Outstanding Cases Achieved Through Government Grant for ICT

2017. 12

Outstanding Cases Achieved Through Government Grant for ICT

Ministry of Science and ICT

KCA Korea Communications Agency

Outstanding Cases Achieved Through Government Grant for ICT

Ministry of Science and ICT

KCA Korea Communications Agency

2017. 12

Outstanding Cases Achieved Through Government Grant for ICT

Ministry of Science and ICT

KCA Korea Communications Agency

Outstanding Cases Achieved Through Government Grant for ICT

Preface

The Government of the Republic of Korea (Ministry of Science and ICT) is striving to nurture industries that act as the growth engine for the future with almost 18 billion dollars of financial funds each year, consisting of the Broadcasting Communications Development Fund and the Fund for Promotion of Information and Communications. With funds, the government is trying to

- Δ creating a foundation and nurturing talents for further development of the broadcasting and content convergence industry
- Δ supporting the establishment of SMEs in the ICT sector and creating jobs
- Δ fostering future growth industries such as the software industry, IoT, big data, AI and VR.

Also, the Korea Communications Agency (KCA) has been designated as an organization to oversee the whole project since 2015 in order to both efficiently carry out projects with the funds while maintaining transparency. With the KCA, the government is placing emphasis on creating the value of projects through government grants with a systemic management system, supervising a series of processes from execution, management, and evaluation to creation of outcome.

Particularly, we will lend an ear to the voices of those on the industrial side. Using our utmost efforts, we are striving for government support to be an incubator for ICT companies and a facilitator of private investments through an effective systemic support system, an atmosphere for creative and autonomous projects, alleviating the unnecessary administrative burden and improving overall performance in accordance with our objectives.

This casebook is a compilation of outstanding cases discovered through a thorough screening process that has been conducted twice amongst numerous business performances generated with the government grant for the ICT sector. I would like to extend my profound appreciation to all individuals who cooperated in the publication of this casebook.

I expect to see these outstanding cases, more diversely discovered, shared, and diffused to become the foundation of the fourth industry. Also, I sincerely hope for this casebook to be of help to domestic companies, creating excellent results in order to help elevate the status of Korea in the global ICT market and obtaining a global competitive edge.

President of KCA under the Ministry of Science and ICT
Seok-jin Seo
Seokjin Seo

Outstanding Cases Achieved Through Government Grant for ICT

CONTENTS

Chapter 1.
Outstanding Cases Achieved Through Government Grant for ICT

Introducing government grant for ICT 12
Purpose and grounds of establishing government grant for ICT 12
Status of government grant for ICT 12
Main areas of government support for ICT 12
Yearly key achievement through government support for ICT 13
Status of outstanding cases through government support for ICT 14

Chapter 2.
Success stories of outstanding cases

Digital Content

Leading the Popularization of Scientific Knowledge with Diverse Scientific Broadcasting Contents
Korea Foundation for the Advancement of Science & Creativity 21

Nuclear Facilities Protection Field Training Exercise Using Space Experience VR Technology
VR-LAB No.3 Dongguk University 25

Pioneering Agricultural Products Market with a Food Distribution Platform
Retail Young Co., Ltd. 29

At the Forefront of the Global Market Through Development Of VR FPS Games (Vris)
3D Factory Co., Ltd. 33

Developing Sport Contents Zone for Korea's First-ever 'Screen Badminton Zone'
TL Industry Co., Ltd. 37

Smart Heathcare

Enhancing Healthcare Accessibility Through Public ICT-Based Wellness Care Service
National Information Society Agency 43

Healthcare Service Realized Through Creation of Daily Healthcare Demonstration Complex
National Information Society Agency 49

Developing Smart Thermometer (Thermosafer) For Real-time Monitoring
Chois Technology Co., Ltd. 53

Remote Rehabilitation Treatment Made Possible with Smart Rehabilitation Solution
Uincare Corp. 59

Developing and Distributing of Functional Prosthetic Hands with a Price of a Smartphone Made Possible With 3D Printing Technology
Mand.ro Co., Ltd. 63

Outstanding Cases Achieved Through
Government Grant for ICT

CONTENTS

IoT

Setting Up Basement for Self-Reliance with IoT Technical Support to SME, Venture, and Start-Ups
National IT Industry Promotion Agency 69

Preventing the Inflow of Foreign Infectious Disease Using Roaming Big Data
KT Corp. 73

Establishing Environment for SW Education That can be Accessed Whenever and Wherever
Codigm. Corp 77

Developing Smart Light Controller Perfect for One or Two-Person Household
I/O Inc. 81

SW

Emerging Female IT Firm and Nurturing Female IT Talent
Korea IT Business Women's Association 87

Nurturing SW Industry with Forum for SMEs
Korea Software Industry Association 91

Providing Fun Coding Education through Online Coding Party
Entry Labs 95

Data Security

Enhancing the National Brand by Sharing ICT Development and Policies with Developing Countries
Korea Information Society Development Institute 101

Radio Communication

Bridging the Digital Divide with Basis for Giga Internet Service
National Information Society Agency 107

Building a TVWS System for Remote and Rural Areas
Innonet Co., Ltd. 111

Developing a Real-time Video Device for Special Purpose, Useful in Disaster Sites
Cybertel bridge Inc. 117

Cloud

Developing a Cloud-based GIS Solution
ALLforLAND Co., Ltd. 123

Smart Device

Introducing an Advertising Digital Signage in 2018 Pyeongchang Winter Olympics
KNOWCK Co., Ltd. 131

Smart City

An Inside Location Tracking Technology Handling Safety, Disaster and Basic Living
People & Technology Co., Ltd. 137

Chapter 3.
Global outstanding cases

Taking Over the Global Market with IT Convergence Logistics System
Mesh Korea Co., Ltd. 145

Fingertip Call 'Sgnl' to Communicate with the World
Innomdle Lab Co., Ltd. 149

Full-scale Overseas Expansion with a Leading-edge CG-VFX Technology
Digital Idea Corp. 153

Going Out to the Global Market with a Music Education Application for Smart TV, 'Boto'
Creative Bomb Co., Ltd. 157

Chapter 1

Outstanding Cases Achieved Through Government Grant for ICT

Outstanding Cases Achieved Through Government Grant for ICT

- Introducing government grant for ICT
- Purpose and grounds of establishing government grant for ICT
- Status of government grant for ICT
- Main areas of government support for ICT
- Yearly key achievement through government support for ICT
- Status of outstanding cases through government support for ICT

Introducing government grant for ICT

Government grant for ICT is consisted of "Broadcasting Communications Development Fund" and "Fund for Promotion of Information and Communications ". The Ministry of Science and ICT forms and operates both funds, in order to attain growth engine for contents and broadcasting industry, nurturing new ICT businesses, bridging network infrastructure, building a venture environment for establishment and growth of ICT companies, and supporting R&D.

Purpose and grounds of establishing government grant for ICT

• Broadcasting and Communications Development Fund

- (Purpose of establishment) Supporting development of broadcasting and communications such as R&D, standardization, manpower training, service activation and building foundation
- (Grounds of establishment) Framework Act on Broadcasting Communications Development, Article 24 (Establishment of Broadcasting and Communications Development Fund)

• Fund for Promotion of Information and Communications

- (Purpose of establishment) Supporting development of R&D, standardization, manpower training and building industry foundation
- (Grounds of establishment) Information and Communications Technology Industry Promotion Act, Article 41 (Establishment of Fund for Promotion of Information and Communications)

Status of government grant for ICT

Broadcasting and Communications Development Fund		Fund for Promotion of Information and Communications		Total	
2015	1,019	2015	927	2015	1,946
2016(A)	997	2016(A)	906	2016(A)	1,903
2017(B)	874	2017(B)	852	2017(B)	1,726
Variation (B-A): ▲123	%: ▲12.3	Variation (B-A): ▲54	%: ▲5.9	Variation (B-A): ▲177	%: ▲9.3

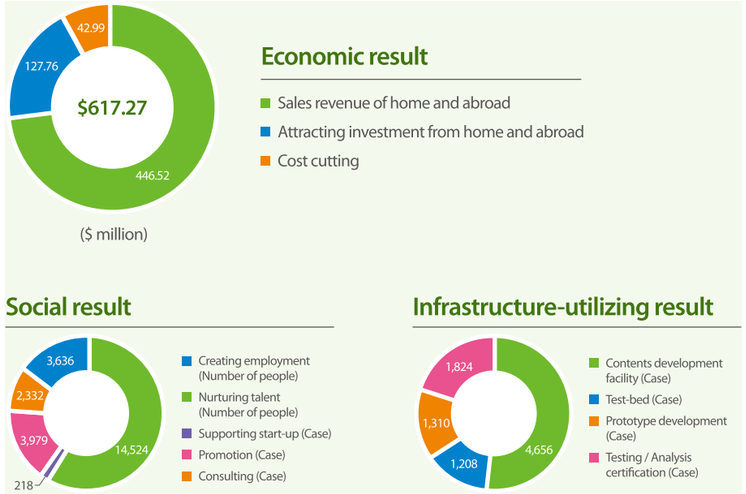
Unit: Million $

Main areas of government support for ICT

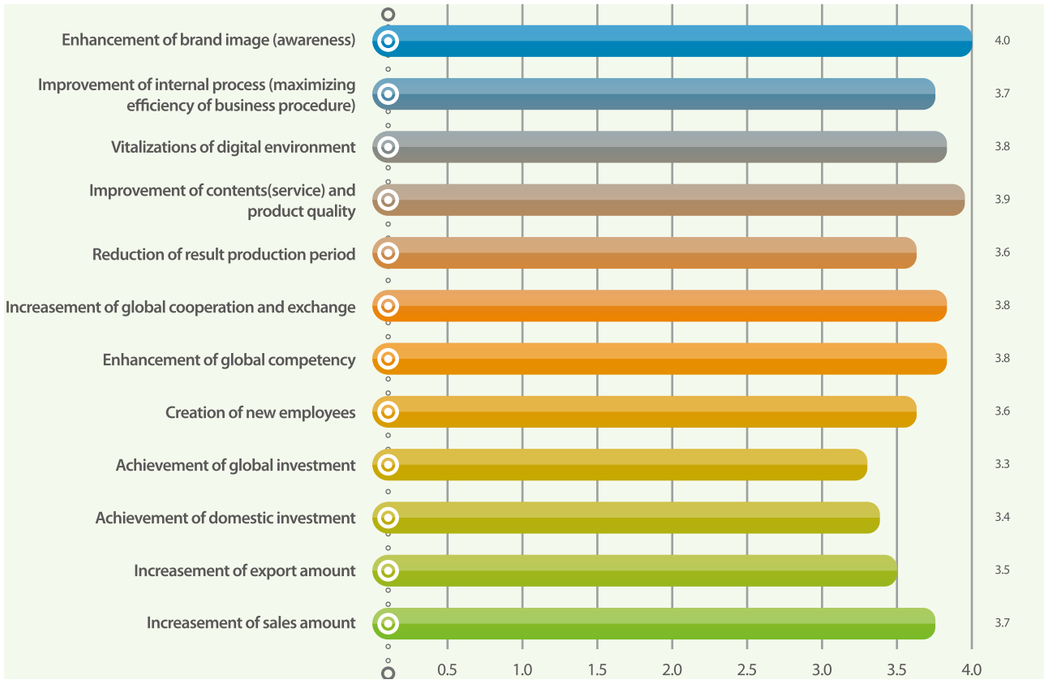
Support Areas	Details of support
Research on industry policy	Research on industry policy and actual condition, Improvement of a law and a system, etc.
Start-up	Establishment fund support, technology support, information regarding start-up and equipment support, etc.
Contents development	Production money, technology, commercialization and equipment support, etc.
Nurturing talent	Nurturing talent, education program operation support, etc.
Building infrastructure	Biz infrastructure, R&D infrastructure(facilities, equipment, test-bed, certification, prototype manufacture) support, etc.
Overseas expansion	Fund support for overseas expansion, developing a new sales market, marketing support, etc.
Standardization	Standard development of technology, standardization, etc.
Improvement on broadcasting and communication environment	Broadcasting reception for neglected classes, improvement on the network environment, etc.
International cooperation	International conference, trade agreement support, etc.
Support to developing countries	Equipment, education, consulting and etc. support to developing countries
Korean broadcasting	Developing overseas Korean broadcasting and televising rights support, etc.

Yearly key achievement through government support for ICT

Through the 2016 Government grant for ICT, there was a total economic result of $617.27 million for 35 business. Also, there have been various social result such as creating employment (3,636), nurturing talent (14,524), supporting start-ups (218 cases), promotion (3,979 cases).



For direct and indirect effect, the enhancement of brand image (awareness) was the highest (4.0 point average), and attraction of foreign investments was the lowest (3.3 point average).



In 2016, there has been an increased achievement in sales revenue from home and abroad (15.5%), attracting investments from home and abroad (153.1%), cost cutting (523.9%), and creating employment (224.4%) compared to 2015. Also, there has been a considerably large effect to domestic industry in production inducement effect ($ 822.58 million), add value inducement effect ($ 358.2 million), and inducing employment effect (5,170).

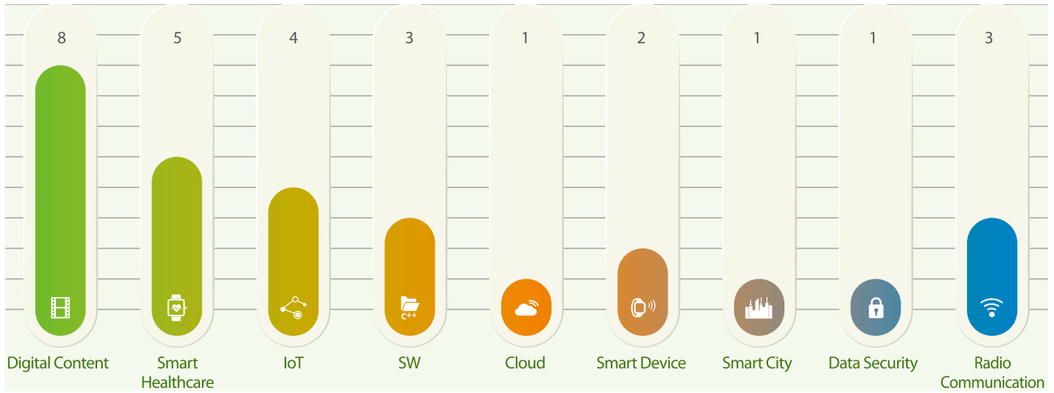
Key achievement through government support for ICT(2014 ~ 2017)

Category		2014(a)	2015	2016(b)	2017 (Expected)	Annual average growth rate(%)* (2014-2016)
Sales revenue of home and abroad	Amount of money ($ million)	192.63	386.63	446.52	443.85	52.3
	Growth rate(%)	-	-	15.5	-	
Attracting investment from home and abroad	Amount of money ($ million)	59.51	50.48	127.76	63.02	46.5
	Growth rate(%)	-	-	153.1	-	
Cost cutting	Amount of money ($ million)	427	688	42.99	64.54	217.2
	Growth rate(%)	-	-	523.9	-	
Creating employment	Number of people	398	1,121	3,636	3,049	202.3
	Growth rate(%)	-	-	224.4	-	
Economic effect (induced amount)	Production inducement effect (unit: $ million)	354.83	712.39	822.58	817.68	52.3
	Add value inducement effect (unit: $ million)	154.5	310.16	358.2	356.07	
	Inducing employment effect (unit: person/$ 0.9 million)	2,230	4,477	5,170	5,140	

* Annual average growth rate(%) = {(b/a)^(1/period(year))-1} x 100
* Created using employment inducement coefficient per industry announced by the Bank of Korea from 2005
* Calculated with exchange rate of Oct. 2017.

Status of outstanding cases through government support for ICT

For the outstanding cases selected in 2016, cases from Digital Content were the most with eight cases(29%), five cases from Smart Healthcare(18%), four cases from IoT(14%).



Outstanding cases per support organization

Support organization	Number of selected cases									
	Digital Content	Smart Health care	IoT	SW	Cloud	Smart Device	Smart City	Data Security	Radio Communication	Total
Korea Radio Promotion Association	1	2	1	0	0	0	0	0	2	6
Korea Entrepreneurship Foundation	1	0	0	0	0	0	0	0	0	1
Daegu Digital Industry Promotion Agency	2	0	0	0	0	0	0	0	0	2
Korea Foundation for the Advancement of Science&Creativity	1	0	0	1	0	0	0	0	0	2
Korea Association for ICT Promotion	1	0	0	0	0	1	0	0	0	2
National IT Industry Promotion Agency	1	0	1	2	1	0	1	0	0	6
Korea Communications Agency	1	0	0	0	0	0	0	0	0	1
Kyungpook Industry-Academic Cooperation Foundation	0	1	0	0	0	0	0	0	0	1
National Information Society Agency	0	2	2	0	0	0	0	0	1	5
Telecommunications Technology Association	0	0	0	0	0	1	0	0	0	1
Korea Information Society Development Institute	0	0	0	0	0	0	0	1	0	1
Total	8	5	4	3	1	2	1	1	3	28

Chapter 2

Outstanding Cases Achieved Through Government Grant for ICT

Success stories of outstanding cases

- Digital Content
- Smart Healthcare
- IoT
- SW
- Data Security
- Radio Communication
- Cloud
- Smart Device
- Smart City

Success stories of outstanding cases

Digital Content

Leading the Popularization of Scientific Knowledge with Diverse Scientific Broadcasting Contents
Korea Foundation for the Advancement of Science & Creativity

Nuclear Facilities Protection Field Training Exercise Using Space Experience VR Technology
VR-LAB No.3 Dongguk University

Pioneering Agricultural Products Market with a Food Distribution Platform
Retail Young Co., Ltd.

At the Forefront of the Global Market Through Development Of VR FPS Games (Vris)
3D Factory Co., Ltd.

Developing Sport Contents Zone for Korea's First-ever 'Screen Badminton Zone'
TL Industry Co., Ltd.

KOFAC
Korea Foundation for the Advancement of Science & Creativity
한국과학창의재단

Korea Foundation
for the Advancement
of Science & Creativity

Leading the Popularization of Scientific Knowledge with Diverse Scientific Broadcasting Contents

Organization Overview

President	Park, Tai-hyun
Type of Business	Research, Publishing
Establishment	December 1967
Website	https://www.kofac.re.kr/?page_id=1775

Organization Introduction

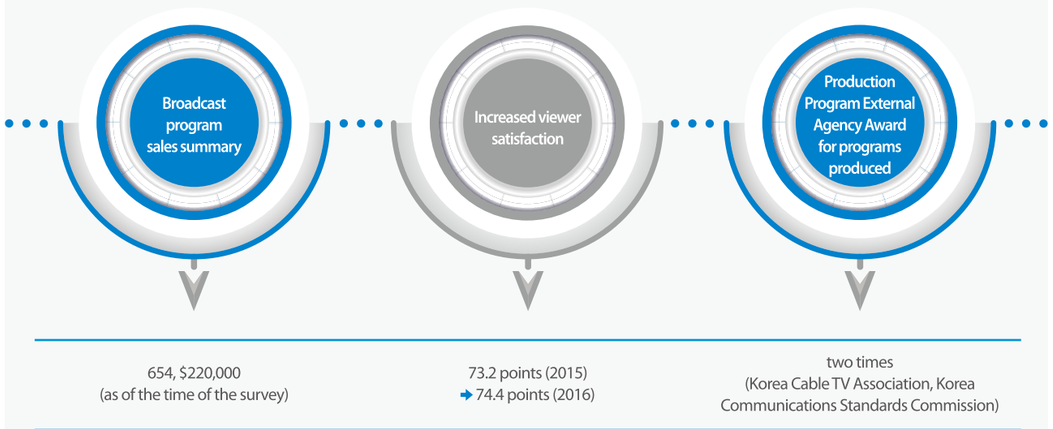
The purpose of the Korea Foundation for the Advancement of Science & Creativity is to spread and distribute science and technology. Through science and technology they hope to broadly lead and propel the future society, by contributing to the national development along with cultivating talented individuals who are full of creativity and passion. Since their founding in 1967, the foundation has emerged as a center dedicated to the development of scientific culture and the cultivation of creative talents. In particular, the Science Content Office within the foundation, provides support in the production of "Science Broadcasting" in Korea, they publish the "Science Times", help in the development of science and culture contents, aid in the publication of exempelary science books for the socially underprivileged, along with supporting a wide range of scientific contents.

Byon, Jae-gyu, Chief Researcher
Tel. 82-2-559-3882 **E-mail.** byonjg@kofac.re.kr

» Success Point

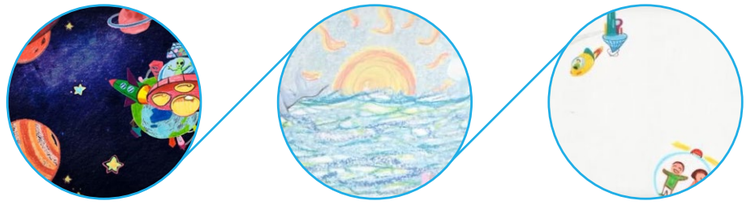
The keys to success factors of this project are as follows: First, Korea's only privately operated broadcaster with a government supported system, where private funding and government subsidy is added. Second, there are full reinvestments with subscription fees, advertising sponsorship fees, and content sales proceeds. Third, there is an establishment of an internal and external mutual inspection system through various performance evaluations and an "issue committee". Fourth, there is an active response to the demands of various new media markets such as mobile and internet video type content. Fifth, there is diversification of business, such as production of personalized contents for target and expansion of production as well as the distribution of high-quality content through a pilot program.

» Key Achievement



Korea Foundation for the Advancement of Science & Creativity has placed a deep focus on leveraging government grants for ICT as means to support and distribute the production of high-quality Science TV contents. The foundation is pursuing "Science Entertainment, the science which is close with our lives and brings us joy."

On being interviewed about science video contents being more noticeable recently, head of the Science Content Office's Lee Jung-gyu stated as he smiled humbly, "I think our mission worked, in a sense that we provided broadcast content that is easily accessible to all, not only through Science TV but other media such as Naver, Youtube, Facebook, and Pikicast as well." This strategy's main focus being one-source multi-use and linking it with the mobile and internet age may have been the key to success.
Korea Foundation for the Advancement of Science & Creativity is promoting the production of professional broadcasting programs that are relative to the mission of "generating an abundance of high-quality scientific content and publicizing them through various social media sources such as, broadcasting and portals". The purpose of this project is to promote a better understanding of science and ICT by popularizing scientific knowledge and cultivating creative talents in advancement of the fourth industrial revolution era.



Supporting production of high-quality broadcast contents through "YTN Science"

Korea Foundation for the Advancement of Science & Creativity has supported YTN Science since 2007 through the Science and Technology Promotion Fund. Since 2015, the Foundation has helped produce high-quality broadcast contents, such as documentaries through government support for ICT. Programs produced with the support of the Foundation have been receiving content and excellence prizes each year. Recently, the documentary "Korean Peninsula - Volcanoes are Alive" was bestowed a plaque of appreciation from the Ministry of Unification.

Creating contents that can help one experience science in daily life

The basic direction for planning and producing a professional broadcasting program is to help inform the public that "Science is closely related to our lives and can be experienced easily". In order to demonstrate this concept, they produced and aired shows such as, "Young Business Incubation Runway". To showcase the know-how of success in the founding fields: "Clear Math" was created to make mathematics easily approachable, "Easy Science" to easily inform about various scientific principles, "Research on Korean History" which introduces the excellence of traditional science, and "Great Science Engineers" was created to inspire pride in those of the science and technology fields.

To lead a 'Science Korean Wave'

In addition, the science-specialized broadcasts help promote the national image by disseminating programs to help promote Korea, exemplary documentaries, and programs that help science education extend to global and educational broadcasters. This project, which was being conducted in Official Development Assistance (ODA) format, was launched in 2013.This project freely provided 288 forms of video content to twenty global and educational broadcasters, and launches in twelve countries throughout the Asia-Pacific region each year.

Lee revealed his dream about the Science Korean Wave, "Although we often import science documentaries, we will soon begin to export high-quality scientific documentaries made through our own efforts."

TIMELINE

Dec. 1967
Established as the Association for Supporting Science and Technology

Jan.1972
Restructured as the Korea Foundation for the Advancement of Science & Technology

Mar.1996
Changed name to Korea Science Foundation

Sep. 2008
Expanded to Korea Foundation for the Advancement of Science & Creativity

Jul. 2011
"Support of Specific Research Institutes Act" has been applied: Designated as a government-funded research institute

Broadcasting communication development fund
Support Organization : Korea Foundation for the Advancement of Science & Creativity,
Website : https://www.kofac.re.kr/?page_id=1775

dongguk UNIVERSITY

VR-LAB No.3 Dongguk University

Nuclear Facilities Protection Field Training Exercise Using Space Experience VR Technology

Company Overview

CEO	Park, Sang-hun
Type of Business	Information Service
Establishment	December 2016
Website	graphics.dongguk.edu / www.vizinf.com

Company Introduction

VR-LAB, which started as the research and development of a virtual reality company has successfully settled into business endeavors, this eventually led to establishing another company, VIZinf Co.,Ltd. CEO, Park Sang-hun dreams of a place “where all members can fully excel their skills and achieve a happy life by receiving a fair share of profits”. VR-LAB is also working on acquiring AR/MR content creation technology based on Microsoft's HoloLens hardware, which will soon be available to the general public.

Park, Sang-hun, CEO
Tel. 82-10-3072-5510 **E-mail.** Mshpark@dongguk.edu

» Success Point

The keys to success factors of this project are as follows: First, since the early days of VR-LAB business, it has integrated education and research into businesses and created a profitable model. VR-LAB then invested their profits and built a virtuous circle structure. Secondly, VR-LAB conducted projects through the government support for ICT at the university, and focused training their manpower to the fullest extent possible. Third, VR-LAB succeeded in commercialization by uncovering active links with industry not just publishing papers and applying for patents using research results.

» Key Achievement

Developed FT-based training materials (guns) that can be linked to the engine in real time

Supported VIZinf Co.,Ltd. (professor-built), Andromeda Studio (Student-built) and generated revenue

VR-LAB was selected as a subject of government support for ICT, and together with the Korea Institute of Nuclear Nonproliferation and Control (KINAC), developed the contents of Field Training exercise (FTX) to defend nuclear facilities from external physical attacks using space experience virtual reality technology.

“Space experience virtual reality is a training program designed to cope with an attack, assuming that there is an incoming external attack, such as a vehicle rush or a terrorist attack against a nuclear facility. The instructor will defend themselves and control the situation with indoor Head-mounted Display(HMD) equipment on.”

Realistic content created by ICT and arts & culture convergence research team

The reason that Park's research team was selected as a subject of government support for ICT was their ability to build “VR-LAB” with ICT, arts, design, and humanities departments that would allow a merging of ICT, art, and culture to become a new growth engine. Park, who majored in computer engineering, could seamlessly interconnect the field of realistic video production, such as computer graphics (CG), Virtual/Augmented reality (VR/AR), and information visualization with a virtual reality contents technology, which has recently been a major focus of attention.

New forms of government support projects focused on commercialization and industrialization

Dongguk University's VR-LAB business team generated sales through flagship project services during its first year. Successful assignments have enabled the VR-LAB business team to continue into their second year of business. With their potential success of ensuring sustained growth, this success naturally led to the founding of VIZinf Co.,Ltd.

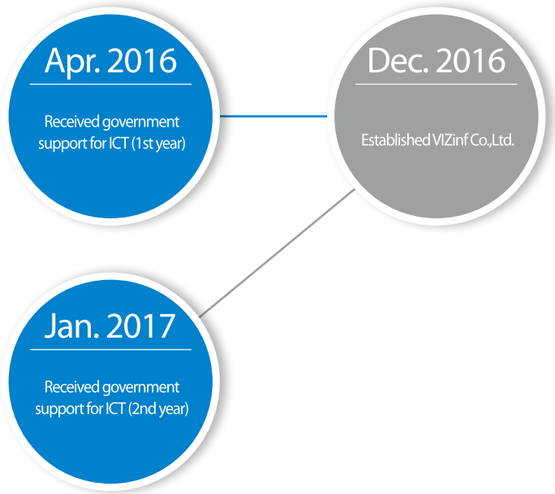
During the success of the VR-lab business team, Park stated “It’s such a significant change and growth that we could never have imagined before participating in the government support for ICT. Now that we have established an on-campus business, we will strive to nurture human resources that are linked to the university education system. Our plan is to keep students actively participating in the business, as company interns and enabling them to work with the company after graduation if they choose to do so.”

Park also believed that the government support for ICT differed from other government support projects. “This project allowed us to create a variety of new and creative contents without worrying about research and development failures. In the field of contents production, a culture that overcomes repeated failure is a driving force of development.” Emphasizing that this new form of support has been a big boost for developing the research.

Will create educational content to help play, experience, and learn in virtual reality

Now, the team is continuing their service through a start-up company. They are in the middle of researching the emergence of altered reality technology by further developing FTX content, from using just the monitor which is a result from the VR-LAB in the first year. The team is also working on acquiring AR/MR content creation technology based on Microsoft's HoloLens hardware, which will soon be available to the general public. In addition, the team is planning on developing contents to vividly teach sciences, such as chemistry, biology, and physics, while experiencing learning games in virtual reality.

TIMELINE



Broadcasting communication development fund
Support Organization : Korea Radio Promotion Association,
Website : http://www.rapa.or.kr/design/contents10.asp?code=1010&lang=eng&left=1&mncode=18

Retail Young Co., Ltd.

Pioneering Agricultural Products Market with a Food Distribution Platform

Company Overview

CEO	Gong, Gyung-yul
Type of Business	Retail, Electronic Commerce
Establishment	December 2016
Website	N/A

Company Introduction

Retail Young established a B2B food material platform to streamline its distribution structure and also applied for a patent on an integrated food management system that automatically delivers food materials whenever the food is sold at a restaurant. By 2020, it aims to create an online wholesale market to streamline distribution and maximize user convenience.

Gong, Gyung-yul, CEO
Tel. 82-10-4176-5007 **E-mail.** Ceo@strucel.com

» Success Point

CEO Gong emphasizes the importance of being on the field by referring the work as just "a vortex on the desk". As the market and customer demands change frequently, the businesses have to go out and watch, listen and act. The keys to success factors of this project are as follows: First, being attentive is not only to successful cases, but also to cases that have failed which took place during the mentoring stages. The difficulties of the overall businesses were solved through "dedicated mentoring", and the knowledge of professional mentors in each field was shared through "collaborative mentoring", and deeply addressed problem-solving methods. This project is an example of active efforts to cultivate self-survival skills in the process of receiving government support.

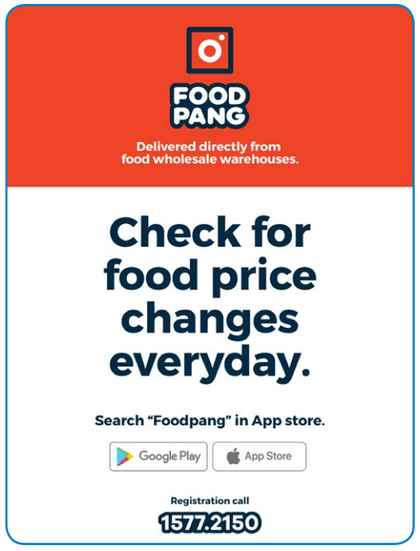
» Key Achievement

Through government support for ICT, Retail Young has effectively built a B2C (Business to Consumer) and B2B (Business to Business) food distribution solution platform. CEO Gong, Gyung-yul succeeded in starting a business through proper mentoring, because of this he plans on sharing experiences and information for aspiring start-up leaders at a mentoring center.

Retail Young's CEO Gong, Gyung-yul, has sought to revolutionize the agricultural distribution industry, where his mother and relatives are working as well. "We live in a world where everything is purchased on your phone and, yet the agricultural product markets still trade with handwritten notes, which to me was a waste of IT technology," CEO Gong stated.
Unlike large franchise restaurants, there was no on-line system that systematically managed food ordering and delivery management for small restaurants. So, he discovered a startup aspect of an "Integrated Food Ordering Platform", but he had to determine whether to make the entry strategy based on offline or online, or how to raise money for the business. The worries of the 27-year-old founder continued to deepen.

Establishment of a food distribution platform with the help of a dedicated mentor

While finding a place to seek advice on his overall business, he met with the government support for ICT, which was provided by the K-ICT Start-up Mentoring Center. He was able to attract $270,000 with a 100% guarantee from the Intellectual Property Guarantee Program operated by Korea Credit Guarantee Fund.
The most helpful component for CEO Gong was the mentoring system. He spent 6 months with a dedicated mentor and received personalized advice about the overall project. He was also advised that the business model, which was the biggest concern for him, should be operated on a strong offline basis and that it should be operated in a relatively stable manner by expanding into the online arena. Developers who develop agricultural product platforms, research food and transaction data of the restaurants. Agents who broker goods in the agricultural market were also introduced to him through the Mentoring Center.



Goal is to establish a platform for traders to have win-win situations

The agricultural product distribution market is set up to generate receivables. It is a complicated step to deal with agricultural commodity traders, middlemen who supply goods by auction, and distributors who supply goods to restaurants. It was the standard practice of the industry for the receivable to take place when the transaction was made every day, while the payments were made every week or two.

Gong introduced card payments for agricultural product transactions, to help facilitate immediate payments. "Most of the restaurants have different accounts for different materials. But I have made it possible for the restaurants to manage all the items, ledgers, and balances for each account in one place. They can now easily use their mobile phone instead of ordering through phone calls or writing on paper and then taking pictures," said Gong.

Later, an integrated management system patent was created for food to automatically be delivered once a sale had been made in a restaurant. Some restaurants may require relatively low freshness of ingredients, so Gong's plan is to demonstrate ways to inexpensively deliver stock to these restaurants. The value of the business pursued by Retail Young is to allow all parties to trade, making the overall position "win-win" for all.

TIMELINE

Feb. 2016
Established the corporation

Dec. 2016
Applied for patent on method and system for food ordering based on sales data

Jan. 2017
Established affiliated institutes

Broadcasting communication development fund
Support Organization : Korea Entrepreneurship Foundation,
Website : http://www.koef.or.kr/koef/kef/main/main.do

3D FACTORY

3D Factory Co., Ltd.

At the Forefront of the Global Market Through Development Of VR FPS Games (VRis)

Company Overview

CEO	Lim, Tae-wan
Type of Business	Service
Establishment	October 2008
Website	http://www.3df.co.kr/en/index.do

Company Introduction

Founded in 2008, 3D Factory is one of the key next-generation 3D specializing companies leading the next generation of 3D such as holograms, virtual reality, augmented reality, and glass-free 3D. Starting with 3D content and hardware development. 3D Factory successfully produced the holographic contents of Kim Kwang-Seok, the first of its kind in Korea. In addition, the company is embarking on its VR game room franchise business efforts based on the first space-based multiplayer VRis FPS game in Korea.

Lim, Tae-wan, CEO
Tel. 82-10-2382-1289 **E-mail.** ceo@3df.co.kr

» Success Point

The keys to success factors of this project are as follows: First, 3D Factory has been steadily accumulating technology in AR (Augmented reality), VR (Virtual reality) and holograms as a leading, next-generation 3D company. Second, organizational culture that encourages freedom of opinion, presentation, communication, and the spirit of challenge which was defined by the mindset of "Why not?", helped the company into becoming a market leader. Third, it was an effective strategy to first experience the content of leading companies in the United States and Japan, helping companies to understand their advantages and disadvantages.

» Key Achievement

A realistic fusion VR game leveraging challenging, such as stage composition, multi-user precision tracking, and wireless interfacing

Compared to China and Japan, it is highly competitive in terms of price

Successful commercialization of the first of its kind in Korea and third in the world

3D FACTORY

Lim, Tae-wan and his 3D FACTORY, are focused on the development of contents based on next-generation 3D such as holograms, virtual reality, and glass-free 3D. Thanks to the government support for ICT, the company has been able to rank third in the world and first in Korea's succession in developing a space-based multiplayer VRis game.

"If you are wearing an HMD headset upon entering a room, a virtual room appears before you. The appearance of a colleague who plays the game together happens to look like a hero from the Avengers. It's almost like playing a paintball game with VR."
With 3D Factory, Lim, Tae-wan streamlined VRis games and took virtual worlds to new heights, upon being developed through the help of government support for ICT.
The VRis game concept, which has already become popular in the US and Japan, is a game where you wear a VR headset connected to a computer in the form of a backpack, and move around with your teammates. The VR imagery is transmitted simultaneously with the ultra-precise sensing camera, so that multiple users can enjoy the game together.

Space-based multiplayer VR FPS game, the third in the world of its kind and the first in Korea

The 3D Factory attained success in a relatively short time of 6 months. From the development of VR contents, to building an experience center through the government support for ICT. The game is ranked third in its genre and the first space-based multiplayer VR FPS game (VRis) in the world, following the US's "The Void" and Australia's "Zero Latency". 3D Factory plans to produce not only VRis games but also VR racing games and horror games.

Contents development, franchise of VR game room franchise domestic and overseas

The company is also launching full-scale franchising businesses in both Korea and abroad. In February, a 860m^2 sized retail store launched in Daegu. In addition to chain stores in Seoul and Beijing, and plans are in place to enter the Southeast Asian market. 3D factory sold VRis contents to a sprawling urban-style virtual reality theme park in Wangfujing, and opened up a 165m^2 sized PC room substitute in Apgujeong-dong, Seoul. 3D Factory has gone to great efforts to establish a dedicated VR subsidiary camp in Daegu and is expecting to attain sales of more than $15.5 million this year.

“Why Not?” DNA, bursting with spirit

Like most SMEs, 3D Factory which was established in 2008, faced a difficult time before emerging into the hidden champion that it is today. Kim Kwang-Seok's hologram content was the first of its kind in Korea to be revived through CG and facial motion capture. This media format garnered a great deal of attention for being "the first new content in Korea" and received industry praise as being a "new market" in the industry. However, in terms of profitability, it has some shortcomings that need to be addressed.
"Even though the company’s situation was rather challenging, we continued to invest in R&D and pressed on with new hires to tap into new markets and create new content that did not exist before". Lim, who always put emphasis on simply stating "Why Not?", has unlocked DNA that allows employees to shout “fighting!” without succumbing to frustration even in difficult situations.

TIMELINE

Oct. 2008 — Established the corporation

Oct. 2011 — Signed a glass-free 3D display and contents supply agreement for supply of Lottemart

Nov. 2012 — Signed a glass-free 3D display and contents supply agreement for supply of Homeplus

Aug. 2013 — Provided ultra-high-definition UHD 50-inch glass-free 3D display and contents to 20 golf courses around Seoul

Jan. 2014 — Produced/transmitted "3D K-POP Japan Kumamoto Concert" on SBS 3D Commercial Broadcasting for the first time in the world.

Jun. 2015 — Selected as a digital content production company for SBS Contents World China

Jul. 2015 — Selected as the digital content management company for the Korea Racing Authority(KRA) Family Theme Park, UNICONIA

Oct. 2015 — Signed a contract to produce Kim Kwang-Seok Holographic content in Daegu

Jun. 2016 — Successfully produced holographic concert of the late Kim Kwang-Seok for the first time in Korea

Jul. 2016 — Selected as a management company of “Support for discovering VR content” by Daegu Digital Industry Promotion Agency

Jul. 2016 — Set up an ICT exhibition at the Olympics’ Pyeongchang House in Rio, Brazil

Nov. 2016 — Received ITU Telecom World Recognition of Excellence award

Mar. 2017 — Established “Camp VR”, VRis game-based flagship VR experience zone on Dongseongno, Daegu

Apr. 2017 — Sold VRis contents to SOREAL VR theme park in Beijing, China

Broadcasting communication development fund
Support Organization : Daegu Digital Industry Promotion Agency,
Website : https://www.dip.or.kr:446/english/open_content/main_page.php

티엘인더스트리

TL Industry Co., Ltd.

Developing Sport Contents Zone for Korea’s First-ever ‘Screen Badminton Zone’

Company Overview

CEO	Kim, Chang-sik
Type of Business	Manufacturing
Establishment	July 2015
Website	www.tl-industry.co.kr

Company Introduction

TL Industry has developed a shuttlecock automatic launcher "DaNalRye" through establishing start-up foundation of badminton sports equipment manufacturing. It is planning to launch its “screen badminton zone” in August of this year. Since launching its first product last year, the company has been awarded the Gold prize of the “International Exhibition of Inventions of Geneva”, Gold Prize of “Seoul International Invention Fair”, where it was recognized for its excellence and originality. The company registered five patents, including shuttlecock automatic projectiles, and filed four applications.

Kim, Chang-sik, CEO
Tel. 82-70-5129-5219 **E-mail.** ap2457@naver.com

» Success Point

When TL Industry developed a screen badminton zone, it focused on the reality of the game. The keys to success factors of this project are as follows: First, the attainment of a vividly, realistic sports game. It leveraged the fun of badminton by embracing the advice of badminton hobbyists, increasing the tension and feelings by inducing various effects and reality aspects such as sight, hearing, etc., often realized in the game. While taking part in a prototype exhibition, many people showed interested in the games, often saying “it is a form of screen sports which gives off a real exercise effect.”

» Key Achievement

Indirect Outcome

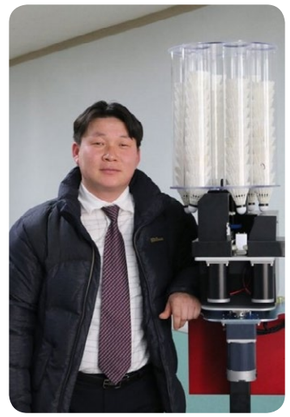
- Shuttlecock Launcher won Seoul International Invention Fair’s Gold Prize
- Registered at the company-affiliated research institute
- Won a prize in the disabled entrepreneur item’s competition
- Development of simplified mobile screen badminton zone

Direct Outcome

- Developed Korea’s first-ever screen badminton zone
- Contracted the 1st affiliate store aside from directly operated store: Signed a franchise location before official release

TL Industry has developed a shuttlecock automatic launcher “DaNalRye”, which succeeded in constructing a screen badminton zone. The screen badminton zone can attain both fun and exercise effects, while engaging in a real game with game characters, thanks to the help of government support for ICT.

“Why is there no machine to help players practice badminton, when all the other sports like baseball, volleyball and golf have it?”
Kim, Chang-sik, the CEO of TL Industry had a thought come to him while he was having some fun playing badminton. He thought it was just a sport that anyone could play around their home. But when he entered the club, the wall was higher than he thought.
“They don’t play with beginners like me. During practice, I imagined what if I had a badminton machine that could suit my level?”



Developed Korea’s first shuttlecock automatic launcher

Just as Kim envisioned, he has since produced products that can be shot from various heights and strengths. The first shuttlecock automatic launcher, developed in Korea, “DaNalRye” is a machine that can allow you to enjoy badminton on your own. The machine can shoot shuttlecocks in nine directions, dividing the main area of the court, as well as shooting from front and rear into three areas. It also features the ability to shoot the shuttlecock at three different speeds. If you set a pitch on the machine before you start practicing, it remembers up to nine shots and fires accordingly.

Seeking foundation expansion··· with a screen badminton practice facility

Kim developed “DaNalRye” and sought to publicize it further as a sport and hobby, and conceived a screen badminton practice facility. According to market research, the screen sports market has been triggered thanks to the global healthcare market’s increase, and the Korean market is expected to grow further in the future. Kim felt that if the shuttlecock automatic launcher was used to screen and make a rally-able facility, it would be truly marketable.

Government support for ICT makes a dream come true

When Kim tried to launch the business, software development costs and installation was the biggest problem. The announcement of “government support for ICT” caught his attention at that time. “Support for ICT convergence sports contents development” was exactly what Kim had envisioned.
As “government support for ICT” evolved into a strong support group for him, development began to accelerate. Golf, baseball, and traditional screen sports are one-way, but TL Industry's screen badminton is an interactive game in which you can play a real game with a character. This game ranges in levels from beginner to the level of hobbyist, while singles or doubles can also be chosen to play.

Franchising contract before official release

TL Industry is planning to launch "Screen badminton" via its first franchise outlet in Gyeryong-si, Chungnam, this August. "Before we even launched, there were rumors about us which caused a need for us to sign a franchise agreement." says Kim.
"The response has been very active as noted by the arranging of after-school class contracts with the nearby two elementary schools." Screen badminton has been recognized for its marketability, in that the first store is an excellent candidate to start off as a franchise rather than as a directly-operated store.
"I will help create a new life sports culture that can be comfortably enjoyed by oneself as well as with family and friends," he stated joyfully.

TIMELINE

Jul. 2015
Est ablished the corporation

Mar. 2016
Patent registration and trademark registered for shuttlecock launcher

Apr. 2016
Won Gold prize in International Exhibition of Inventions of Geneva, Switzerland

Jun. 2016
Signed MOU with Daejeon Physically Disabled Association

Sep. 2016
Registered as venture business

Sep. 2016
Certified Korea Certification Mark(KC)

Nov. 2016
Won a Grand prize in Startup Items for the Disabled

Dec. 2016
Won a Gold prize at the Seoul International Invention Fair

May. 2017
Certified ISO 9001:2015

Broadcasting communication development fund
Support Organization : Daegu Digital Industry Promotion Agency,
Website : https://www.dip.or.kr:446/english/open_content/main_page.php

Success stories of outstanding cases

Smart Healthcare

Enhancing Healthcare Accessibility Through Public ICT-Based Wellness Care Service
National Information Society Agency

Healthcare Service Realized Through Creation of Daily Healthcare Demonstration Complex
National Information Society Agency

Developing Smart Thermometer (Thermosafer) For Real-time Monitoring
Chois Technology Co., Ltd.

Remote Rehabilitation Treatment Made Possible with Smart Rehabilitation Solution
Uincare Corp.

Developing and Distributing of Functional Prosthetic Hands with a Price of a Smartphone Made Possible With 3D Printing Technology
Mand.ro Co., Ltd.

NIA NATIONAL INFORMATION SOCIETY AGENCY

National Information Society Agency (NIA)

Enhancing Healthcare Accessibility Through Public ICT-Based Wellness Care Service

Organization Overview

President	Suh, Byung-jo
Type of Business	Service
Establishment	January 1987
Website	http://eng.nia.or.kr/site/nia_eng/main.do

Organization Introduction

The National Information Society Agency (NIA) which has been the base camp of national informatization for the last 30 years, is trying to make the country a leading country in the Intelligent Information Era facing the intelligent information society led by the 4th industrial revolution.
It is promoting various projects such as supporting technical expertise for establishing and implementing national informatization plan, establishing ICT-based national future strategy, supporting big data utilization and spreading, promoting ICT convergence, enhancing network, and supporting social integration policy to solve information gap.
In particular, the healthcare and welfare team which is promoting telemedicine projects is in charge of ICT convergence policy development in medical, healthcare and wellness fields, service development and establishment of the base for activation of intelligence information use.

Kang, Jong-kwan, Executive principal
Tel. 82-53-230-1435 **E-mail.** jkkang@nia.or.kr

» Success Point

The keys to success factors of this project are: First, the enhancement of professionalism in the fields of medicine and ICT for the employees of NIA. They are well aware of the current status, problems, and ways to improve the health and medical fields due to the rapid aging trend. Second, the NIA is an IT professional organization, with 30 years of national understanding and know-how, they have secured an optimal alternative for medical and IT convergence. Third, there is a high medical demand for people such as residents of medically vulnerable areas, elderly people, disabled people, military personnel, and groups with health risks. NIA gained a favorable response by developing and providing customized services tailored to various individuals and their environments.
Finally, close communication with government departments, local governments, medical institutions, and private companies were also major success factors.

» Key Achievement

- Demonstrated ICT-based health care and pilot services for people from health risk gr oups (5 groups, 9,151 people)
- Developed five types of BMs based on ICT wellness care services
- Prepared Health care services centered on public healthcare institutions spread throughout the country
- Improved healthcare accessibility for medically deprived residents living on islands and isolated areas

The National Information Society Agency (NIA) conducted a verification of health care and telemedicine trial service business. This was conducted on 9,000 people including, health risk group civilians, the public, vulnerable people, military personnel and the chronically ill. In particular, NIA increased the number of telemedicine systems for military personnel from 40 to 63. Also, five business models were set up to spread the ICT-based wellness care services, and various trial services were also presented especially for island residents, the elderly, the disabled, and overseas Koreans.

There was an old lady who had not been able to visit a health care clinic due to seasickness and economic burden. She received medical treatment and prescriptions from a land doctor with help from the digital health care system, and got better afterwards.
Another old lady showed her skin problems to the doctor through a high-resolution web camera at a public health center. Her condition was improved after receiving appropriate medical treatment.
These are the cases of old ladies who live on an island in Jeonnam, receiving medical treatment for the first time in their life through telemedicine systems.

Government grant for ICT to accelerate the actual verification process on medically vulnerable areas, public health centers, and healthcare companies

NIA received a government grant for ICT and conducted five projects, including ICT-based wellness care service development and demonstration projects. As part of this, a digital health care project was conducted for 5,000 patients with chronic illnesses such as hypertension, diabetes, and patients with mild illnesses. NIA also provided remote access, collaboration, advisory, monitoring, and operational guidance to over fifty health care institutions for 1,000 patients living on islands and isolated areas, having difficulty in accessing medical help. At the same time, foreign-made telemedicine equipment was replaced with domestic equipment at some public health centers, examining the possibility of substituting imported equipment.

Expected to expand to 100 locations next year due to high satisfaction

NIA also developed a mobile healthcare model for public health centers and conducted demonstration projects. 32.5% of the subjects had a decrease of more than one health risk factor before and after the service, and the satisfaction rate was more than 87 points. NIA's projects started as pilot projects for ten isolated locations, and will now be conducted at 35 locations this year, expanding to 100 next year.

Last year, the projects provided exercises, food and psychotherapy for three months to ten public health care institutions and four health care companies treating 4,000 patients from health risk groups with at least one out of the five diagnosed items of metabolic syndrome in the health checkup center.

Creating ICT-based wellness care service business model

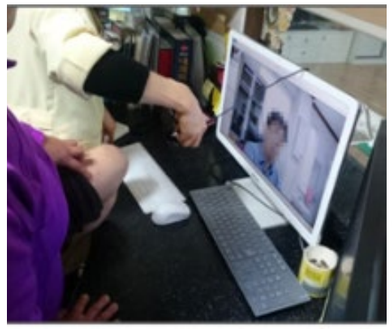
"We have developed five business models including wellness care services linked to the company, fitness center, first and second medical clinics, sales of wellness care programs linked to convenience stores, and development of insurance products for participating in such services," said NIA's business director. Through this, NIA has provided customized services for employees, projects participants and so on.

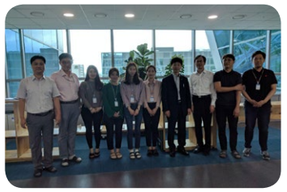
NIA to activate ICT, medical convergence in intelligence information society

NIA, which is leading the public ICT-based wellness care service through government support for ICT, plans to standardize healthcare systems, medical data and services, demonstrate various services, open platform operations, nurture SME, and cooperate internationally. Through this, their aim is to contribute to the medical industry, while enhancing the quality of life for the people. NIA has developed its telemedicine systems "mobile health care service" for the general public and "collaborative telemedicine systems for patients with chronic illness" which is for mild and chronic patients last year and started expanding nationwide this year. NIA also plans to link data collected by healthcare services, such as healthcare providers, with open platforms.

Revision of medical law for full-scale telemedicine service is urgent

"We will greatly expand access to medical services in the public sector by firmly establishing a public health center based on ICT convergence centered on public health centers. But it is urgent to revise the medical law so that telemedicine service can be practiced to patients in islands and isolated areas and chronic patients. "Said NIA's business director. With the revision of the medical law, promotion of national benefits, reducing medical finances and creating a momentum for development of the medical industry will be possible. Also, systematic management of data, service and platform of the medical industry and standardization is mandatory for building a share foundation.





TIMELINE

Jan. 1987
Established as National Communications Agency (NCA)

1989
Established a basic plan for the first national basic information system.

1994
Designated as a dedicated Institution for constructing business of Information Super-highway

1996
Designated as a technical expertise support organization for promoting national informatization

1998
Established the Y2K Support Center

2000
Opened the national information super-highway

Jan. 2003
Established Korea Agency for Digital Opportunity and Promotion (KADO)

Oct. 2006
Changed the name into Korea Agency for Digital Opportunity and Promotion

2007
Designated as U-City Technical Services Center

2009
Changed the name of Korea Agency for Digital Opportunity and Promotion (jointly launched National Information-society Agency and Korea Agency for Digital Opportunity and Promotion)

Jul. 2015
Moved to Daegu & Jeju Innovation City

Fund for Promotion of Information and Communications
Support Organization : National Information Society Agency,
Website : http://eng.nia.or.kr/site/nia_eng/main.do

NIA NATIONAL INFORMATION SOCIETY AGENCY

National Information Society Agency (NIA)

Healthcare Service Realized Through Creation of Daily Healthcare Demonstration Complex

Organization Overview

President	Suh, Byung-jo
Type of Business	Service
Establishment	January 1987
Website	http://eng.nia.or.kr/site/nia_eng/main.do

Ko, Yoon-seok,
Director
Tel. 82-53-230-1431
E-mail. ysko@nia.or.kr

Organization Introduction

The National Information Society Agency (NIA) which has been the base camp of national informatization for the last 30 years, is trying to make the country a leading country in the Intelligent Information Era facing the intelligent information society led by the 4th industrial revolution.
It is promoting various projects such as supporting technical expertise for establishing and implementing national informatization plans, establishing ICT-based national future strategy, supporting big data utilization and spreading, promoting ICT convergence, enhancing network and supporting social integration policy to solve information gap.
In particular, the healthcare and welfare team which are promoting demand oriented daily healthcare projects is in charge of ICT convergence policy development in medical, healthcare and wellness fields, service development and establishment of the base for activation of intelligence information use.

» Success Point

The keys to success factors of this project are as follows: First, NIA established a business management base suitable for the convergence of ICT and health/wellness care. It set up a close cooperation system with departments, local governments, medical institutions, and specialized companies regarding trends and detailed tasks in medical field.
Through this system, NIA sought efficient business methods such as standardization of data, demonstration of various services, and establishment of an open platform.
Second, NIA shared progress of projects, difficulties, and suggestions through regular meetings once or twice a month, by displaying weekly and monthly reports. They also promoted projects raised awareness through briefings and training sessions on platforms, domestic and overseas exhibitions, and media exposure.

» Key Achievement

Developed and demonstrated demand-oriented service based in the Daegu Health Care Demonstration Complex and seven other business model for SMEs

KT, a participating organization, developed and commercialized fitness center-based healthcare service "NEOFIT"

Exhibitions and Demonstrations of outstanding cases of healthcare service :
IoT health tech forum and IT Convergence Expo (8.24~26), IoT Korea Exhibition (10.12~4), Creative Korea Expo (12.1~4), etc.

The National Information Society Agency (NIA) has developed and demonstrated the demand-oriented healthcare services in cooperation with local governments and companies based with the Daegu Healthcare Demonstration Complex through the government's support for ICT. To do this, NIA collaborated with major companies and SMEs to develop and demonstrate seven business models. Also, KT developed "Neofit", a healthcare service based on fitness centers, and started early commercializing.

Development of an open platform… led virtuous cycle of healthcare market

"It's nice to know about improvements while taking the treatment, and applying it to the next treatment based off of that data," said Kim, Soo-Yeon, who received NIA's support from Eumtech consortium's biologically stimulating pain treatment for her knee pain. This solution is a pain therapy device that stimulates the neck, spine, and knee. The pain therapy device also stores the stimulation area, time, and other treatments information in an open healthcare platform app.
The device is branded as having the ability to monitor and give feedback for improvements based off of the stored data after pain treatment, and receiving the appropriate treatment in real time. There was a demonstration conducted on 200 Daegu citizens, and the satisfaction rate of the participants was as high as 84.3%.

Prepared ground for corporate export in healthcare

HL meditec, participated in this consortium, launched by a smartphone-linked pain treatment device called "Dr. Ahn Core", at the end of last year with technical support. HL meditech plans to export through their participation in domestic and international exhibitions and will also enter the home shopping market.

Development of a "Neofit", a fitness center based healthcare service

KT has also developed an application-based service called Neofit, which is a device that recognizes 100 fitness activities through demonstration projects. It provides an optimized exercise program for the user, after the trainer grasps the user's exercising pattern. The service was applied to 200 users at two fitness centers in Daegu, and the user satisfaction rate was very high at 96.7%. Neofit was commercialized at the end of 2016 and was selected as a finalist in the mobile healthcare category of MWC 2017 Award held in February 2017 in Barcelona, Spain.

Healthcare demonstration project successfully built with government grant for ICT

Based on the government grant for ICT, NIA has conducted eleven kinds of daily healthcare demonstration services in 2015 and seven in 2016. It will conduct eight kinds of demonstration services linked with open healthcare platforms in 2017. The open healthcare platform was designed based on the international standard (oneM2M). It is working on advancements, such as interworking with different kinds of platforms, service extendibility and security enhancement.
"We conduct our demonstrations in Daegu where our headquarters is located, but our focus is on commercialization for domestic and overseas market entry," said NIA's business director.

The task is data standardization project and use of personal information

A variety of open IoT healthcare platforms have been launched in Korea, but there was a lack of standardization and the compatibility is poor. To handle this problem, NIA built a platform, but was interoperable with the international standard (oneM2M) from architectural design to platform construction. However, standardization of healthcare data is still incomplete, and the collection and utilization of personal information is difficult. These problems are considered as tasks that need to be handled for the advancement of the medical industry.
"We plan to provide customized healthcare services, develop domestic healthcare equipment industry, and create ecosystem for advanced healthcare service industry through government support for ICT, serving as a driver of the fourth industrial revolution." NIA's project manager shared.

TIMELINE

- **Jan. 1987** — Established as National Communications Agency (NCA)
- **1989** — Established a basic plan for the first national basic information system.
- **1994** — Designated as a dedicated Institution for constructing business of Information Super-highway
- **1996** — Designated as a technical expertise support organization for promoting national informatization
- **1998** — Established the Y2K Support Center
- **2000** — Opened the national information super-highway
- **Jan. 2003** — Established Korea Agency for Digital Opportunity and Promotion (KADO)
- **Oct. 2006** — Changed the name into Korea Agency for Digital Opportunity and Promotion
- **2007** — Designated as U-City Technical Services Center
- **2009** — Changed the name of Korea Agency for Digital Opportunity and Promotion (jointly launched National Information-society Agency and Korea Agency for Digital Opportunity and Promotion)
- **Jul. 2015** — Moved to Daegu & Jeju Innovation City

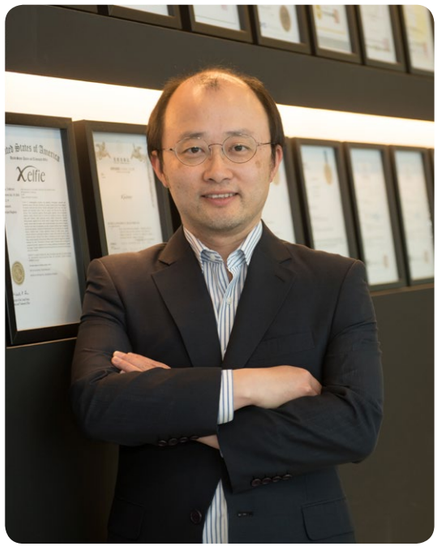
Fund for Promotion of Information and Communications
Support Organization : National Information Society Agency,
Website : http://eng.nia.or.kr/site/nia_eng/main.do

Chois Technology Co., Ltd.

Developing Smart Thermometer (Thermosafer) For Real-time Monitoring

Company Overview

CEO	Choi, Soon-pil
Type of Business	Peripherals, Medical Equipment
Establishment	January 2002
Website	http://www.choistec.com/en/index.php



Company Introduction

Chois Technology Co., Ltd. launched the first "X-Pointer" that can control PCs in Korea and the world's first "X-Pointer Mobile" using a smartphone, by concentrating on the field of wireless interface devices such as RF presenter and wireless remote controller. In recent years, it has been developing a heart rate meter which is capable of wireless monitoring, a Oxygen Saturation measuring device, "Universal Patient Detection System" including a O2 Monitoring Device in conjunction with smart devices.

Choi, Soon-pil, CEO
Tel. 82-32-246-3404 **E-mail.** plan@choistec.com

» Success Point

The keys to success factors of this project is interim checking. During the course of the project, there was an interim check on the product under development, and it received a negative evaluation. He thoroughly looked over the product making changes and received a final result. Had he not done a good assessment of the existing product at that time, or if he had stuck to the concept of the existing product, he would not have been successful.

» Key Achievement

Developed a body attached temperature thermometer using BLE (Bluetooth Low Energy)

BLE

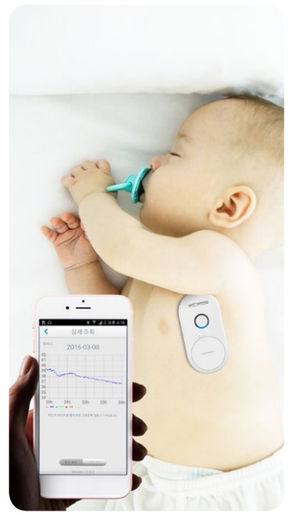
Chois Technology has succeeded in developing a disposable smart thermometer, "Thermosafer", a thermometer that can be monitored in real time through government support for ICT. They are also leading a change in the medical device market, through the development of popularized products that can be easily accessed and utilized at home or medical institutions such as hospitals.

"What is the blue ocean of the future?"

Choi, Soon-pil, the CEO of Chois Technology, has been focusing on the field of wireless interface devices. Devices such as RF presenters and wireless remote controls, have been in the planning stages set for 2010. At that time, the X-Pointer product, which is still the No. 1 brand share for the wireless presenter market in Korea, was selling well at its peak.
"I thought I needed to change my direction of business to something new, in the trend of businesses changing from PC-centric to mobile-centric." While CEO Choi was wondering about what business he could do using smartphones, a complaint from the head of research center gave him a hint. "The director's child was sick and kept him up all night. So I thought about conducting research and development on a healthcare sensor business model."
Through such episodes, "Thermosafer", an electronic thermometer that enables real-time monitoring by applying Bluetooth wireless technology, was born. It was the first product to combine healthcare devices with mobile devices.

Initiating the development of a "disposable thermosafer" that can be used without fear of infection

Thermosafer is a product that did not measure body temperature at a specific time, but had the ability to check and record body temperatures in real time by smartphone with a thermometer attached to the body. However, like the popular in-ear thermometer, Thermosafer also needed disinfectants to make it reusable. The disadvantage was that it could not be used in a medical institution due to infection.



Securing funds through government support for ICT

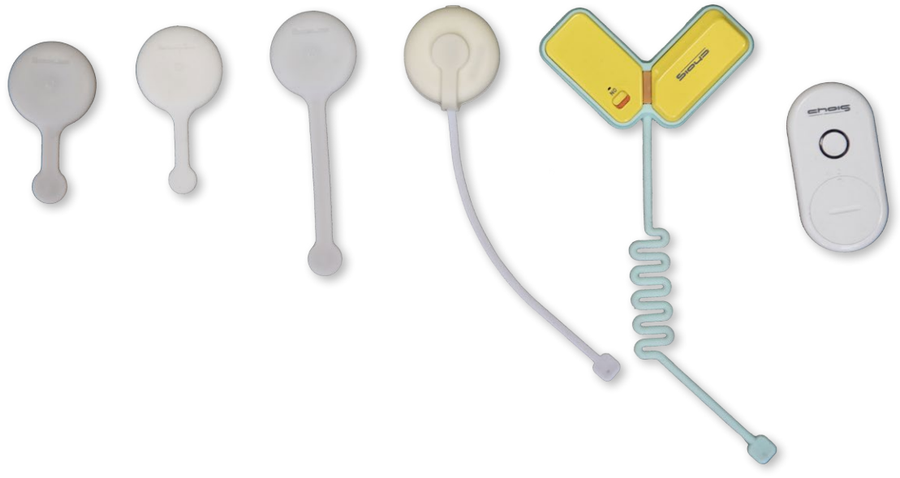
As Choi started to develop medical device products, he was having difficulty in acquiring funds. So it was not easy to secure development funds. However, he realized that there was "government support for ICT" as an introduction of the Korea Radio Promotion Association. They had been very helpful in the development of wireless technology at that time. So he was able to secure funds and start development.

“Disposable Thermosafer” created with support for prototype production

The disposable smart thermometer "Thermosafer" minimized parts in order to lower pricing and also changed the product from its conventional plastic to silicon, in consideration of hygiene. In order to enable everyday life even with a thermometer attached for about 3 days, the thermosafer adopted IP55 waterproof and dustproof technology.
"If development funds were not secured, it would have taken more development time. The medical device market is rapidly changing with ICT technology combined. If the development period gets longer, we may miss the release timing. "
It is a considerable gain that Choi developed the disposable smart thermometer in time with his business fund. But the fact he was able to secure and develop a smart thermometer for disposable as well as the ability to apply his human resources to other product developments is also significant.

Will develop medical devices that incorporate wireless technology and IoT technology

Chois Technology is currently developing respiration monitoring devices, wireless smart thermometers, wireless electrocardiogram monitors, and wireless pulse oximeters (SpO2). They are now in the commercialization phase. It is also developing an infant and child condition sensing device that can be used in postpartum care clinics. Choi has the ambition to lead a change of the next-generation medical device market. Through development of various popularized medical device products that incorporate next-generation wireless technology and IoT technology that can be easily accessed and utilized at home or hospitals he can help make it a reality.



TIMELINE

Jan.2002
Established the Corporation

Apr. 2003
Received the Excellent Small Company Prize – Incheon Regional Small and Medium Business Administration

Sep. 2004
Selected as Good Industrial Design (GD) - Ministry of Trade, Industry and Energy (Product Name: X-Pointer II 'XP200')

Mar. 2005
Established the affiliated research institute - Korea Industrial Technology Association

Jul. 2005
Selected as a Prospective SME - Incheon Metropolitan City

Oct. 2005
Received a Grand Prize in the BI business field of Incheon IT Technology – Chair of Incheon Metropolitan Council (Product Name: 2.4GHz RF Intelligent Remote Controller)

Nov. 2006
Selected as Good Industrial Design (GD) - Korea Institute of Design Promotion (Product Name: X-Pointer I 'XP140')

Jun. 2007
Selected as the Technology Innovation-based SME (INNOBIZ) - Small and Medium Business Administration

Jul. 2008
Selected as a High-tech promising company - Incheon Metropolitan City

Apr. 2009
Selected as a Star of patent company - Regional Intellectual Property Center (Incheon), Incheon Chamber of Commerce & Industry

Jun. 2010
Selected as brand star and design star companies - Incheon Chamber of Commerce & Industry

Oct. 2011
Selected as a vision company - Incheon Metropolitan City

Dec. 2011
Received the Incheon Small Businesses Award, selected as a Man of Trade merit - Incheon Metropolitan City

Nov. 2012
Received the Aving VIP Asia Awards 2012 – Aving News (Product Name: XPS200)

Oct. 2013
Received the Prime Minister Award – Electronic Information and Communications Ceremony 2013 (Choi, Soon-Pil, CEO)

Nov. 2013
Received the Aving VIP Asia Awards 2013 – Aving News (Product Name: XPS300)

Feb. 2014
Received the iF Product Design Awards 2014 - International Forum Design (Product Name : XPS300)

Jul. 2014
Won a Good Product 2014 Best Small and Mediumsized Home Appliance Contest - Korea Electronics Association (Product Name: Selfie)

Jul. 2014
Received the Reddot Awards 2014 – Reddot (Product Name: X-Pointer Pulse)

Dec. 2014
Selected as Good Industrial Design (GD) - Ministry of Trade, Industry and Energy (Product Name: XPS300, XPS300BT)

Sep. 2015
Acquired a license for medical equipment manufacturing - Ministry of Food and Drug Safety

Jan. 2016
Received a certification of medical equipment manufacturing and quality management standards (GMP) - Ministry of Food and Drug Safety

May. 2016
Launched the first monitoring thermometer in Korea

Aug. 2016
Selected as KITAS 2016 TOP 10 - IT accessories peripheral devices (Product name: XST200)

Nov. 2016
Selected as a corporate business for constructing telemedicine system for National Quarantine Station - Korea Centers for Disease Control & Prevention

Dec. 2016
Received a Good Design, Universal Design Gold Minister Award - Ministry of Trade, Industry and Energy (Product Name: XST200)

Broadcasting communication development fund
Support Organization : Korea Radio Promotion Association,
Website : http://www.rapa.or.kr/design/contents10.asp?code=1010&lang=eng&left=1&mncode=18

UIN CARE

Uincare Corp.

Remote Rehabilitation Treatment Made Possible with Smart Rehabilitation Solution

Company Overview

CEO	Lee, Sung-kyoon
Type of Business	Manufacturing and development of medical equipment
Establishment	August 2000
Website	www.uincare.com

Company Introduction

Uincare is a next-generation promising company of human care content markets focused on combining ICT such as 3D recognition technology, Artificial Intelligence (AI), etc. with medical treatment. Its contents about human-care are helping to reduce social and medical cost in the aging era, assisting with therapeutic effect.

Lee, Sung-kyoon, CEO
Tel. 82-10-2771-5768 **E-mail.** sam.lee@uincare.com

» Success Point

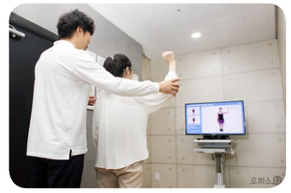
The key to success factor of this project is Uincare having set a clear development and plan to build a new market by combining ICT technology and experience with bio. As they went through the process of a second establishment, they have accurately analyzed the market and its competitors, have made detailed plans, and responded flexibly. All executives and staff members constantly made efforts in order to transform into a smart health care company. Detailed comparison and spending of business expenses were also helpful.

» Key Achievement

- Introduced or will be introduced in about 20 places such as General Hospital, Spine and Joint Specialized Hospital, Geriatrics Hospital
- Jul. 2016 Attracted 1st investment ($3.08 million)
- Jul. 2016 Officially certified statutory payment by non-payment items for health insurance in Health Insurance Review & Assessment Service
- 2016 Collaborating with Microsoft Korea and Applied Case for Global Telehealth Platform

Uincare, which a smart joint motion analysis system developed using AR technology and a remote rehabilitation platform, is helping to treat rehabilitating patient in rehabilitation medicine and orthopedics as well as general hospitals and geriatrics hospitals in Korea. They are also enhancing their competitiveness as a global leader, by entering American and Japanese markets.

The smart healthcare business is well known for its marketability in the fourth industrial revolution. Uincare has combined the experience and technology accumulated over the last decade, through interactive functional games in the medical and healthcare fields. They have been developing new markets by constantly innovating and applying the latest ICT technologies, such as 3D sensing and AR content to the medical field. A representative brand is "Uincare" a smart rehabilitation solution with a name meaning "You are in our care"
"Unicare can analyze motion fast and easily. It provides smart interaction rehabilitation training and various rehabilitation games to make the process more enjoyable", summarized CEO of Uincare.



Uincare making rehabilitation much more enjoyable

There are various patients going through rehabilitation treatments around us. These patients have suffered from illnesses in the central nervous system such as a stroke. Some need rehabilitation after going through surgery. There are also cases of musculoskeletal rehabilitation. In most cases, motion analysis was performed to determine the patient's condition. It is a general custom for the doctor to make a judgment, in analogue fashion after watching patients moving. The Motion analysis laboratory has equipment that costs several hundreds of million won, and is operated in only some of the large general hospitals. It is both uncomfortable and time-consuming to prepare analysis date due to the fact that dozens of tags are placed across the whole body of a patient. However, with Uincare's Uincare, the inconvenient and cumbersome analysis can be done using a digital method which is faster and easily convenient. In addition, it makes the rehabilitation process custom-made for each patient, more easy and enjoyable compared to the current method where physiotherapists or occupational therapists are having to help patients all the time.

Recognized as a medical fee applied equipment by Health Insurance Review & Assessment Service

Uincare was able to invest in R & D, as well as certification, market testing, and publicity, due to the results of the research activities for incentive care, and received new medical device certifications from the KFDA last year. The biggest achievement is that Uincare is being recognized by the Health Insurance Review & Evaluation Center, as a medical fee applied equipment, and can expect to expand the market base. Uincare has been able to design a bigger future by attracting an investment of $3.08 million from a venture investment company in recognition of the company's growth potential, through steady progress in research and development, as well as clinical certification.
"The Korean government still does not allow remote rehabilitation services. Making market opportunities relatively small. We will advance into the United States where remote rehabilitation services are allowed with "Uincare at Home" and "Uincare Mobile" brand. We are planning to take preventative approaches with Japan which has already aged rapidly."

Government support for ICT, initiating the second establishment

At the end of 2014, Uincare announced that they would consolidate all of their existing game-related divisions and become a healthcare company. However, investments by individual investors, such as doctors and health care companies, did not bring enough funding to make an active transition. The government support for ICT has been a great help during this time. It was like "receiving rain after a long drought," when the domestic digital health care market was not fully established.

TIMELINE

Aug. 2000
Established the D-gate(Uincare) Corporation

Sep. 2002
Won the Best Prize in Live Action Ping-Pong Multiplayer Game at UK ECTS 2002

Dec. 2002
Won the Korea Game Grand Prize (Arcade/ Ministry of culture and Tourism Haptic Game: Gravity Zero)

Jul. 2005
Certified as a venture enterprise

Nov. 2005
Started exporting to Japan (Arcade: King of Dinosaurs)

Dec. 2009
Signed a game development licensing agreement for Magical Thousand Character

Apr. 2011
Launched The Battle of Chinese Characters of Magical Thousand Character

Dec. 2012
Registered the patent of Physical information guide device for health and rehabilitation functional game system based on natural Interaction (No. 10 -1216960)

Jan. 2013
Certified as a Technology Innovation-based SME (INNOBIZ)

Jul. 2013
Acquired a Medical Device Manufacturing License (No. 13-1257), Medical device Manufacturing License (No. 4209)

Oct. 2013
Obtained a GMP certification from Korea Food and Drug Administration

Oct. 2014
Lee, Sung-kyoon took office as CEO (Reorganized into medical device business system)

Oct. 2014
Increased capital (With participation of about twenty doctors from Rehabilitation Medicine in General Hospital as shareholders)

Mar. 2015
Moved headquarter (A-dong, 603-ho, 131, Gasan digital 1-ro, Geumcheon-gu, Seoul, Republic of Korea)

Nov. 2015
Awarded by the Ministry of Trade, Industry and Energy (No. 111406), for contributing in development of senior friendly industrial technology

Jun. 2016
Admitted statutory payment by non-payment items for health insurance from Health Insurance Review & Assessment Service

Jul. 2016
Attracted a $3.08 million investment from an external institution

Broadcasting communication development fund
Support Organization : Industry-Academic Cooperation Foundation in Kyungpook National University,
Website : http://iac.knu.ac.kr/iachome/

Mand.ro

Mand.ro Co., Ltd.

Developing and Distributing of Functional Prosthetic Hands with a Price of a Smartphone Made Possible With 3D Printing Technology

Company Overview

CEO	Yi, Sang-ho
Type of Business	Wholesale and manufacturing
Establishment	October 2015
Website	http://mand.ro

Company Introduction

Mand.ro is developing low-cost 3D printing functional prosthetic hands under the fundamental principle of 'no one in need should miss having a functional hand simply because of a money issue.'

Yi, Sang-ho, CEO
Tel. 82-10-9123-9995 **E-mail.** antiroot@gmail.com

» Success Point

The keys to success factors of this project are as follows: First, Mand.ro had a precise understanding of the problem and an unwavering goal.Mand.ro defined the problem as "In Korea alone, tens of thousands of amputees need functional prosthetic hands, but only 0.1% of them use it because of the price," because of this they set a goal of "releasing functional prosthetic hands at the price of a smartphone, by the first half of 2016".

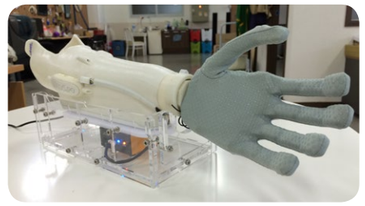
The second key factor are willful employees who helped achieve the company's unwavering goal. Researcher Jo Ha-Hyeon, who joined Mand.ro as his first place to work after graduating from university, with a focus on orthotics and prosthetics, endured many trials and errors until the company finally developed a custom-made socket thanks to reverse engineering. Researcher Moon Han-Gil, a mechanical engineer, who also works for the art department, joined the company with a strong will to develop "the right technology for people." Researcher Suh Dong-min, who had the experience of making a 3D printing electronic artificial arm while in college to help his childhood friend who lost his arm in an accident, also recently joined the company.

» Key Achievement

- Development of the world's first low-cost finished product of a functional prosthetic hand using 3D printing technology
- Reduced cost by 1/40 compared to existing products
- Attracted investments from the investment company Future Play
- Attained sales with the finished product of a functional prosthetic hand and DIY kit

For Mand.ro, receiving full support from the government for ICT has been a great help in making functional prosthetic hands with the price of smartphones. Now, they are dreaming of expanding and distributing low-cost functional prosthetic hands, not only domestically but also overseas.

"I want to do something meaningful, even if others do not wish to do it!" This was the first thing that came to Yi Sang-ho's mind when he left Samsung Electronics Software Center, with a dream of starting his own business using 3D printing technology.
He was interested in developing a product using 3D printing, which he had been doing as a hobby, when he came to know a disabled person of the same age who was missing both hands. He made the first "functional prosthetic hand" as a form of donated talent, when he heard that a disabled individual had to give up buying a functional prosthetic hand valuing at $40,000 for just one hand. "I started to develop this product because I thought no one in need should miss having a functional hand simply because of a money issue." So, he started to develop a functional prosthetic hand using 3D printing technology.



Finding the right way with a will

As he was adapting his designs to make better prototypes, Yi felt the lack of equipment, materials, and the limitations of manpower. He had difficulty implementing the ideas he had in his mind with the inexpensive printers he had. Each day, he went from here and there trying to obtain funding for his company and earned about $5,000 from doing other jobs. But the money was only enough to cover minimum labor, rent for the office, and costs for material.
At that time, he heard about the "Digital Content Lab Challenge" project being conducted by the Korea Radio Promotion Association. He thought that with the project, he would be able to solve the cost issue for the labor, material, and equipment required for product development that would take up to three years.

Focusing on product development after resolving cost and time issues

It was challenging for some people who had little knowledge of functional prosthetic hands to make products that were lighter and 30 times cheaper than existing products. The production required a relatively high level of technical difficulty, with the combination of numerous raw materials and components. There was a lot of trial and error due to the need to fulfill the tasks of the functional prosthetic hand at a low cost that was previously thought impossible. They continued to replace parts and went through an optimization process, replacing 3D designs over 850 times. Because of the government grant for ICT, he was able to solve the cost and time issues that arose during development and entirely devoted himself to product development alone.

Launching of the world's first low-cost functional prosthetic hand

In July 2016, Mand.ro finally released the world's first low-cost electronic version of the finished product. Even now, Mand.ro is the only company in the world to release a finished form of a 3D printed artificial electronic hand. However, what makes Yi prouder is providing a product, which was once originally priced at $40,000, now affordable and similar to the price of a smartphone.
Currently, about 40 people are using 80 finished products made by Mand.ro. Yi is also planning to develop an "exoskeleton glove for muscle strength improvement" for those in need of muscle strength, through the know-how and experience obtained during the development process.
"The functional prosthetic hand we make is still only available for use up to the wrist and not the elbow. Our goal is to create a prosthetic hand up to the elbow within a year, and we plan to make hands not only for men but also for women and children." Yi said.

TIMELINE

Mar. 2014 — Prepared to establish Mand.ro Co., Ltd. (http://mand.ro)

May.2014 — Selected as an item for commercialization for start-up leading university

Jun. 2014 — Registered as a private business

Jan. 2015 — Launched a project to create functional prosthetic hands to help amputees without both hands

Apr. 2015 — Manufactured functional prosthetic hands operating based on electrical signal to muscle

May. 2015 — Participated in the Digital Content Lab Challenge Program

Aug. 2015 — Manufactured modulated functional prosthetic hands with five fingers and fifteen joints

Oct. 2015 — Established Mand.ro Co., Ltd. Corporation

Nov. 2015 — Manufactured prototype version of small-sized functional prosthetic hands

Jul. 2016 — Launched the world's first 3D printed myoelectric prosthetic hand (Release price: $880)

Dec. 2016 — Selected as KOICA CTS 2016 Startup Support project (Launched support program for Syrian refugees in Jordan)

Mar.2017 — Attracted 1st seed investment (Investor: Future Play)

Apr. 2017 — Selected as TIPS Research Development Project (Proceeded with research development of the smart prosthetic hand)

Broadcasting communication development fund
Support Organization : Korea Radio Promotion Association,
Website : http://www.rapa.or.kr/design/contents10.asp?code=1010&lang=eng&left=1&mncode=18

Success stories of outstanding cases

IoT

Setting Up Basement for Self-Reliance with IoT Technical Support to SME, Venture, and Start-Ups
National IT Industry Promotion Agency

Preventing the Inflow of Foreign Infectious Disease Using Roaming Big Data
KT Corp.

Establishing Environment for SW Education That can be Accessed Whenever and Wherever
Codigm. Corp

Developing Smart Light Controller Perfect for One or Two-Person Household
I/O Inc.

National IT Industry Promotion Agency

National IT Industry Promotion Agency (NIPA)

Setting Up Basement for Self-Reliance with IoT Technical Support to SME, Venture, and Start-Ups

Organization Overview

President	Yoon, Jong-lok
Type of Business	Public organization
Establishment	August 2009
Website	http://www.nipa.kr/eng/main.it

Organization Introduction

NIPA is boosting national competitiveness by converging ICT with each industrial field, and implementing various policies and businesses to create a future blue ocean. They are focusing on building SW centered society by researching on new industry fields like IoT, Cloud, 3D printing and digital contents, and promoting ICT convergence. Especially, 3D Printing Industry Promotion Team is working on establishing environment for product development and supporting a development for start-up, venture and small companies.

※ Technical service of NIPA IoT Technical Support Center- Songdo is providing a technical support on short-range wireless technology and Gasan is providing a technical support on mobile telecommunication technology.

Im, Tae-hong, Director
Tel. 82-43-931-5750 **E-mail.** thim@nipa.kr

» Success Point

In a rapidly changing IoT market with an ICT convergence flow, it is very difficult for a venture companies, SMEs, or start-ups to develop new products and apply new technology. The key to success factor of this project is that NIPA has continued to provide new technology information. Leasing new equipment and steadily improving their technical support to meet the needs of enterprises.

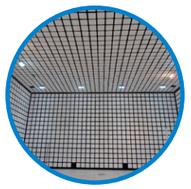
In a virtuous cycle IoT technical support → Support for product and parts development, Performance improvement → Commercialization of product, expansion of performance → Reflection of a business plan, IPA also participated in technical equipment trainings, customer company meetings, and technical support networking activities with a demand for supplying companies. Also, the NIPA held an expert meeting with Ministry of Science and the ICT, and related organizations to evaluate achievements, share, promote, and spread the results.

» Key Achievement

- Achieved a 17.5%(1.2 months) reduction rate within the development period by providing 2,064 cases of service and technology supports to 261 companies a year
- Selected as the best institute for measuring antenna characteristics in IoT wireless product's performance improvement part
- Arranged achievement reflux system on ICT technical support's result of a support project

NIPA supports systematic technologies such as development support, quality improvement, and commercialization. Services of venture companies and SMEs can be connected to commercialization through such comprehensive technology support for IoT.

Most midsize companies or large corporations have at least dozens of R&D equipment. While most SMEs, venture companies, and start-ups are researching and developing products in harsh environments. For this reason, the IoT Technical Support Center of NIPA analyzes the breakdown of these products for small companies, and assists technical support center specialists directly in performance tests and supports the use of expensive development equipment.



Establishing a self-reliance base for small business with technical support service

For example, "Celiant", a company that produces smart routers, had difficulty in renting IoT related equipment, which costs $2,700 to $3,500 per month. However, with the support from NIPA they were able to use equipment cheaply and received technical services such as improved antenna radiation efficiency. "A buyer in the Czech Republic requested a test result by exporting a smart router to Europe, but it required expensive equipment. Through NIPA's IoT technical support center, I used the equipment received and got technical support to solve the problem." Jeong, Joon-Seok, the CEO of Celiant recalled with a smile.

For another example, a company used NIPA's LTE wireless quality technology support service and test room equipment for over a year. They eventually succeeded in exporting and purchasing development equipment directly. "Every team member felt proud that they supported a self-reliance base for a small-scale business with IoT technical support service." Shared the manager of NIPA IoT technical support center.

Comprehensive support for new industries such as IoT, cloud, 3D

There is an organization that all SMEs, venture companies, and start-up companies in need of communication based technology support must know of. This organization is NIPA. That is because NIPA offers a variety of policies and projects to help promote ICT convergence, as well as new industries such as IoT, cloud, 3D printing, and digital contents. In particular, NIPA's IoT Comprehensive Technology Support Project supports an IoT specialized technology-based test environment so that products and services from venture companies and SMEs can be linked to commercialization.

It also gives consulting on all-round technology from development support to quality improvement and commercialization so that products and services of venture companies and SMEs can be connected through the support of test environment based on object Internet expertise. Last year, NIPA provided 2,064 technical support services to 261 companies, and provided support for over 80 cases with technology difficulties through on-site technical seminars and on-off counters.

Will make a venue of exchange beyond technical support

In the rapidly changing IoT technology environment, SMEs have difficulty in applying new technology and introducing newly developed equipment for timely development of new products. NIPA supports the latest developed equipment and related services to help them solve their various problems.

In the near future, NIPA plans to activate "industry-academia consortium" to collaborate with related organizations and local enterprises. With this plan NIPA can inform companies of government policy and technology. The consortium will be a place for business exchange. In particular, NIPA intends to further strengthen cooperation with local government support facilities such as Seoul and Incheon to create an ecosystem supporting IoT technology for SMEs, venture companies and start-ups.

TIMELINE

Dec. 2008 — Settled basic plan to establish NIPA

May. 2009 — Announced the ICT industry promotion law

Aug. 2009 — Established NIPA(Integrating IITA, KIPA and KIEC)

Aug. 2013 — Opened the Software Policy and Research Institute affiliated with NIPA

Jun. 2014 — Opened Institute for Information & Communications Technology Promotion (IITP)

Jun. 2015 — Moved NIPA (Headquarters) to Jincheon

※ IoT Technical Support Center, opened in September 2006, consolidated as NIPA in 2009

Broadcasting communication development fund
Support Organization : National IT Industry Promotion Agency,
Website : http://www.nipa.kr/eng/main.it

KT Corp.

Preventing the Inflow of Foreign Infectious Disease Using Roaming Big Data

Company Overview

CEO	Hwang, Chang-gyu
Type of Business	Communication Service
Establishment	December 1981
Website	https://corp.kt.com/eng/

Company Introduction

KT, Korea's leading telecom company, has built an intelligence network that put new value on the concept of 5G's fast connection, ultra-low latency and high capacity to lead the upcoming 5G era. Through these efforts, the five major businesses, such as media, smart energy, corporate and public value enhancement, financial transactions, disaster and safety, are being developed as future core businesses.

Lee, Jae-ho, Manager
Tel. 82-10-7300-0636 **E-mail.** leejaeho@kt.com

» Success Point

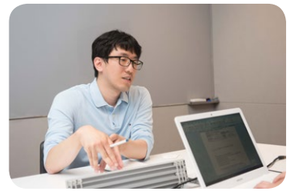
The keys to success factors of this project are as follows: First, the key point in this program was getting approval to legitimately utilize KT's mobile communication data. It became available by modifying the "Infectious Disease Prevention and Management Act" through a nationwide consensus after the MERS situation.
Second, the strength of public contribution by KT, a company that holds 16 million mobile communication customers. Also, the big data project team's analysis and their capability on the system implementation. Finally, KCDC's strong will and enthusiastic utilization would also be considered as a key to the success factors for this program.

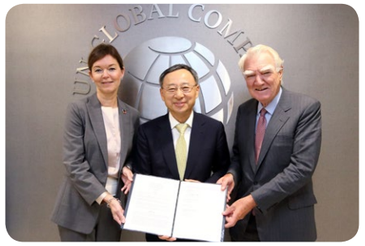
» Key Achievement

- Awarded Innovation Prize from Korean-German Chamber of Commerce and Industry
- Established information transmission systems to prevent infectious diseases by using telecommunication roaming big data
- Made announcement at UNGC Leaders Summit 2016, Signed a MOU between KT-UNGC
- In collaboration with the Animal and Plant Quarantine Agency, developed a model to predict the spread of animal diseases (spreading pathway extraction) using domestic and foreign foot-and-mouth disease and HPAI-related big data
- Spread of anti-infectious disease project to major telecommunication companies in Korea

KT is the first to integrate customer roaming data with the government's data and apply them to the national quarantine. By participating in the government support for ICT, KT had the ability to activate big data business with the Korea Center for Disease Control and Prevention (KCDC). KT has established a system to block the inflow of foreign infectious disease.

Due to the massive damage caused by MERS in 2015, the nation faced 38 deaths and a loss of gross domestic products. The KCDC struggled to identify the route of the culprit. At that time, KT suggested using communication data to confirm and track the first casualty. By doing so, it contributed to the prevention and spread of MERS.
In a situation with almost yearly infectious disease breakage from AI in 2014 to MERS, this is an example of how the convergence of roaming data from a telecommunication company and government data can help increase the effectiveness of anti-infectious pandemics.





Dealing with inter-country spread of infectious disease in timely manner, with roaming information

KT established a system to block the spread of infectious diseases with Big Data together with the KCDC. KT developed a system to track the inflow of foreign infectious diseases and ways to cope with it promptly, by applying for the government support for ICT.
"We inspect the roaming information from customers who have visited the countries where ZIKA, MERS, and other influenzas have passed. Once gathering this information, we hand it over to the KCDC. Then, KCDC inform those customers of their possible virus along with the infectious disease report collected, and makes sure they visit the hospital promptly. A doctor is there to check patients immediately." Lee Jae-ho, manager of KT's platform business planning department, described the system.
Last year, this system was only applied to 1.6 million KT roaming customers, but it has been extended to SK Telecom and LG U+ roaming customers starting this year.

Anti-infectious disease project with health authorities of more than ten countries

As the project has proved its effectiveness in Korea, KT plans to provide technical consulting services to prevent the spread of infectious diseases in Kenya. Since last year, KT has been promoting the spread of anti-infectious disease projects using mobile phone "big data" in Korea, China, and Japan, starting with these three countries. The project has since spread to ten other countries including Singapore, UAE and Kenya. Germany and France, which over the recent years have had serious concerns over infectious diseases and terrorist attacks due to a refugee influx from the Middle East, and WHO is also showing their interests in the project as well. Big data analysis Technology used in infectious disease analysis can also be applied to terrorist tracking, KT officials have reported.

The Chairman of KT, Hwang, Chang-gyu “Let this be a global project of over 800 telecommunication companies in the world”

“By analyzing overseas roaming information of global mobile phone users (about 7.3 billion), we can accurately track the path of infectious diseases," said Hwang Chang-gyu, president of KT, at the UN Global Compact (UNGC), as he proposed this project to over 800 telecommunication companies in the world. Hwang also said, “There has been a concern for violation of fundamental rights, in a sense that mobile information will be shared with other governments and companies all over the world. But there is no need to worry since it is roaming based.” In a G20 Multi-Stakeholder-Conference about Digital Economy, held in Dusseldorf, Germany last April.
Due to many foreign telecommunication companies using pre-paid cards as payment methods, there is much concern regarding the tracking methods of roaming customers.

TIMELINE

Jun. 2015
Supported by identifying where abouts of patients who had confirmed infections using communication data within location information task force of MERS control headquarters

May. 2016
Signed MOU with KCDC to prevent the inflow of infectious disease utilizing roaming data

Jun. 2016
Proposed cooperation to prevent the spread of infectious diseases by utilizing roaming data at the UNGC Leaders Summit

Sep. 2016
Signed MOU with UNGC and UNGC Foundation for cooperation to prevent the spread of global infectious diseases of KT-UNGC-UNGC foundation

Nov. 2016
Implemented a service to block inflow of foreign infectious diseases using roaming data with KCDC and the Ministry of Science and ICT

Apr. 2017
Proposed cooperation to prevent the spread of infectious diseases in a keynote speech at the G20 Multi-Stakeholder-Conference about Digital Economy

May. 2017
Adopted as the agenda for B20 Health Initiative agenda to work together to prevent the spread of infectious diseases using big data

May. 2017
Signed an MOU with Safaricom (Kenya) for cooperation to prevent the spread of infectious diseases

Broadcasting communication development fund
Support Organization : National Information Society Agency,
Website : http://eng.nia.or.kr/site/nia_eng/main.do

codigm

Codigm. Corp

Establishing Environment for SW Education that can be Accessed Whenever and Wherever

Company Overview

CEO	Ryu, Sung-tae
Type of Business	SW
Establishment	March 2013
Website	codigm.com

Company Introduction

Codigm is a technology-based start-up company providing global service with its understanding of cloud infrastructure and application developing know-how. It developed and published Goorm, a cloud coding service brand that enables SW education whenever and wherever.

Ryu, Sung-tae, CEO
Tel. 82-10-9957-7152 **E-mail.** ryu@goorm.io

» Success Point

The keys to success factors of this project are as follows: First, a prompt update by strengthening the unity between employees with the sole vision to raise the quality of SW education further, by utilizing cloud technology and by making a thorough analysis on teachers' requests. They made achievements by perceiving issues in SW education such as, the lack of laboratories, teachers, and insufficient learning conditions by correcting the misperceptions of SW education. Which was created by some companies that argue, teaching word processor is the SW education. Second, their high brand credibility gained by receiving ICT government grants affected the business in elementary, middle and high school, etc.

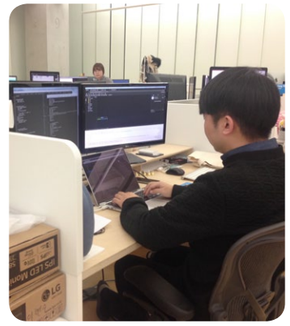
» Key Achievement

Developed ICBM based education service 'GoormEDU' and development environment service 'GoormIDE', supplied to six companies and schools and made sales revenue

Completed demonstration and commercialization with 4,073 users from 168 elementary, middle, and high school.

Codigm provides a ubiquitous environment for software education (GoormEDU), a service allowing a company to assess the developer's ability when hiring (GoormTEST), and an Integrated Development Environment service that allows universal software development (GoormIDE) all based on a cloud technology. With their competitive technology among global services, it is preparing to expand the business abroad, beyond Asia.

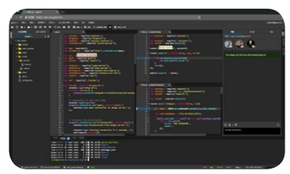
"We have confidence in our technology. Now, we are trying to turn our attention to global markets such as, North America, Japan, and China to leap beyond the domestic market. "



Ryu, Sung-tae, CEO of Codigm, has been focusing on R&D product competitiveness for two years, after attracting a Series A investment from NHN Entertainment in recognition for the growth potential of the company since its founding in 2013. After that, as he was preparing for a full-fledged launch of the service, SW education began to attract worldwide attention. In 2016, he received a government grant for ICT through NIA. This grant gave him the opportunity to take his company a leap further, adding an IoT training ability to the product. Codigm has already serviced a cloud based SW education service, GoormEDU to a university. With its new IoT based training ability it had the opportunity to supply its product to elementary, middle, and high schools.

Development of IoT based SW education solution with the help of a government grant for ICT

Before, schools were unable to effectively educate students on SW due to their lack of capable teachers, contents, lab, and laptops. Codigm tried to solve this problem with the GoormEDU, using a cloud service that could be connected whenever or wherever, regardless of the computer's performance. GoormEDU is available with just a web browser, so it has the advantage of learning at home, what you learned at school.
"GoormEDUs can provide a hands-on experience regardless of hardware performance with just a Web browser, so many teachers can easily create hands-on content while sharing as well, so that more people can use it, at even a lower cost." Ryu emphasized.



Hosting an Online Coding Contest… SWs demand surges in companies as well as universities

Codigm was able to raise its brand in an educational SW market as well as enhancing its technological capacity with the help of a government grant for ICT. Especially the Online Coding Contest, held with the support of Ministry of Science and ICT and NIA, was an eye-catching success with over 4,400 participants from all over the country.
Also, Goormtest, an online coding test service for recruiting new developers and evaluating internal employees is actively used by LG Electronics, NHN Entertainment, Line, and LIG Nexone. Universities such as KAIST, Sungkyunkwan University, Hankuk University of Foreign Studies, Hanyang University, Seoul Women's University, and Cyber University, which is a subsidiary of Softbank are also using GoormEDU and GoormIDE.

Good enough for anywhere in the world··· Set forth to take over the global market

Codigm is now setting its viewpoints to the global market. For it already has a high level of performance and quality, but the domestic cloud market, especially those related to SW development, is too small for the company. The cloud integrated development environment (IDE) market is so small that it is hard to find in Korea. Cloud9 IDE, which is considered a competing service, was acquired by AWS of Amazon this past July. Also, on May 25, Redhat acquired Codenvy. These acquisitions show a high demand for such service, particularly in overseas market.
Ryu shared his dream, "Even though there is some indication of a fight between David and Goliath, Codigm will be reborn as a provider of cloud-based SW ecosystems with global competitiveness."

TIMELINE

2013
Established Goorm

2014
Selected as KOTRA SMART GROWTH TOP3

2015
- Attracted an investment from NHN Entertainment for utilizing toast cloud infrastructure
- Released open beta service of "Goorm ID", a cloud integrated development environment
- Changed the name of the company to Codigm

2016
- Released "Goorm EDU", a cloud SW educational environment service
- Released "Goorm Test", a cloud coding test service
- Selected as an outstanding project for NIA Iot Convergence Service Demonstration Project – Completed demonstration with over 160 schools
- Utilized "Goorm Test" for recruiting new employees of NHN Entertainment

2017
- Introduced "Goorm ID" for Cyber university in Japan
- Introduced "Goorm Test" for evaluating employees of LG Electronics, recruiting employees of LinePlus, LIG Nexone
- Introduced "Goorm EDU" for Sungkyunkwan University, Hankuk University of Foreign Studies, Hanyang University, Seoul Women's University and 37 elementary, middle, and high schools

Broadcasting communication development fund
Support Organization : National Information Society Agency,
Website : http://eng.nia.or.kr/site/nia_eng/main.do

I/O Inc.

Developing Smart Light Controller Perfect for One or Two-Person Household

Company Overview

CEO	Im, Nam-gyu
Type of Business	Service, Manufacturing
Establishment	May 2015
Website	www.switcher.kr

Company Introduction

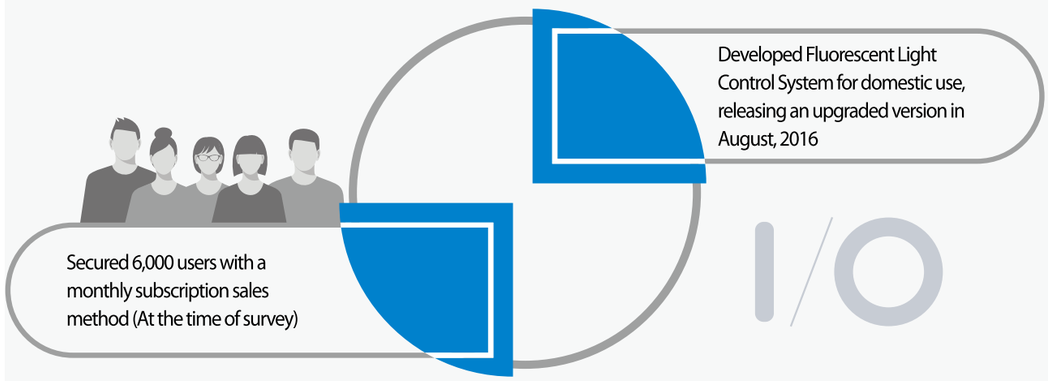
I/O started as a Switcher Project by three students in Sejong University. As one student said "It bothers me to get up and turn off the light," another student, within just an hour, came up with a prototype using an open hardware "Arduino." After receiving positive responses on Facebook, three students decided to go on with the prototype and made it into a business.

Im, Nam-gyu, CEO
Tel. 82-10-2970-4033 **E-mail.** junning@switcher.co.kr

» Success Point

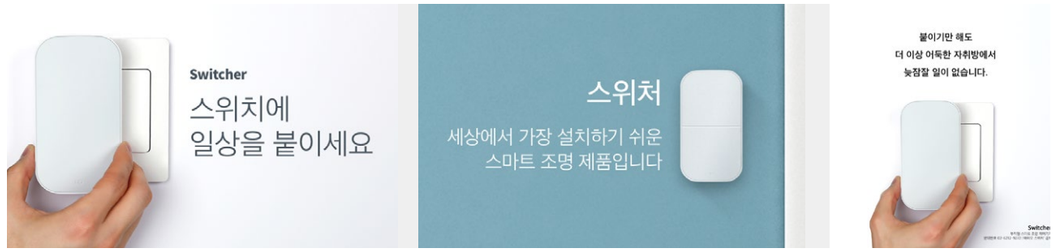
The keys to success factors of this project are as follows: First, the urge to provide better products to users. At the start of business, I/O took part in WDIZ crowd funding, raising their target amount of $30,000 and sold Switcher to 1,500 customers. However, they went further to manufacture an upgraded version with the help of an electronic engineering lab and provided an upgraded Switcher to 1,500 customers who had bought the original through crowd funding.
Second, this business is a "Quick and dirty one". Rather than slowly releasing a flawless product, they chose the philosophy of quickly providing a product and improving it by reflecting the customer's feedback, which led to a better product.

» Key Achievement



I/O released the second generation of Switcher, an IoT product that can control a lamp's switch remotely, with upgraded quality through the electronic co-engineering lab of a small enterprise. With this product, customers renting the service reached more than 10,000 and its sales hit $90,000 of revenue in one month.

"I/O", a maker and seller of smart lighting products and its sub-product "Switcher", have achieved sales amounting to $90,000 in just one month, after it began selling a single product in March. These sales have been made in just a five-day period, and even added additional units have steadily been sold with sales amount of more than 100 units per day.
Switcher is a smart light conditioner that can be turned on and off with a smartphone just by attaching it to a conventional light switch. Switcher also holds a reservation function that can automatically turn lights on and off at a set time, so it is a very popular item for families with one or two-person households.



Concerns over the remote-control distance

Until the first half of last year, I/O's CEO Im, Nam-gyu did not even imagine such popularity, because he was worried that the switcher's remote-control distance was short and needed performance improvements.
"There was no wireless performance measurement equipment, and I was concerned about where to seek advice on technologies that would improve antenna performance."
Im's troubles were unexpectedly solved in the nearest place. One day while visiting the Korea Radio Promotion Association to receive EMC design training, he heard that the RF Engineering lab within the association supported equipment measurement support and technology development.

Switcher, upgraded with equipment and technology support

With the equipment support from RF Engineering Lab, Im grasped the performance of the antenna, and carried out tuning with technology support, which made improvements for wireless performance. As the stability of the product improved, the sales volume of switchers increased, as they were arranged with wireless operating ranges that matched the lifestyle of one or two-person households.
"With the launch of the second generation of switchers, the number of users have exceeded 10,000 and monthly sales are expected to surpass $270,000."
The existing rental service is also growing steadily. The number of subscribers exceeded 10,000 in its first year of service launch. The competitive rate for rental applications, which is held every Monday, is ten to one, and the company is increasing production to meet the current supply and demand.

Set to develop smart security systems as the next item

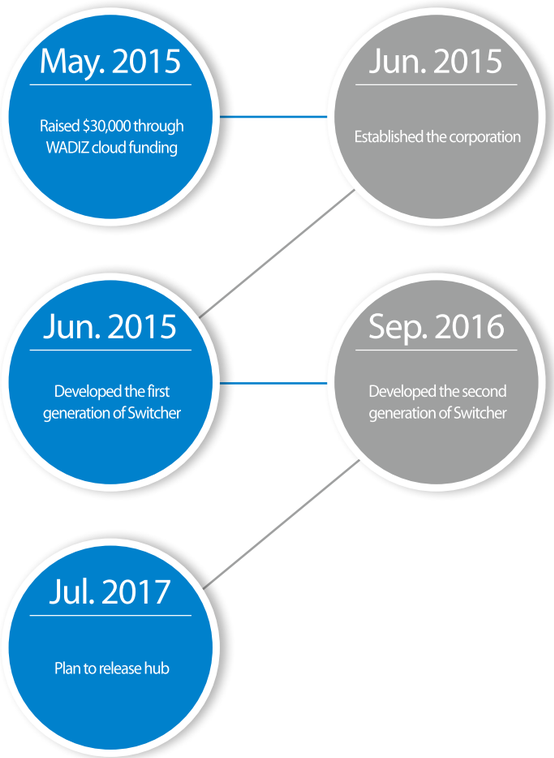
During the last lunar New Year holiday, I/O conducted a test operation called the “Smart Women Safe Switch Security System” using the switcher along with Namyangju Police Station. They selected 12 one-women-only households which are more vulnerable to crime, and made the lights turned on/off automatically at the time when they were most vulnerable by using the switcher “reservation” function. A house with no lights can easily be a target for crime, so this test was started to prevent such crimes. In addition, it contributed to improving the psychological stability of single women, because it alleviated the anxiety of entering a home with no light late at night.

CEO Im is also developing a smart security service for households with one or two people based on the Smart Woman Security Switch Security System.

"Most one or two-person households live in villas or one rooms rather than apartments, so they are more likely to be exposed to crime. So, the system will interwork with CCTV and notify if there is an intruder.”

With this, we can get a glimpse of Im's intentions of going one step further for smart home service, based on one or two-person households.

TIMELINE



Broadcasting communication development fund
Support Organization : Korea Radio Promotion Association,
Website : http://www.rapa.or.kr/design/contents10.asp?code=1010&lang=eng&left=1&mncode=18

C++

Success stories of outstanding cases

SW

Emerging Female IT Firm and Nurturing Female IT Talent
Korea IT Business Women’s Association

Nurturing SW Industry with Forum for SMEs
Korea Software Industry Association

Providing Fun Coding Education through Online Coding Party
Entry Labs

Kibwa
(사)IT여성기업인협회

Korea IT Business Women's Association (KIBWA)

Emerging Female IT Firm and Nurturing Female IT Talent

Organization Overview

President	Jang, Hye-won
Type of Business	Commissioned education, Business management consultancy services, Science and Technology service
Establishment	September 2001
Website	www.kibwa.org

Organization Introduction

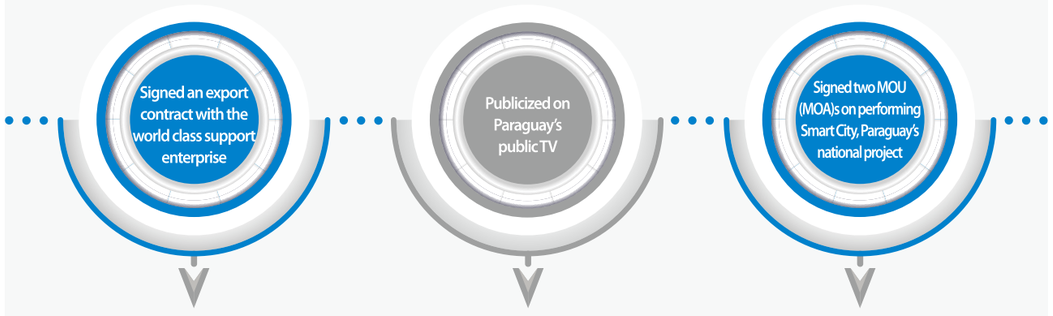
The KIBWA is endeavoring in various ways to revitalize women's small and venture IT companies and to create a healthy market environment by supporting women's employment and establishment, fostering talented women IT entrepreneurs, and securing women IT specialists, with the purpose of ensuring national competitiveness.

Lee, Bong-joo, Director
Tel. 82-2-363-4110 **E-mail.** bong@kibwa.org

» Success Point

The keys to success factors of this project are as follows: First, the KIBWA has entrusted their work to professionals with abundant experiences when it is dealing with the design or the export business in the government project. Second, it has a smooth cooperation between executives and members. For instance, for a call center, the KIBWA received information from KOTRA, Korea Electronic Technology Institute, Small Business Ombudsman, etc., through its network of executives participating in the association. Third, it is reinforcing the export support on enterprises with potentials in the global market by cooperating with KOTRA.

» Key Achievement



- Signed a MOU with SENATICs (Secretaría Nacional de Tecnologías de la Información y Comunicación)
- Signed a MOA with Central State Paraguay

The KIBWA, an association consisting of women executives from 350 enterprises, promotes talented female IT entrepreneurs. Also supporting the employment and establishment of women in the IT industry. Jang Hye-won, the president who accepted the position last February, mentioned that "We are placing an emphasis on creating a favorable environment for women CEOs in the IT industry, fostering female students in science and engineering as future leaders in the IT industry, and helping the re-employment of women with career breaks".

Cost-effective export supported through government grants for ICT... featured on Paraguay's national TV

The Korea IT Business Women's Association (KIBWA) received a government grant for ICT last year, putting them into overseas markets for high efficiency. A market exploitation team for the US's Silicon Valley and Paraguay signed an export contract between 2015 and 2016, which achieved a high performance compared to the investment amount. The team also showed excellence in the Korean IT technology field last year in Paraguay on their national TV broadcast, Unicanal.

Looking for ways to participate in Paraguay's Smart City

Last year, the KIBWA signed MOA with Central State of Paraguay and MOU with SENATICs (Secretaría Nacional de Tecnologías de la Información y Comunicación) to participate in the Smart City national project promoted by the Central state of Paraguay. The association invited the governor and the mayor of Paraguay to Seoul for a seminar on Smart City. Together with the Ministry of Science and ICT, National IT Industry Promotion Agency, and KOTRA they sought out the possibility of Korean companies participating in public projects in Latin America.
"We are recommending a company that can consult our leading smart city, and we are looking at IT women's firms for participation in local projects," the association's business director said.

Holding an annual world class forum ··· enhanced sales route support and tailored consulting

The association also organizes the "KIBWA World Class Forum" annually, where domestic IT women companies gather together to share information on overseas expansion. In this forum, examples of overseas market development, global ICT market trends, online export marketing know-how is shared, customs clearance, trade finance, and contract law consulting get done.
The association also uses government grants for ICT to provide small women IT companies with the latest technology, new market information, and market development. In addition, it runs an IT utilization support center and IT innovation business center. With this support center it gives out customized consulting for each stages of growth, education on various data creation method, and holds a female IT job fair, while fostering ICT female workers. The association also operates a call center to provide information. Starting this year, it also provides a training room for producing marketing materials and basic IT education.

Mentoring over 2,000 female students from science and engineering college for a decade … “Fostering star female entrepreneur to serve as a role model”

Over the past decade, the association has selected 45 teams from 30 to 40 universities each year and has mentored a total of about 2,000 female students from science and engineering colleges for five months each year. In November, there will be an “EVE and Conference”, a networking venue where women IT entrepreneurs, students, and people from related organizations will work together to strengthen the status of the IT industry’s women and discuss the latest ICT trends. The ultimate goal of the association is to raise women's participation in economic activities in the ICT sector above the OECD average level by fostering female ICT engineers and fostering and supporting female IT enterprises.
"There should be a lot of women IT entrepreneurs. A role model figure, who can plant dreams and hopes for science and technology in girls." Lee, Bong-joo, director of the KIBWA emphasized. She also said that “The KIBWA is a corporation under the Ministry of Science and ICT, and mainly undertakes the related ministry projects. Because of this, we have difficulty in winning projects from other ministries.” Adding, “The keywords such as support for IT women businesses, cultivation of female science and engineering personnel, and support for IT woman employment, and start-up are matters that many ministries might be interested in. Therefore, I hope that a project will be developed in cooperation with several ministries.”

TIMELINE

- **Sept. 2001.** Established the Korea IT Business Women’s Association
- **Mar. 2006.** Established the KIBWA Daegu/Gyeongbuk Branch
- **Aug. 2006.** Established the KIBWA Gyeonggi Branch
- **Jun. 2007.** Held the Global IT Women’s Conference
- **Nov. 2009.** Held the 1st IBWA conference
- **May. 2010.** Opened an IT Help Desk
- **Dec. 2010.** Held the 1st Creative Problem Solving festival
- **Nov. 2011.** Held the 1st KIBWA conference and 10th year anniversary celebration
- **Apr. 2013.** Selected as KOTRA IT industry global support project consortium
- **Mar. 2014.** Promoted infrastructure building project for highly educated women with career discontinuity
- **Dec. 2015.** Performed a research project for active supply of women talent in SW industry
- **Mar. 2016.** Promoted environment building project for nurturing women IT leader for the next generation
- **Apr. 2017.** Opened IT innovation business center

Fund for Promotion of Information and Communications
Support Organization : National IT Industry Promotion Agency,
Website : http://www.nipa.kr/eng/main.it

Korea Software Industry Association (KOSA)

Nurturing SW Industry with Forum for SMEs

Organization Overview

President	Cho, Hyun-jung
Type of Business	Cost accounting service, Academic research service
Establishment	April 1988
Website	https://www.sw.or.kr/sw_eng/main/index.html

Organization Introduction

The KOSA has about 1,450 SW, information, and communications related companies as its members. It conducts research on laws, institutions and policies in the SW industry and propose policies. It is also actively involved in domestic SW market activation and marketing support. In addition, it also gathers relevant information for efficient spending of national informatization budget and realization of the right price for SW. KOSA's various forums are not only being held domestically with support from the government, but also held in Philippines, Thailand, Indonesia, and China. In particular, the industry promotion team is in charge of supporting small and medium-sized SW companies, operating organization of members, organizing events and awards for SW industry, and hosting seminars and conferences to support marketing for SW companies.

Seo, Eun-joo, Director
Tel. 82-2-2188-6940 **E-mail.** sej@sw.or.kr

» Success Point

The keys to success factors of this project are as follows: First, the KOSA arranged a system to accommodate opinions from SW enterprises that participated in the project. Second, it provided a place for networking between small enterprises. The management committee consists of participating enterprises that conduct the projects, the KOSA listened to the enterprise's requests and decided the direction of their management. This led to the improvement of enterprises' satisfaction on the project.
During the process of supporting the networking activity, by producing a business model with other forum enterprise and by creating a coexisting environment between small enterprises, KOSA could get high satisfaction from the participating enterprises.

» Key Achievement

37
Jointly won a total of **37** contracts through '16 Small to Medium SW Forums

30
Promoted **30** overseas marketing projects

Held international **conferences** and **events**

Selected excellent forums and winners for a **Minister Award** from **Ministry of Science and ICT**, held a result sharing session.

The KOSA is promoting the SW industry that reinforces the competitiveness of a venture start-up and forms the foundation of an ecosystem of the fourth industrial revolution. As a part of it, it is managing forums for small businesses, building and supporting the cooperative network.

"After years of working on a small business forum, I realized providing a place for communication is the way for growth of small businesses and each forum."

Seo Eun-joo, who oversees "SW Small to Medium Forum Management Support Business" in the industry promotion team, mentioned. While getting the support for free networking activities, coexisting rapport has been established between SMEs, such as building a business model and receiving technologies in need from other companies. This was highly rated by participating enterprises.

Forum, a priming water for the growth of SW small companies

This project is a small SW company oriented forum, made to establish the basis for shared growth like co-excavating a new business and to support companies becoming competitive. The KOSA is dealing with the project, entrusted from the Ministry of Science and ICT and the National IT Industry Promotion Agency. The project was started to provide support of growth for small companies among the major company oriented environments of the SW market by giving them a venue of gathering. Eight years have passed since the beginning of the forum.

Eight Forums at the beginning, grew into 14 forums

Enterprises from various fields that allow cooperation and fair competition, such as the latest SW technology, specific solution, and services. Finance and medical treatments, are selected for the forum, and it usually consists of five to twelve forums.
At the beginning, there were only eight forums. But now, there are 14 forums with the participation of 124 companies. After a year of performance, the evaluation is made and 30% of forums get refreshed by new ones.
Besides, there are four district forums based on locals. Local enterprises with relatively insufficient information sources and human networks are enthusiastic on the forum to communicate with enterprises in Seoul and metropolitan areas.
The vice president of SW's testing forum, Jo Kyung-Hwi who is also in charge of the Small to Medium SW Forums Committee, said "Small to medium SW forums support business is working as a priming water for the growth of SW companies, and participating companies have raised their public awareness and have improved a lot". SW testing forum has obtained a result such as attracting an international conference 'Asian Software Quality Network (ASQN)'.

Achievement earned from synergy of forum enterprises

Enterprises participating in the forum cooperated with each other to join in the project for the Ministry of Commerce, Industry and Energy. They also participated in 30 cases of international marketing. They signed a technology agreement MOU with enterprises in the Philippines, Thailand, Indonesia, China, etc., winning a contract for international projects. A new forum will hear successful examples of existing forums, get advice, and will gradually improve.

Seo said "It's rewarding to see networking oriented forums make synergy through cooperation and make achievements little by little".

As the forum support business is settled, it is seeking for enhanced support like, consulting for a senior group of more than six years running with solid business models and achievements.

TIMELINE

- **Apr. 1988** — Established Korea Software Industry Association (63members)
- **Oct. 1994** — Designated as Cost Accounting Services Agency (Ministry of Strategy and Finance, Registration No. 50)
- **Apr. 1995** — Designated as SW Subcontract Dispute Mediation Council
- **Jun. 1996** — Changed into legal entity by Software Development Promotion Law Article 13
- **Jul. 1996** — Agency for Report of SW Business Operators (Ministry of Science and ICT)
- **Jul. 1997** — Designated as Software Compatibility Test Agency for Government Use (Statistics Act, Article 4)
- **Jul. 2000** — Changed into legal entity by Software Industry Promotion Act, Article 26
- **Dec. 2000** — Declared 1st Software Industry Day
- **Feb. 2002** — Awarded the 1st SW Entrepreneur Award and hosted a ceremony
- **Dec. 2008** — Designated as Software Engineer Career Management Agency (Ministry of Science and ICT)
- **Feb. 2011** — CEO of Lotte Data Communications Co., Ltd. Oh, Kyung-Soo became the 13th President
- **Nov. 2012** — Designated as a SW Human Resources Development Council (Ministry of Trade, Industry and Energy)
- **Feb. 2013** — CEO of BIT Computer Cho, Hyun-jung became the 14th president
- **Dec. 2014** — Launched SW Monitoring Group
- **Feb. 2015** — CEO of BIT Computer Cho, Hyun-jung became the 15th president

Fund for Promotion of Information and Communications
Support Organization : National IT Industry Promotion Agency,
Website : http://www.nipa.kr/eng/main.it

Entry Labs

Providing Fun Coding Education through Online Coding Party

Company Overview

CEO	Kim, Ji-hyun
Type of Business	SW development and supply
Establishment	October 2013
Website	https://playentry.org

Company Introduction

Entry Labs developed SW education platform since its establishment in 2013. In 2015, after being acquired by Naver and it has been operated from a social contribution perspective. It is doing many activities to activate SW education, and 'Entry' is a non-profit education platform for everyone to receive free SW training.

Kim, Ji-hyun, CEO
Tel. 82-10-4316-1987 **E-mail.** kjh.entry@entrylabs.org

» Success Point

The keys to success factors of this project are as follows: First, they have raised children's attention and participation by allowing them to experience coding as a game with popular characters such as Line Rangers and The Sound of Your Heart, a webtoon. Participants who completed the coding mission received a certificate and various online events, such as an inviting to a Party, applying for a Party and boasting a Party, were held to share the participants' performance. Second, this business received support from schools and teachers leading the software education. Teachers encouraged students to participate in the online coding party and the entire school participated in the coding party as if throwing a festival. Participants could design the mission and develop the party kit with their teachers.

» Key Achievement

01 Developed SW training contents (season 1,2) for promoting an Online Coding Party

02 Supported promoting an Online Coding Party using Naver's main banner and SNS

03 Hosted Mom&Girls Coding Party, a SW education using Online Coding Party for 50 moms and daughters

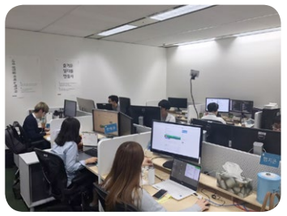
Entry Labs has contributed to the expansion base in SW education, particularly in the elementary and middle schools by participating in the "2016 Online Coding Party Season 2. " Especially, with its brand-new content for SW education that used characters received a favorable response.

"The children were enthusiastic in coding education, with Line Rangers and The Sound of Your Heart, a webtoon. It was as if they were playing games."

Kim Ji-hyun, CEO of Entry Labs that participated in an Online Coding Party project, recalled "2016 Online Coding Party Season 2" as stated.
This project was two weeks of an online SW experience education held by the Ministry of Science and ICT, the Ministry of Education alongside with The Korean Foundation for the Advancement of Science & Creativity, Entry Labs, and Grepp, in the "SW Education Experience Week" which occurred last October. About 200,000 students and parents experienced SW education with familiar characters and new stories, and it was literally an online party. In the middle of the fast transition to the fourth industrial revolution, parents and students are now giving attention to SW education. This project is considered one of the successful cases for expanding opportunities in the SW education experience with the collaboration of private and public.

Content development with characters from Line Rangers and The Sound of Your Heart

In this project, Entry Labs developed an online block type coding content with characters from Line Rangers and The Sound of Your Heart, in order to make students attracted to the process of designing algorithms.
"The key to success is to develop a content in a way that students will not regard coding as another duty, but as a fun and interesting game."
Prior to "Online Coding Party Season 2", "Mom&Girls Coding Party" was held at the Naver Partner Square, where 60 Enthusiastic girls and their moms who were not familiar with coding, received their first course.



Entry, a free software education for all

Entry Labs, Naver's affiliated company for software education, is the private company with one of the most active performances.

At Entry's website, one can freely play with games, animations, and media arts in as an Entry tool. This is a software for education coding. Over 300,000 people are visiting and using the tool, making over a million projects.

"A lot of people think software education is only for future developers. However, as we don't learn math to become mathematicians, software education is not necessarily for fostering developers, too."

In the industrial revolution era, people with paradigm of fixed rules were needed to deal with a broken machine. But now, in the era of an economic structure being modified by AI and science technology, human resources who have the proper ability and paradigm to solve problems are needed more than anyone. "Software education is meant to support children, working in the field of more values and possibilities, and through this, each of them will play an important role in various fields in the future."

President Kim Ji-hyun emphasized, referring to the fact that software education will gradually become mandatory from next year.

TIMELINE

Oct. 2013
Established

Jun. 2015
Merged and acquired by Naver Co., Ltd.

Dec. 2015
Signed "Business Agreement for Revitalizing SW Education" with Ministry of Science and ICT

Dec. 2015
Received a Minister award from the Ministry of Science and ICT for 'Software Education Development Achievement Award'

Fund for Promotion of Information and Communications
Support Organization : Korea Foundation for the Advancement of Science & Creativity,
Website : https://www.kofac.re.kr/?page_id=1775

Success stories of outstanding cases

Date Security

Enhancing the National Brand by Sharing ICT Development and Policies with Developing Countries
Korea Information Society Development Institute

KISDI

Korea Information Society
Development Institute (KISDI)

Enhancing the National Brand by Sharing ICT Development and Policies with Developing Countries

Organization Overview

President	Kim, Dae-hee
Type of Business	Service
Establishment	February 1985
Website	http://www.kisdi.re.kr/kisdi/jsp/fp/eng/main.jsp

Lee, Jong-hwa,
Director
Tel. 82-43-531-4170
E-mail. leejh@kisdi.re.kr

Organization Introduction

KISDI, a national research institute opened in 1985 to develop Korea's ICT policies, is supporting government to establish efficient policies and tactics by researching on the informatization of Korea and abroad, the development of telecommunication and broadcasting industry, and the advancement of regulation system on communication and broadcasting, and by discovering the core motive for the development. Also, KISDI is demonstrating a global leadership by providing a roadmap to foster ICT industry and strengthen global cooperation. Especially, there are International Development Cooperation Group, International Organizations Cooperation Group and ICT Trade Research Center in Departmemt of International Cooperation Research. Among them, International Development Cooperation Group is performing a cooperation project for developing countries every year by managing a policy advisory group for information, communication and broadcasting, and dispatching professionals.

» Success Point

The keys to success factors of this project are as follows: First, the global attention toward Korea's economic development and results on ICT development. Particularly, developing countries have paid attention to Korea's results in ICT development and had the urge to benchmark the government's policy through the international cooperation channel. According to "Demand Survey on Medium and Long-term Cooperation", 16 out of 21 countries desired to have the policy advisory service on ICT field last year.
Second, specialists from various fields participated in the project. Especially the policy advisory group created the synergy effect by composing groups with specialists from communities in the academy, research, and industry fields. Last year, specialists from Yonsei University, Seoul Women's University, Korea Internet & Security Agency (KISA), National Information Society Agency (NIA), SK Telecom, KT, AhnLab Inc., IGLOO SECURITY Inc., Alpha I&T, etc. have participated.
Third, from the beginning to the end, KISDI ran their project by closely cooperating and effectively managing with a partnering country. They provided appropriate advice based on the partnering country's demand. When the business started, they visited the local area three times, checked the pending issues with authorities from the partner country, and proposed a practical and customized policy by holding a workshop that shares successful cases of our policy.

» Key Achievement

- Signed MOU with partner governments (Ethiopia, Uganda, Kenya)
- Wrote a contribution on ICT cooperation with African regions: Seoul Newspaper, KDI Nara Kyungje
- Published an analysis report on partner country's ICT environment: Seven reports (on Belarus, ASEAN Region, Africa Region, Ethiopia, Uganda, Iran, Kenya)

From 2002 to 2016, the KISDI achieved results from 43 cases of managing policy advisory groups and 24 cases of dispatching specialists in 27 countries by continually conducting a policy advisory project on the broadcasting and communications of developing countries. From 2015, they are participating in the policy advisory business on broadcasting and communications in developing countries through the government support for ICT. This project focuses on the reinforcement of constructing an ICT ecosystem, and making constant achievements by establishing a cooperative relationship with World Bank, Inter-American Development Bank, ASEAN, etc.

Despite falling behind the industrial structure, the governments of developing countries and underdeveloped countries try to foster the IT field.
Developing countries, such as Ethiopia, Uganda and Kenya in Africa, yearn for Korea's IT with global competitiveness and have a desire to learn from our experiences. For Korea, it would be a great opportunity to set up a background for domestic companies to expand the business on locals by participating in the early stages of a developing country's economic growth.

Enhancing the status as an ICT leader by co-development

The project manager of KISDI said "Through the policy advisory project of developing countries, about 20 ICT policies have been reflected in the policy making from partner countries for the last four years. I am so glad to hear ICT advice on developing countries not only being helpful in solving issues but, also being reflected in the policies".

Last January, as a part of the National Cyber Security Program, Moldova, located in the northeastern area of Romania, in Eastern Europe, authorized a "Minimum Requirements for Cyber Security" their plan was to apply information security to all central governments by the end of the year. This is to efficiently deal with cyber hackings which are becoming more advanced and intelligent.

There was no information security act in Paraguay, but by getting advice from KISDI they made a draft to be passed by the parliament. Uzbekistan in Central Asia also received KISDI's advice on establishing a Smart Government.
In the case of Ecuador in South America, they did not show much interest in KISDI's support at first, but became enthusiastic during the negotiation process, extending a two-day-workshop to be held for three days. After getting supported by Korea, Ecuador took advice in establishing a governance between related organizations, setting roles for them, and setting up a policy on public data.

Also, Vietnam and Laos took the advice of IoT technology, policies and ICT human resource issues, and they are planning to apply them.

Providing policy roadmap suitable for local environment

Info-Communications Broadcasting Policy Advisory Project for Developing Countries is sharing knowledge on ICT development and policy experience. As well as providing a proper policy roadmap for a developing country's ICT environment, through managing a policy advisory group and dispatching professionals.
While supporting a developing country's ICT field and cooperating with them, Korea's status as ICT leader and competitiveness are improving.

TIMELINE

Apr. 1985
Established the Institute for Communications Research (ICR)

Jan. 1988
Established the Korea Information Society Development Institute (KISDI)

Aug. 1997
Changed the official name of the institute from the IT Development Research Institute to the Korea Information Society Development Institute

Jan. 1999
Changed the KISDI affiliation to the National Research Council for Economics, Humanities, and Social Sciences

Jun. 2014
Completed Jincheon office and moved to Chungbuk Innovation City

Broadcasting Communications Development Fund,
Support Organization : Korea Information Society Development Institute,
Website : http://www.kisdi.re.kr/kisdi/jsp/fp/eng/main.jsp

Success stories of outstanding cases

Radio Communication

Bridging the Digital Divide with Basis for Giga Internet Service
National Information Society Agency

Building a TVWS System for Remote and Rural Areas
Innonet Co., Ltd.

Developing a Real-time Video Device for Special Purpose, Useful in Disaster Sites
Cybertel bridge Inc.

NIA NATIONAL INFORMATION SOCIETY AGENCY

National Information Society Agency (NIA)

Bridging the Digital Divide with Basis for Giga Internet Service

Organization Overview

President	Suh, Byung-jo
Type of Business	Service
Establishment	January 1987
Website	http://eng.nia.or.kr/site/nia_eng/main.do

Rha, Sung-uk,
Director
Tel. 82-53-230-1761
E-mail. surha@nia.or.kr

Organization Introduction

The National Information Society Agency (NIA) which has been the base camp of national informatization for the last 30 years, is trying to make the country a leading country in the Intelligent Information Era facing the intelligent information society led by the 4th industrial revolution.

It is promoting various projects such as supporting technical expertise for establishing and implementing national informatization plan, establishing ICT-based national future strategy, supporting big data utilization and spreading, promoting ICT convergence, enhancing network and supporting social integration policy to solve information gap.

In particular, the Department of ICT Platform & Services is in charge of establishing informatization plan for large scale investment projects, consulting, vitalization of public and private smart work, introduction of cloud in public sectors and utilization support, and distributing standard framework. Also, it is carrying out supporting infrastructure for future ICT and creating basement for active big data utilization.

» Success Point

The key to success factor of this project is the prompt response to taking its role as a priming water to aid districts where private investors avoid investing when Giga Internet supply gap issue rose from the parliament and the press. After the commercialization of Giga Internet in 2014, the government attempted to supply it over small and medium cities, deteriorated apartments, etc. Since then, NIA has launched a co-construction on Giga Internet service of deteriorated and rented apartments with Korea Land & Housing Corporation, telecommunication companies, cable stations, etc. It reduced the construction cost to 40% by preventing overlapping investment and sharing the Giga Internet infrastructure.

» Key Achievement

- Provided a free Giga level Wi-Fi to Korean and foreign visitors in Sangam DMC
- Created a free Giga Wi-Fi Special Zone and provided real-time speed trial on Internet service of Korea and the US
- Reduced construction costs by co-constructing Giga Internet on old and rented apartments in cooperation of the government and private companies, and improved a quality of life by settling information discrepancies

Through the cooperation of the government and a private telecommunication company, NIA enlarges the supply and coverage of the nationwide Giga Internet. It is trying to cut the costs and settle the digital divide by constructing Giga Internet on deteriorating rented apartments, which couldn't acquire the benefit of a private investment. Also, by creating a special zone for free Giga level Wi-Fi on Sangam DMC Culture Plaza, a center of Korean wave fever for a cluster of leading IT·media·entertainment, NIA provides free Wi-Fi for visitors and the opportunity to compare the internet speed of Korea and USA in real time.

Network in intelligence information society, a core infrastructure for national competitiveness

From 2009, NIA has been continually establishing a foundation for Giga Internet service with the support from the government. In order to deal with the rapid increase of Internet traffic and to preoccupy the future ICT blue ocean, NIA is building up the foundation of wire-wireless Giga Internet, which is 10 times faster than the existing Internet service, in 85 cities all over the country. Going through 130 years of history after the establishment of Hansung Telegram Office in 1885, Korea is entering into a new era with changes of the network. Korea has become one of the global IT leaders, after the commercialization of the Internet in 1994. Since then, rapid changes has been made throughout society including politics, economy, culture, and Giga Internet, a service that is at least 10 times faster than the existing Internet, has arrived. Convergence services based on IT, such as IoT that connects all the people and things with the Internet, healthcare, and home IoT, are all realized through the infrastructure based on Giga Internet, like a data highway.

Settle the information disparity of old and rented apartments with government grants for ICT

Along with the government and private enterprises, NIA is seeking to improve the quality of life, by making a bold investment on old city centers and old rented apartments to reduce the cost for constructing Giga Internet. The NIA had come up with a plan for co-construction and made an agreement with Korea Land & Housing Corporation, KT, SK Broadband, and CJ Hello Vision to work on it. From November, as a part of the agreement, it proceeded with the pilot construction on 1,562 households in 3 districts, Gyeongbuk Gyeongsan, Gyeongnam Miryang, Gangwon Gangneung. The project manager of NIA pointed out that "Telecommunication discrepancies between metropolitan cities and small cities, and urban cities and rural areas are becoming more severe because of the telecommunication company's profit oriented investment.

Designate Sangam DMC as a free Giga Wi-Fi zone with government grant for ICT

The NIA created a free Giga level Wi-Fi zone for Korean and foreign visitors in Sangam DMC. Visitors can experience a wireless Internet service, which is 10 times faster than the existing one, around DMS (Digital Media Street) in Sangam DMC. Last April, it had built a plan for constructing a Giga Internet test site and finished it by September. After construction, they threw a K-ICT DMC Festival in cooperation with the Ministry of Science and ICT, MBC, and NIPA.

Also, by allowing visitors to compare the Giga Internet speed of Korea and the US in real time, it publicized Korea's superior Internet service. Currently, about 60,000 employees are working in Sangam DMC and 300-400 thousand people are visiting the site.

Necessity for ICT service expansion due to network enhancement in the era of fourth industrial revolution

In the fourth industrial revolution, where all things will get connected with Internet based on IoT and AI, ICT services will spread out in safety, education, medical service, culture, etc. A Network is constituting the foundation of ICBMS, a core technology in the intelligence information society. Delays in data transmission caused by network errors and Internet deterioration leads to troubles in disaster situations and medical fields.
The project manager of NIA said "Even though we have achieved the title of being a global ICT leader, by starting from PUBNet in the 1990's to BcN and Giga Internet business, we need to go a step further from Giga Internet to 10 Giga Internet in order to deal with intelligence information society.

TIMELINE

Jan. 1987
Established as National Computerization Agency (NCA)

Jan. 2003
Reorganized as Korea Agency for Digital Opportunity and Promotion (KADO)

May. 2009
Merged with National Information Society Agency and together launched as National Information Society Agency

Oct. 2006
Changed name into Korea Agency for Digital Opportunity and Promotion

Jul. 2015
Moved to Daegu and Jeju Innovation City

Fund for Promotion of Information and Communications,
Support Organization : National Information Society Agency,
Website : http://eng.nia.or.kr/site/nia_eng/main.do

INNONET
FOR OUR DREAMS

Innonet Co.,Ltd.

Building a TVWS System for Remote and Rural Areas

Company Overview

CEO	Yoo, Ho-sang
Type of Business	Manufacturing
Establishment	January 2011
Website	www.innonet.net

Company Introduction

"Innonet", a company specialized in TVWS, develops products such as "TVWS Device" and "TVWS Backhaul Backpack-mounted Base Station." Innonet considers customer satisfaction as the priority by providing "First" and "No.1" products based on patents, reasonable price and thorough quality assurance.

Yoo, Ho-sang, CEO
Tel. 82-10-7130-3804 **E-mail.** yoogene@innonet.net

» Success Point

The keys to success factors of this project are as follows: First, the development of commercial products by going through a local government's construction testing. It also continuously verified the products, developed safety network for disasters, and products that reflected LTE-R market. Second, the joint development of the demander's (KT, CJ Hello Vision) commercial products and the cooperative development of the core technology with ETRI, KETI, Kunsan University, etc. have also raised the possibilities for success.

» Key Achievement

1. Developed TVWS core technology through steady Industry-University-Institute collaboration
2. Developed the nation's first commercialized product by constructing TVWS on local governments in Korea and verifying it
3. Developed the world's first "TVWS Backhaul Backpack-mounted Base Station" by utilizing a core technology and entered the new market by distributing it to the Ministry of the Interior and Security
4. Overcame obstacles of overseas expansion by cooperating with various domestic institutions

Innonet, with ICT government grants, built TVWS system in plenty of remote and rural areas and verified its performance. It continues to develop various TVWS products and TVWS DB servers that can be used inside and outside of both domestic and international environments, and is actively entering into the global market of Indonesia, Mongolia, Iran, Guatemala, etc. based on its verified products and technologies with the support of a domestic local government.

"We went to Seungbongdo, Ongjin-gun for the company workshop. I asked the manager of the pension for the Wi-Fi information and received a reply, that they had gotten rid of it because customers filed complaints about slow Internet."

Yoo Ho-sang, a CEO of Innonet, said "Even though we are living in the era of Giga Internet, if we go a little bit further from the city, we must use LTE data instead of Wi-Fi".
On the other hand, residents in Jecheon-si and Tongyeong-si are using Internet freely thanks to TVWS, a device that transmits the frequency 4 times farther than 5GHz, which was installed by Innonet.
For the first time in Korea, Innonet has self-developed "TVWS" device, a transceiver for free wireless data like Wi-Fi by using empty channels in frequency for TV broadcasting, and it is getting the attention from Korea and abroad for its great capacity in remote areas.

Secure the connection with local governments with ICT government grants

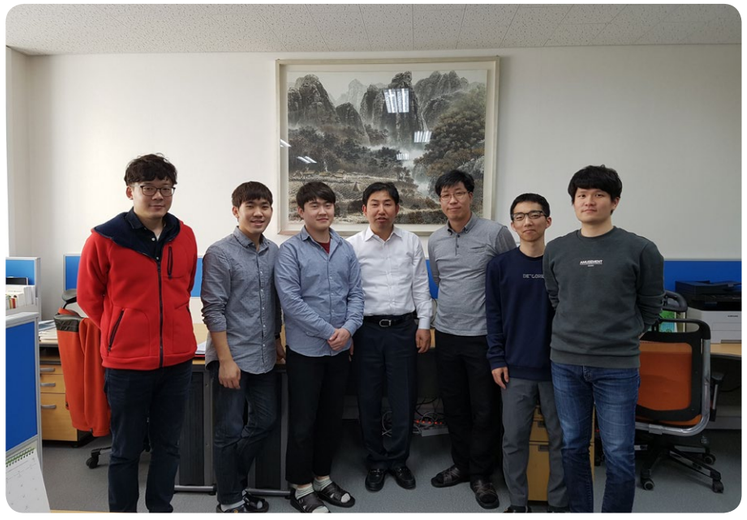
In 2013, with the request from CATV consortium that participated in government support for ICT, Innonet started developing TVWS devices. As the confirmation on national technical standards got delayed, most of enterprises gave up developing TVWS devices, however, Innonet, by conducting a local government construction business with the support of government support for ICT, achieved TVWS KC certification and succeeded in commercialization this year for the first time in Korea.
Thanks to wireless Internet, Tongyeong-si can service CCTV, cameras, and IoT. With these, they can predict natural disasters such as red tide. Also, foreign resident can reduce their Internet fee to $18 no matter how much they use it.
By setting TVWS devices in five different islands including Baengnyeongdo, Ongjin-gun can provide weather conditions and security statuses around the docks in real time. Jecheon-si is providing a security camera service that is interconnected with public wireless Internet service and control centers.

Entering into a new market with certified products

With the technology certified by a local government support project, Innonet constructed National Disaster Safety Network in Pyeongchang with KT, by developing a backpack-mounted base station. Also, it expanded business to integrated airport railroad wireless market this May.
It is planning to build a new market for "TVWS Backhaul IoT Base Station", a system that doesn't require LTE for constructing IoT networks, Smart Factoring, and a device for the elderly living alone, by developing "TVWS USB" and "CPE" based on IEEE802.11af.
Yoo, CEO of Innonet and the leader of domestic TVWS technologies, is overcoming the Death Valley of establishing an enterprise. In April, at the event of "Science, Information and Communications Day", he received a presidential commendation for improving the national information and communication field.

Expanding to international market with privilege of "First" and "No.1"

Last year, Innonet built TVWS devices in Indonesia. Also, it was introduced as a successful case of a local government's construction in Ministry of Science and ICT in Geneva ITU-R conference, this led to a non-disclosure agreement with Microsoft. To expand the business abroad, it is developing TVWS devices for UHF/VHF band, and embarked on developing global TVWS DB server after securing the necessary domain.
By cooperating with RAPA, ETRI, KANI and KOTRA, Innonet is starting the international business in Indonesia, Mongolia and Guatemala. Recently, it also introduced its TVWS technology and products to officials from developing countries at RAPA Invitational Workshop for Developing Countries, KAIST and IITP.
Yoo said, "First" and "No.1" that we seek involve both new opportunities and obstacles, but we will always follow through with them".



TIMELINE

Mar. 2011
Moved to Korea Electronics Technology Institute Support Center for Foundation

Sep. 2011
Developed Italian WiMAX repeater

Dec. 2011
Certified as a venture company

May. 2012
Participated in the project of the Ministry of SMEs and Startups for the development of multimodal fusion technology (Korea Electronics Technology Institute)

Sep. 2012
Established an affiliated research institute

Jun. 2013
Acquired an IOS9001/IOS14001 certification

Jul. 2013
Participated in the KCA broadcasting communication technology development project

Nov. 2013
Developed a TD-LTE repeater and synchronous module

Dec. 2013
Constructed a CATV MSO TVWS device

Jan. 2014
Selected as support company for ETRI

Sep. 2014
Selected as a prospective SME in Gyeonggi

Sep. 2014
Participated in the World IT Show

Nov. 2014
Participated in the development of new products under condition of purchase by the Ministry of SMEs and Startups (CJ Hello Vision)

Feb. 2015
Acquired a InnoBiz Certification

May. 2015
Participated in the IITP K-Global ICT development project (KT, Juni Korea)

Nov. 2015
Received the Minister Award from Ministry of Science and ICT for New Radio & Broadcasting Technology Award

Dec. 2015
Constructed TVWS devices in Jinju/Jecheon

Dec. 2015
Selected as IoT Alliance company by Korean Electric Power Corporation

Jun. 2016
Participated in the IITP K-Global voucher development project (ETRI)

Sept. 2016
Moved the head office of the modern knowledge industry center in Munjeong-dong, Songpa-gu

Nov. 2016
Selected as the outstanding case of National Research Council of Science and Technology GRIs - SMEs and midsize enterprise cooperation

Nov. 2016
Received Prime Minister Award for New Radio & Broadcasting Technology Award

Dec. 2016
Constructed a TVWS device in Tongyeong-si, Jecheon-si, Ongjin-gun

Dec. 2016
Constructed a TVWS device in Indonesia

Dec. 2016
Selected as K-Global 300

Mar. 2017
Signed NDA with Microsoft

Apr. 2017
Acquired the first TVWS KC conformity certification in Korea

Apr. 2017
Received the Presidential Award for the "2017 Science, Information and Communications Day"

May. 2017
Contracted Airport Railway LTE-R (KT)

Broadcasting Communications Development Fund,
Support Organization : Korea Radio Promotion Association,
Website : http://www.rapa.or.kr/design/contents10.asp?code=1010&lang=eng&left=1&mncode=18

CYBERTEL bridge

Cybertel bridge Inc.

Developing a Real-Time Video Device for Special Purpose, Useful in Disaster Sites

Company Overview

CEO	Nam, Baek-san
Type of Business	SW development and supply
Establishment	June 2000
Website	http://www.cybertelbridge.com

Company Introduction

Cybertel Bridge is an expertise in developing communication-related solutions that come up with various equipment and application programs based on its 10 years of accumulated technologies. By expanding the business to products like Billing Solution (BAPS) product and IPT Solution (H.323 Gatekeeper, SIP Server, etc.), which are being used in over 10,000 organizations of domestic and international government agencies, major companies, schools, and hospitals, it is making a constant technology investment on various fields.
Cybertel Bridge is providing IP-PTT Solution, the world's first technology, to ROK air force, navy, Ministry of the Interior and Safety for disaster network verification and Railroad Research Institute.

Nam, Baek-san, CEO
Tel. 82-10-3607-5492 **E-mail.** wsjcy@everytalk.co.kr

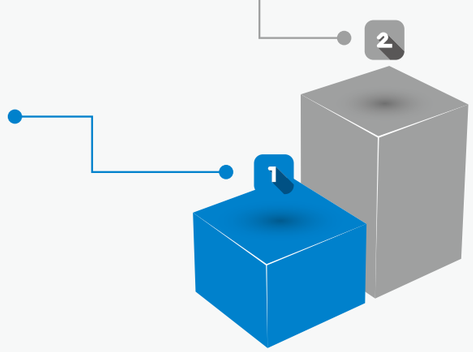
» Success Point

The keys to success factors of this project are above all things, bold investments, and reliable partners. Even before the National Disaster Safety Communication Network Project started, Cybertel Bridge was already participating in one, by the Ministry of Science and ICT, and it greatly supplemented human resources for developing devices. Starting from the project of Busan Transportation Corporation, it managed the National Disaster Safety Communication Network Project with SK Telecom, positively affecting the following projects.

» Key Achievement

PTT (Push To Talk) Device: A device for special purposes (Voice, media, data transmission and barcode scanning function in one device)

Made about $1,860,000 of revenue in 2016(At the time of survey)



CYBERTEL bridge

Cybertel Bridge is an enterprise possessing a competitive technology on Push To Talk (PTT) for special purpose. Its technology allows voice, media, data transmission, and barcode scanning with one device.

Exceptional quality, speed, and stability compared to smartphone videos··· useful in disaster sites

"With PTT Solution, one can send current situations in real time and make a joint treatment with a medical team while transferring emergency patients from disaster sites."

Cybertel Bridge started its business by developing the Internet switching device in 2000, and through steady R&D, it came up with PTT Solution in 2007. In 2011, it developed "Everytalk," the first PTT Solution with image radio, and first introduced it in the navy WiBRO business. When Cybertel provided IP PTT Server Solution to the air force in 2014, it realized IP technology could also be applied to an existing TRS walkie-talkie. National Disaster Safety Communication Network, which had been postponed for a while, got activated after the tragedy of the Sewol ferry in April of 2014 and it could start the business on an LTE portable device for the public safety.
CEO Nam said, "Thanks to the government's frequency efficiency policy, our business is growing because places like railroads, shipbuilding, and heavy industry business are choosing an LTE based radio solution instead of the walkie-talkie with existing TRS methods."

Acquired KCC certification with government grant for ICT, Supply rush for public organizations

As for small enterprises, it requires tremendous amounts of human resources and capitals to develop and sell the latest LTE devices. It involves numerous obstacles to obtain actual profit even after releasing the product. Also, KCC certification, a prerequisite for developers to sell, requires quite a lot of time and expenses.
Cybertel Bridge, with government grant for ICT, accelerated development of the technology and went as far as acquiring a certification. Without the certification, it is impossible to get permission for the radio station and sell the product. Although the certification expense is a burden for small venture companies with insufficient funds, it could get through with this by receiving financial aid from the government.
With the certification, Cybertel supplied its devices for National Disaster Safety Communication Network Pilot Project and Expansion Business of Line No.1 of Busan Transportation Corporation. Since then, it participated in numerous projects of Seoul Metro's Line No.5, TTA Disaster Network Test Bed, MCTC Disaster Network Test Bed, ADT Caps Field Agent and Situation Room Radio Call System.

Will enter into the global market for public safety with PTT calling application

For Cybertel Bridge, this year is the first year of its international business. It has already gone through technical certifications on some global enterprises dealing with the communications equipment. It has also signed a partnership with the US, Australia, and Europe to participate in global disaster network businesses.
When it comes to LTE, one first thinks of a smartphone. However, PTT calling application is the essence of it. CEO Nam said, "I will do my best to become the first small enterprise from Korea to enter the global market of public safety."

TIMELINE

Feb. 2014 — Selected as 2014 Korea's Promising Product

Apr. 2014 — Attended Technical verification for National Public Safety LTE in Korea

May. 2014 — Participated in "LTE-TDD Separate Wireless Communication System Construction Business" as navy SKT partner

Mar. 2015 — Received the IR52 Jang Yeong-Sil Award (Korea Industrial Technology Association)

Mar. 2015 — Acquired GS Certification (Good Software)

Apr. 2015 — Received Grand Prize in new software part (Ministry of Science and ICT)

Apr. 2015 — Established the Seoul Metropolitan Rapid Transit Corp. LTE PTT radio communication system business

May. 2015 — Participated in National Disaster Safety Communication Network Pilot Project of Ministry of Public Safety and Security (two projects)

Jun. 2015 — Won Mobile PTT Introduction Business contract for enhancing field response, in Samsung Electronics DS part

Sept. 2015 — Won Busan Metro Subway line1 LTE-R PTT radio communication system business

Oct. 2015 — Selected as IP Star Enterprise (Korean Intellectual Property Office)

Mar. 2016 — Received Grand Prize (Prime Minister Award) in IR52 Jang Yeong-Sil Award (Korea Industrial Technology Association)

Oct. 2016 — Won Gimpo-si Urban Railway LTE Based PTT Wireless Calling System contract

Broadcasting Communications Development Fund,
Support Organization : Korea Radio Promotion Association
Website : http://www.rapa.or.kr/design/contents10.asp?code=1010&lang=eng&left=1&mncode=18

Success stories of outstanding cases

Cloud

Developing a Cloud-based GIS Solution
ALLforLAND Co., Ltd.

올포랜드

ALLforLAND Co., Ltd.

Developing a Cloud-Based GIS Solution

Company Overview

CEO	Sung, Dong-gwon
Type of Business	SW consulting, Development and supply, Academic research service, General measuring
Establishment	December 2004
Website	www.all4land.com

Company Introduction

ALLforLAND is leading the domestic IT industry by focusing on spatial data business, covering from lands to oceans, and by participating in business on the latest IT trends, such as big data, drone, 3D, VR and AR.

Sung, Dong-gwon, CEO
Tel. 82-10-3243-2834 **E-mail.** keunho98@all4land.com

» Success Point

The key to success factor of this project is professional consulting from the management teams that helped the transition to Cloud technology in the stagnated existing SI market by managing GSIP task. Maximizing the achievement was possible with professional support in marketing and publicizing. The technology development team deserves the most credit for creative technology and enthusiastic performance on the task.

» Key Achievement

Managed a trial service with Korea Land and Geospatial Informatix Corporation (LX)

Signed a contract for "MapPrime Cloud" (Product name) with GDS Consulting, a service user institute

Proceeded global business expansion in cooperation with Korea Land and Geospatial InformatiX Corporation (Spatial Data Industry Overseas Expansion Support Center) and KOICA

ALLforLAND is acknowledged for its technology that allows SI, software development and sustenance of ISP electronic government business, and it is expanding its business abroad by developing MapPrime Cloud service, a Cloud GIS service that builds and shares geographic and spatial information.

The best partner of Geographic Information Technologies

In 2004, inside a container located in Jeonju, ALLforLAND started the business with just one computer. Just as Steve Jobs started his business in a garage, the new business popped up from a container. ALLforLAND, starting with empty hands, overcame all the obstacles and became a NO.1 enterprise for performing Korean e-Government projects.
While focusing on space informatization business ranging from lands to oceans, it is diversifying the business to big data, drones, 3D, VR, and AR. "I needed to find the solutions for SI businesses which is very tough to deal with," stated Sung Dong-gwon, the CEO of ALLforLAND.

Draw public attention by bringing in GIS solution with Cloud-based system

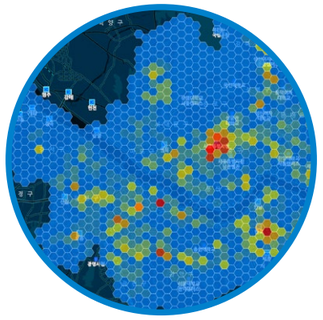
ALLforLAND, regardless of oceans and lands, has strived to develop a GIS database production technology, core solutions, and convergence technology and have come up with good results. However, there were limitations in public SI oriented business structures. Also, imported services were dominant, and there were too many open sources, causing severe competition. "SI business was difficult because every single project required the investment on human resources and included repetitive work. On the other hand, sales were not as good as the effort." CEO Sung had to find a way out. "First, I thought that I might need a solution to break through the market, then, I explored the Cloud service market where the solution becomes a service, and now it is paying off from this year."

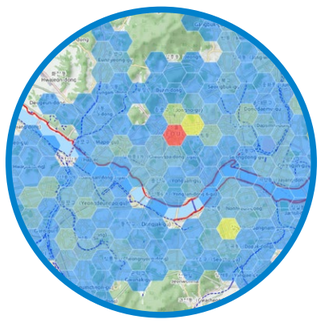
Improving the technology by investing R&D with government grant for ICT government

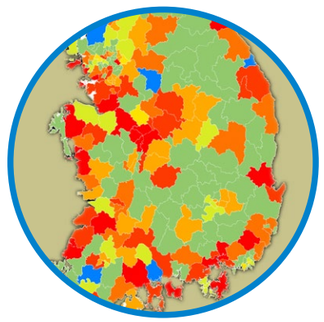
During the process, he realized the necessity for the constant investment on R&D. Government grant for ICT helped him a lot when he was suffering from insufficient funds. He succeeded in developing SaaS based on GIS for the first time in Korea by converting the web server based MapPrime GIS solution to Cloud service.

With the government support for ICT, he took care of the early stages of infrastructure supported from Microsoft and had benefits for producing brochures and videos for publicizing and securing the exhibition booth. Through the technology education from leading enterprises and professional consulting, he could develop a Cloud technology that was unfamiliar to him.

"Moreover, the consulting proceeded in a very efficient way. Because only the major theme of SaaS was provided and we could propose the necessary technology for the specific theme".







Getting love calls from domestic markets and plans to expand into international markets

For now, All4land is not only expanding its business in public and private service areas but also planning to expand the business in the global market by signing a partnership with leading enterprises in the Cloud field. In fact, even before the release of MapPrime Cloud, the service got love calls from big data projects of Gyeonggi-do and the Korea Land and Geospatial InformatiX Corporation. Pre-sales have been made from universities and public organizations, and these organizations are planning to introduce it into their system.

A leading vision in the fourth industrial revolution… convergence of GIS technology to the new industry

ALLforLAND has poured all its efforts for the past 13 years, and now it has become a leading enterprise in the field. Such achievements were possible because the company kept its focus on the very goal in front of it. Now, ALLforLAND is setting up a vision and a goal to lead an era of the fourth industrial revolution and to enter the global market with GIS technologies.

"This year, our primary goal is advancing GSIP and we are planning to expand R&D areas of IoT, VR, and AI. By fostering talented human resources and creating a brand-new value by converging GIS technologies to ICT R&D and new industry fields.

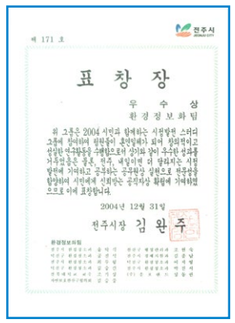
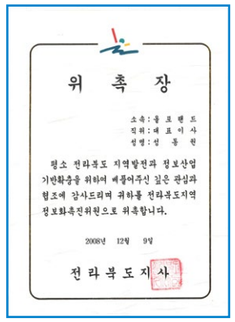


표 창 장

표 창 장

표 창 장


위 촉 장

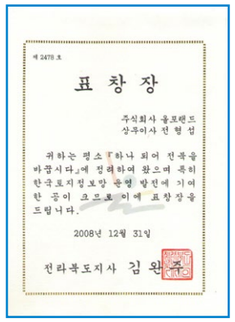


표 창 장

표 창 장

TIMELINE

2004
- Established ALLforLAND, Co., Ltd.

2005
- Registered as a numerical map production business (National Geographic Information Institute)
- Registered as a Software Business (Korea Software Industry Association)

2006
- Received a Jeollabuk-do governor certificate

2007
- Certified as a venture company (Korea Technology Finance Corporation)
- Registered as a survey business of underground facilities (National Geographic Information Institute)
- Established an affiliated research institute (Korea Industrial Technology Association)

2008
- Acquired a INNO-BIZ certification (Ministry of SMEs and Startups)
- Received a Minister of Land, Infrastructure, and Transport certificate

2009
- Certified ISO 901 (AJA Registrars Ltd.)
- Registered as a geodetic surveying business (National Geographic Information Institute)

2010
- Patent Registration – Real-time information providing method and system, server and a method of providing the related information, a recording medium. (Korea Intellectual Property Office)
- Acquired a software quality certification – MapPrime v1.0 (Telecommunications Technology Association)
- Received CIO Awards 2010 Best Project for public sector

2011
- Registered as a Waterway business – Making nautical charts (Korea Hydrographic and Oceanographic Agency)
- Registered as an image processing business (National Geographic Information Institute)
- Designated as a family corporation for Industrial Bank of Korea (Industrial Bank of Korea)

2012
- Designated as Kibo A+ Members (Korea Technology Finance Corporation)
- Patent Registration – GPS point measuring system for identifying deviation of a datum point, and 11 others (Korea Intellectual Property Office)

2013
- Received a presidential certificate
- Acquired GS Certification - ALLforLAND AR SDK v1.0
- Registered as a coastal line surveying business (National Geographic Information Institute)
- Patent Registration – Aerial photographed video plotting system that minimizes optical errors and five others (Korea Intellectual Property Office)

2014
- Patent Registration – Golf support system using smartphone, numerical map and AR operation and three others (Korea Intellectual Property Office)
- Received a National Information Society Agency certificate
- Acquired a Software Process Quality certification (National IT Industry Promotion Agency)

2015
- Registered as a business using ultra-light flying device
- Registered as an engineering business - cadastral surveying, ocean (Korea Engineering & Consulting Association)
- Patent Registration – Mobile AR system for providing multimedia convergence contents and seven others

2016
- Registered as an engineering business - cadastral surveying, ocean (Korea Engineering & Consulting Association)
- Registered trademark - MapPrime3D (Korea Intellectual Property Office)

Broadcasting Communications Development Fund
Support Organization : National IT Industry Promotion Agency,
Website : http://www.nipa.kr/eng/main.it

Success stories of outstanding cases

Smart Device

Introducing an Advertising Digital Signage in 2018 Pyeongchang Winter Olympics
KNOWCK Co., Ltd.

KNOWCK Co., Ltd.

Introducing an Advertising Digital Signage in 2018 Pyeongchang Winter Olympics

Company Overview

CEO	Kim, Jeung-ho
Type of Business	SW
Establishment	November 2011
Website	https://www.cloud-cast.com/service/company/main

Company Introduction

KNOWCK is a professional smart signage company that provides innovative experiences and effect in overall fields of construction, operation, and management through solution products based upon self-developed technologies.

Kim, Jeung-ho, CEO
Tel. 82-10-6396-2553 **E-mail.** jkim@knowck.com

» Success Point

The keys to success factors of this project are as follows: First, receiving government grant for ICT through TTA was effective. The outcome was far greater than expectations.
Second, getting the opportunity to hold the exhibition in major cities of Korea, such as Seoul and Busan. Due to the characteristics of the product, actually seeing Digital Signage solution and confirming its safety can be effective for sales. The exhibitions were held at Korea Broadcasters Center in Jamsil, Seoul and Busan's Cinema Center. Because of these exhibitions the company was able to do a verification of strengths and see the customer's reactions. Exhibitions also naturally led to a contract. One of the domestic enterprises signed a reseller partner MOU with trust in test and verification results. Above all, the exhibition contributed greatly in enhancing the brand image.

» Key Achievement

- Participated in the test bed of Korea Broadcasters Center (Jamsil, Seoul) and Busan Cinema Center (Haeundae, Busan), exhibited and promoted CLOUD CAST
- Achieved foreign reseller results including three places in the USA, one in Japan, Malaysia, Thailand, Singapore, Vietnam and five in Indonesia through exhibition and promotion of testbed
- Received citation of Korea Broadcast Advertising Corporation (KOBACO), and acquired certification for smart signage electromagnetic wave and electric safety

Digital Signage, the fourth media type after the smartphone, has a large market range not only in Korea but all over the world as well. In the flow of the fourth industrial revolution, KNOWCK is planning to export big data technology and AI technology by combining them after going through a domestic verification.

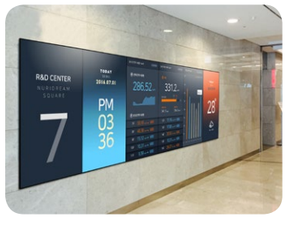
In some "it" places with a large number of floating population, large Digital Signage can frequently be seen. It constantly talks to us, the device-friendly generation. "Digital Signage" is similar to a large smartphone, where users can install and use information and services in the form of various apps on digital display. It is called "Smart Signage" for such reason. With exposure effect of traditional outdoor advertising decreasing due to smartphones, Digital Signage advertisements just like large smartphones are emerging as the next generation of advertising media.

Introduction of around 70 Advertising Digital Signage at Phoenix Park

Phoenix Park, designated as the official 2018 Pyeongchang Winter Olympic Stadium, is a battlefield for new media advertising platforms. This is because Bokwang Snow Park is the optimized place for an advertising platform with a seating capacity of 18,000 spectators.
KNOWCK introduced an advertising media perfect for exposing animated advertising films and still cuts to Phoenix Park, Digital Signage media. It is the first example of introducing large amounts of advertising Digital Signage on a scale of 70 at a Korean resort. It is expected to have the best synergy effect achieving a high exposure effect and customer grouping with a high purchasing power by combining with Digital Signage.

CloudCast Solution, Recognized with Its International Competitiveness

KNOWCK's CloudCast is a Digital Signage enterprise solution, which integrates and organizes multimedia contents at the center. It connects different kinds of displays such as common TVs we can see at home or stores, street displays, and an extra-large Media-Façade at a high-rise building organizes them for display or broadcasting. The core software algorithms and systems were developed with its own technology.
It has already been used in various places around the world including the US, Mexico, Malaysia, Thailand, and especially during Brazil's World Cup. CloudCast has been used at many electronic displays that were built at Copacabana Beach, which is one of the world's three biggest beaches with an LFD (Large Format Display). In Thailand, CloudCast has been acknowledged for its international competitiveness, by signing MOU on bundled commodities with ToT (Telecom of Thailand), which is the national telecom of the country.



TIMELINE

Nov. 2011
Established KNOWCK Co., Ltd.

Mar. 2012
Launched Digital Signage smart application platform CloudVision / CloudCast

May. 2012
Installed Digital Signage to More than 100 Stores near Gangnam Station

Oct. 2012
Developed Mobile Android set-top box

Feb. 2013
Launched Ucloud SaaS Service with KT

May. 2013
Selected as beLAUNCH winner by Korea Institute of Startup & Entrepreneurship Development

Nov. 2013
Red Herring Top 100 Global Company

Mar. 2014
Built an Info-poll in Rio, Brazil for 2014 FIFA World Cup Brazil

Sept. 2014
Launched SW for mirror display

Oct. 2014
Launched KT Biz-meca Service

Sept. 2015
Won Gold Prize for GMV 2015 Innovation Awards

Oct. 2015
Signed a global distribution MOU with Softbank Commerce

Nov. 2015
Received VIP Asia Awards

Dec. 2015
Received President of KOBAKO Award for Outstanding Smart Advertisement Platform

Apr. 2016
Signed MOU with Malaysia TBOX

Jun. 2016
Signed as a local partner for SKYLAND, Japan
Signed as a local partner with PUBLICIDAD DIGITAL, Mexico

Jul. 2016
Selected as the top 3 by The Rakyat, Malaysia / Signed a Digital Signage MOU with Thailand telecommunication service TOT

May. 2017
Received Prime Minister Prize at the 24th Korea Multimedia Technology Awards

Broadcasting Communications Development Fund
Support Organization : Telecommunications Technology Association
Website : http://www.tta.or.kr/eng/index.jsp

Success stories of outstanding cases

Smart City

An Inside Location Tracking Technology Handling Safety, Disaster and Basic Living
People & Technology Co., Ltd.

People & Technology

People & Technology Co., Ltd.

An Inside Location Tracking Technology, Handling Safety, Disaster and Basic Living

Company Overview

CEO	Lim, Jin-Sun
Type of Business	Service, SW development and supply
Establishment	November 2013
Website	www.pntbiz.com

Company Introduction

People & Technology is a company of IoT business approaching to the customers' real life by using the beacon technology. Based on the experience successfully establishing indoor positioning service in various industries, it is also entering overseas markets.

Lim, Jin-sun, CEO
Tel. 82-10-4854-2419 **E-mail.** jslim@pntbiz.com

» Success Point

The keys to success factors of this project are as follows: First, this start-up enterprise was able to succeed in business because they possessed a competitive technology. Second, thanks to striving for the development of Indoor Positioning Technology since the end of 2013, People & Technology had the experience of successfully constructing Indoor Positioning services in various fields of the industry. They could make a step forward to converging technology through this government project, because Indoor Positioning Technology and the experience played an important role.

» Key Achievement

01 Provided passenger safety and convenience services based on environment and position sensor monitoring by using smartphone

02 Signed a contract with LG Display

03 Signed a contract to construct system other than LPC (EU excluding Switzerland)

By utilizing the world's best remote complex IoT sensor technology, People & Technology developed and provided Soft Smart Ship service platform for passenger's safety and convenience, and became a milestone for making a leap toward converging technology.

"Indoor positioning" means accurately grasping the location of a person or an object in a large building.
"People sometimes think, "Where am I?" while inside of a large general hospital or a large shopping mall. When people look around to figure out their location, the location tracker informs them of their current location by measuring it with a beacon."
In a popular Korean TV show, "Infinite Challenge", there is a scene where the members send telepathy signals in order to find the location of each other. Telepathy, which is known to be a supernatural power, is also a technology called "beacon" in reality. Beacon is a system which exchanges signals with a customer's smartphone, using low power battery. The beacon informs the customer's location as well as the location that customer would like to find.
"I can find the location of equipment that I am looking for inside of a large warehouse. When I enter the name of the equipment, it tells me where it is in the room."
People & Technology is a company in the IoT business, it approaches the customer's real life by using beacon technology. It was this company that introduced this system to Kyoungpook National University Hospital for the first time in Korea.

Facilities location service, providing escape route in the event of disaster

The project Lim conducted with the help of the government support for ICT was to build services in a Smart City, by using indoor positioning technology. It is a technology that provides passenger safety and convenience services on a cruise, using smartphones based on position sensor monitoring.
"Normally, it provides a safety and escape evacuation instruction upon boarding the ship. Also, the information containing facilities on the cruise, services like reservation of passengers is given and in the case of disaster, it helps passengers to escape safely through an emergency escape route."
Beacon technology grasps the location of the users, provides facilities on a cruise and even event related schedules are included in the application. Should there be an emergency, the app provides a safe escape route using complex sensors on the complicated ship. It also shows escape routes and educates you on the nearest course. When it is dangerous, it finds another safe route.
"When pushing forward on an ICT government support project, we already launched the product on a market, but it required continuous technical development. I thought expanding services to new industries continuously would be the best way to preoccupy the market."
The project also added sensor technology to the once limited to indoor positioning which developed new convergence technology, and, by using it, succeeded to establish IoT service for passenger safety and convenience inside of a Smart Ship. Now, according to the plan of Mr. Lim, there is discussion on the exporting of IoT Soft Smart Ship platform based on the performance.

Dreaming of People-Oriented Technology

Helping patients to find a location inside of a hospital, tracking the location of workers in a factory to manage their safety for an emergency, and checking the location of people in a burning building by using indoor positioning technology, these are the types of people-oriented technology that People & Technology are pursuing.
"I want to make technologies for people. So, the name of the company and the technology actually developed are people-oriented." This is a warm and strong ambition of Lim Jin-Sun.

TIMELINE

Nov. 2013 — Established People & Technology

Sept. 2014 — Launched indoor location prototype (based on Bluetooth)

Nov. 2014 — Supplied the BLE4.0 based Indoor Navigation product for the first time in Korea (Kyungpook National University)

May. 2015 — Supplied Indoor Navigation to Hanwha Eagles baseball stadium

Jun. 2015 — Attracted Investments from Venture Capital, Bon Angels

Nov. 2015 — Selected as a Technology-based start-up support program, TIPS (Tech Incubator Program for Start-up)

May. 2016 — Signed a Contract of OEM development and supply for applying RTLS solution in NEC of Japan (Domestic SI Partner)

Jun. 2016 — Selected as a pilot company for the Ministry of Science and ICT – Busan-si Smart City (IoT based Soft Smart Ship demonstration project)

Oct. 2016 — Built an Army Smart Trainee RTLS system for army

Mar. 2017 — Built a demo room for SI partnership company in Switzerland

Apr. 2017 — Supplied RTLS system to EMS Gravelone, a high-quality nursing home in Switzerland hospital

May. 2017 — Supplied RTLS based workers safety to LG Display

Fund for Promotion of Information and Communications
Support Organization : National IT Industry Promotion Agency,
Website : http://www.nipa.kr/eng/main.it

Chapter 3

Outstanding Cases Achieved Through Government Grant for ICT

Global outstanding cases

Taking Over the Global Market with IT Convergence Logistics System
Mesh Korea Co., Ltd.

Fingertip Call 'Sgnl' to Communicate with the World
Innomdle Lab Co., Ltd.

Full-scale Overseas Expansion with a Leading-edge CG-VFX Technology
Digital Idea Corp.

Going Out to the Global Market with a Music Education Application for Smart TV, 'Boto'
Creative Bomb Co., Ltd.

MESH KOREA

Taking Over the Global Market with IT Convergence Logistics System

Mesh Korea Co., Ltd.

CEO	Rhyu, Joung-bum
Type of Business	IT logistics Service
Date of Establishment	January 2013
Website	http://meshkorea.net/en/

Company Introduction

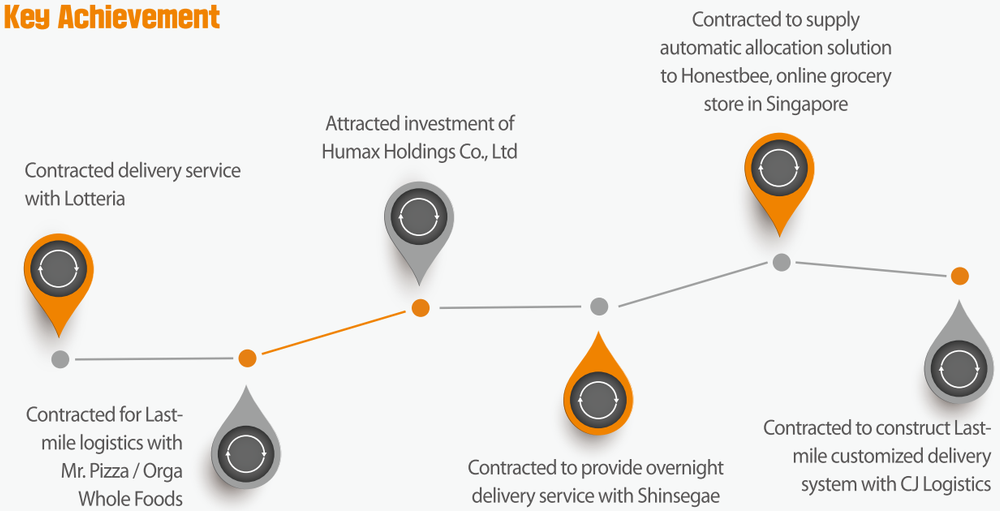
Mesh Korea has achieved innovation of logistics market based on IT technology. Starting with small freights using motorcycle, it has shown systematic integrated logistics system such as developing and providing effective logistics solution, and been acknowledged with its technical skills.

Rhyu, Joung-bum, CEO
Tel. 82-10-7190-9369 **E-mail.** jb.rhyu@meshkorea.net

» Success Point

The keys to success factors of this project are as follows: First, this business succeeded by making the most of opportunities such as international conferences and exhibitions that had been held by the support of ICT government project. Second, Mesh Korea devoted themselves to publicize the excellence of logistics management solution with an English brochure, video clips and PPT, and made enthusiastic approach to international buyers in the conference based on the confidence on VROONG TMS.

» Key Achievement



Mesh Korea is targeting both domestic and international market with their IT convergence logistics solution called "VROONG TMS (Transportation Management System)".

"Can't a motorcycle delivery be done more sensibly by using an IT system?"

Rhyu Joung-bum, CEO of Mesh Korea thought that a more sensible system was needed, while observing how motorcycle deliverers waited for an order at a convenient store near the company.

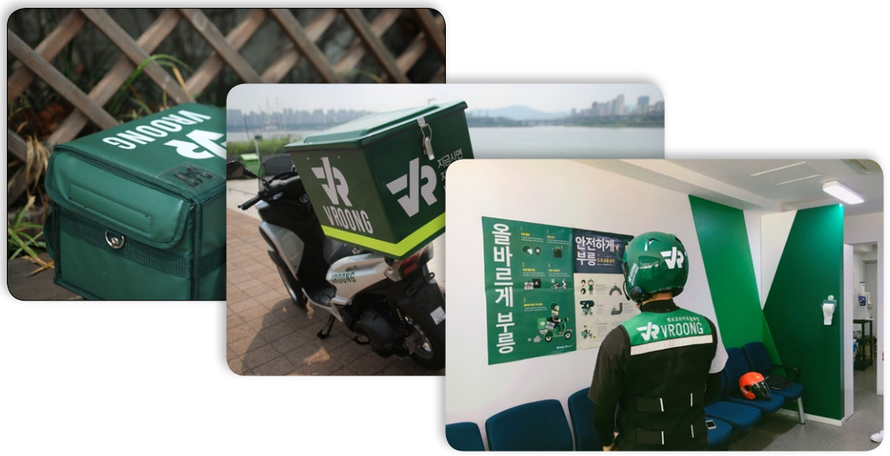
"I suggested this business idea to the company I was working at, but it was rejected due investment issues."

Rhyu, seriously thinking of a meaningful life, began to prepare for a start-up earnestly. From the beginning of the foundation, he focused on IT system development for innovating logistics markets. This is the background to which VROONG Engine, and their automatic allocation and solution maximizing for the efficiency of distribution, was made.

After that, "VROONG TMS", an integrated distribution management was developed. A TMS (Transportation Management System) solution is the basis of a two-wheeled vehicle (motorcycle) distribution business. With a system capable of finding the best route through optimized distribution based on data about four-wheeled vehicle distribution as well as two-wheeled vehicle distribution, VROONG TMS connects places in need of a delivery and notifies the deliverer immediately, for quick delivery service.

Logistics system confident in overseas market

Mesh Korea, after signing contracts with TIMON and SSG.com, have supplied "VROONG TMS" and "VROONG Engine" respectively. Based on IT logistics technology, it has provided premium delivery service to the customers of CJ Logistics, Shinsegae, E-Mart and Lotte Mart. It has also expanded to delivering foods and goods where delivery was originally unavailable, through On-Demand commerce "Bootake!" Customers can receive delivery regardless of time and place, for foods of restaurants that did not offer delivery as well as getting deliveries faster.



ICT specialized consultation connecting TMS solution with overseas market.

As delivery and sales network have expanded in Korea and TMS solution sales have increased, Rhyu turned his eyes to overseas marketing.
"As e-commerce has developed rapidly, there's an increasing need for innovation of logistics systems. So, I thought our logistics solution would work in an overseas market." Yoo said. However, entering an overseas market and networking was hard. As he expressed the hardship, people around him informed him about ICT government support project. As he knocked on the door of the project, it opened for him to get the chance for overseas sales and promotion.
He got marketing support, including Global Mobile Vision (GMV), exhibition support and marketability verification for entering overseas market. As well as ordinary consultation including a writing investment agreement through an expert consultant and overseas market research for integrated IT distribution solution. With support for an overseas technology patent application including Japan and Indonesia, entering the global market was accelerated.
"The biggest reward was getting to know the global level of our technology and grasping the needs of market by directly meeting domestic and foreign buyers."
This past December, it was selected as a K-Global 300 company by the Ministry of Science and ICT and made an agreement with Honestbee, the best online grocery commerce in Southeast Asia, for "VROONG Engine".

TIMELINE

2012
- Registered an individual business registration

2013
- Converted to a corporation, "Mesh Korea", attracted funding from organization
- Won the Grand Prize at the KSVC (Korea Student Venture Competition)
- Selected as a finalist and a member of National Team at the Standford E-Bootcamp, the World Venture Competition

2014
- Attracted Series A round of funding
- Selected as 2014 KOTRA Global Finalist and a featured app from Google PLAY

2015
- Attracted Series B round of funding
- Attracted additional KRW 2 billion funding from Humax Holding Co., Ltd., and others
- Became a select 3rd company for global consulting supporting business from Born2Global

2016
- Attracted additional funding from KDB Capital Corp., Kukje Pharma Ind. Co., Ltd., Humax Holding Co., Ltd., and others
- Received the Minister's prize of the Ministry of Land, Infrastructure and Transport on the Korea Logistics Awards
- Won the Gold prize from K Shop & LMFKorea 2016 Innovation Awards

2017
- Selected as a project for government support for ICT, Ministry of Science and ICT
- Signed TMS consulting contract with Amorepacific
- Approved of full coverage insurance for two-wheeled vehicle for the first in Korea

Broadcasting Communications Development Fund
Support Organization : Korea Association for ICT Promotion,
Website : http://www.kait.or.kr/eng_index.jsp

INOMDLE LAB

Fingertip Call 'Sgnl' to Communicate with the World

Innomdle Lab Co., Ltd.

CEO	Choi, Hyun-chul
Type of Business	Manufacturing, Service, R&D
Date of Establishment	September 2015
Website	www.mysgnl.com

Company Introduction

Innomdle Lab is an abbreviation of "Innovation Medley Laboratory," which contains its strong will to make continuous innovations as a medley turns a music before the previous one ends. Starting with Smart Strap for calls, delivering sounds by fingertips, it has a plan of showing innovative technologies continuously.

Choi, Hyun-chul, CEO
Tel. 82-10-8741-0225 **E-mail.** hc.choi@innomdlelab.com

» Success Point

The keys to success factors of this project are "Items" and "People" as Choi, Hyun-Chul suggests. Usually, start-up companies are reluctant to make ideas public because of the concerns on piracy. However, Choi challenged for Kick starter crowd funding, regarding a technology that can be copied as uncompetitive.
Second, technology cannot be implemented without a network, even if it is competitive. In the manufacturing business, manufacturing, packaging and cooperative network are important, and by constructing the network with verified enterprises from Born2Global, the company took the great advantage of it.

» Key Achievement

- 04 — Achieved $1,469,000 crowd funding (Kickstarter)
- 03 — Attracted investment from Cyzone in China and DT Capital
- 02 — Startup as the first spin-off in Samsung Electronics in 2015
- 01 — Selected as the best project of 'body conduction communication' at C-Lab contest of Samsung Electronics in 2014

When Innomdle Lab participated in a crowd funding event with Sgnl, a product that allows phone calls only with fingertips, they got great help from the ICT government project. In a Kickstarter crowd funding they participated by getting production support, from a foreign model-starring video to innovative ideas for the design, Innomdle raised the largest amount of funding among domestic enterprises.

We often see an idea starting from a little inconvenience in life being led to commercialization. It was the same to Choi Hyun-Chul of Innomdle Lab, originating from Samsung Electronics. It began while he was drinking with friends, one senior called his girlfriend, boasting about a smart watch he bought. However, while calling, when his girlfriend spoke her words flowed out without a filter. This made the mood awkward. At that moment he thought, "Can't people call as if they were whispering?" and started to materialize the idea. After that, he submitted his idea to "C-Lab" contest, a venture raising program in Samsung Electronics. As it was selected as a research support project, he made results after a year.

Fingertip call turning the imagination into reality

The product created became known as SGNL. When wearing SGNL on your wrist, a special vibration occurs and spreads to your fingertips. When placing it on your ear, the vibration changes into sound. It uses the principle that the vibration delivered by your fingertips is amplified by air in the ear, as a small sound is heard loudly inside of a cave. Mr. Choi made a watch chain strap product by applying this technique. When you change your watch strap to have SGNL capabilities, it becomes a Smart Watch and is able to be used for fingertip calling.

Standing Alone only with Technology and Idea

Choi Hyun-Chul started to stand out in the company as his creation had become the first spin-off company of Samsung Electronics. Tech-based start-ups require a few years to develop a technique and much initial capital. But fortunately, Innomdle Lab received a startup education while developing a product for a year at C-Lab and prepared for startup.
Nevertheless, his imagination and the actual field were different. Even with good skills and ideas, there were still many difficulties. The place helping him at that moment was a 3D Printer, a Specialized One Person Creative Company operated by Korea Institute of Startup & Entrepreneurship Development. He got help related to startup process including taxation and law. Also, what helped him the most was overseas specialized consultation support, one of the ICT government supported projects.
"To fund a kick starter project, activating the most among marketing crowd funding platforms, I had to make a video with my ideas and apply for the project online, so I desperately needed funds and know-how."
As he received consultation support, he could get support for making films, appointing a foreign model for filming.

Achieving $1,469,000 crowd funding collection with consultation support

With the help of experts, it was enough to attract attention. The result of funding was amazing. $1,469,000 was collected, which is the largest amount collected among Korean corporations. This project was ranked around the top 100 among 300,000 to 400,000 items challenging Kickstarter funding so far.

"As I am getting much attention, I will make a product with the functions I suggested, and deliver it to the sponsors in the second half of this year."

There's also a long-term plan. Beyond sound conduction technology realized by SGNL, he has secured technology to send data by touching the device with a single hand and is preparing for it. "Since I have a patent related to the signal from fingertips, I will show you technologies astonishing the world with various ideas from now on."

TIMELINE

May. 2014 — Selected as the best project at Samsung Electronics C-LAB competition

Aug. 2014 — Moved into a business center specialized in 3D printing (Korea Institute of Startup & Entrepreneurship Development, Ministry of SMEs and Startups Gyeonggi)

Nov. 2014 — Won the best investment award at C-Lab Fair (Hosted by Samsung Electronics)

Sep. 2015 — pinoff from Samsung Electronics and established Innomdle Lab corporation

Sep. 2015 — Attracted seed money investment from Samsung Venture Investment

Oct. 2015 — Won Grand Prize at Investment Competition at Startup Runway (Hosted by Ministry of SMEs and Startups

Oct. 2015 — Registered patent

Jan. 2016 — Participated at CES 2016, Las Vegas, USA

Jan. 2016 — Won D.CAMP Demo day (Hosted by Banks Foundation for Young Entrepreneurs)

Apr. 2016 — Selected as top 15 hardware for Asia Hardware Battlefield 2016 China Bang (Hosted by Technode, China)

May. 2016 — Attracted seed investment from Cyzone, China and DT Capital.

Sept. 2016 — Launched a Kick starter Project

Sept. 2016 — Participated at IFA 2016, Consumer Electronics Unlimited in Berlin, Germany

Oct. 2016 — Collected funding $1.4 million which is top 0.03% among Kick starter projects

Oct. 2016 — Launched an Indiegogo campaign

Nov. 2016 — Won the "Ace Creative Challenge" at Creative Business Cup 2016

Jan. 2017 — Participated in CES2017 and revealed the final design of the product

Broadcasting Communications Development Fund
Support Organization : Korea Association for ICT Promotion,
Website : http://www.kait.or.kr/eng_index.jsp

DIGITAL idea

Full-scale Overseas Expansion with a Leading-edge CG-VFX Technology

Digital Idea Corp.

CEO	Lee, Stephen
Type of Business	Service
Date of Establishment	May 2007
Website	http://www.digitalidea.co.kr/page/main_e

Company Introduction

Digital Idea is a studio with technologies and experiences of around 400 internal and external movie VFXs starting in 1998. It distinguishes itself in the whole field of digital contents making including planning, making, and merchandising various new media contents such as VR, hologram, media façade, exhibition video and TV commercials.

Son Seung-hyun, VFX department representative
Tel. 82-10-3896-7654 **E-mail.** sshyuny@digitalidea.co.kr

» Success Point

The keys to success factors of this project are as follows: First, Digital Idea focused on strengthening its global competitiveness by forming infrastructures, strengthening production ability, and investing in an overseas expansion. Second, by participating in the government project, it could minimize the risk and grew as a competitive enterprise both in the domestic and Chinese VFX markets. This project became successful due to NIPA's vision to foster the domestic CG industry to have global competitiveness corresponded with Digital Idea's vision to become one of the top 5 VFX players in global market.

» Key Achievement

Made nine overseas and 21 Korean VFXs

Technology development including one global pipeline S/W patent and ten self-developed in-house S/W

VR contents making technology development including VR stitching technology patent

Established overseas joint corporation and attracted investment- signed MOU with China Film Group

With the 3-step strategy of forming infrastructure, R&D and overseas expansion Digital Idea is raising global competitiveness by participating in the ICT government project through NIPA. Against the fast growing Chinese enterprises in CG and VFX technologies, Digital Idea is striving to strengthen the global competitiveness of their technologies.

"Train to Busan", "Pandora", "The Age of Shadows", and "My Annoying Brother"….
These are Korean movies that stole the audiences' hearts by adding CG-VFX. Over five movies among box office top 10s made a success, passing through the hands of Digital Idea. A popular drama "Goblin" that attracted much attention having the highest ratings in the first half of this year was also supported by the CG excellence of Digital Idea.
This company has participated in over 400 movies, starting from "The Soul Guardians" in 1998.

Entering overseas market including China in earnest

Digital Idea, is based on extraordinary CG-VFX technology in Korea which entered the Chinese market animating movie's digital characters including Monkey King 1, 2, Kung-Fu Yoga, Ten Miles of Peach Blossoms, Bounty Hunters and The Sky, the Sea. Among the list, Kung-Fu Yoga received first place in Chinese hit movies in the first half of this year.
The Chinese movie market shows the highest growth rate around the world with 30% rapid growth annually. For Digital Idea, adding CG-VFX to movies and dramas to give fun and lasting impression, it is a market that mustn't be missed.

Competitiveness improvement is needed due to the rapid growth of Chinese companies

Digital Idea has emerged as one of Korea's leading CG companies after merging Insight Visual and EON Digital Films, in 2010. Digital Idea participates in every step of making a movie. From scenario stage and filming to the final task also preparing thoroughly, with CG and VFX workers staying at the site while filming. Most of all, the company is competitive enough as it makes CG with one-twentieth the cost of Hollywood.
However, since Chinese companies buy CG-VFX companies in Hollywood, US or subsidiaries with them to improve their competitiveness, it is a cause of crisis. Two popular Hollywood CG-VFXs, Digital Domain and Rhythm & Hues Studio went bankrupt and their skills passed to Chinese companies. This is the reason Digital Idea focuses on intensive investments in R&D to improve global skill competitiveness and securing foreign outstanding workforces.

Reducing the technological gap with the global top 3 through training project for CG specializing company

Digital Idea participated in the government support for ICT through NIPA and began a three-step competitiveness improvement strategy with foundation construction, improvement of production capability (R&D), and entering overseas markets. NIPA is actively training professionals in workforces, through foreign technical expert invitation education. It selected Sony Pictures and Image Works, which are among the global top 3, as its technological role model and has reduced the gap from ten years to around five years.

Entering new media into a new industry market following the Fourth Industrial Revolution

Recently, it is actively entering a new media and new industry markets including VR and AR as it is the Fourth Industrial Revolution era. By making Samsung Electronics gear, VR contents and making foreign pieces such as Kazakhstan Expo and China Olympic Stadium performing film, it has achieved export growth, and there was over 40% growth of sales last year. With the support of businesses on new media film making technology where initial investment is needed, it has diversified its business capabilities by making various contents, securing film making techniques and accelerating related technologies.

TIMELINE

May. 2007
Established DTI Pictures Co., Ltd.

Dec. 2007
Received the Technical Award at the 44th Dae Jong Film Awards, 28th Blue Dragon Film Awards for < The Restless>_ total two times

Dec. 2008
Received the Technical Award at the 29th Blue Dragon Film Awards for < Modern Boy>

Sept. 2009
Received the Technical Award at the 17th ChunSa Film Festival

Oct. 2009
Received the Technical Award at the 29th Yeong Pyeong Awards

Nov. 2009
Received Technical Award at the 46th Dae Jong Awards

Dec. 2009
Received Technical Award at the 5th UNIFF Awards for <Take Off> _ total four times

Apr. 2010
Merged DTI Pictures Co.,Ltd. EON Digital Films Co.,Ltd. Insight Visual Digital Idea Co.,Ltd. into Digital Idea Corp. (CEO: Lee, Seung-Hoon)

Aug. 2010
Established and registered affiliated research institute

Mar. 2011
Received a Visual effect award at the Golden Horse Awards for <WUXIA>

May. 2011
Received a Next Generation Content Award at the Korea Content Awards for <Quick>

Oct. 2011
Received a Technical Award at the 48th Dae Jong Film Festival, 31th Yeong Pyeong Awards for <War of the Arrows> _total two times

Mar. 2012
Received a Visual Effect Award at the Asian Film Awards for < Flying Swords Of Dragon Gate>

Aug. 2012
Park, Young-Shin took place as CEO

Dec. 2013
Received a Technical Award at the 50th Dae Jong Film Award for <Tower>

Dec. 2015
Received a Technical Award at the 53th Dae Jong Film Award for <Ode to my father>

Jan. 2016
Lee Seung-Hoon took place as CEO (Resignation of CEO Park, Young-shin)

Nov. 2016
Received a Visual Effect Award at the Spain Sitges film festival for < Train To Busan>

Dec. 2016
Established subsidiary in Beijing, China (Beijing Di Idea Technology Co., Ltd.)

Mar. 2017
Received a Visual Effect Award at the Hong Kong Film Awards for <The Monkey King 2>

Broadcasting Communications Development Fund
Support Organization : National IT Industry Promotion Agency,
Website : http://www.nipa.kr/eng/main.it

CREATIVE BOMB

Going Out to the Global Market with a Music Education Application for Smart TV, ‘Boto’

Creative Bomb Co., Ltd.

CEO	Ma, Myung-yub
Type of Business	Educational contents for children
Date of Establishment	November 2012
Website	www.creativebomb.co.kr

Ma, Myung-yub,
CEO
Tel. 82-10-7774-9225
E-mail. creativebomb@naver.com

Company Introduction

Creative Bomb provides various education-related contents to let the children easily access. With Boto as the center, it is targeting Chinese market, making Smart App and TV animation.

» Success Point

The keys to success factors of this project are as follows: First, Creative Bomb has a fun curriculum with the combination of various games such as puzzles and pictorial puzzles based on Nuri education courses, which led to the natural learning environment. To bring down the level of children aging from 4 to 7, the enterprise took care of details by emphasizing the character's personalities making a circular outline. Second, the enterprise introduced an accurate study guiding method for children and parents, providing a learning level evaluation index and feedback according to the learning results.

» Key Achievement

- Made joint production investments on the animation 'Pink Dolphin Boto' with Jiangsu Ruitoon in February 2016
- Received a grand prize from Beijing IDDA Group Demoday Investment Value in August 2016
- Received first prize at the Startup International Competition in Shanghai in October 2016
- Received an honor reward at the KCA Smart Media Competition in the sector of Smart TV App in November 2016
- Selected as K-global 300 companies by Ministry of Science and ICT in Dec.2016

With the help of the ICT government project, Creative Bomb released the music education application for smart TV, featuring "Boto the Pink Dolphin". The company is rapidly growing by breaking into the global markets of Japan, China, and Southeast Asia with its educational games, animations, VR, AR contents, etc. for kids.

Creative Bomb was founded by Ma Myung-yub with two colleagues from Pantech. He expressed the adventure of Boto finding the shark that stole the crystal into game. It was first released in Japan, which had the biggest game market of June 2014. Entrusting translation, narration, website management, and marketing business to Japanese publishers, it released the game as a 100-yen app. With a favorable response in the Japanese market, it was released in Korea and the USA within the second half of the year.

Contents using VR/AR technology receiving great responses

At the beginning of last year, Creative bomb made joint investments of 6 million yuan with Jiangsu Ruitoon in China, planning to make "Pink Dolphin Boto" into an animation and is now making 20 pre-created episodes.

"You can meet Boto at Shanghai TV, Jiangsu TV and CCTV at the beginning of next year. At the end of its last year, the Chinese corporation intended to target the local children's education contents market."

Their basis was to spread various character businesses, including Boto an educational game, growing its popularity in Japan and Korea, and an exclusive Boto's children swimming pool in China. Especially, the "virtual kindergarten" contents that Creative Bomb developed got first prize at the 3rd Shanghai International Popular Science products Expo (PSPE) last September.

Developing music class app for Smart TV as ICT government support project

Creative Bomb has expanded its business into the music educational game market, cognitive creativity games, as well as making these games into Smart TV apps.

"At that moment we were planning for a Smart TV music educational app with Soribotari, but we were only able to plan around the tremendous development fund." The ICT government support fund became a relief pitcher for Mr. Ma.

In this way, Creative Bomb was reinvented in response to the rapid growing rate of the Smart TV market. They have gotten great response as children participate in musical activities, enjoying the adventure of Boto and receives increased musical expressiveness. Also, to make it easily controlled by Smart TV remote control, the touch operation changed into a remote control operation, with the ability to set children's levels.

It may lead educational K-wave by establishing a children educational contents platform

Currently the content is freely distributed, but as the awareness of Pink Dolphin Boto increases, there is much expectation on adding a fee. When the market grows more, they are planning to release separate app packages, gathering cognitive creativity games and music educational games.
To make it helpful for children's study of foreign languages, there is a plan to add subtitles in English, Japanese, Chinese, Spanish, Thai, and Vietnamese to the Korean version and add narratives of natives.
"As it was selected for government support for ICT, we were able to get development expenses and develop music educational games with a solid story. Most of all, the halo effect that we were acknowledged by the government for, became a great help for the business." Ma set more progressive goals driving on. "We will establish a "global kids" smart contents platform to lead K-wave of preschool education contents market."

TIMELINE

Nov. 2012
Co-founded by three colleagues from Pantech Marketing Strategy Team

Sept. 2013
Selected as a project to advance to Japan by Korea Creative Content Agency (KOCCA)

Jun. 2014
Released Boto 1+2 at Japan KDDI au Smartpass

Oct. 2014
Released Boto 2 Web version at Japan KDDI au Smartpass

Nov. 2014
Selected as the best game of the month by Korea Creative Content Agency (KOCCA), Received Minister Award from Ministry of Culture, Sports and Tourism

Dec. 2014
Exported Boto 1+2 to China
Signed MOU with Irumvision Co., Ltd., the music education expertise company for children

May, 2015
Moved into Hanhwa Dreamplus Center, Changed to corporate body

Jun. 2015
Released Pink Dolphin Boto 3 at Google Play
Selected as a global star enterprise promotion project by smart mobile contents hosted by National IT Industry Promotion Agency
Selected as a SmartTV App development project by Korea Communications Agency

Aug. 2015
Signed MOU with PEC sports academy (kids pool), a physical education expertise company for children

Sept. 2015
Won Grand Prize in the Content Start-up League Mobile Game category

Nov. 2015
Released Pink Dolphin Boto 4 at Google Play
Released Pink Dolphin Boto's Children's Song at Google Play

Dec. 2015
Selected as Google Play 2015 App of the Year
Launched Pink Dolphin Boto 2 for Smart TV

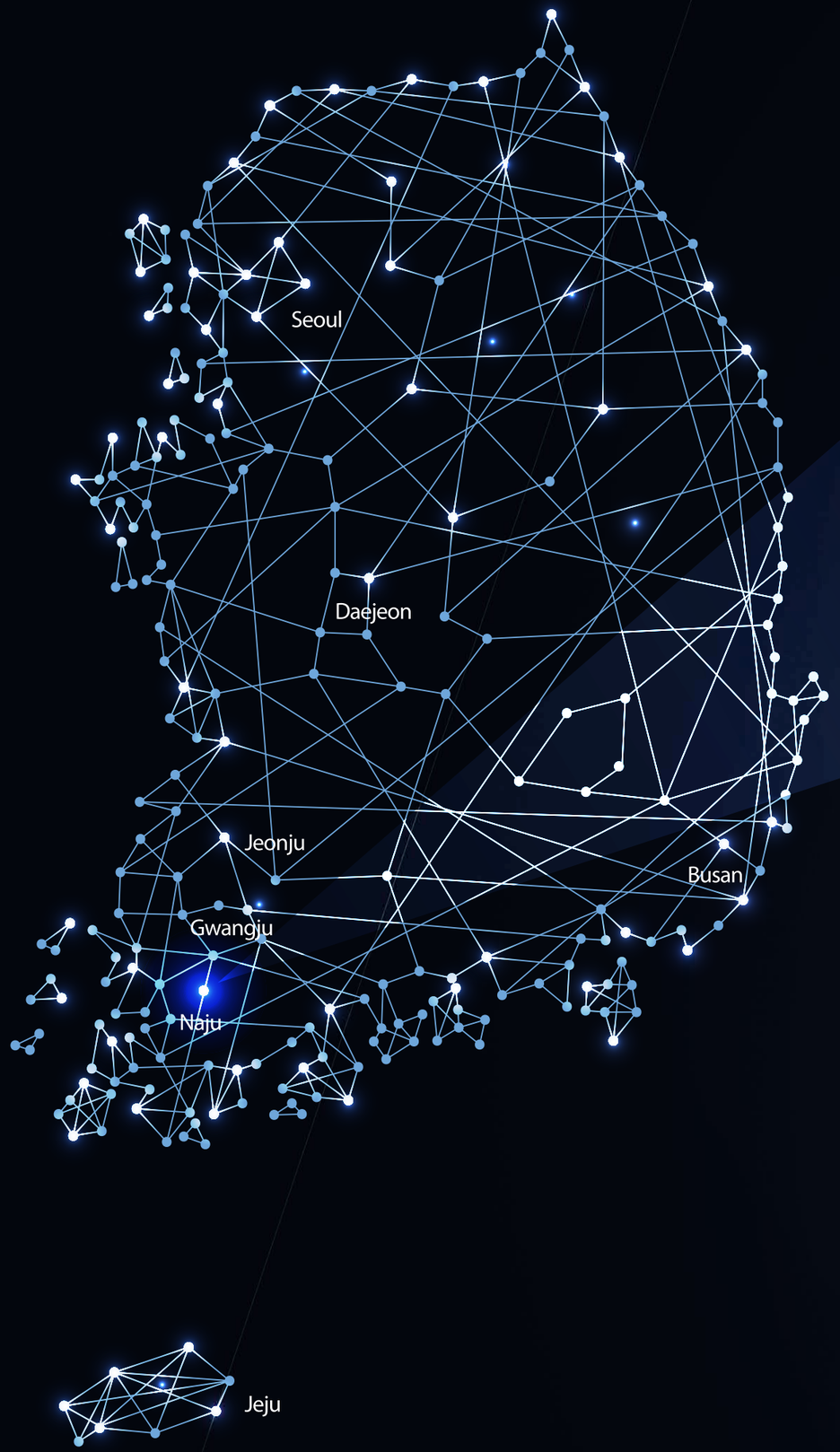
Feb. 2016
Signed MOU for co-production of TV animation series of 20 episodes with Jiangsu Ruitoon in China

May. 2016
Selected as functional game production support project by Korea Creative Content Agency (KOCCA)

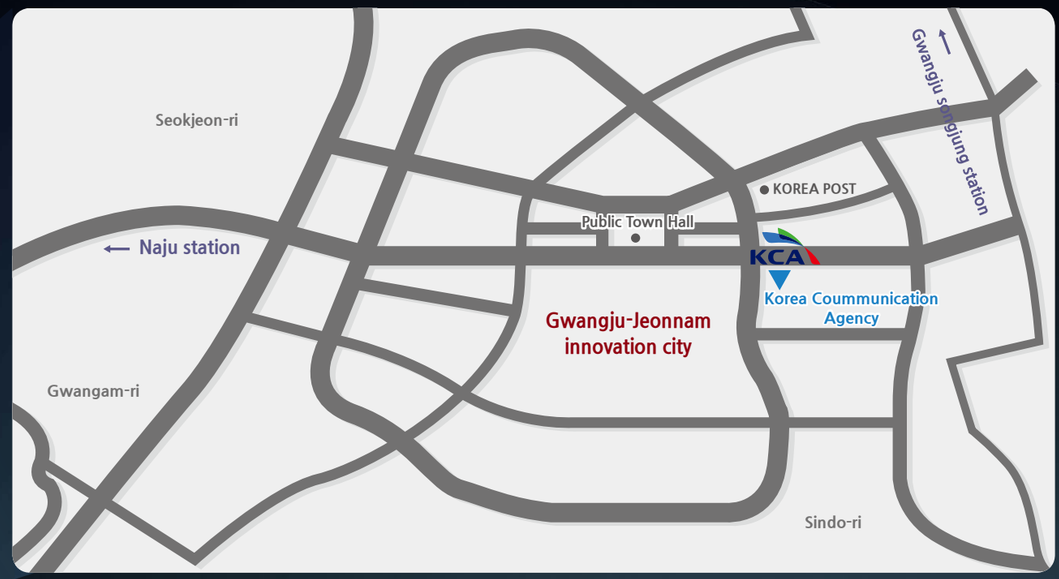
May. 2016
Selected as a SmartTV App service support project by Korea Communications Agency
Selected as a multinational star venture company development program support project by National IT Industry Promotion Agency (NIPA)

Nov. 2016
Received an Excellence Prize in Smart Media App Division at Smart Media Awards

Broadcasting Communications Development Fund
Support Organization : Korea Communications Agency,
Website : http://www.kca.kr/open_content/en/index.jsp



LOCATION



Korea Communications Agency

• Address
760, Bitgaram-ro, Naju-si, Jeonnam, Korea

• Tel : 82-61-350-1212 • Fax : 82-61-350-1370

KCA
Korea Communications Agency

Outstanding Cases Achieved Through Government Grant for ICT

Published by

Korea Communications Agency

760, Bitgaram-ro, Naju-si, Jeonnam, Korea

TEL : 82-61-350-1272~6

FAX : 82-61-350-1260

Website : http://www.kca.kr/open_content/en/index.jsp

Content prepared by

Korea Enterprise Institute : 82-70-7436-9267

Design/Printing

Korea Advertising Media Center : 82- 2-3664-4009