding</th>
<th>No. of startups</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than KRW 200 million</td>
<td></td>
<td>12</td>
<td>42.2</td>
</tr>
<tr>
<td>Between KRW 200 million and 1 billion</td>
<td>110</td>
<td>29.5</td>
<td></td>
</tr>
<tr>
<td>Between KRW 1 billion and 5 billion</td>
<td>48</td>
<td>16.3</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>294</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*No response: 2.0%

- The largest proportion of companies had equity capital of KRW 200 million or less at the time of startup founding, followed by between KRW 200 million and KRW 1 billion in 2019.

- Comparing 2017 to 2019, the proportion of companies with equity capital of KRW 1 billion or more increased by 0.3% from 2017.

Analysis of Korean Startups

- Major startup investment themes were selected based on the 12 Disruptive Technologies selected by the McKinsey Global Institute (MGI) and Gartner’s Top 15 Strategic Technology Trends for 2019.
- Major startups’ investment themes from the previous year’s study included: mobile internet, AI, automation of knowledge work, cloud technology, VR/AR/MR, smart space, digital health & fitness, autonomous things, cyber security, blockchain, advanced materials, 3D printing, renewable energy, and energy storage technology.
- The largest proportion of investment was concentrated in mobile internet (60 cases, 30.4%), followed by AI (60 cases, 30.4%), and AI (50 cases, 17.6%). These three themes accounted for 87.7% of all investment.
- Major areas of business included mobile Internet development, online/mobile game development, mobile e-commerce, and mobile app service.

- A comparison with the 2017 study results showed that, in 2018, investment in mobile internet and automation of knowledge work decreased by 14.2 percentage points and 5.5 percentage points, respectively, while investment in AI and cloud technology increased by 4.6 percentage points and 4.4 percentage points, respectively. This shows that the concentration of investment in certain areas is decreasing.
### Number of Co-Founders with Shares

<table>
<thead>
<tr>
<th>No. of people with shares</th>
<th>No. of shares</th>
<th>Average</th>
<th>Women with shares</th>
<th>No. of shares</th>
<th>Average</th>
<th>Technical professionals with shares</th>
<th>No. of shares</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>100</td>
<td>6.0</td>
<td>6</td>
<td>63</td>
<td>3.0</td>
<td>3</td>
<td>59</td>
<td>1.2</td>
</tr>
<tr>
<td>2</td>
<td>223</td>
<td>2.9</td>
<td>2</td>
<td>124</td>
<td>1.0</td>
<td>1</td>
<td>34</td>
<td>0.3</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td></td>
<td>3</td>
<td>6</td>
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<td>6</td>
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<tr>
<td>7</td>
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<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Average: 1.9 people**  
**No response: 1.0%**  
**Average: 0.3 people**  
**No response: 1.0%**  
**Average: 1.3 people**  
**No response: 1.4%**

- The average number of co-founders with shares was 1.9. The largest number of companies had one person with shares (34.4%).
- The average number of women founders with shares was 0.3 people, and the study revealed that 23.1 percent of startups had women founders with shares.
- The average number of technical professionals with shares was 1.3. It was found that technical professionals had to participate in startups with shares in 278 companies, which accounted for 75.2 percent of the total number of companies.

### Composition of Startup Team Members

#### Startup Region and Preference

<table>
<thead>
<tr>
<th>2018</th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Startup</td>
<td>Preferred region</td>
<td>Unit %</td>
</tr>
<tr>
<td>Seongnam-si</td>
<td>Gyeonggi Province</td>
<td>75 people (25.7%)</td>
</tr>
<tr>
<td>Seongnam-si</td>
<td>Gyeonggi Province</td>
<td>98 people (32.3%)</td>
</tr>
<tr>
<td>Seongnam-si</td>
<td>Gyeonggi Province</td>
<td>90 people (29.2%)</td>
</tr>
</tbody>
</table>

**Average: 187 startups**  
**No response: 7.1%**

- There were 187 startups founded in Seoul (60.6%) and in Gyeonggi Province (32.3%). Of these two regions, the largest number of companies preferred Seongnam-si and Seongnam-si, accounting for 32.3 percent and 29.2 percent, respectively.

### Analysis of Korean Startups

- A comparison of the results from the 2017 and 2018 studies shows that companies composed of people who had worked at the same company or at companies in the same sector increased by 1.0 percent, while ones with people who met through social networks decreased by 1.5 percentage points, respectively, while those with people who met through other social activities decreased by 0.4 percentage points.

---

**Comparison by year**

**Comparison by year**

**Comparison by year**

---

### Korean Startup Ecosystem

#### Composition of Co-Founders with Shares

<table>
<thead>
<tr>
<th>No. of people with shares</th>
<th>No. of shares</th>
<th>Average</th>
<th>Women with shares</th>
<th>No. of shares</th>
<th>Average</th>
<th>Technical professionals with shares</th>
<th>No. of shares</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>100</td>
<td>6.0</td>
<td>6</td>
<td>63</td>
<td>3.0</td>
<td>3</td>
<td>59</td>
<td>1.2</td>
</tr>
<tr>
<td>2</td>
<td>223</td>
<td>2.9</td>
<td>2</td>
<td>124</td>
<td>1.0</td>
<td>1</td>
<td>34</td>
<td>0.3</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td></td>
<td>3</td>
<td>6</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Average: 1.9 people**  
**No response: 1.0%**  
**Average: 0.3 people**  
**No response: 1.0%**  
**Average: 1.3 people**  
**No response: 1.4%**

- In 2016, the average number of co-founders with shares increased by 0.3 people over 2017 by 1.6.
- In 2016, the average number of women and technical professionals with shares increased over 2017 by 0.1 and 0.2 people, respectively.
- A comparison of the investment attraction stage showed that the number of people and technical professionals with shares continued to increase as investment stage progressed from Pre-Seed to Series B round.
Reasons for Choosing Region for Company Location

<table>
<thead>
<tr>
<th>Criteria</th>
<th>2016 (%)</th>
<th>2017 (%)</th>
<th>2018 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of transportation</td>
<td>15.3%</td>
<td>12.6%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Good infrastructure</td>
<td>23.3%</td>
<td>18.8%</td>
<td>19.0%</td>
</tr>
<tr>
<td>Large number of startups</td>
<td>10.0%</td>
<td>8.3%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Affordability</td>
<td>12.8%</td>
<td>11.4%</td>
<td>9.8%</td>
</tr>
<tr>
<td>Ease of finding manpower</td>
<td>11.9%</td>
<td>10.3%</td>
<td>7.6%</td>
</tr>
<tr>
<td>Concentration of relevant companies</td>
<td>11.2%</td>
<td>9.8%</td>
<td>9.1%</td>
</tr>
<tr>
<td>Concentration of startup-supporting organizations</td>
<td>9.2%</td>
<td>7.6%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Concentration of companies</td>
<td>6.1%</td>
<td>5.4%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Others</td>
<td>14.7%</td>
<td>11.9%</td>
<td>8.8%</td>
</tr>
</tbody>
</table>

Factors Considered in Choosing Company Location

<table>
<thead>
<tr>
<th>Factor</th>
<th>2016 (%)</th>
<th>2017 (%)</th>
<th>2018 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support through affordable/free rent</td>
<td>42.6%</td>
<td>38.4%</td>
<td>34.1%</td>
</tr>
<tr>
<td>Accessibility of employees</td>
<td>35.7%</td>
<td>26.1%</td>
<td>18.6%</td>
</tr>
<tr>
<td>Nearness of mass transportation axes</td>
<td>11.9%</td>
<td>10.3%</td>
<td>8.2%</td>
</tr>
<tr>
<td>Concentration of specialized organizations and facilities for startups</td>
<td>10.6%</td>
<td>9.1%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Meeting of work space</td>
<td>9.5%</td>
<td>7.1%</td>
<td>5.2%</td>
</tr>
<tr>
<td>Others</td>
<td>1.4%</td>
<td>1.3%</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

• The largest proportion of companies answered that support through affordable/free rent (34.1%) was the most important factor considered when choosing the location of the company building. Followed by the accessibility of employees (26.1%), and the concentration of specialized organizations and facilities for startups (18.6%).

• Compared to the results of the 2017 survey, the proportion of companies in 2018 that answered “support through affordable/free rent” fell by 7.2 percentage points but still remained higher than other factors.

• Other factors for consideration included support with spaces/schools, government agencies, existence of a nearby startup center, other support projects (3.1%), proximity to residence (2.5%), and proximity to related companies (2.1%).

Founders

<table>
<thead>
<tr>
<th>Founders’ Gender</th>
<th>2016 (%)</th>
<th>2017 (%)</th>
<th>2018 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>93.9%</td>
<td>89.5%</td>
<td>83.9%</td>
</tr>
<tr>
<td>Female</td>
<td>6.1%</td>
<td>10.5%</td>
<td>16.1%</td>
</tr>
</tbody>
</table>

• Of those surveyed, 276 startups were headed by men, accounting for 93.9 percent.

• The proportion of male startup founders increased steadily from 2016 to 2018.

Founders’ Age

<table>
<thead>
<tr>
<th>Founders’ Age (Years)</th>
<th>2016 (%)</th>
<th>2017 (%)</th>
<th>2018 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20s</td>
<td>6.8%</td>
<td>14.3%</td>
<td>24.1%</td>
</tr>
<tr>
<td>30s-39s</td>
<td>93.3%</td>
<td>85.7%</td>
<td>55.8%</td>
</tr>
<tr>
<td>40s and older</td>
<td>0%</td>
<td>0%</td>
<td>20.1%</td>
</tr>
</tbody>
</table>

• The average age of founders was 39.5 years, with the largest proportion in their 30s (62.9%), followed by those in their 40s (38.1%), and their 50s (8.9%).

• The average age of founders was 38.7 years in 2017, which increased to 39.6 in 2018. The proportion of those in their 40s has steadily increased over the past three years.
### Founder’s Highest Level of Education

<table>
<thead>
<tr>
<th>Education Level</th>
<th>2016(n=295)</th>
<th>2017(n=300)</th>
<th>2018(n=296)</th>
<th>Unit %</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school/diploma or less</td>
<td>13</td>
<td>88</td>
<td>33</td>
<td>16.1%</td>
</tr>
<tr>
<td>Undergraduate degree</td>
<td>152</td>
<td>156</td>
<td>156</td>
<td>51.7%</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>4.6</td>
<td>4.7</td>
<td>4.1</td>
<td>1.5%</td>
</tr>
<tr>
<td>Doctorate</td>
<td>1.9</td>
<td>2.1</td>
<td>2.1</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

*No response: 2.7%

- The largest number of startup founders had undergraduate degrees (51.7%), followed by those with master’s degrees (16.1%), and doctorates (1.5%), with the lowest number holding a high school diploma or less (16.1%).

- A comparison by year showed that the proportion of undergraduate degree holders is decreasing, while that of those with master’s or doctorates is increasing slightly.

### Founder’s Field of Study

<table>
<thead>
<tr>
<th>Field of Study</th>
<th>2016(n=295)</th>
<th>2017(n=300)</th>
<th>2018(n=296)</th>
<th>Unit %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>51.4</td>
<td>51.5</td>
<td>51.6</td>
<td>16.7%</td>
</tr>
<tr>
<td>Business/management</td>
<td>19.1</td>
<td>19.1</td>
<td>19.2</td>
<td>6.4%</td>
</tr>
<tr>
<td>Humanities/social sciences</td>
<td>15.4</td>
<td>15.4</td>
<td>15.4</td>
<td>5.2%</td>
</tr>
<tr>
<td>Arts or arts + others</td>
<td>9.1</td>
<td>9.1</td>
<td>9.1</td>
<td>3.0%</td>
</tr>
</tbody>
</table>

- In terms of field of study, 51.7% of founders majored in engineering, 16.7% percent in business/management, 15.4% in humanities/social sciences.

- The proportion of startup founders who majored in engineering continued to remain high at 51.7% (percent), which is an increase of 0.6 percentage points over 2017. The proportion of founders who majored in humanities/social sciences increased by 0.7 percentage points over 2017.

### Field of Occupation Prior to Founding a Startup

#### Comparison by year

<table>
<thead>
<tr>
<th>Occupation</th>
<th>2016(n=295)</th>
<th>2017(n=300)</th>
<th>2018(n=296)</th>
<th>Unit %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Founders who were in technology development</td>
<td>127</td>
<td>72</td>
<td>43</td>
<td>43.2%</td>
</tr>
<tr>
<td>Experienced in startups planning</td>
<td>11</td>
<td>17</td>
<td>6</td>
<td>11.2%</td>
</tr>
<tr>
<td>Other founders</td>
<td>35</td>
<td>31</td>
<td>16</td>
<td>12.7%</td>
</tr>
</tbody>
</table>

- Of the respondents, 43.2 percent answered that the founder’s prior field of occupation was in technology development, 11.2 percent in business development/planning, and 9.8 percent in marketing/ade.

- Analysis of startup founders’ field of occupation prior to founding a startup (2018) showed that the proportion of those with prior work experience in technology development is gradually increasing, those with work experience in business development/planning is decreasing. The proportion of those with work experience in marketing/ade recovered by 1.9 percentage points from the previous year.

### Experience in startups

#### Multiple answers

<table>
<thead>
<tr>
<th>Experience in startups</th>
<th>2016(n=295)</th>
<th>2017(n=300)</th>
<th>2018(n=296)</th>
<th>Unit %</th>
</tr>
</thead>
<tbody>
<tr>
<td>No related experience</td>
<td>103</td>
<td>103</td>
<td>103</td>
<td>35.0%</td>
</tr>
<tr>
<td>Worked for a startup</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>10.5%</td>
</tr>
<tr>
<td>On the startup team</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

- Of responding companies, 35.0 percent answered that the founder had no experience in founding a startup, while 10.5 percent answered that their founder had experience in founding a startup, or as an employee, incubator, or investor of another startup.

- In 2018, the number of companies founded by someone with experience in founding a startup decreased by 13.9 percentage points under the previous year, while the number of companies founded by someone with no related experience increased by 16 percentage points.
**Second Language Proficiency**

<table>
<thead>
<tr>
<th>Language</th>
<th>Unit number</th>
<th>Unit %</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td>Japanese</td>
<td>11</td>
<td>5.3</td>
</tr>
<tr>
<td>Chinese</td>
<td>5</td>
<td>2.4</td>
</tr>
<tr>
<td>Native</td>
<td>56</td>
<td>26.7</td>
</tr>
</tbody>
</table>

**Comparison by year**

- Among company founders, 71.4% spoke English as a second language.
- A comparison of the companies in terms of founders' second language proficiency by investment round revealed that founders in the Pre-Seed round were relatively less proficient in English.

**Reasons for Founding a Startup**

- Among startup founders, the largest proportion (33.0%) answered that they founded startups to realize their ideas, while 23.6% percent answered that they wanted to solve problems, and 10.6% answered that they are not fluent in English.
- In terms of founders' second language proficiency and investment rounds, founders of companies in the Seed round and later could use simple business terms and engage in conversations in a second language.

**Level of Second Language Proficiency**

- The level of second language proficiency for the entire Sample is 27.3%.
- Among founders who answered that they speak a second language, 27.3% percent indicated that they can use simple business terms in conversation, while 31.9% percent responded that they are not fluent in English and asked for help in communicating with foreigners.
- Of respondents who answered that they can speak a second language, 27.3 percent indicated that they can use simple business terms in conversation, while 31.9 percent responded that they are not fluent in English and asked for help in communicating with foreigners, and 21.6 percent answered that they are able to engage in simple conversations.
- Among founders who answered that they speak a second language, 27.3% percent indicated that they can use simple business terms in conversation, while 31.9% percent responded that they are not fluent in English and asked for help in communicating with foreigners, and 21.6% percent answered that they are able to engage in simple conversations.
Prominent Characteristics of Startups

(Multiple answers)

| Characteristics of Startups | 2018(%) | 2017 (%)
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile internet business field</td>
<td>116 18.2</td>
<td>130 19.2</td>
</tr>
<tr>
<td>Hard-to-enter technology</td>
<td>79 15.8</td>
<td>115 20.1</td>
</tr>
<tr>
<td>Strong human resources management: performance (investment themes, investment performance, sales)</td>
<td>96 15.3</td>
<td>112 17.7</td>
</tr>
<tr>
<td>High growth rate</td>
<td>8k 15.7</td>
<td>14k 20.0</td>
</tr>
<tr>
<td>Innovation business model</td>
<td>78 12.8</td>
<td>112 18.2</td>
</tr>
<tr>
<td>Investment attraction beyond a certain level</td>
<td>83 13.4</td>
<td>138 22.1</td>
</tr>
<tr>
<td>Revenue beyond a certain level</td>
<td>51 8.1</td>
<td>122 21.0</td>
</tr>
<tr>
<td>Another name for IT companies</td>
<td>30 5.0</td>
<td>50 8.8</td>
</tr>
</tbody>
</table>

*No response: 1.0% 

- Startups answered that the focus on mobile internet business field (18.2%), hard-to-enter technology (15.8%), and strong human resources management (15.3%) were major characteristics of startups. On the other hand, 5.0% of respondents answered that there is no big difference between IT startups and other startups.

Must-Have Skills for Startup Founders

(Multiple answers)

<table>
<thead>
<tr>
<th>Must-Have Skills for Startup Founders</th>
<th>Total (2018)</th>
<th>Total (2017)</th>
<th>% of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technological skills</td>
<td>150 26.2</td>
<td>128 21.5</td>
<td></td>
</tr>
<tr>
<td>Business planning/marketing skills</td>
<td>126 22.0</td>
<td>112 19.9</td>
<td></td>
</tr>
<tr>
<td>Ability to price external funding</td>
<td>82 14.5</td>
<td>72 12.0</td>
<td></td>
</tr>
<tr>
<td>Entrepreneurial skills</td>
<td>22 3.9</td>
<td>22 3.9</td>
<td></td>
</tr>
<tr>
<td>Management or executive leader in related companies or other related occupations</td>
<td>22 3.9</td>
<td>22 3.9</td>
<td></td>
</tr>
<tr>
<td>Ability to manage enough capital</td>
<td>13 2.3</td>
<td>13 2.3</td>
<td></td>
</tr>
<tr>
<td>Attended good schools, high level of education</td>
<td>6 1.1</td>
<td>6 1.1</td>
<td></td>
</tr>
<tr>
<td>No response/Don’t know</td>
<td>8 1.5</td>
<td>8 1.5</td>
<td></td>
</tr>
<tr>
<td>Another name for IT companies</td>
<td>33 5.3</td>
<td>33 5.3</td>
<td></td>
</tr>
</tbody>
</table>

*The largest proportion of respondents answered that startup founders must have technological skills (26.2%), followed by business planning/marketing skills (22.0%), entrepreneurial skills (14.5%), and management or executive leader in related companies (3.9%).

Talent & Experience

Number of Persons with Prior Startup Experience

<table>
<thead>
<tr>
<th>Average: 3.4</th>
<th>Total (2018)</th>
<th>Total (2017)</th>
<th>% of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>61</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>56</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>5-9</td>
<td>27</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>10-19</td>
<td>28</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>20 or more</td>
<td>28</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>198</td>
<td>120</td>
<td>100</td>
</tr>
</tbody>
</table>

*Comparing the results of the 2017 study shows that the number of persons that attended intermediate business school was a distinguishing characteristic of startups decreased by 0.4 percentage points, while those that had attended business schools was a distinguishing characteristic of startups has been increasing steadily over the past three years. In addition, those who expected that the most prominent characteristics were future growth potential and innovative business model increased, while those that answered the most prominent characteristics were high growth rate and investment attraction beyond a certain level decreased.

- A comparison with the results of the 2017 study showed that the percentage of companies that had four or more persons with prior startup experience (33.3% of companies with prior startup experience, 40.7% of companies with prior startup experience, and 28.8% of companies) had two to three persons with prior startup experience. Overall, about 60.3% of companies had persons with prior startup experience.

Number of Tech Personnel

<table>
<thead>
<tr>
<th>Average: 6.3 persons</th>
<th>Total (2018)</th>
<th>Total (2017)</th>
<th>% of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>26</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>5-9</td>
<td>98</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>10-19</td>
<td>28</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>20 or more</td>
<td>28</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>198</td>
<td>120</td>
<td>100</td>
</tr>
</tbody>
</table>

*The average number of tech personnel in startups increased in 2018 by 1.4, from 4.8 in 2018. In particular, the proportion of companies with four to five tech personnel rose by 17 percentage points (30.3%).

- The number of respondents who answered that technical skills and the ability to secure external funding are the most critical skills has been decreasing steadily over the past three years. In 2018, the number of respondents who answered that business planning/marketing skills as must-have abilities has decreased compared to 2017, while those who answered entrepreneurship skills as a must-have for founders has been decreasing continuously.

- A comparison with the results of the 2017 study showed that the percentage of companies that had four or more persons with prior startup experience.
### Startups with Tech Personnel at the Time of Founding

**Unit number**

| Yes | 238 |
| No | 52 |

**Personnel at the Time of Founding**

| Yes | 238 | 81.0 |
| No | 52 | 19.7 |
| Total | 290 | 100.0 |

*No response: 1.4%*

- **Overall:** 81.0 percent of companies had people with a tech background at the time of founding.

### Time of Hiring Tech Personnel

**Unit number**

| 0 month | 52 |
| 1-6 months | 172 |
| 7-12 months | 38 |
| 13-18 months | 18 |
| 19-24 months | 7 |
| 25 months or more | 18 |

**Comparison by year**

| 2019 (n=290) | 2017 (n=300) | 2018 (n=240) |
| 0 month | 56.6% | 52.7% |
| 1-6 months | 40.1% | 44.3% |
| 7-12 months | 3.3% | 3.0% |
| 13-18 months | 0.7% | 0.7% |
| 19-24 months | 0.7% | 0.7% |
| 25 months or more | 0.3% | 0.3% |

**No response:** 1.4%

- **On average:** startups hired tech personnel 6.4 months after their founding.
- **An examination of when startups hired their tech personnel showed that the majority of companies (58.0%) hired such personnel from one to six months after founding, with 17.7% of startups hiring tech personnel at the time of founding. The results show that a large proportion of startups hired tech personnel in the early stages of their establishment.

### Comparison of startups with people at a tech background at the time of founding increased by 2.3 percentage points, from 78.7 percent in 2018.

### Type of Personnel

**Comparison by year**

| 2019 (n=290) | 2017 (n=300) | 2018 (n=240) |
| Total | 56.6% | 52.7% |
| Female | 52.7% | 52.7% |
| Male | 47.3% | 47.3% |

**No response:** 1.4%

- **On average:** startups had 3.7% female personnel, 53.9% technical, and 5.3% foreign.
- **Thirty-nine percent had no female personnel, 79.3% had no technologists, and 79.2 percent had no foreigners.**
- **When comparing companies by investment round, the number of female personnel increased from the Pre-Seeds to Series B round. In terms of technologists, Seed-round companies had the lowest, while Series A round companies had the most.**

### Software Developer Salaries

**Average:** KRW 40.67 million

| Unit number | 2019 (n=290) | 2017 (n=300) | 2018 (n=240) |
| 1 person | 14.1 million | 14.7 million |
| 1 to 2 people | 11.8 million | 11.4 million |
| 3 people | 11.5 million |
| 4 people | 11.5 million |
| 5 to 9 people | 11.4 million |
| 10 people or more | 11.2 million |
| Total | 11.6 million |
| Software developer salaries | 11.6 million |
| More than 150 people | 11.6 million |
| More than 100 people and 149 people | 11.6 million |
| More than 50 people and 99 people | 11.6 million |
| More than 10 people and 49 people | 11.6 million |
| More than 5 people and 9 people | 11.6 million |
| More than 2 people and 4 people | 11.6 million |
| Total | 11.6 million |

**Comparison by year**

| 2019 (n=290) | 2017 (n=300) | 2018 (n=240) |
| Average | 155.7% | 152.7% |
| Software developer salaries | 155.7% |
| More than 150 people | 155.7% |
| More than 100 people and 149 people | 155.7% |
| More than 50 people and 99 people | 155.7% |
| More than 10 people and 49 people | 155.7% |
| More than 5 people and 9 people | 155.7% |
| Average | 155.7% |

**A comparison with the 2017 study shows that the average salary of software developers increased overall, in the number of those receiving salaries of less than KRW 50 million decreased while those receiving KRW 100 million or more increased.**

### Female personnel

**Comparison by year**

| 2019 (n=290) | 2017 (n=300) | 2018 (n=240) |
| Average | 23.8 people |
| Average | 23.8 people |
| Average | 23.8 people |

**A comparison with the 2017 study showed that the average number of women at startups increased by 0.7 from 2.0 in 2017 to 2.7 in 2018. The number of companies with no women at all decreased by 0.7 percentage points.**
Number of Persons with Appraisal Rights

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Persons</th>
<th>Count (% of Total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>23</td>
<td>7.6</td>
</tr>
<tr>
<td>2</td>
<td>19</td>
<td>4.5</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
<td>4.4</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>2.4</td>
</tr>
<tr>
<td>5 or more</td>
<td>31</td>
<td>18.5</td>
</tr>
<tr>
<td>Total</td>
<td>313</td>
<td>100%</td>
</tr>
</tbody>
</table>

* "No employee" 3.1%

Offering of or Intention to Offer Stock Option

<table>
<thead>
<tr>
<th>Stage</th>
<th>Pre-Seed</th>
<th>Seed</th>
<th>Series A</th>
<th>Series B</th>
<th>Exit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current offering</td>
<td>38.4%</td>
<td>38.4%</td>
<td>60.0%</td>
<td>62.7%</td>
<td>66.7%</td>
</tr>
<tr>
<td>Intention to offer</td>
<td>44.9%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage</th>
<th>Pre-Seed</th>
<th>Seed</th>
<th>Series A</th>
<th>Series B</th>
<th>Exit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plans to offer</td>
<td>31.5%</td>
<td>63.7%</td>
<td>67.3%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>No plans to offer</td>
<td>68.5%</td>
<td>36.3%</td>
<td>32.7%</td>
<td>0.0%</td>
<td></td>
</tr>
</tbody>
</table>

* Research showed that 38.4 percent of companies offered their employees stock option incentives, and 60.0 percent of those who were currently offering stock option incentives announced that they have plans to do so.

* When comparing companies by investment round, the number of those offering or intending to offer stock option incentives rose overall from the Pre-Seed round to Exit.
### Funding

#### Business Financing

<table>
<thead>
<tr>
<th>(multiple answers)</th>
<th>Unit number</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology guarantee funds or credit guarantee funds</td>
<td>150</td>
<td>51.5</td>
</tr>
<tr>
<td>Self-financing (core capital)</td>
<td>141</td>
<td>48.5</td>
</tr>
<tr>
<td>Banks or non-bank financial institutions</td>
<td>78</td>
<td>26.5</td>
</tr>
<tr>
<td>Venture capital (VC)</td>
<td>66</td>
<td>22.6</td>
</tr>
<tr>
<td>Angel investors or accelerators</td>
<td>63</td>
<td>21.1</td>
</tr>
<tr>
<td>Companies run by local governments or academies</td>
<td>61</td>
<td>20.7</td>
</tr>
<tr>
<td>Local government (in the form of seed Matchmakers or Government/University Business Incubators)</td>
<td>62</td>
<td>19.3</td>
</tr>
<tr>
<td>Other companies</td>
<td>29</td>
<td>9.9</td>
</tr>
<tr>
<td>Crowdfunding</td>
<td>17</td>
<td>5.6</td>
</tr>
</tbody>
</table>

*The largest proportion of startups (51.5%) were funded by technology guarantee funds or credit guarantee funds, while 48.5% were self-financed, and 43.5% were funded by the central or local government ministries.*

#### Number of Companies by Investment Round

<table>
<thead>
<tr>
<th>Unit number</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Seed Round</td>
<td>151</td>
</tr>
<tr>
<td>Seed Round</td>
<td>72</td>
</tr>
<tr>
<td>Series A</td>
<td>60</td>
</tr>
<tr>
<td>Series B and later</td>
<td>18</td>
</tr>
</tbody>
</table>

*Financing stages were divided into: Pre-Seed round, Seed round, Series A, Series B, and Later. Startups in the Pre-Seed round accounted for 51.4%, followed by those in the Seed round, at 24.5%; Series A, at 13.6%; Series B, at 6.7% and Later, at 4.6%.*

### Desired Investors

<table>
<thead>
<tr>
<th>Unit number</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Seed Round</td>
<td>27</td>
</tr>
<tr>
<td>Seed Round</td>
<td>26</td>
</tr>
<tr>
<td>Series A</td>
<td>24</td>
</tr>
<tr>
<td>Series B and later</td>
<td>16</td>
</tr>
</tbody>
</table>

*Of companies in the Pre-Seed round, 17.8% hoped to finance their own businesses, while 11.9% percent hoped to attract investment from the central/local government. A large proportion of companies that hoped to attract investment from venture capital or angel investors/accelerators were 16.8% and 15.2%, respectively.*

### Analysis of Korean Startups

#### Comparison by year

<table>
<thead>
<tr>
<th>Year</th>
<th>Pre Seed Round</th>
<th>Seed Round</th>
<th>Series A</th>
<th>Series B or later</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>151</td>
<td>72</td>
<td>60</td>
<td>18</td>
</tr>
<tr>
<td>2017</td>
<td>151</td>
<td>72</td>
<td>60</td>
<td>18</td>
</tr>
<tr>
<td>2018</td>
<td>240</td>
<td>151</td>
<td>125</td>
<td>151</td>
</tr>
</tbody>
</table>

*While the proportion of startups in the Pre-Seed round has decreased by 13.9 percentage points, the proportion of startups in the Seed and later rounds has increased by 8.8 percentage points overall.*

<table>
<thead>
<tr>
<th>Year</th>
<th>Desired Investors</th>
<th>Pre Seed Round</th>
<th>Seed Round</th>
<th>Series A</th>
<th>Series B and later</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>27</td>
<td>26</td>
<td>24</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>2017</td>
<td>27</td>
<td>26</td>
<td>24</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>2018</td>
<td>27</td>
<td>26</td>
<td>24</td>
<td>16</td>
<td>3</td>
</tr>
</tbody>
</table>

*There was an increase of 13.0% in the proportion of startups that hoped to finance their own businesses, while a decrease of 11.9% in the proportion of startups that hoped for investment from the government.*
Difficulties in Attracting Investment

1. Difficulty finding investors
2. Investment decisions are based on short-term (unrealistic) results
3. Lack of information on attracting investment
4. Difficulty procuring funding
5. Lack of network

Most Recent Year in Which Startups Attracted Investment

- The largest number of startups in the Seed round had attracted investment in 2018 (33.3%), followed by those who had done so in 2017 (19.4%).
- In the 2017 study, companies that attracted investment in the same year accounted for 33.3% of the total. In 2018, however, those that attracted investment in the same year decreased to 20.3%.

Amount of Investment Recently Attracted

- The average amount of investment that startups had recently attracted from angel investors and accelerators was KRW 303.97 million. The largest proportion of companies had received less than KRW 50 million (25.0%), followed by those that received between KRW 100 million and 500 million (23.7%).
- A comparison with the 2016 study showed that the average amount of investment attracted most recently by startups rose by KRW 16.69 million, from KRW 287.70 million in 2016 to KRW 304.39 million in 2018. Of particular note is that companies attracting funding of less than KRW 50 million rose by 8.7 percentage points.

Desired Amount of Initial Investment

- On average, startups hoped to attract KRW 78.33 million in initial investment. The largest proportion of startups (40%) hoped to attract KRW 100 million or more, while the second largest group (25.0%) hoped to attract between KRW 50 and 100 million.
- A comparison with the 2017 study showed that the average initial investment that startups hoped to attract increased by KRW 15.98 million, from KRW 62.33 million in 2017 to KRW 78.33 million in 2018.
- The proportion of startups that hoped to attract an initial investment of less than KRW 50 million also increased overall.
Desire to Attract Investment from Venture Capital (VC) Firms

Desire to Attract Investment from Venture Capital (VC) Firms

<table>
<thead>
<tr>
<th>Seed Round</th>
<th>2018=1598</th>
<th>2019=1279</th>
<th>2018=1515</th>
<th>Unit %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>88.2</td>
<td>76.3</td>
<td>76.4</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>11.8</td>
<td>23.7</td>
<td>22.2</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

- Of responding startups, 76.4% percent hoped to attract their next round of funding from VCs.
- This was similar to the results of the 2017 study.

Difficulties in Attracting Investment from VCs

1. Investment decisions are based on short-term (bail out) results.
2. Difficulty making value estimations.
3. Difficulty connecting with VCs.
4. Lack of network.
5. Difficulty procuring funding.
6. Difficulty proving effectiveness of the profit model.
8. VCs tend to make conservative investment decisions.
9. Difficulty attracting investment due to small company size.
10. Projects are in areas with which VCs are unfamiliar.
11. Funding is limited to certain areas.

- The difficulties faced by startups in attracting investment included evaluations based on short-term (bail out) results, difficulty making value estimations for projects, and difficulty connecting with VCs.

Total Investment Attracted from VCs

Series A Round

<table>
<thead>
<tr>
<th>Average (KRW 1.98 billion)</th>
<th>Unit number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Investment Attracted from VCs</td>
<td>6</td>
</tr>
<tr>
<td>Loss less than KRW 300 million</td>
<td>6</td>
</tr>
<tr>
<td>Loss between KRW 300 million and 500 million</td>
<td>12</td>
</tr>
<tr>
<td>Loss between KRW 500 million and 1 billion</td>
<td>12</td>
</tr>
<tr>
<td>Loss between KRW 1 billion and 3 billion</td>
<td>7</td>
</tr>
<tr>
<td>Loss more than 3 billion</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
</tr>
</tbody>
</table>

- The total investment that Series A startups attracted from VCs was KRW 1.98 billion. The largest proportion of startups attracted funding in the range of KRW 1 billion to 3 billion (30.0%), followed by KRW 100 million to 1 billion (22.6%), and KRW 3 billion or more (17.5%).

CEOs’ Share Acquisition Rate

Series A Round

<table>
<thead>
<tr>
<th>Average: 56.3%</th>
<th>Unit number</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEOs’ Share Acquisition Rate</td>
<td>4</td>
</tr>
<tr>
<td>20% or less</td>
<td>6</td>
</tr>
<tr>
<td>21% to 40%</td>
<td>9</td>
</tr>
<tr>
<td>41% to 60%</td>
<td>12</td>
</tr>
<tr>
<td>61% to 80%</td>
<td>12</td>
</tr>
<tr>
<td>81% to 99%</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
</tr>
</tbody>
</table>

- The share acquisition rate of CEOs in Series A startups was 56.3%.

- Responding Series A startups’ answers to a question about the percentage of shares acquired by their CEOs when attracting their initial investment showed that the median was around 52.5 percent.

Analysis of Korean Startups

Comparison by year

- A comparison with the 2017 study showed that the average proportion of shares acquired by startup CEOs increased by 3.1 percentage points, from 53.2 percent to 56.3 percent. Also, the proportion of CEOs who acquired between 61 percent and 80 percent of shares increased significantly — by 10.5 percentage points.

- A comparison with the 2017 study showed that the total amount of funding startups attracted from VCs increased by KRW 64.42 billion in 2018, from about KRW 1.98 trillion in 2017.

- The number of companies receiving large-scale investment over KRW 1 billion increased.
Current Difficulties in Attracting Investment

Series A Round

1. Necessity of preparing for performance management
2. Investment decisions are based on short-term (sales) results
3. Difficulty convincing investors of the profitability of projects
4. Difficulty proving effectiveness of the profit model
5. Difficulty finding investors
6. Difficulty deciding on stock multiple and shareholding percentage
7. Difficulty receiving continuous investments

Series B Round

Size of Follow-up Investment Attracted from VCs

- Series B startups attracted an average of KRW 4.48 billion from VCs, with the largest proportion (68.9%) acquiring funding of KRW 3 billion or more.
- Caution is recommended for sample sizes of less than 30.

 CEOs’ Share Acquisition Rate

- CEOs of Series B startups acquired an average of 30.4% of their companies’ shares, with the largest proportion (38.9%) acquiring between 21 percent and 60 percent of shares.
- Caution is recommended for sample sizes of less than 30.

Current Difficulties in Attracting Investment

Series B Round

1. Investment decisions are based on short-term (sales) results
2. Difficulty deciding on stock multiple and shareholding percentage
3. Investors are hesitant about investing in certain industries
4. VCs tend to make conservative investment decisions
5. Difficulty meeting investment conditions
6. Difficulty proving effectiveness of the profit model
7. Necessity of preparing for future growth
### Market Reach

#### Analysis of Korean Startups

#### Startup Business Types

- **Startup Business Types**
  - **Pre Seed**
  - **Seed**
  - **Series A**
  - **Exit**

- The largest number of startups involved both development of physical products and provided services, accounting for 47.3 percent. While the second largest group of startups were dedicated to the development and provision of services, 44.2 percent of startups focused solely on the development of physical products.

- A comparison with the 2017 study showed that the proportion of startups that both developed physical products and provided services rose by 3.8 percentage points, while the proportion that focused solely on development of physical products decreased by 0.9 percentage points.

#### Launches of Products and Services

- **Launches of Products and Services**

- **Pre Seed**
  - **Seed**
  - **Series A**
  - **Exit**

- *Startups that had already launched their products or services accounted for 75.2 percent of all responding startups.*
- *The product release rate increased throughout the investment rounds overall but dipped slightly in the Series A round.*

- A comparison with the 2017 study revealed that the product and service release rate was about the same level, at 76.2 percent.

---

### Payback Period

**Payback Period**

- **Exit**

- *Number of startups in the exit stage an average of 5.8 years to recover investment costs.*

<table>
<thead>
<tr>
<th>Year</th>
<th>Unit number</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>18.0</td>
<td>25.5</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>18.0</td>
<td>25.5</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>18.0</td>
<td>25.5</td>
</tr>
<tr>
<td>4 or more</td>
<td>1</td>
<td>18.0</td>
<td>25.5</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>72.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### Number of Investments Received from VCs

- **Number of Investments Received from VCs**

<table>
<thead>
<tr>
<th>Reason for Negative Perception</th>
<th>Unit number</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in the number of policy support programs</td>
<td>1</td>
<td>25.5</td>
<td></td>
</tr>
<tr>
<td>Increasing market demand for mergers and acquisitions</td>
<td>2</td>
<td>75.0</td>
<td></td>
</tr>
<tr>
<td>Prior experience</td>
<td>3</td>
<td>25.5</td>
<td></td>
</tr>
<tr>
<td>Complied to agree to merge with capital increase in order to succeed</td>
<td>4</td>
<td>25.5</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

- The largest proportion of startups (50%) attracted one investment from VCs before they recovered investment costs.
- *Caution in interpreting is necessary for sample sizes of less than 30.*

---

### Perception of Startups on Possibility of Recovering Investment Costs

- **Perception of Startups on Possibility of Recovering Investment Costs**

<table>
<thead>
<tr>
<th>Positive</th>
<th>3</th>
<th>75.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>1</td>
<td>25.0</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>100.0</td>
</tr>
</tbody>
</table>

- *Of the startups in the exit stage, 75.0 percent answered that they felt positive about the possibility of recovering investment costs.*
- *Caution in interpreting is necessary for sample sizes of less than 30.*

---

### Reasons for Negative Perception on the Possibility of Recovering Investment Costs

- **Reasons for Negative Perception on the Possibility of Recovering Investment Costs**

<table>
<thead>
<tr>
<th>Reason for Negative Perception</th>
<th>Unit number</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in the number of policy support programs</td>
<td>1</td>
<td>25.5</td>
<td></td>
</tr>
<tr>
<td>Increasing market demand for mergers and acquisitions</td>
<td>2</td>
<td>75.0</td>
<td></td>
</tr>
<tr>
<td>Prior experience</td>
<td>3</td>
<td>25.5</td>
<td></td>
</tr>
<tr>
<td>Complied to agree to merge with capital increase in order to succeed</td>
<td>4</td>
<td>25.5</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

- *The reasons for startups having a negative view of the possibility of recovering investment costs included the growing number and variety of government support programs.*
- *Caution in interpreting is necessary for sample sizes of less than 30.*

---

### Comparison by year

<table>
<thead>
<tr>
<th>Year</th>
<th>Unit %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-2019</td>
<td>47.3</td>
</tr>
<tr>
<td>2016-2018</td>
<td>44.2</td>
</tr>
<tr>
<td>2017-2019</td>
<td>47.7</td>
</tr>
<tr>
<td>2018-2019</td>
<td>44.2</td>
</tr>
</tbody>
</table>

- A comparison with the 2017 study showed that the proportion of startups that both developed physical products and provided services rose by 3.8 percentage points, while the proportion that focused solely on development of physical products decreased by 0.9 percentage points.
### Number of Product/Service Languages

<table>
<thead>
<tr>
<th>Language Type</th>
<th>Total</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 or more</td>
<td>42</td>
<td>35.1</td>
<td>38.6</td>
<td>36.4</td>
</tr>
<tr>
<td>1</td>
<td>12</td>
<td>11.6</td>
<td>14.9</td>
<td>15.1</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
<td>12.0</td>
<td>14.9</td>
<td>15.1</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>2.8</td>
<td>3.3</td>
<td>4.0</td>
</tr>
<tr>
<td>4 or more</td>
<td>3</td>
<td>17.6</td>
<td>19.9</td>
<td>21.7</td>
</tr>
</tbody>
</table>

- **Total** number of companies: 82
- **Number of companies** by language: 1 (3.7%), 2 (14.7%), 3 (3.0%), 4 or more (54.9%)

### Sales Revenue

<table>
<thead>
<tr>
<th>Year</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Sales Revenue** by year
- **Yes** vs. **No** comparison by year

### Time to First Sale

<table>
<thead>
<tr>
<th>Interval</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016-2018</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017-2019</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018-2019</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Time to First Sale** by interval

### English Resources

<table>
<thead>
<tr>
<th>Category</th>
<th>Total</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company profile</td>
<td>196</td>
<td>181</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing plan</td>
<td>97</td>
<td>71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Press kit</td>
<td>69</td>
<td>42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product literature</td>
<td>42</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promotional video</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human cloud report</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>62</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **English Resources** by category
- **Total** number of companies: 82

### Comparison

- The largest proportion of products and services were written in one language, according to 37.1 percent, followed by two languages (38.4%), four or more languages (13.9%), and three languages (12.9%).
- The number of languages began to decline in the Seed round but rose again in the Series B and later rounds.
- The largest proportion of resources that startups had or provided in English was the company website, which accounted for 66.7 percent of the total, followed by company profiles (81.6%), proposals (33.5%), and product-related news (24.1%).
- Companies that provided one service language or three or more languages rose a 2018 over 2017.
- Of responding companies, 68.7 percent were earning sales revenue, which is a similar level to that found in 2017.
- Compared to the results of the 2017 study, the proportion of startups earning sales revenue remained at a similar level in 2018.
Value of Sales in Previous Year

**Unit number**

<table>
<thead>
<tr>
<th>Category</th>
<th>2019 (x=190)</th>
<th>2017 (x=78)</th>
<th>2018 (x=342)</th>
<th>Unit %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than KRW 10 million</td>
<td>48</td>
<td>14.6%</td>
<td>29.1%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Between KRW 10 million and 30 million</td>
<td>80</td>
<td>14.9%</td>
<td>20.8%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Between KRW 30 million and 100 million</td>
<td>61</td>
<td>14.1%</td>
<td>17.4%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Between KRW 100 million and 300 million</td>
<td>24</td>
<td>10.7%</td>
<td>13.9%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Between KRW 300 million and 1 billion</td>
<td>33</td>
<td>13.6%</td>
<td>9.9%</td>
<td>3.3%</td>
</tr>
<tr>
<td>KRW 1 billion or more</td>
<td>48</td>
<td>16.5%</td>
<td>16.5%</td>
<td>5.5%</td>
</tr>
</tbody>
</table>

- The largest proportion of startups made less than KRW 10 million in sales in the previous year (2017), accounting for 30.9 percent, followed by startups that made over KRW 1 billion (18.0%), and between KRW 100 million and KRW 300 million (16.5%).

- When comparing companies by investment round, the value of sales in 2017 generally decreased from the Pre-Seed round to Exit but not significantly in the Series B round.

• A comparison of sales figures by year showed that the number of companies that made less than KRW 1 billion has been decreasing.

Comparison of Patents with Previous Years

The number of patents registered decreased by 0.6% from 2016 to 2017. The number of patent applications also decreased by 0.6%, from 3.0% in 2016 to 2.4% in 2017.

<table>
<thead>
<tr>
<th>Patents</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>148</td>
<td>145</td>
</tr>
<tr>
<td>Korea</td>
<td>129</td>
<td>126</td>
</tr>
<tr>
<td>Overseas</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Korea</td>
<td>129</td>
<td>126</td>
</tr>
<tr>
<td>Overseas</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Korea</td>
<td>129</td>
<td>126</td>
</tr>
<tr>
<td>Overseas</td>
<td>19</td>
<td>19</td>
</tr>
</tbody>
</table>

- An analysis of the patents filed or applied for by startups revealed that they had an average of 1.9 patents registered in Korea, 0.4 patents registered overseas, 1.6 patent applications filed in Korea, and 0.8 patent applications filed overseas. Companies that have not patents registered in Korea accounted for 50.5 percent; no patents registered overseas, for 87.1 percent; no patent applications filed in Korea, for 56.1 percent; and no patent applications filed overseas, for 78.9 percent.
### Analysis of Korean Startups

#### Utility Model

<table>
<thead>
<tr>
<th>Type of Utility Model</th>
<th>Unit: number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td>279</td>
</tr>
<tr>
<td>Overseas</td>
<td>288</td>
</tr>
</tbody>
</table>

#### Design Patent

<table>
<thead>
<tr>
<th>Type of Design Patent</th>
<th>Unit: number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td>282</td>
</tr>
<tr>
<td>Overseas</td>
<td>285</td>
</tr>
</tbody>
</table>

#### Trademark Right

<table>
<thead>
<tr>
<th>Type of Trademark Right</th>
<th>Unit: number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td>192</td>
</tr>
<tr>
<td>Overseas</td>
<td>263</td>
</tr>
</tbody>
</table>

#### Copyright

<table>
<thead>
<tr>
<th>Type of Copyright</th>
<th>Unit: number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td>263</td>
</tr>
<tr>
<td>Overseas</td>
<td>252</td>
</tr>
</tbody>
</table>

---

**Notes:**

- Utility Model: The analysis showed that startups had an average of 0.1 domestic and 0.1 overseas utility models. Companies with no domestic utility models accounted for 94.9 percent, while those with no overseas utility models accounted for 98.0 percent.

- Design Patent: The analysis showed that startups held the intellectual property rights for an average of 0.6 product design patents in Korea and 0.1 product design patents overseas. Companies with no intellectual property rights for product design patents in Korea accounted for 97.2 percent, while those with no intellectual property rights for product design patents overseas accounted for 96.9 percent.

- Trademark Right: The analysis revealed that startups had an average of 1.0 domestic trademark and 0.3 overseas trademarks. Companies with no domestic trademarks accounted for 60.3 percent, while those with no overseas trademarks accounted for 88.0 percent.

- Copyright: The analysis showed that startups had an average of 3.5 copyrights in Korea and 0.0 copyrights overseas. Companies with no copyrights in Korea accounted for 98.5 percent, while those with no copyrights overseas accounted for 98.0 percent.
### Intellectual Property Rights

#### Patent
- Comparison by year:
  - **2016-2018**: Total: 28,162,22,333,25,587
  - **2017-2019**: Total: 26,322,19,211,23,384
  - **2018-2020**: Total: 16,742,16,646,16,646

#### Utility Model
- Comparison by year:
  - **2016-2018**: Total: 4,287,4,424,2,740
  - **2017-2019**: Total: 4,072,1,372,1,264
  - **2018-2020**: Total: 4,408,3,202,2,502

#### Trademark
- Comparison by year:
  - **2016-2018**: Total: 8,237,8,390,2,615
  - **2017-2019**: Total: 910,3,073,2,694
  - **2018-2020**: Total: 45,693,95,487,99,934

### Comparison of the Rate of Growth in Registered Intellectual Property Rights

#### Patent
- **2014-2016**: Average annual growth rate among startups over three years: -4.0%
- **2018**: Average annual growth rate among startups in 2018: 29.0%

#### Utility Model
- **2014-2016**: Average annual growth rate among startups over three years: -4.0%

#### Trademark
- **2014-2016**: Average annual growth rate among startups over three years: -21.5%

---

*When compared to statistics from the Korean Intellectual Property Office (for 2014 to 2016), the growth rates for registered patent, registered utility model, and registered design patent were found to have increased.*
Startups with Intellectual Property Rights by Investment Round

<table>
<thead>
<tr>
<th>Category</th>
<th>Pre Seed</th>
<th>Seed</th>
<th>Series A</th>
<th>Series B</th>
<th>Exit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017 Patent registration (total)</td>
<td>1.9</td>
<td>2</td>
<td>3.9</td>
<td>6.2</td>
<td>2.2</td>
</tr>
<tr>
<td>2017 Patent registration (average)</td>
<td>0.4</td>
<td>0.7</td>
<td>0.8</td>
<td>4.0</td>
<td>2.0</td>
</tr>
<tr>
<td>2017 Patent application (total)</td>
<td>1.2</td>
<td>1.5</td>
<td>2.9</td>
<td>6.8</td>
<td>2.2</td>
</tr>
<tr>
<td>2017 Patent application (average)</td>
<td>0.8</td>
<td>1.6</td>
<td>3.8</td>
<td>5.8</td>
<td>1.8</td>
</tr>
<tr>
<td>2017 Patent application (average)</td>
<td>0.3</td>
<td>1.3</td>
<td>1.6</td>
<td>2.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Trademark right (total)</td>
<td>0.7</td>
<td>1.8</td>
<td>2.2</td>
<td>2.5</td>
<td>1.8</td>
</tr>
<tr>
<td>Trademark right (average)</td>
<td>0.7</td>
<td>1.2</td>
<td>1.5</td>
<td>1.5</td>
<td>0.7</td>
</tr>
<tr>
<td>Trademark right (Overseas)</td>
<td>0.1</td>
<td>1.7</td>
<td>1.7</td>
<td>0.2</td>
<td>0.3</td>
</tr>
</tbody>
</table>

*The number of intellectual property rights held by startups increased from the Pre-Seed to Series B rounds.

Overseas Expansion

<table>
<thead>
<tr>
<th>Company Plans to Expand Overseas</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>65</td>
<td>22.1</td>
</tr>
<tr>
<td>No</td>
<td>36</td>
<td>23.3</td>
</tr>
<tr>
<td>Not reported</td>
<td>22</td>
<td>7.3</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

*Analysis revealed that 22.1 percent of Korean startups have advanced into overseas markets, and 22.1 percent have achieved sales, which is relatively high.

A comparison by year showed that the proportion of startups preparing to enter overseas markets is in a decreasing trend.

Targeted and Preferred Countries/Regions for Overseas Expansion

(Multiple answers)

<table>
<thead>
<tr>
<th>Country</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>91</td>
<td>66</td>
<td>40</td>
</tr>
<tr>
<td>North America (United States and Canada)</td>
<td>57</td>
<td>24</td>
<td>28</td>
</tr>
<tr>
<td>Southeast Asia</td>
<td>173</td>
<td>127</td>
<td>96</td>
</tr>
<tr>
<td>Japan</td>
<td>66</td>
<td>54</td>
<td>41</td>
</tr>
<tr>
<td>North America (United States and Canada)</td>
<td>62</td>
<td>48</td>
<td>42</td>
</tr>
<tr>
<td>Southeast Asia</td>
<td>81</td>
<td>64</td>
<td>54</td>
</tr>
<tr>
<td>Japan</td>
<td>36</td>
<td>28</td>
<td>22</td>
</tr>
<tr>
<td>North America (United States and Canada)</td>
<td>12</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>Southeast Asia</td>
<td>9</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Others</td>
<td>7</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

*The 2016 study showed that startups expressed a preference for North America (60.4%), followed by Southeast Asia (31.9%) and China (8.7%).

*On the other hand, North America was the most popular target country among startups that had already expanded overseas, with 62.5 percent of startups having established a presence there, followed by Southeast Asia (41.6%) and China (31.6%).

*Other regions and countries included South America, the Middle East, Central Asia, Australia, and Africa.

Difficulties in Expanding Overseas

1. Difficulty securing sufficient funding
2. Marketing difficulties
3. Language barrier
4. Difficulty finding new distribution channels, customers, and markets
5. Difficulty finding professional personnel
6. Difficulty finding partners
7. Lack of information on the region
8. High labor costs
9. High marketing costs
10. Difficulty receiving product certification

*The greatest difficulty faced by startups in expanding overseas was found to be securing sufficient funding, followed by marketing difficulties and the language barrier.
Employees with Two or More Years of Overseas Experience

<table>
<thead>
<tr>
<th>Experience Level</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>521</td>
<td>41.3</td>
</tr>
<tr>
<td>Only founder</td>
<td>27</td>
<td>2.1</td>
</tr>
<tr>
<td>Fewer than 5</td>
<td>720</td>
<td>58.5</td>
</tr>
<tr>
<td>5 or more</td>
<td>17</td>
<td>1.4</td>
</tr>
</tbody>
</table>

- startups that employed workers with two or more years of overseas experience accounted for 38.8% of the total, with the largest proportion of those having fewer than five years of experience (48.3%). Startups with no employees with overseas experience accounted for 41.3%.
- The Pre-Seed round had the largest number of startups with no employees with two or more years of overseas experience.

Social Media Sites Used for Marketing and Promotion

<table>
<thead>
<tr>
<th>Social Media Sites</th>
<th>Unit number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook</td>
<td>112</td>
<td>40.9</td>
</tr>
<tr>
<td>YouTube</td>
<td>85</td>
<td>29.2</td>
</tr>
<tr>
<td>Instagram</td>
<td>60</td>
<td>20.4</td>
</tr>
<tr>
<td>LinkedIn</td>
<td>52</td>
<td>17.8</td>
</tr>
<tr>
<td>Google Ads</td>
<td>33</td>
<td>11.2</td>
</tr>
<tr>
<td>Reddit</td>
<td>32</td>
<td>10.9</td>
</tr>
<tr>
<td>Tencent Weibo</td>
<td>22</td>
<td>7.4</td>
</tr>
<tr>
<td>Tencent QQ</td>
<td>14</td>
<td>4.6</td>
</tr>
<tr>
<td>Twitter</td>
<td>8</td>
<td>2.7</td>
</tr>
<tr>
<td>Bing</td>
<td>6</td>
<td>2.0</td>
</tr>
<tr>
<td>Sina</td>
<td>4</td>
<td>1.3</td>
</tr>
<tr>
<td>Google Reader</td>
<td>2</td>
<td>0.7</td>
</tr>
<tr>
<td>Dianping</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
<td>4.6</td>
</tr>
<tr>
<td>None/Don't know</td>
<td>9</td>
<td>3.0</td>
</tr>
</tbody>
</table>

- An examination of social media sites used by startups for marketing and promotion showed that the largest proportion were Facebook, accounting for 40.9% of the total, followed by YouTube (31.9%), Instagram (29.2%), and LinkedIn (17.7%). Startups that did not use social media at all accounted for 28.5%.

Activities to Reach Targeted Customers

<table>
<thead>
<tr>
<th>Activities to Reach Targeted Customers</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Seed</td>
<td>14</td>
<td>4.6</td>
</tr>
<tr>
<td>Seed</td>
<td>34</td>
<td>11.2</td>
</tr>
<tr>
<td>Series A</td>
<td>71</td>
<td>23.6</td>
</tr>
<tr>
<td>Series B</td>
<td>58</td>
<td>19.8</td>
</tr>
<tr>
<td>Exit</td>
<td>28</td>
<td>9.2</td>
</tr>
</tbody>
</table>

- startups engaging in activities to reach their targeted customers accounted for 73.8% of the total. Of these, 48.8% spent a relatively short amount of time, from two to ten hours, on marketing and related activities.
- By type of activity, startups focused most on their websites (56.9%), followed by exhibitions and expositions (24.8%), and marketing, videos/podcasts (6.3%).
- When comparing companies by investment round, startups spent more time on marketing activities throughout the investment stages, with companies in the Pre–Seed round spending an average of 17.3 hours, 16.7 hours for Seed round startups, 12.9 hours for Series A startups, and 12.7 hours for Series B & round startups.

Major Sales Strategies and Strengths

<table>
<thead>
<tr>
<th>Sales Strategies and Strengths</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical skills</td>
<td>71</td>
<td>29</td>
</tr>
<tr>
<td>Sales and external networks</td>
<td>50</td>
<td>19.0</td>
</tr>
<tr>
<td>Expertise</td>
<td>29</td>
<td>10.9</td>
</tr>
<tr>
<td>Sales and internal networks</td>
<td>27</td>
<td>10.3</td>
</tr>
<tr>
<td>Expertise</td>
<td>13</td>
<td>4.8</td>
</tr>
<tr>
<td>Global experience</td>
<td>12</td>
<td>4.1</td>
</tr>
<tr>
<td>Human resources</td>
<td>9</td>
<td>3.4</td>
</tr>
<tr>
<td>Email marketing</td>
<td>3</td>
<td>1.1</td>
</tr>
<tr>
<td>Fundraising</td>
<td>3</td>
<td>1.1</td>
</tr>
<tr>
<td>None/No response/Don't know</td>
<td>4</td>
<td>1.4</td>
</tr>
</tbody>
</table>

- When asked about the advantages of their main sales strategies for their products and services, the largest number of startups answered that they could sell their full product better (38.8%), followed by planning skills for products/services (38.8%), and sales and external networks (17.3%).
### Awareness of Competitors

<table>
<thead>
<tr>
<th>Awareness of Competitors</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>218</td>
</tr>
<tr>
<td>No</td>
<td>73</td>
</tr>
<tr>
<td>% (positive responses)</td>
<td>76.1</td>
</tr>
</tbody>
</table>

*When asked about their awareness of potential competitors in the markets they wished to enter, 76.1 percent of startups answered that they were aware of potential competitors in those markets."

### Stakeholders Making Large Contributions to Startup Development

#### Central government
- 161 startups (54.8%) contributed to startup development
- 74 startups (25.2%) contributed to startup development
- 10 startups (3.4%) contributed to startup development
- 7 startups (2.4%) contributed to startup development

#### VC and other investors
- 76 startups (20.2%) contributed to startup development
- 65 startups (17.9%) contributed to startup development
- 10 startups (2.9%) contributed to startup development

#### Local governments
- 28 startups (7.5%) contributed to startup development
- 10 startups (2.9%) contributed to startup development

#### Conglomerates
- 10 startups (2.9%) contributed to startup development

#### Others
- 14 startups (4.1%) contributed to startup development

*Of all responding startups, 54.8 percent answered that the central government was the stakeholder that made the largest contribution to startup development, followed by venture capital firms (VCs) and other investors (25.2%)."

### Comparison of Support Policies from the Central and Local Government for Korean Startups

<table>
<thead>
<tr>
<th>Level of satisfaction</th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Neutral</th>
<th>Dissatisfied</th>
<th>Very dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central government</td>
<td>21</td>
<td>17</td>
<td>31</td>
<td>31</td>
<td>17</td>
</tr>
<tr>
<td>Local government</td>
<td>21</td>
<td>17</td>
<td>31</td>
<td>31</td>
<td>17</td>
</tr>
</tbody>
</table>

*Regarding the startup support policies implemented by the central government, 42.9 percent of startups viewed them positively, while 34.7 percent answered positively regarding policies implemented by local government."

*When comparing companies by investment round, startups in the Series A round were the most satisfied with central government support policy, while those in the Seed round were the most satisfied with local government support policy."

---

**Supporter & Policy Maker Insights**

**Analysis of Korean Startups**

**Stakeholder Contributing to Startup Development**

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central government</td>
<td>161</td>
</tr>
<tr>
<td>VC and other investors</td>
<td>147</td>
</tr>
<tr>
<td>Local governments</td>
<td>14</td>
</tr>
<tr>
<td>Conglomerates</td>
<td>10</td>
</tr>
<tr>
<td>Others</td>
<td>14</td>
</tr>
</tbody>
</table>

*Compared to the 2017 study, the proportion of startups that positively assessed the contribution of the central government fell by 2.8 percentage points, while the proportion of startups that positively assessed the contribution of provincial governments rose by 1.6 percentage points. The proportion of startups that positively assessed the contribution of local governments rose slightly by 0.8 percentage points."
Analysis of Korean Startups

Greatest Advantages of Korea’s Startup Environment

<table>
<thead>
<tr>
<th>Advantage of Korea’s Startup Environment</th>
<th>Rating</th>
<th>Unit</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial framework</td>
<td>103</td>
<td>%</td>
<td>46.0</td>
<td>45.0</td>
</tr>
<tr>
<td>Cost Structure</td>
<td>133</td>
<td>%</td>
<td>65.2</td>
<td>65.2</td>
</tr>
<tr>
<td>Support programs and events in which startups participated</td>
<td>133</td>
<td>%</td>
<td>65.2</td>
<td>65.2</td>
</tr>
<tr>
<td>Top choice/Funding and Validation</td>
<td>117</td>
<td>%</td>
<td>42.2</td>
<td>42.2</td>
</tr>
<tr>
<td>Difficulty of funding human resources for startups</td>
<td>107</td>
<td>%</td>
<td>36.4</td>
<td>36.4</td>
</tr>
</tbody>
</table>

**Type of Support Programs and Events in which Startups Participated**

<table>
<thead>
<tr>
<th>Type of Support Programs and Events</th>
<th>No. of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conference/Seminar/Forum</td>
<td>133</td>
</tr>
<tr>
<td>Expert/Observer/Expert consultation</td>
<td>112</td>
</tr>
<tr>
<td>Networking event (fair)</td>
<td>106</td>
</tr>
<tr>
<td>Demo Day</td>
<td>100</td>
</tr>
<tr>
<td>Information session</td>
<td>72</td>
</tr>
<tr>
<td>Lecture/Special focus (Startup school, etc.)</td>
<td>70</td>
</tr>
<tr>
<td>Workshop/Camp</td>
<td>56</td>
</tr>
<tr>
<td>On-line/Teleconference</td>
<td>54</td>
</tr>
<tr>
<td>Not applicable</td>
<td>36</td>
</tr>
<tr>
<td>Non-response</td>
<td>3</td>
</tr>
</tbody>
</table>

**Factors Obstructing Startup Growth and Vitalization**

<table>
<thead>
<tr>
<th>Total</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty of funding human resources for startups</td>
<td>107</td>
<td>107</td>
<td>107</td>
</tr>
<tr>
<td>Difficulty finding human resources for startups</td>
<td>107</td>
<td>107</td>
<td>107</td>
</tr>
</tbody>
</table>

**Comparison by year**

- **Greatest Advantages of Korea’s Startup Environment**: The greatest advantages of Korea’s startup environment include the financial framework (46.0%), cost structure (65.2%), support programs and events (65.2%), and culture of entrepreneurship (65.0%).

- **Factors Obstructing Startup Growth and Vitalization**: The most significant factors obstructing startup growth and vitality are difficulty of funding human resources for startups (36.4%), difficulty finding human resources for startups (36.4%), and lack of social encouragement for startups (65.2%).

- A closer examination revealed that the largest proportion of startups participated in conferences, seminars, and forums, accounting for 65.2 percent; followed by expo, exhibitions, and expert consultations (36.4%), networking events (26.4%), and demos (36.4%).

- In the 2017 study, the largest proportion of startups also asserted that the difficulty of funding human resources for startups is the most significant factor obstructing startup growth and vitality. However, in this year, the most significant areas are mobile environment and products, among startups and difficulty finding human resources for startups.
Success Stories

- Success Stories of Born2Global Member Companies

www.born2global.com
www.facebook.com/born2global
www.linkedin.com/company/born2global
Success Stories of
Born2Global Member Companies
NEOFECT

Profile

Summary

Timeline

Status

NEOFECT

Founder > Ban Horyung
Founded > June 2010
Location > #401, West Hall, Dankook University, 152, Jukjo-ro, Suji-gu, Yongin, Gyeonggi-do

Products > Smart rehabilitation solutions
Website > monefect.com

2010
• Founded in June 2010

2011
• Opened first HUB400, Smart Glove product, and registered it with the FDA.

2013
• Won the Korean Innovation Award at the "T" (2013) Entrepreneurship Competition.

2014
• Selected as a beneficiary of the Global Health Challenge. Smart Glove in the joint venture of the Wave (Gold) Award at the 2014 Global Health Challenge.

2015
• Selected for insurance coverage of Korean insurance of "paid-for" medical devices.

2016
• Selected for insurance coverage of Korean insurance of "paid-for" medical devices.

2017
• Selected for insurance coverage of Korean insurance of "paid-for" medical devices.

2018
• Selected for insurance coverage of Korean insurance of "paid-for" medical devices.

USA, Europe, S.A., Belgium, Netherlands, Poland, Germany, Denmark, Italy, Singapore, Hong Kong, Bangladesh

50
Sales
KRW

4.4 billion
Global Expansion

Success Stories of Born2Global Member Companies

NEOFECT
SendBird
ulalalAB
JLK Inspection
12CM
GSIL
SecuLetter
Sodacrew
afun interactive
MEDI FUTURES

Profile

2015, 2016, 2017
2016 Member Company

Staff

Success Stories
Aiming to Become the World’s No. 1 Rehabilitation Platform

NEOFECT is a company that focuses on developing and providing smart rehabilitation solutions. NEOFECT became widely known for its smart glove when Korean President Moon Jae-in tried it on at the medical device exhibition hall in Seoul National University Bundang Hospital in July 2018, earning it the nickname “Moon Jae-in glove.”

The RAPEL Smart Glove that attracted media attention at the time is NEOFECT’s signature product. A patient can wear the glove, which is connected to a table through Bluetooth, and play games that help with rehabilitation. NEOFECT is a company that has been attracting attention in the United States, the largest medical device market in the world, but its journey has not been easy.

After leaving the corporate world, CEO Ban founded his first startup company but failed

NEOFECT CEO Ban Hyeong-u’s first idea for a startup was not a medical device. After leaving Samsung Electronics, he focused on IPTV services for his first startup. Ban wanted to try something new instead of simply being another cog in the corporate business wheel. He left Samsung Electronics and started his own business with a partner in Los Angeles, United States.

Unfortunately, two years later, the business remained unsustainable. Ban said that his first business was a difficult but important experience. He explains that one of the most important things in a startup is experience. He emphasizes that having experience with launching or working in a startup is necessary to reduce trial and error.

Afterward, Ban earned an MBA in the United States and met Choi Young-Geun, also a KAIST Alumnus and currently the CEO of NEOFECT. At the time, Choi was working on his Ph.D. in the United States for research on stroke rehabilitation, algorithms, and robotics. It was Choi who first suggested a medical device startup to Ban.

Ban recognized the importance of rehabilitation services from personal experience

In college, NEOFECT CEO Ban lost both his father and an uncle to stroke. Seeing the effects on the elderly members of his family, he became keenly aware of the need for low-cost products and services that help with sustainable stroke rehabilitation. This was a decisive factor in Ban launching another startup in 2010.

“I gained the confidence to run a globally-competitive business during my MBA program in the United States,” explains Ban. “The best thing I learned from competing with people from all around the world during my time in the program was the confidence that I can do it too—that I can survive in the global market.”

Seeing the size of the American market, Ban decided that he should prioritize launching his business in the United States. After four and a half years of development, he was able to open an office there in America in October 2015 and in Germany in October 2016.

Recipient of the CEO Innovation Award for two consecutive years, NEOFECT and its technology have been recognized by the global market

NEOFECT aims to become the No. 1 rehabilitation platform in the world. The company has a strong lineup of products, including RAPEL, Smart Glove, RAPEL, Smart Kids, RAPELS, Smart Board, RAPEL, Smart Pegboard, and RAPEL, Com.Cog. Existing analog devices have been digitalized, and related game content helps patients suffering from stroke to focus on and have fun in their rehabilitation programs.

NEOFECT pursues more than simple fun. Data from patients in rehabilitation are collected on the platform, and analyzed by AI, which recommends different rehabilitation games for the next day. NEOFECT is the first company in the world to provide comprehensive rehabilitation programs that are customized for each user.

NEOFECT has succeeded in selling its smart gloves to rehabilitation hospitals around the world. They have also been approved by the U.S. Department of Veterans Affairs, which supports rehabilitation programs for veterans. NEOFECT has also published a number of papers on the effects of its rehabilitation programs. Based on these achievements, NEOFECT received an Innovation Award at the CES in 2018, the largest consumer technology show in the world, for the second consecutive year. Its products stood out from those made by large conglomerates and have also attracted the attention of foreign media outlets, including CNN, CNET, and ZDNet.
Making active use of legal and accounting consultation as well as other forms of external support

Since NEOFECT’s products are medical devices, references, such as global clinical trials and approvals, are particularly important. These are aspects that require the help of organizations that support startups, such as the Bom2Global Centre. NEOFECT CEO Ban explains, “The healthcare industry is regulated, and therefore paying attention to related law is very important.”

He stresses that Bom2Global Centre’s accounting, marketing, and legal consultations were particularly helpful. Startups often have difficulty getting management support, and Ban recognizes the necessity of receiving help from supporting organizations in these areas. “When companies want to hire a lawyer, they don’t really know the specifics, like who the good ones are and how much they cost,” Ban explains. “We were able to receive advice and recommendation on such things.”

A company that gives hope through rehabilitation services

NEOFECT officially began trading on the KOSDAQ this year. Ban, the CEO, says that its debut was meaningful as listing provides stability to the employees and increases customer confidence.

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NEOFECT officially began trading on the KOSDAQ this year. Ban, the CEO, says that its debut was meaningful as listing provides stability to the employees and increases customer confidence. It also provided an opportunity for Ban to think once again about his goals. He launched this startup because he knew the difficulties people face in receiving rehabilitation after stroke or other illnesses as well as the hardships their family members experience. “NEOFECT’s slogan is ‘We inspire hope,’” remarks Ban. “I’d like NEOFECT to become a company that gives hope to people, that they can return to their daily lives by improving their movement through our rehabilitation programs.”
SendBird Heralds a New Era of Global Success through a Mobile Chat Solution

SendBird is a startup offering a chat and messaging solution to corporations. In 2013, the company was cofounded by CEO John Kim, Head of Trust and Safety Brandon Joon, CTO Harry (Hee-seok) Kim, and Head of Designer Forest Lee. SendBird first began from “Smile Mom,” an online community for mothers. After two years of managing that online community, SendBird was born in the process of developing a chat application for the Smile Mom mobile app. In mid-2015, SendBird began to sell its chat technology, gaining 20 paying customers by the end of the year. Based on this customer foundation, SendBird applied to the Y Combinator program and transformed its business model.

Developing customer services for large global and regional corporations from the beginning

SendBird’s chat API is a solution that adds messaging and chat functions on mobile, apps and websites. It adds chat functions, which serve as online messengers, to gaming, online shopping, carpooling and other O2O services. Since its inception, SendBird has pursued global and scalable services for large corporations. As a result, SendBird now has main cloud servers in six regions around the world. The company provides stable chat solutions to 153 countries and has grown into a massive scalable service that can serve a million concurrent connections and deliver 1 trillion messages. Currently, SendBird’s client list includes leading companies from around the world, such as the NBA, Yahoo, Reddit, Gic-Jik, Virgin Mobile, and Sega. As of December 2018, SendBird has secured KRW 20 billion in investment from Silicon Valley’s Shanda Ventures, August Capital, and Y Combinator. CEO Kim emphasizes, “The total number of final users of apps that SendBird supports is greater than the total population of South Korea.”

Providing a world-class product-purchasing experience to global clients

Of the key to SendBird’s success, Kim says, “We were persistent about putting ourselves in our client’s shoes, and I think the result was successful.” SendBird had to market their product to a variety of companies in different countries. The company received rave reviews by adjusting their work schedules to client time zones and operating hours. For countries whose work week starts on Sunday, SendBird also began working on Sundays, which has been well received by its clients. In addition, SendBird responds actively to client feedback in its product development. The company prioritizes client feedback when developing functions in its messaging solutions, with the product immediately delivered to clients upon the completion of development and testing. Such efforts allow SendBird to build trust with its clients despite the fact that it was initially a small startup. SendBird focused on the global market when designing its website and posting blog content. It was these efforts that led SendBird to position itself as a Silicon Valley company.

Kim explains, “We poured our hearts and souls into providing a first-class product to our clients.”

Crucial help received from the Born2Global Centre’s global incubator

As a B2B startup in the instant messaging service industry, SendBird has grabbed the opportunity to become a global standard, but its beginning was not auspicious. CEO Kim explains, “The network and knowledge I built and gained from Korea were of no use in Silicon Valley, so it was very difficult in the beginning.” SendBird experienced differences in the manner of communicating with clients and conversing with investors. In the end, conducting broad research online and gaining firsthand experience offshore led the company to leave behind the methods it had become used to. “It was certainly not easy because of the language barrier and our lack of a network,” explains Kim. “Since it can be difficult emotionally, you have to steel yourself for many kinds of hardship.”

Since its inception, SendBird has pursued global and scalable services for large corporations. As a result, SendBird now has main cloud servers in six regions around the world.
SendBird, which ranks No. 1 in the chat API sector that generates an annual revenue of USD 2 billion.

SendBird, which was struggling at the beginning, the BomGlobal Centre was a welcome relief. The reliability of its support with global advancement allowed SendBird to engage in an experimental strategy targeting the global market. Kim say, "Without BomGlobal Centre’s incubator program, SendBird would not have been able to become a 2016 finalist at the Shush 100 Pitching Competition, the largest pitching competition for startups in Europe."

Advancing into the global market by prioritizing its cultures and languages

SendBird, which ranks No. 1 in the chat API sector that generates an annual revenue of USD 2 billion, has made no secret of its ambition to continue solidifying its position as a leader in the field. "With a variety of value-added services for chat APIs, the related market is expected to grow as well," explains Kim. "We plan to discover and explore new business opportunities not only in the United States but also in Europe and the Middle East." Kim did not hesitate to give advice to Korean startups that dream of moving to Silicon Valley. "You have to aim for a huge market and prioritize learning the culture and language of that market. Unless you work at it with the understanding that you must forget the Korean language and Korean culture, you will find it difficult to grow beyond the Korean market that is temporarily right in front of you."
What Kind of Company is ulalaLAB?

ulalaLAB’s signature product is WimFactory, a cloud and machine-learning-based smart factory platform that analyzes industrial data. WimFactory consists of WICON, an IoT device that collects and transmits production facility data, and Wim-X, an integrated management system for storing, visualizing, and analyzing the data.

A hidden champion specializing in IoT

WimFactory can be installed on existing factory facilities after connecting data measurement sensors and WICON. WICON collects and transmits data to Wim-X, which then analyzes and visualizes the data to provide a number of real-time services to users. WICON can be easily connected to a variety of commercial sensors that measure such things as temperature, humidity, proximity, and vibration. Up to four sensors can be connected to WICON simultaneously. Since WICON is a removable modular system, users can attach WICON to various network modules for use in a variety of network environments.

Based on data analysis technology, Wim-X provides real-time monitoring, event alerts, and analytical reports. Wim-X allows users to check operational conditions at a factory in real-time, through analysis of data from WICON and real-time delivery of the results to those users. WimFactory also provides alerts for errors, defects, and emergency situations, allowing immediate user responses to crisis and thereby reducing loss. Moreover, based on the cloud-accumulated data, WimFactory provides an analytical report every week, month, and quarter, making it easier for users to manage their factory operations more efficiently. Unlike our competitors’ platforms, WimFactory can be installed easily - sensors are simply attached to existing facilities without the need to replace or rearrange the facilities or production lines. It is a particularly great platform for manufacturing SMEs, typically desperately in need of smart factory solutions.

Stepping up from software development to IoT underdog

ulalaLAB wasn’t always a smart factory solution provider. In 2011, it was founded as a software developer. In 2013, the company developed WimPet, an IoT communication device for animal companions. In the process of seeking out companies to manufacture the device, ulalaLAB realized the breadth of problems in the overall manufacturing process, from facility operators to quality assurance and production management. “We’ve entered the Fourth Industrial Revolution, yet most companies still maintain the same production methods they’ve been using since the 1980s and 1990s,” explains CEO Kang. ulalaLAB’s researchers decided to apply the experiences they gained with analyzing animal companion activity data to communicate with people while developing WimPet to improve the manufacturing process. Just as WimPet allows people to communicate with their animal companions through a device, ulalaLAB thought that it might be possible for factories and humans to communicate through IoT devices. “It was convinced that it would be possible to solve problems with facilities and product quality easily and at low cost through analysis of data collected from manufacturing lines,” explains Kang, “so we changed out business model.”

Toward true manufacturing reform after much trial and error

Even though the idea was a great one, ulalaLAB underwent significant trial and error to remake itself from software developer to IoT company. The biggest problem was that those working for ulalaLAB had no understanding of its prospective clients—manufacturing facilities. “It took us nearly seven years to test our products at production facilities, trying to understand the manufacturing system, and listening to manufacturers themselves.” remembers Kang. Even after developing a product that had never before existed on earth, the conservative manufacturing environment in Korea posed an obstacle as well, as it is not very open to change or innovation. Moreover, it was difficult for ulalaLAB’s B2B business model for factories to be recognized as a venture startup. Only recently has ulalaLAB been able to lay the foundation for global expansion through acquisition of various international certifications.
The Korean market is too small! On to the global market!

Realizing the difficulty of getting through to the stubbornly conservative Korean market, ulalaLAB decided to look globally. Starting with success in the Nike shoe factory in Indonesia in 2016, ulalaLAB installed WimFatory in Adidas shoe factories in Vietnam and China in 2017. The company also signed an MOU with the Thailand Productivity Institute to enter the Thai market, stepping up its efforts to further expand into the Asian market.

Recently, ulalaLAB has been saving great results in China as well, signing an MOU with Alibaba Cloud and Kevin, a Chinese distributor, to expand the smart factory market. ulalaLAB has also signed an agreement with NAMYP, a Chinese agriculture and stock farming company, to co-develop a smart farm solution and has been actively working on related projects.

Amidst these efforts, the Born2Global Centre continued to support and encourage ulalaLAB in laying the foundation for global market entry through participation in pitching contests and exhibitions to find global partners and clients, publication of foreign press releases, and filing of patents overseas (in the United States, European countries, China, Singapore, Vietnam, and Thailand).

2019 will be the year possibilities become reality

2019 is expected to be the year ulalaLAB brings the results of its research and development to the market. To this end, the company is compiling a portfolio of manufacturing plants in Korea and building a collaborative structure with local partners aimed to advance into the global market.

Above all, ulalaLAB continues to develop WimFatory so that it can grow and diversify into a variety of solutions. Kang expresses his aspirations for ulalaLAB, saying, “I will do my best to make ulalaLAB Korea’s first hardware unicorn.”
An AI Platform for the “Health of Humanity”

JLK Inspection manufactures and supplies AIHub®, an AI-based medical diagnostics platform. The company aims to help people lead healthier lives through early detection and diagnosis of brain diseases, prostate cancer, and other conditions. With years of related knowledge and expertise, JLK Inspection has been expanding its business to develop and supply accurate AI-based security scanners that can be easily used in public organizations, private companies, and customs offices.

Finding opportunity in an aging society and joining the Fourth Industrial Revolution

JLK Inspection was founded in 2014. Kim Won Tae, the founder and CEO, has been an engineer for over 20 years. He studied nuclear engineering at KAIST, earned his Ph.D. in machine engineering at Deisel University, and worked as a researcher at KEPCO Engineering and Construction Co. and J&D Thermo-Fluid Technology, Inc. “As I led a variety of research projects, I was able to personally experience that the Fourth Industrial Revolution was coming,” explains JLK Inspection CEO Kim Won Tae. “I knew that AI would bring revolutionary changes, and I dreamed of starting a business in AI.” Kim chose AI-based medical imaging diagnostics—for diagnosing strokes in particular. He believed that since one of every six people suffer from stroke at least once in their lives, many will benefit from an improvement in the diagnostics technology.

“JLK Inspection created a team of AI experts in January 2015 and is stepping into becoming an AI-based medical device company.”

Big data-based robot doctor

JLK Inspection’s signature service is the AI-based medical platform AIHub. Short for “AI Humanity Benefit,” AIHub is a solution that analyzes various types of medical images and clinical data through a big data-based AI algorithm. It can detect and diagnose 33 medical conditions in 14 regions of the body, which is the largest number of any existing medical diagnostics device in the world.

JLK Inspection’s product lineup includes the JBS series—medical systems that help detect acute and hypertensive cerebral infarctions based on MRI, CT scans, and clinical data—and the JC series, which help diagnose prostate cancer using MRI. Similar competitor products can only detect one of a small number of medical conditions, and use only CT scans and X-rays to detect them. AIHub, on the other hand, can detect 33 medical conditions and can diagnose the causes of those conditions. It has also been hailed for its versatility; as it makes use of imaging technology including X-rays, CT scans, MRI, and even ultrasound. In addition, AIHub has also had its AI technology-upgraded using big data validated by specialists from 11 university hospitals in Korea. JLK Inspection is also getting ready to expand application of its years of expertise into the security and inspection sector.

This has all been possible through years of collaboration with the Korea Customs Service and the accuracy of big data that has been gleaned from over 40 million images.

Currently, the company has succeeded in commercializing the modules for customs security, corporate security,
JLK Inspection and government office security. The only Korean company to participate in the International Security Expo held in the UK in November 2018, JLK Inspection presented its products to the world and is working to supply them to major public facilities in South Korea while advancing into the corporate security market.

The difficulty of pioneering and plans to go global

Kim says that JLK Inspection is currently facing difficulties in all areas of business, from collecting and analyzing data to acquiring licenses, permits, and certifications, as it is a pioneer in its field in Korea. There were no precedents he could study or follow. “There are no guidelines in the medical AI business as of now,” Kim explains. “So for every bit of research we conduct, we have to review whether it is permitted institutionally or whether it is illegal. We pay close attention to complying with regulations in each country whose market we enter.” Under such circumstances, Born2Global Centre’s systematic support has been of great help for JLK Inspection to enter foreign markets. The Centre provided multilocal support, offering global advancement strategy seminars, arranging meetings with foreign buyers, providing legal consulting services on foreign laws and regulations, issuing articles about companies through global press agencies, introducing PR agencies, and helping the company develop marketing strategies. Thanks to the Centre’s support, JLK Inspection's entry into international markets is accelerating. JLK Inspection plans to employ a large workforce, including local staff, and open company offices in five other countries in 2019. The company is also preparing for joint research and clinical testing with hospitals in the United States, United Arab Emirates, China, and Sweden. To this end, JLK Inspection has formed a strategic partnership with a global medical imaging device company with a worldwide business network and plans other strategic partnerships with insurance companies in foreign countries to provide medical services.

Becoming a major global market player in 2019

In 2019, JLK Inspection expects to take its first quantum leap since its founding, planning an IPO on KOSDAQ, underwritten by Korea Investment & Securities. The company is looking for public listing in Q2 2019, and if successful, JLK Inspection’s value could increase four or five-fold. In 2017, JLK Inspection secured about KRW 10 billion in investments from several venture capital firms, including KB Investment, Medici Investment, and Intervest, which attests to the great expectations the market has for JLK Inspection.

**Profile**

**Timeline**

- **2013**
  - March - Company founded
  - March - Commercialized “echo Stamp” and launched the “echox” brand
- **2014**
  - Founded 12cm in Japan, launched service in Japan
  - Formed partnership with NECTC and launched services
  - Formed partnership with Value Commerce, launched services
  - Formed partnership with Gifttec: launched coupon services
- **2015**
  - Founded 12cm Taiwan, launched services
- **2016**
  - Founded 12cm China, launched services in China
  - Began service partnership with Alipay and launched services within the Alipay App
- **2017**
  - Founded 12cm Global (Based in Singapore)
  - Launched services in Thailand, Indonesia, Singapore, and Malaysia
  - Began mobile service in the United States
- **2018**
  - Began prepaid sim card distribution through Google Play Gift
  - Began tour package distribution with Vietra: launched services in Korea
  - Expanded cooperation with Tencent: launched services
  - May - Launched the echox Stamp marketing service in Singapore
  - June - Signed a supply agreement with the Philippines’ SMSTG, entered the Philippine market

**Status**

- **Start Date**: 2013
- **Sales**: 6.38 billion
- **Global Expansion**: U.S.A., Luxembourg, Japan, China, Taiwan, Singapore, Thailand, Malaysia, Indonesia, Philippines

**Other Achievements**

- **Highest award in technology received at the 1st DDB Financial Group Platform and Fintech Competition**
- **Highest award received at the Smart App Awards 2018**

**12CM**

**Summary**

**Products**: Smart stamp “echox”

**Website**: www.12cm.co.kr

**Location**: Pangyo Silicon Park Building A, Ste. 501, 35 Pangyo-ri 255bae-on, Bundang-gu, Seongnam-si, Gyeonggi-do

**Profile**

- **2018**
  - B2B Member Company

**Success Stories**

**144 Success Stories**

**Korea Startup Index 2018: 145**
Manage Your Loyalty Cards on Your Phone

12cm is an IT solutions company that brings loyalty cards to the mobile environment. It provides a simplified loyalty points collection service by simply stamping the screen of your mobile phone, allowing the relevant app on the phone to collect points. The company recently began to expand into fintech solutions to provide an electronic payment system based on the same technology.

This year, 12cm is targeting the Chinese market, which has a population of 1.4 billion. Through cooperation with WeChat, a China-based global messenger app with 1.1 billion users worldwide, 12cm launched “Yip Hanyo(一并优惠),” which issues mobile discount coupons for Chinese tourists in Korea. Focusing on the fact that Chinese tourists tend to be price sensitive, 12cm plans to lure customers to shop at their partner stores by providing discount coupons for convenience stores, restaurants, and coffee shops.

Bring the offline loyalty card system to the mobile environment

“Seeing how everyone is using smartphones, I thought about services that could be optimized to this environment and decided to bring the offline loyalty card system to the mobile environment.” 12cm CEO Han Jeong Gyuun is an expert in financial IT solutions with over a decade of experience in the field. He built his career in finance and IT consulting at H&F Korea and decided to set up 12cm in 2013 because he realized the power and potential of the mobile platform, as smart devices, led by 3G phones, became popular. Han explains, “Thinking that the ‘mobile first’ era would soon begin, I wanted to start a company that specializes in the mobile channel.” Han had previously planned to provide a service similar to echos Stamp but failed due to the lack of IT environment that could support it. However, the rapid growth of smartphones and the expanded mobile infrastructure became a ray of light.

Capturing people’s attention with convenience and compatibility

12cm’s main solution, echos Smart Stamp, brought offline loyalty cards to the mobile environment. When a smart stamp, with its multiple touch points, touches the screen of a smartphone, the relevant app automatically collects points. This solution can be paired with various O2O services and business models.

echos Stamp doesn’t require a battery, as the stamp recognition process is completed on the capacitive touchscreen. It is currently protected by about 220 patents and is compatible with all smartphones, including iOS and Android devices. echos Stamp has been attracting attention from O2O businesses, as the solution does not require other infrastructure. Usually, IT solutions that combine online and offline services require integration of offline systems and online solutions or new terminals that need to be installed offline. echos Stamp, on the other hand, is based on cloud computing and allows businesses to provide O2O services by simply keeping stamps that are embedded with the stores’ identification at the stores.

echos Stamp stands out from competing technologies such as QR codes, NFC, and BLE, in terms of security, usability, and compatibility between devices and browsers. It is also extremely simple for users, since all they need to do is touch the stamp to a smartphone screen.

Based on its peerless technology, 12cm is currently collaborating with Samsung, SK Broadband, Paybank, and other innovative Korean companies, as well as Tencent, China’s largest IT company.
Joining hands with WeChat and targeting 1.4 billion Chinese consumers

12cm declared 2018 the year of “Global 12cm” and is currently focusing on global advancement. Over the past five years, the company has been able to develop unparalleled technology with commercial possibilities, and now has gained enough confidence to venture out into the larger market. As of now, 12cm provides services through 53 partnerships in 22 countries, including Japan, China, Taiwan, Singapore, Thailand, Indonesia, Vietnam, the United States, and countries in Europe.

As 12cm continues to grow, BonzGlobal Centre has been working with the company in a range of areas, building distribution channels and securing capital. One of the important ways the BonzGlobal Centre provided support was through exposure to foreign media, which allowed 12cm to leave a strong impression on world-class global enterprises. In addition, the Centre facilitated 12cm’s participation in exhibitions overseas to enter new markets, providing a foothold for the company to expand globally.

Currently, 12cm is focusing on all its efforts on the aforementioned Yiay Hanpopup, which attracts Chinese tourists in Korea to 12cm’s partner stores through a variety of discount coupons they receive on WeChat, an instant messenger app that has an absolute monopoly in China. Chinese tourists using WeChat on their smartphones can receive coupons without having to download another app.

Yiay Hanpopup has a bright future ahead, considering that China has grown into one of the largest mobile payment markets. Beijing is leading the way to a cashless economy, as people can use mobile payment systems to purchase lamb skewers in food stalls and some beggars even ask for money via QR codes. This means that Chinese tourists already used to making mobile payments can visit 12cm’s partner stores with Yiay Hanpopup and purchase products using WeChat Pay.

Han remarks, “Instead of stopping at simple loyalty marketing, vouchers, and promotional services, we hope to open a new chapter for our company by providing a variety of fintech and data-related services.”

Instead of stopping at simple loyalty marketing, vouchers, and promotional services, we hope to open a new chapter for our company by providing a variety of fintech and data-related services.
Creating Safety Management Systems to Reduce the Number of Casualties at Construction Sites

GSIL is a company that creates safety management systems for construction sites. GSIL uses beacon technology (a form of IoT technology) to collect data on the locations of workers in places where telecommunications are difficult (tunnels, underground, etc.), sensors to measure on-site air quality, and CCTV installed in each area of the construction site to help site managers assess emergency situations. The company does not simply check and monitor locations but also provides construction companies with various data it collects. By analyzing potential sources of danger in the construction process, GSIL helps minimize on-site accidents. GSIL CEO Lee Jeongwook has a hand tremor that is the result of a 3800 shock he received in high school. This incident is what first made Lee interested in safety. Lee went on to establish "DGBC," an assessment/verification system for safe work environments, for the Doosan. Lee founded GSIL in June 2013 after working for 10 years in the construction sector. CEO Lee said, "I decided to become an entrepreneur because I wanted to reduce the number of deaths that occur at construction sites by creating a business that connects safety/environment training with IoT technology."

Coding in tunnels: a company that understands work sites

Construction sites often do not have properly-working telecommunications or electricity systems. In the company’s early years, Lee and his employees often lived in tunnels for up to six months at a time to establish safety management systems. At first, it wasn’t easy to convince construction companies to purchase a safety management system created by a startup. Lee traveled to construction sites outside of Seoul on an almost daily basis to talk to site managers, hoping to win even a single contract. Lee’s persistence and the growing trust of GSIL among working-level staff eventually paid off, and the company signed contracts with the Korea Rail Network Authority. Lee said, "One of our key strengths is our understanding of construction sites, which usually do not have any form of IT, in terms of either power supply or telecommunications. We may not have source technology, but we do have ‘adequate’ technologies. We do not force companies to use our systems exactly as designed; rather, we gather together the technologies that are most needed at a particular site and provide this set of technologies to the construction company. In the past, radio communication was impossible in tunnels or underground structures, making it impossible to pinpoint the locations of workers in dangerous areas. Since it was difficult to communicate with workers in real-time, managers would have to personally go to the work sites to find the workers. Lee said, "In the past, the Korean market for safety management systems was based largely on the concept of a ‘control tower’. But, in safety management, prevention is more important than monitoring of current situations. Systems have to be improved with a focus on the processing accidents and securing ‘golden time’ in the event that accidents do occur.”

Securing “Golden Time” by collecting-monitoring workers’ locations in real-time

GSIL’s smart safety management system is able to pinpoint the locations of workers in real-time. The CCTV installed at each construction site area are also able to distinguish between workers and unauthorized personnel. A sensor that can measure air quality and other aspects of the site’s environment can predict and prevent accidents and also oversee emergency situations via a wireless telecommunications network inside the tunnel. In the event of an emergency situation in a setting that does not allow for telecommunication, pressing the SOS button on the location tag (attached to the worker’s hard hat) automatically sends a notification to the site manager. Lee said, “At construction sites, we hear over and over from workers, site managers, and equipment drivers that their awareness about safety is heightened by the fact that they are constantly being monitored. The speed of transmission of data-related information in the event of an accident is very important to secure ‘golden time’. If necessary, this sometimes results in the calling of an ambulance.” The safety management system is comprised of the following components: CCTV and scanners installed on-site, monitoring equipment (environmental sensors, etc.), data collected from devices attached to workers’ hard hats, a ‘real-time’ work schedule, and guidelines by schedule type that can be adjusted by the user. The institution manages the construction site via an email on the construction site via the internet or through the service’s mobile application. Services can also predict and prevent accidents related to the schedule, which allows for tunnel construction safety to be managed in real-time. Safety-related information can also be applied to the actual construction process. GSIL’s system is also used for construction sites other than tunnels (plants, underground structure, subway construction, etc.).

In recognition of its safety management system, which can be utilized by any construction site, GSIL was the first Korean startup to receive AET certification by the Ministry of Land, Infrastructure, and Transport. So far, GSIL has supplied safety management systems to 40 construction sites, including the construction sites of the Korea Railroad Network Authority’s main office (Gangam-ro) and a Design-Phase tunnel underpass tunnel for KERC, as well as sites for Samsung C&T Corporation, Doosan E&C, Halls, and Davlin industrial.

From global patent: marketing-legal support to networking opportunities

As a member company of the BomGlobal Centre for the past four years, GSIL has received diverse forms of support without any additional investments. In addition to receiving office space since before June 2014, the company is able to provide access to global patent applications, business
GSIL's long-term goal is to increase the number of its global projects. Lee explained that the company is gaining recognition due to its experience working with multiple large construction firms in Korea and its certification from the Korean government for projects it’s completed in the Middle East. As part of his focus on producing global outcomes, Lee currently goes on a business trip to the Middle East at least once a month. The company aims to supply safety systems to construction sites in Kuwait, Dubai, and other locations in the Middle East.

Lee said, “In Korea, profits are produced according to the way in which the construction process is conducted, but the costs of designing and preparing a safety management system are often disregarded, and many people think these types of systems are free. However, in other countries, it is common knowledge that safety systems come at a price, starting with the consultation process. In Korea, we will be focusing more on R&D and referencing, and globally, we will be focusing more on earning profits. We recently dispatched three employees global dedicated solely to our global business.” Lee is planning to create an integrated safety management platform that can manage hundreds of construction sites. This is becoming a need in the industry as many construction companies are beginning to realize the importance of the platform that manages their construction sites. In the long term, GSIL is also planning business ideas related to the utilization of data collected at construction sites.

Lee said, “This year, I hope to operate a platform overseeing 300 sites. Thus far, GSIL has collected 200,000 items of scheduler-related information, 100,000 items of volunteer-related data, and tens of thousands of items of equipment-related information. We are currently designing a business model that can make use of all of this data.”

**From Korea to the Middle East: expanding into the data business**
Pioneering the Security Market with Advanced Technologies

Preemptively blocking malignant codes from non-executed files brought in through corporate email networks

SecuLetter is a cyber security firm operated by experts skilled at malignant code analysis. The company was founded in September 2015 by CEO Lim Chae-sung, who is also the creator of Ahn Lab’s APT, which became the basis of the company’s advanced persistent threat solution. SecuLetter’s advanced APT solutions detect hard-to-find malignant codes hidden in documents and image files. SecuLetter is highly recognized for its outstanding technologies, and many of its solutions are currently being used by major Korean public institutions.

Lim, the company’s founder and CEO, first became interested in hacking when he was a university student. By its very definition, hacking entails breaches established security measures meant to protect a system by identifying and taking advantage of weak points. Hackers must bypass security systems by constantly employing new methods of attack without any regulated/organized technologies or methods. Lim, who felt an extreme sense of satisfaction from finding security weaknesses, made use of his unique skills by working for Ahn Lab after completing graduate school. While working at the company, Lim continued to develop an engine for the diagnosis and analysis of malignant codes—this system serves as the basis for APT solutions. Lim eventually left Ahn Lab, and in 2015, founded SecuLetter. Lim said, “At the time in 2015, when Lim founded his company, most Korean security companies did business based on their sales capabilities rather than their technical capabilities. As long as a company could prove that it was using a security product, it was usually exonerated in the event of a security-related incident. Recently, with companies being forced to take at least partial responsibility for personal information breaches, we have a wider opportunity margin.”

Pioneering the security market with a diagnostic solution that remains one step ahead of malignant attacks

Cyber attacks typically occur through email, as attackers attempt to invade a user’s system through documents or image files rather than “exe” file extensions. Attackers take advantage of the vulnerability of document files and send emails with attached documents to the employees of targeted institutions, hoping to entice them to open the documents. Most security solutions can only detect malignant codes hidden in files once the codes are active. This makes it very difficult to detect malignant codes that have been programmed to activate later. SecuLetter’s area of expertise is detecting encrypted/encoded malignant codes before they are activated.

Lim said, “Malignant codes such as those activated three days after the file has been opened and those that are only activated if the user views at least three pages of the infected document are impossible for activity-based security solutions to detect. Thanks to the automation of the analysis of malignant codes, which is usually done manually, our technology is able to analyze all files automatically.”

In 2017, SecuLetter released SLE (SecuLetter Email), a danger response solution that specializes in finding non-executed malignant codes hidden in emails. By analyzing the files of the downloaded link in the email body or attachments, SLE can detect and prevent unknown attacks. SLE (SecuLetter File Server) is a network-connected security solution that detects and blocks malignant codes hidden in non-executed files (documents, etc.) in saved document files or files brought into the internal networks of public or financial institutions.

The biggest advantage of SecuLetter’s solutions is that they allow for quicker diagnosis than activity-based security solutions. Lim explained, “Once the executed files begin circulating inside the company, it is already too late. Our solutions diagnose document files that enter the company through emails or through the company’s internal network before any malignant attacks take place. Our solutions are also very competitively priced compared to foreign services, and this has allowed us to increase our client pool. Activity-based solutions take five minutes to check files. Our solutions are advantageous in that they produce diagnosis results in less than one minute.”

The company’s cloud-based email security service, which was released in April 2018, is also very popular. The company has taken SLE and SULF, which typically require separate equipment, and designed them to be used via cloud, thereby reducing initial service fees. By paying a monthly fee, subscribers can effectively block malignant codes (ransomware via email, zero-day attacks, etc.). The cloud-based solution was originally designed for SMEs using SecuLetter’s business email service. Lim said, “Files are continuously gaining new clients because our solutions can be used by companies that do not have their own email server without the need to purchase additional equipment or worry about maintenance.”

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Already recognized by public institutions: SecuLetter’s goal of growth

Thanks to the company’s decision to concentrate on technology rather than sales, SecuLetter’s technical capabilities are already being acknowledged by public institutions. Several investment firms and corporations have already recognized SecuLetter’s potential and have invested in the company. In October 2016, SecuLetter received an investment of KRW 2 billion from Korea Investment Partners and UTC Investment; just last year, SecuLetter attracted an investment of KRW 1 billion from Woori Bank. SecuLetter will continue to focus on growth in the next several years and is preparing to enter overseas markets. Although SecuLetter has had many great accomplishments in the Korean market, it has set its sights on entering the American market, which is well-known for the “battlefields” for global cyber security companies, by 2020. Although SecuLetter now has an office located in Pangyo, in its early years, it did not have its own office space, and employees had to work out of their homes and at cafes. When the company first began, SecuLetter received support from the Born2Global Centre in the form of legal consultations on investments and financial auditing. Lim said, “We learned about Born2Global while we were searching for institutions that fund startups. With Born2Global’s help, we were able to secure our own office space for the first time at a very reasonable rental fee. Since we hope to grow significantly in the next few years, we are currently focusing much of our attention on financial auditing. Born2Global’s accounting consultation services have been and continue to be very helpful.”

CEO Lim explained that it is not easy for new companies to sign security solution supply contracts with corporations or institutions. He noted that the PR support provided by Born2Global was very helpful in this regard. Lim said, “Security solutions are usually very expensive and cost several hundred million won. Also, because there is a need for regular maintenance, purchases must be made with a long-term perspective, which in turn results in a high-entry barrier to the market. Additionally, people always seem to expect that new companies will soon go bankrupt. Born2Global’s active promotion of SecuLetter in the media was the most helpful type of support offered by Born2Global.”

Sodacrew

Profile

Summary

Founders: Lee Yoonse Products: Smart money transfer service
Founded: December 2015 Website: sodatransfer.com
Location: Rm. 616, VPLEX Bldg., 501, Teheran-ro, Gangnam-gu, Seoul

Timeline

- December 11 – Sodacrew established
- July – Release of Sodatransfer MVP services
- January-October – Beginning of Sodatransfer Public Beta services
- August – Attraction of KRW 1.6 billion in institutional investments (Big Basin Capital, How Investment, SGA Black Chin)
- December – Registered as a “Small-scale Overseas Wire Transfer Business of Korea” (Financial Supervision Service)
- February – Signing of partnership contract with Australian bank and payment processing firm
- March – Signing of partnership contract with Jeonbuk Bank
- April – Opening of Australian-Korea wire transfer services
- May – Signing of partnership contract with a US bank, and opening of US-Korea wire transfer services

Success Stories

Profile

Other Achievements

- 15,000 members gained during the beta service period of the service’s 7,000 active users, 88% inside the US
- 45 patents were submitted in South Korea
- 70% licensing fee from the local government’s financial technology promotion project
- In Australia and the US, Sodatransfer’s smart money transfer service is in cooperation with local financial institutions

Subscribers

- 13 Global Expansion

- USA, Australia, Canada (planned)

Investors

- Big Basin Capital, How Investment, SGA Black Chin, Seoul Business Agency, etc.

- MOUs & Contracts

- Jeonbuk Bank, Australian financial institution
- US financial institution
We Offer Smart Money Transfers to Real People with the Real Exchange Rate

Sodacrew is a fintech company that operates the mobile money transfer service “SodaTransfer.” Unlike Korean financial institutions, which already have sophisticated online banking services, there are many institutions overseas that still do not offer online banking. Sodacrew’s job is to provide services that fill this gap. Koreans living overseas send approximately KRW 12 trillion per year to banks in Korea. The problem is that traditional financial institutions (banks, etc.) charge a very high commission rate for overseas transfers, even for transfers of a small amount of money. Sodacrew offers overseas wire transfer services for Korean citizens living outside of Korea. Its commission rate is up to 90 percent lower than that of other financial institutions and up to 100 percent lower under the conditions of a favorable exchange rate. Another advantage of Sodacrew is that its wire transfers are always completed in a timely manner, taking a maximum of just six hours to process. Sodacrew CEO Lee Yoonse explained his motivation for becoming an entrepreneur by saying, “There are many wire transfer services that are geared toward domestic use, but there are virtually none that are geared toward international use. My idea for this company stemmed from inexperience I experienced while living overseas.” Sodacrew’s current focus is Koreans living overseas who send money back to Korea, and particularly targets users who transfer small amounts (under USD 3,000) of money.

From a small trial service to a global fintech company

Before founding Sodacrew in December 2015, Lee worked at Misra Asset Financial Group, where he was responsible for planning and brand policies for digital services. Lee said, “In 2013, I began noticing that fintech firms were booming in other countries, so I proposed a new fintech-related project to my previous company. After repeatedly being frustrated by other people’s unwillingness to consider the project, I decided to begin a startup with people who shared my business philosophy.” Before starting its full-fledged operations, Sodacrew conducted trial services for a small group of users. Lee recalled, “In July 2016, we tested our service on a small group of people. The results were highly encouraging.” After gaining confidence from the trial, Lee conducted a bilateral wire transfer beta service between Korea and the US; the beta service ran from January 2017 to October 2017. During the 10-month period, the beta service showed clear signs of potential, as evidenced by the 15,000 people who applied for membership. CEO Lee said, “The beta service showed that 70 percent of customers re-used our services within three months, with the user pool growing by 30 percent each month. The number of service users increased significantly within the Korean community in the US by word of mouth.”

Biggest obstacles are legal and investment attraction-related

Lee named legal regulations and attracting investments as the most difficult aspects of doing business. He said, “Since Sodacrew, by its very nature, is conducted in various countries, it is even more sensitive to regulations than fintech firms that are operated only within Korea.” Lee emphasized that most regulations were drafted decades ago, making them painfully obsolete given
Sodacrex

modern business conditions. “We are advancing significantly in terms of technology, but the rate at which regulations are being modified is much slower. If we had had less or more lenient regulations, I believe that Sodacrex could have grown to its present size one or two years earlier.”

As a startup, Sodacrex also experienced many difficulties attracting investments. Most Korean investment firms were (and still are) reluctant to invest in the fintech sector. Lee recalled, “It is not easy to attract outside funds because the financial sector is highly sensitive to regulations, and the market share of traditional financial institutions (banks, etc.) is very large.” Fortunately, an American VC and several Korean VCs saw the company’s true potential and invested in the company before its funds ran out. In order to obtain its overseas wire transfer license, Sodacrex received a cash transfer of KRW 1.6 billion in August 2018 from outside sources. It was thanks to this large investment that Sodacrex was able to become certified by the Financial Supervisory Service in December 2018 as a “Smart Money Transfer Business of Korea.”

Leaping into the global market with support from the Born2Global Centre!

Touting itself as an “international wire transfer service provider,” Sodacrex has continued to accelerate its entrance into overseas markets. In December 2018, Sodacrex established a US subsidiary named Brite Inc. and dispatched sales personnel to Australia. In the future, Sodacrex will continue to expand its technologies, which began in the US, to Canada and Europe. Lee said, “The legal consultations offered by the Born2Global were a great help, especially when doing a comparative review of legal procedures in Korea and the US and when reviewing contracts with our foreign partners. The Born2Global’s assistance also helped us avoid conflicts related to intellectual property rights (copyrights, patents, etc.).”

2019, the year of Sodacrex: raising KRW 5 trillion by 2022

By 2022, Sodacrex hopes to achieve a total of KRW 5 trillion in annual services. The business outcomes of 2019, the year in which the company received its wire transfer permit, are expected to act as an indicator as to whether or not Sodacrex will reach its goals for 2022. Lee said, “Our short-term goal is to become the number one wire transfer service provider for US/Australian-Korean transactions. In the long term, we also aim to enter the Canadian and European markets.” Sodacrex not only seeks to excel in the person-to-person overseas wire transfer market but also in the fields of B2B wire transfers and commerce funds.
Is it a graphic image or a real person? Astonishing the World with "Digital Humans"

Breathing life into virtual characters

At G-STAR 2018, a game expo held last November in Busan, an amazingly real-looking game character that could talk stopped many visitors in their tracks. This character was Ron, the heroine of Netmarble’s famous game “Seven Knights 2.” At the expo, Ron hosted a real-time quiz game and interacted with visitors as if she was a living and breathing person, captivating the attention of many visitors.

The company that breathed life into Ron, who had previously existed only within 2D gaming, is afun interactive, which was founded just four years ago. afun interactive, the operator of a professional VR/AR studio, is known for its key technology of real-time rendering. It typically takes approximately five days to render one 3D animated film. afun interactive can do this same work in real time in just one hour, using graphic technology that meets even the highest of global standards.

In order to gain a deeper understanding of the concept of real-time rendering, let’s look at the similar case of the “cyber singer,” Adam, who emerged in Korea in the 1990s. Since Adam was (obviously) not a human being, he moved in accordance to pre-set commands. Through the development of Ron, afun interactive upgraded the older concept of “Adam” and created a character that was able to converse with people in real-time.

CEO Kwon Delyun said, “Real-time rendering is a relatively unfamiliar technology, even in North America, which has a strong content industry. afun interactive’s world-class technology is not only superior in terms of speed but also in terms of the realistic appearance of its graphic designs.”

Abandoning a “dream job” to develop the technologies that soon became the company’s competitive edge

The technology for which afun interactive is becoming famous for today is the hard-earned outcome of abandoning everything in the pursuit of technology development. Although the company’s CEO, Kwon Delyun, does not currently directly participate in development, he is a well-known graphic designer who was responsible for the CG for the American rock band the Red Hot Chili Peppers. The company’s Art Director and Co-founder, Han Yu, worked at Walt Disney Animation for five years before quitting to pursue technology development.

It did not take long for afun interactive’s technologies—the results of the dedicated efforts of the company’s founders—to be recognized by prominent companies. In 2017, as the company celebrated its second anniversary and its first year as an official corporation, afun interactive earned a total of approximately KRW 900 million in profits. In short, the curiosity many companies had about afun interactive’s technologies has translated into substantive profits. Last year, the company recorded an impressive KRW 1.7 billion in annual sales.

So far, afun interactive has conducted projects with a number of renowned Korean and international
companies. To date, afun interactive has provided real-time 3D content for Mercedes-Benz and engaged in collaborations with Nvidia and SK. The project that afun interactive worked on with the SK Group in 2018 is particularly noteworthy for its recreation of late SK Group Chairman Jong-hyun Cho in hologram format. The audience was visibly astonished to see Chairman Cho walking around on stage as if he were still alive.

Another project of note is afun interactive’s 3D animation film partly created with Redover (the Hollywood animation producer of The Nut Job series). The film was screened at the 75th Venice International Film Festival and was the only Korean entry to receive an award.

The Born2Global Centre, a “ladder for growth”

The support of the Born2Global Centre has been critical in helping afun interactive become the success that it is today. Although the company was highly sought-after both in Korea and overseas for its technological capabilities, even prior to joining forces with Born2Global, the company lacked key knowledge (related to accounting, legal issues, patent registration, and marketing, etc.) that was required to do business.

CEO Kim said, “We are impressed by the one-stop support system (offered by Born2Global) that enables Korean startups to grow and enter foreign markets. Born2Global was a huge help, especially in terms of helping us complete the corporate value assessment needed to attract investors, submitting an application for a global trademark, reviewing overseas business contracts, and helping us complete everything else that was necessary for us to branch out beyond Korea.”

A digital human—specialized company for the AI era

Although it is already being recognized for its capabilities, as demonstrated by the diverse projects it has conducted thus far, afun interactive’s next goal is to become a company specializing in digital human technology (applying emotional intelligence (EI) to AI to give the impression of a real human being), an area of AI technology that is increasingly being spotlighted. This technology is being so heavily pursued because once it is perfected, humans will actually be able to interact with machines. afun interactive will soon feature a “digital human” that utilizes upgraded versions of the company’s signature real-time rendering technology and motion/capture technology. These technologies will enable the “digital human” to have even more detailed facial expressions and speak in a more natural manner. This new “digital human” will be part of afun interactive’s “Virtual Live Show,” in which customers can communicate with virtual characters.

The company will also be seeking to enter the digital signage market, which connects digital human technology with AI. Kim said, “Up until last year, we worked on a lot of side projects in order to expand and strengthen our company. Moving forward, we will be increasing our number of independently-operated projects in order to become a content company that earns profits through its own intellectual property rights. It is our aim to always do our best to produce bold and more innovative products.”

afun interactive

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MEDI FUTURES Emerges as a New Medical Startup within Three Years of Its Establishment

The only company in Korea with its own self-developed ultrasound technology

MEDI FUTURES, a medical startup, is celebrating its third anniversary this year. Although its history may not be long, MEDI FUTURES is already a shining star of the medical device industry and is highly recognized for its revolutionary ultrasound and bio-technologies that "pinpoint" the needs of clients and providers in actual medical settings. The company’s “ULTRA” series, which is comprised of ultrasound-based medical devices, gained attention from very early on due to its ability to make incisions only in the desired area (bone, fat, etc.) via continuous wave ultrasound pieces, thereby preventing unnecessary damage to bones, nerves, and/or muscles. Currently, MEDI FUTURES is the only Korean company to have successfully developed ultrasonic piezo technology. This is one of the reasons that the company has been able to attract KRW 1 billion in investments despite having only been in operation for less than three years. In the medical device sector, the main reason it is so difficult for startups to attract investments in their early stages is because there is typically a large time gap between technology development and technology authorization for applied use. MEDI FUTURES, however, beat the odds and succeeded in attracting investments in its first year from multiple investment firms that recognized the startup’s potential. Major investors include the biomedical investment companies The Walls Investment and MAGNA Investment as well as Samho Green Investment and Mega Investment.

Since our products are based on actual, real-life needs, they bring in profits as soon as they are developed. We determine these needs by consistently communicating with people in the field, and we respond to these needs in a flexible and timely manner.

Engineering brothers join forces to create a medical startup

CEOs Kim Jinmin first entered the startup scene based on his fascination with the idea that medical devices can make people "laugh or cry." Kim had a keen eye for the market, while his older brother, an electrical engineering major, excelled at technology development. In fact, Kim’s older brother had already been developing an ultrasonic medical device for cosmetic surgery when the two brothers decided to join forces and start their own company. As Kim’s older brother worked to perfect the technology, Kim quickly read the needs of the market, and his older brother translated these needs into product form. Kim expanded the scope of the business based on his previous experience as an executive at a global private equity firm. The skills Kim gained from his previous position became the driving force behind MEDI FUTURES’ rapid growth. MEDI FUTURES gained its competitive edge by reflecting the ideas of customers in its products, which is a business model that is difficult or nearly impossible for large companies to replicate. Kim explained that MEDI FUTURES continues to grow by ascertaining the needs of the market while simultaneously expanding its collaboration with customers. Based on its ultrasound platform technology, MEDI FUTURES has commercialized an ultrasonic endoscopic dissectomy device and a non-enzyme ultrasonic stem cell separation device. Recently, the company developed and has been exporting a uniquely shaped behind suture that is extremely strong. In 2018, the company experienced a 400 percent growth from the previous year. Over 80 percent of its sales are from overseas. Kim said, “Since our products are based on actual, real-life needs, they bring in profits as soon as they are developed. Our highest priority is discovering new needs. We determine these needs by consistently communicating with people in the field, and we respond to these needs in a flexible and timely manner.”
The ultimate partner for startups seeking overseas expansion: Born2Global Centre

According to MEDI FUTURES, the Born2Global Centre is the “ultimate partner” for startups, like MEDI FUTURES, targeting foreign markets. Born2Global not only provides a bright and comfortable work space for nascent startups, but also employs a professional consultant, permanently stationed at Born2Global, who offers consultations in various areas (patenting, legal issues, finance, etc.). This type of legal consultation is an especially welcome feature for startups, many of whom experience legal problems as a part of doing business but do not have the financial resources needed to hire staff dedicated to handling legal matters. Foreign laws, which are different from Korean laws and typically require consultations with outside specialists, are even more of an obstacle for startups. The entire legal process, from finding the right expert to engaging in consultations, can be daunting for startups because completing legal tasks requires significant time and money. Kim said, “With the help of the Born2Global Centre, we were able to apply for a good PCT (patent cooperation treaty) and are building up our patent-based assets based on the road map we drafted during the consultation process. We are currently receiving consultations for the establishment of an office overseas. The fact that we can meet and seek advice from experts at any time gives us a huge advantage.”

Goal of becoming a technologically capable firm that contributes to the national economy

MEDI FUTURES’ ultimate goal is to be a technologically capable firm that contributes to the national economy. Kim notes that while he was working with American, Chinese, and Japanese investment firms at his former workplace, he began to hope for the establishment of more Korean companies with technologies that could compete with global brands. This is the reason why MEDI FUTURES continues to pursue technological development, even though it already possesses independently-developed technologies that have been recognized by the market. MEDI FUTURES is also actively engaged in industry-academia joint research. Currently, MEDI FUTURES is working together with Seoul National University Hospital on an endoscopic surgical device for uterine myoma removal. MEDI FUTURES is quickly achieving its goals, as can be seen by its designation as one of the “Final Three Partnership Companies” at last year’s Medtronic Asia Innovation Conference. This is a significant accomplishment, given Medtronic’s reputation as the world’s number-one company for barbed sutures (one of MEDI FUTURES’ main products). CEO Kim noted that the Korean government must make a larger number of bold investments if it wants to encourage the establishment of innovative startups. He suggested the creation of an “Adventurous Support Organization” that provides consultations and outsourcing services to startups in addition to the “Adventurous Policy Fund,” which offers small-scale loans to startups without complicated procedures or documents for R&D activities that are currently underway. Kim said, “There are several organizations and institutions that provide startup support. However, this by no means makes entrepreneurship—which requires you to tackle new problems on a daily basis and constantly worry about how to expand your business—an easy process. If the government adequately supports startups, it will lead to the emergence of a greater number of diverse and innovative companies. This in turn, will ultimately enhance Korea’s economic competitiveness.”
Afterword

- Conclusion of the Korea Startup Index 2018
Afterword
The venture capital boom is still underway in the Republic of Korea. The venture capital and startup boom began in many countries with the spread of the mobile revolution around the world in the late 2000s, spurring huge investments. During this period of change, however, many countries experienced ups and downs, such as a reduction in the startup-growth rate, decrease in investment compared to previous years, and lack of fund recruitment.

Korea, however, was not one of such countries. Its startup boom never dissipated, investment increased steadily, and the number of venture-backed companies increased day by day. The number of venture-backed companies in Korea rose from 35,289 in 2016 to 35,187 in 2017, going on to exceed 37,000 in 2018. This represented a near doubling of the number of venture-backed companies in Korea over a nine-year period, starting at about 19,000 in 2009.

Have the qualitative indices for sales and employment increased along with the number of venture-backed companies? Unfortunately, that is not the case. The average number of people employed by venture companies and companies’ average sales have both been in decline.

According to the Ministry of SMEs and Startups, the average sales of venture-backed companies increased every year, rising from KRW 6.72 billion in 2012 to KRW 6.84 billion in 2013 and further

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Sales (KRW 10E index)</th>
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<tbody>
<tr>
<td>2010</td>
<td>64.5</td>
</tr>
<tr>
<td>2011</td>
<td>72.2</td>
</tr>
<tr>
<td>2012</td>
<td>70.3</td>
</tr>
<tr>
<td>2013</td>
<td>68.6</td>
</tr>
<tr>
<td>2014</td>
<td>69.2</td>
</tr>
<tr>
<td>2015</td>
<td>68.5</td>
</tr>
<tr>
<td>2016</td>
<td>66.5</td>
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</tbody>
</table>

*Source: Ministry of SMEs and Startups
to KRW 7.19 billion in 2014. This shows a substantial increase from the KRW 6.45 billion recorded in 2009, before the venture capital boom began. Starting in 2015, however, average sales began dropping, falling from KRW 6.92 billion in 2015 to KRW 6.87 billion in 2016 and further to KRW 6.4 billion in 2017, returning to a level seen before the mobile revolution in 2009.

The average number of employees per company followed a similar trend. According to the Ministry of SMEs and Startups, the average number of employees per venture-backed company was 27 in 2009, but that figure decreased over time, falling to 25.5 in 2011, 24.7 in 2012, 23.3 in 2015, 22.9 in 2016, and 21.7 in 2017. This shows that venture-backed companies have been getting smaller over the years. These decreases in average sales and number of employees could be seen as the result of the increasing number of venture-backed companies. However, it could also be said that small venture-backed companies are simply failing to scale up.

While the number of unicorns (privately owned startup companies valued at over USD 1 billion) in the Korean venture capital industry has been increasing, the average sales and employment indices have not been improving for venture-backed companies. The reason for this is that, ultimately, the qualitative growth of venture-backed companies is unable to keep pace with the increasing number of startups. This means that rather than a small number of promising companies with high growth potential leading the market, the market is being dominated by a growing number of small companies that are struggling to stay afloat. Although the circumstances of the venture capital industry are certainly improving, the sales, profitability, and employment indices do not look very optimistic.

It has been 10 years since the mobile revolution began in 2009, and expectations for growth, performance, and change are now growing as fast as expectations for the quantitative growth of startups. We thus wrap up this white paper by expressing our hope that the venture capital and startup boom, which has not yet subsided, will end up bearing even greater fruit in the near future.
Korea Startup Index 2018

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