Women's Economic Empowerment and ICT:

Capacity Building for APEC Women Entrepreneurs in the Age of the 4th Industrial Revolution

Korea IT Women's Best Business Models

So Young Lee September 28. 2017











Contents

- 1. Introduction of KIBWA & Seahyun Korea as a CEO
- Shinheung Telecommunication Co., Ltd
- SEAHYUN Korea Co., Ltd
- 2. Introduction of startup company as a Mentor (supported by K-ICT startup mentoring center)
- Re start up: KIDS IT Co.,. Ltd
- Start up: LILLYCOVER Co., td
- Start up: Styleshare, kipping
- Collabo Start up: Carboneplay Co, Ltd
- 3. Policy proposal



Who am I?

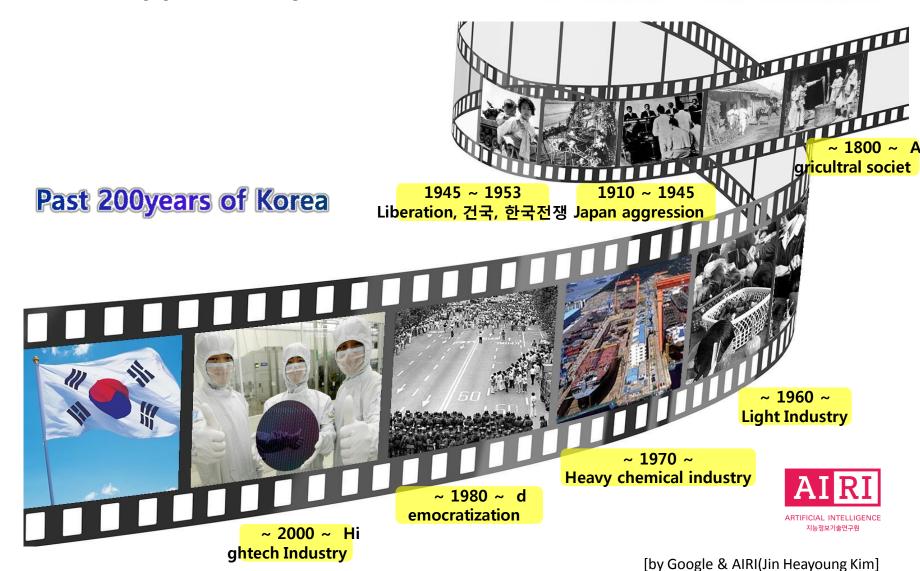
I'm a CEO, a CEO Mentor a Professor, & a mother with 3c hildren & husband

2002 Korea – Japan World Cup



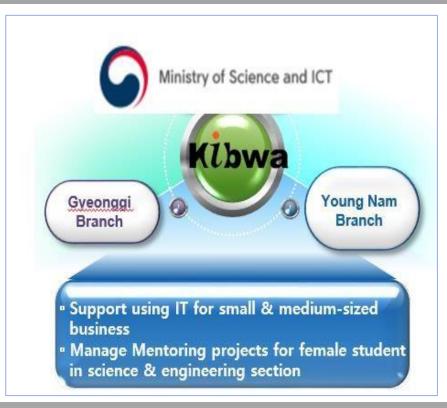
1st Sun, 3rd, 2nd daughter & niece

4th industrial Revolution! Is it real opportunity for Female?



KIBWA: Women ICT Business Culturing

- To revitalize small & medium-sized business in the IT & 4 th Industry sector/ to make sound market environment
- To secure national competitiveness through discovery and development of outstanding workforce & entrepreneurs of women's in the IT sector



```
2001. 09 - Inaugurated the Korea IT Business Women's
             Association (KIBWA)
            2006. 03 - Established the KIBWA Daegu/Gyeongbuk Branch
O
            2006. 08 - Established the KIBWA Gyeonggi Branch
            2007. 06 - Held the Global IT Women's Conference & IBWA
            mentoring
project
             2009. 11 - Held the first IBWA conference
            2010. 05 - Open IT Help Desk
0
             2010. 12 - Held the first competitions for creative
             problem-solving to bring up creative talents
o 2011. 11 - Held the 3rd IBWA Conference & 10th KIBWA's anniversary
            2012. 04 - Appointed Ms. Kim Hyun Ju as the 7~8th
            Chairperson
```

o2017. 04 - Appointed Ms. Jang Hae Won as the 9th

Member: 300 ICT Women companies

& 4,000 Science & Engineering Women students

Chairperson

Budget Support: 1.5 billion (by Ministry of Science & ICT

[1] To support a strengthen competitiveness for Women's IT Business

Using External Press Release Activities
Policy proposal and promotion

For empowering ICT based R&D Ne w technology for sustainable growth



For Main members

Klbwa(사)IT여성기업인협회 Korea IT Business women's Association





Through Policy Related Institutions Women's business problem Release



Through Member's workshop Strengthen cooperation

* To manage IT convergence mentoring projects for female student in science and engineering se ction for elevating their career courses finding jo b or making new venture company. (since 2007)

Share Successful experiences

For Female students & pre-start up

Klbwa(사)IT여성기업인협회

Korea IT Business women's Association

Project team Agreement (Member & Students)





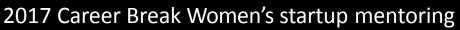
Final results Demonstration for Evaluation of results



Korea Nationwide Female universities student team's ICT Project mentoring with KIBWA members: 2016 Final result presentation of 45teams

2017 K-Girl's Day , representative Mentor





President of KIBWA, Jang Hye Won





Company name

- Shinheung Telecommunication Co., Ltd



CEO

- Jang Hye Won



Specializing business fields

- Telecommunication construction, system integration business (IS), overseas construction, value-added telecommunication, and outdoor advertisement production and agent business



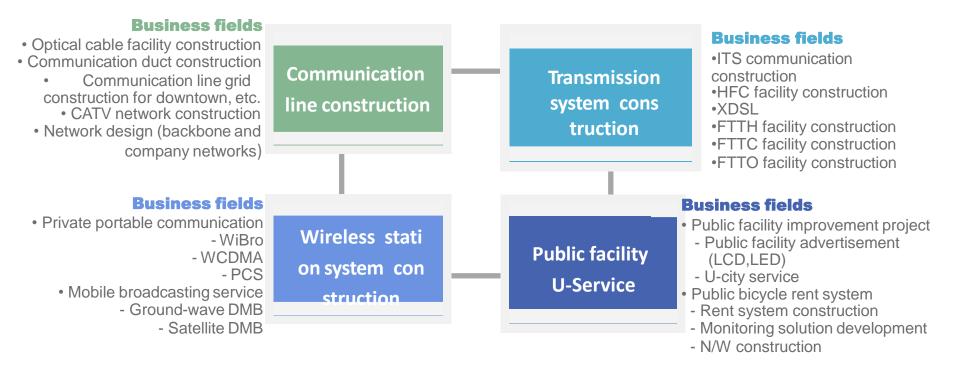
Address and contact

- Main office : 301, 336, Olympic-ro, Songpa-gu, Seoul	(05542)	T. 02-2192-7000 F. 02-2202-2061
- Seoul office : 301, 336, Olympic-ro, Songpa-gu, Seoul	(05542)	T. 02-2192-7272 F. 02-458-6300
- Gyeonggi office : 30, Suseong-ro 350beon-gil, Jangan-gu,	(16271)	T. 031-235-1600 F. 031-235-3344
Suwon-si, Gyeonggido		
- Busan office : 23, Jaseonggongwon-ro, Dong-gu, Busan	(48745)	T. 051-583-7000 F.051-625-0459
Chungnam office : 72, Goejeong-ro, Seo-gu, Daejeon	(35291)	T. 042-525-3488 F.042-525-3489
- Chungbuk office : 12, 1sunhwan-ro 1063beon-gil, Seowon-gu (28799)		T. 043-283-0685 F. 043-297-9912
Cheonaiu-si. Chunacheonabuk-do		



Home page - www.shtel.co.kr

Network business Introduction



CEO of SEAHYUN KOREA



So Young Lee, Ph.D Lucia Lee



KNU IT college adjunct professor(Mar.2005~)



CEO & Founder Seahyun Korea(Nov.Mar.2006~)





Mentor K-ICT Startup Mentoring center(Mar.2014~)

1. Startup motive

As Women CEO

Sh (주)시현코리아

To survive as a research-oriented, long-lived company without being overwhelmed by capital. (1st 2001 foundation but lost M anagement control toss male owner)

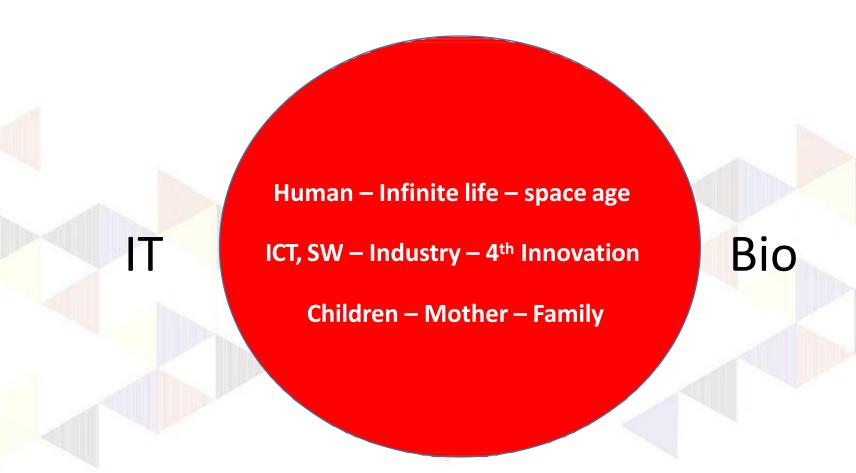
To to grow into a small but strong R & D oriented company that has original technology and continuous research and development

As Women CEO Mentor

To discover and nurture women start-up for sustainable, successful growth

To cultivate next generation women entrepreneurs for the national prosperity

2. Business Model

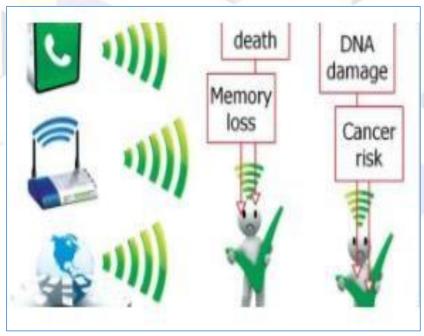


2. Business Model- IT

Electro Hypersensitivity on the health effects of EMR

 Recent studies have reignited the debate on the health effects of Internet penetration and the increased use of smart phones all over the world. Researchers suggest that the electromagnetic radiation from Wi-Fi, mobile phones/towers, ipads, smart metres and many other





Electro Hypersensitivity, General Reports, Reports: Wi-Fi, Studies: Cellphone Towers 🛗 September 8, 2016

How we do protect Electromagnetic stress?

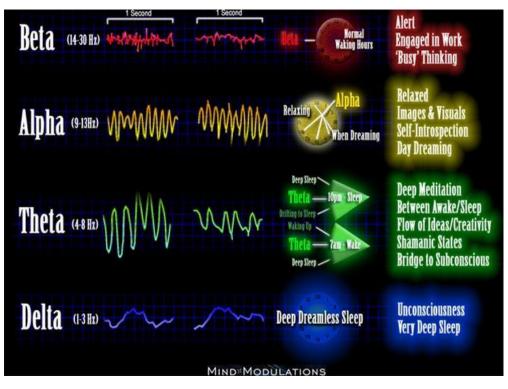
ELECTROMAGNETIC STRESS

http://en.wikipedia.org/wiki/Extremely_low_frequency



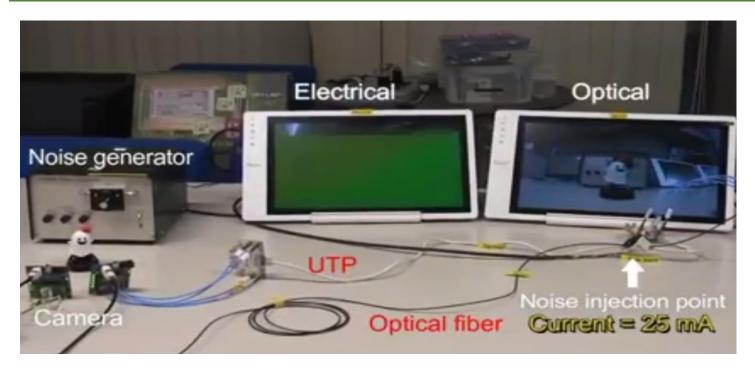








POF – Electromagnetic and Water Immunity " No effect" *Natural Network for Human healthcare on IoT of Smart & Connected Sciocety

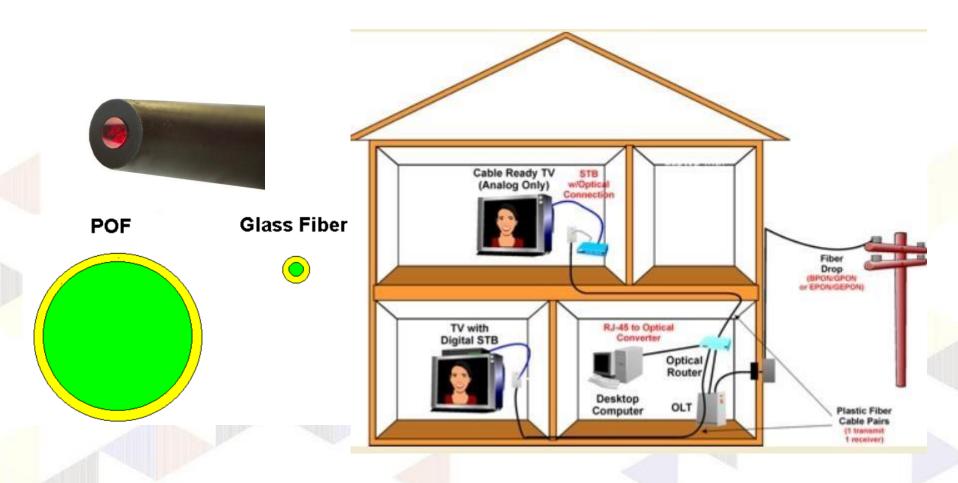


https://www.youtube.com/watch?v=oiRwthNdU_g



Óscar Ciordia 게시일: 2016. 9. 23

(Plastic Optical Fiber Electromagnetic and water immunity)



a home optical system can be setup and used in a home

In the home over plastic optical fiber. Each optical cable contains two fiber pairs, one for transmitting and one for receiving.

IPTV Optical Distribution using Plastic Optical Fiber at Home

posted May 3, 2011, 8:17 AM by Valter Foresto [updated May 3, 2011, 8:51 AM]

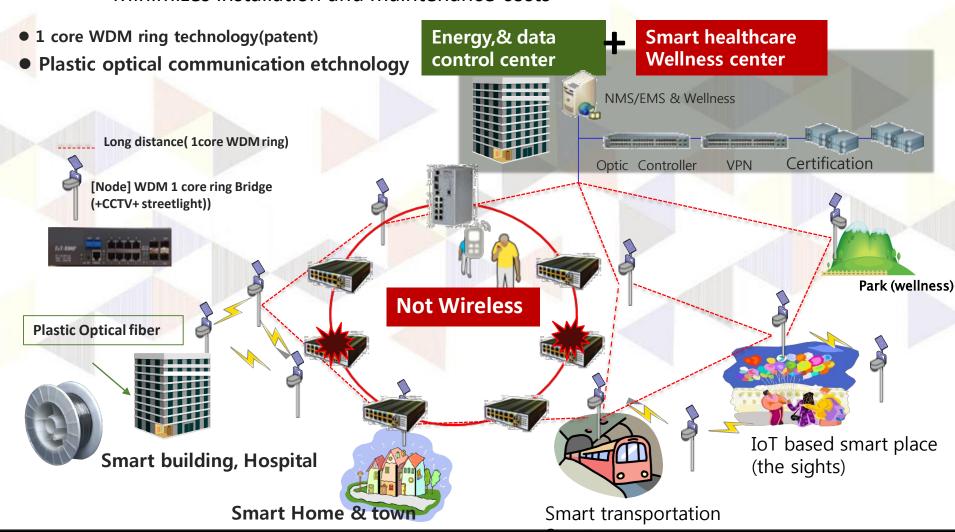
4. Business solution or product : SEAHYUN KOREA

Mid, long distance: Glass Optical fiber based Ultra bandwidth- data transmission Short distance (<50m): Plastic Optical fiber based data transmission, replace of copper & wireless

Model	Glass Optical fiber system (GOF)		Plastic Optical Fiber system(POF)			
	ONU R2012MB	Hybrid ONU	POF Transceiver	POF USB	POF cable	
photo	APART CONTRACTOR OF THE PARTY O	BE THE THE THE THE THE THE THE THE THE TH				
	Optical bypass	GOF+POF+UTP	100Mbps	USB 2.0	POF (SI, GI type)	
Spec.	IEEE802.3 1 core ring WDI (optical	POF based 650nm Optical transmission				
Application	Replace of Copper/Wireless all optic system (u-city, CCTV, ITS, security, smart building/home/factory/ auto-control etc)					
Data Rate	1Gbps	1Gbps	100Mbps	300Mbps	1Gbps	
Transmission distance	20Km~120Km	20Km~80Km	~80m	~80m	~50m	

[1] All Optical Network for restoration of Natural Ecosystem (POF, GOF)

- Naturalistic network without harmful electromagnetic waves
- Replacement of natural resource copper resources
- Minimize carbon emissions, High capacity, low power
- Minimizes installation and maintenance costs



5. Current Progress – target position

● Jan. 2008 ~ 1 core WDM ring technology: Smart city of Korea

● April 2016: Korea subway network, POF Korea standardized of Subway

inner network

August 2017 Overseas Smart home network, replace copper & wlreless



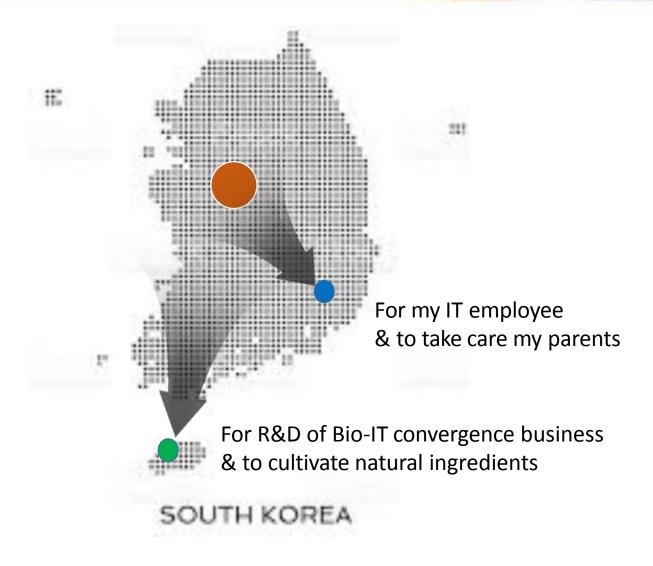
To Build a smart connected Mobilty Smart home, office, school. Town etc

To Cultivate traditional naturalistic indust rial park with all optical technology



5. Current Progress – target position

• Dec. 2015 ~ Main Office move to Jeju Island for finding & breeding natural material



[R.O.K Map By Google]

Skin type information gathering & analysis

Focus Nature & Bio



Healthy, organic natur al ingredients for cell re vitalization









PLAZMA
Optic(LED)
Support
Ultra vibration Cell activation
In deep skin

IoT based Beauty care (Diagosis/care)



[Photo By WAY]

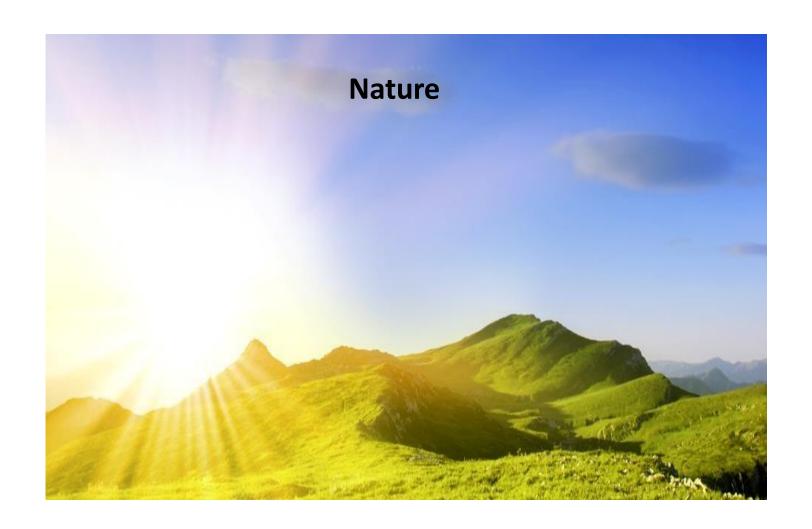
Beautycare Information



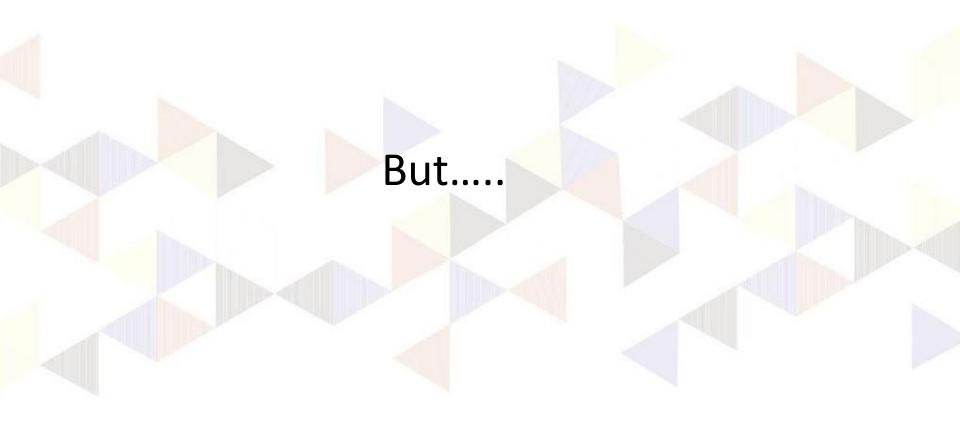


Natural ingredients (Film/Liquid/Beads type)

[Photos By WAY, Google]

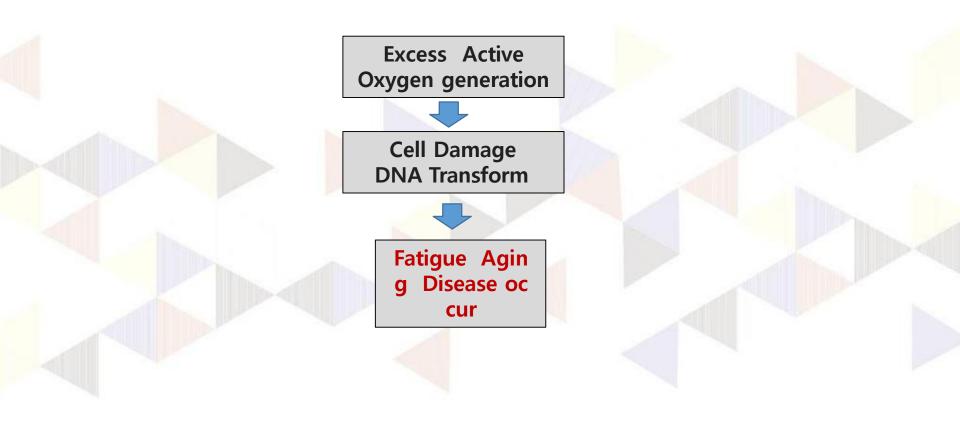


[Photo By Google]



Owing to a active oxygen, Aging is progressing rapidly





[Photo By Google]

Causes of active oxygen

Stress

UV-rays Eati

ng habits

Intense exercise



Is that all?
Is any one else?

We have a strong problem

On digital, smart, connected world On 4th Industrial Innovation era





Plastic optical fiber Network for IoT

Electro Hypersensitivity, General Reports, Reports: Wi-Fi, Studies: Cellphone Towers 🛅 September 8, 2016

Natured plants



Nature + Social network + IT H/W & S/W + Mechenical +Bio+ Chemical +etc

AI + Bigdata +

Without office Without time & space limitation

?

Water pollution- serious & original problem



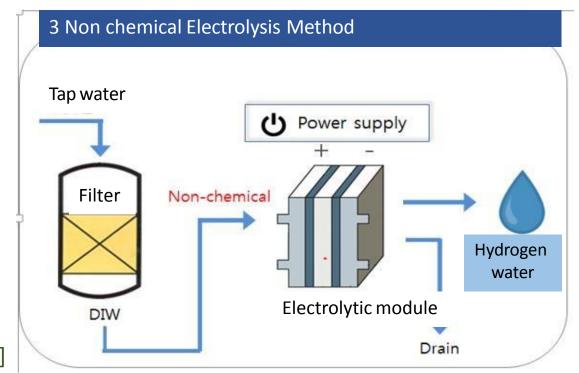
[Photo By Google]

Bio-IT for Medical care with natural material & Hydrogen water collaboration.

- Natural material without harmful chemical elements
- Skin & Muscle Re generation cell activation R&D and co operation with related factory (Hydrogen water, stem cell ingradients, Temperature Sensitive hydrogel)
 - 1 On non-chemical status, Electrolysis of water

Hydrogen water

- 2 95°C High Temperature, Dissolved Hydrogen Maintenance technology
- **③** Without electrolyte to electrolysis until ultrapure water



[By Google & E-analyzer company]

Natural Ingredients + Horse oil

Plasma care device + App

Hydronic water





beauty care cosmetics + Hydronic water

2nd

Medical care cosmetics + Hydronic water

How we do get these new & versatile technology?

Successful Women Mentee case of K-ICT Startup Mentoring Centor's

As Mentor

K-ICT Start up Mentoring centre's Role



·Management Know-how.

- Entrepreneurship, Business plan,
 Human resource & Labor management
 Accounting, Functional management
- Technology Know-how :
- Original Technology, Patent & Intellectual Property, R&D Project, S/W Development,

Contents Development, Information Technology Equipments

•Funding Know-how:

- Apply for IR & Announcement, Attraction of Investment(Angel investors VC),Policy funds, Other Financing
- ·Marketing &Sales Know-how
- -Marketing Plan & strategy, Domestic Sales, Overseas Sales



Networking Day

- Personal Exchange,
 Technology Exchange
- Exchanges between mentees
- •IR for Mentee to attract investment
- •Finding business cooperation ways
- Cloud funding process support
- Open mentoring



IR Education (Frequent)

- •IR Education from Mentors
- •THE U.S Kauffman Foundation PEV Education (Plan to Start Venture)
- •Education through each field experts



Overseas Marketing Support (Frequently)

- Connection with Global Startup
 Support Centers
- Overseas Technology Patent
- •Overseas Marketing, Sales plan & Strategy

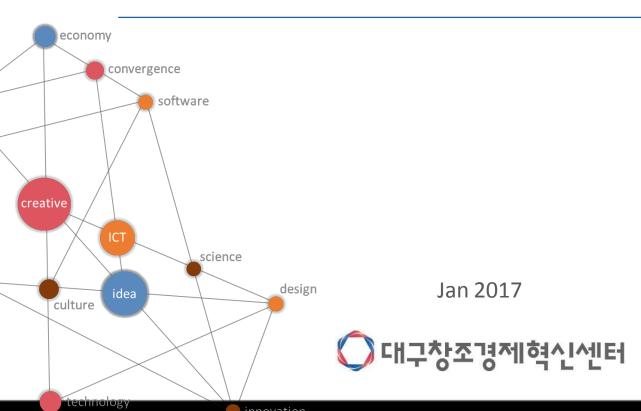


Startup can get some advices about overall business difficulties in management, finance, marketing & sales by CEO Mentor, who are senior entrepreneurs of ICT,SW convergence industry

K-ICT Startup Mentoring Centre For Training ICT Creative Human Resource



Developing Creative Human Resources of Daegu Center for Creative Economy & Innovation



Daegu & Samsung Creative Economy Complex

Promoting Startup Innovation Park which combines innovative start-up, technology, culture, and design



The Base for The Future Technology Start-up (Developing HR)

Pre C-Lab \rightarrow C-Fab \rightarrow d-Lab \rightarrow C-Lab \rightarrow Post C-Lab \rightarrow C-Corridor

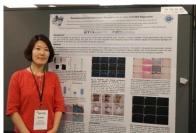
C-LAB

- Supporting mentoring, consulting, prototyping, investment, and overseas expansion of start-up with Samsung
- ■6 times, Raising and supporting 95 companies (4,500 applications received)
- •Recruiting the 6th C-LAB was completed: 13 companies (from July 2017 to March 2018, 9 months)
- ■Total investment: 21 billion won, Total sales: 15 billion won, New recruitment: 143 people
- (Curriculum)
 - Educating Tax, Patent, Management and etc. through CN Day
 - IR Pitching Training









SunHee An, CEO

- Jun 2016.~ CEO & Founder of Lillycover, Inc.
- Apr. 2006 ~ Feb. 2016. Hyungpook National Hospital, Clinical Support Team Leader
- Sep. 2001 ~ Feb. 2004. LG Electrnonics Researcher

1. Motives for startup

As a clinical support team leader at Kyungpook National University Hospital for 10 years

To understand how close to healthy skin and confidence / sociality are

Let's Provide easy-to-use skin diagnosis and management solutions for everyone







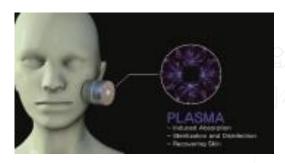


2. Business Model & Applying ICT Smart Technology

Using Atmospheric plasma technology, Massage function

Through camera & sensor Multiple skin diagnosis

Through Mobile App R eal-time skin care service



Considering Skin Intensity
Three-stage massage mode



60 x magnification with built-in camera lens, pore / wrinkle / flushing analysis



Notification of UV index and when to apply s unscreen products







36 Skin Type Analysis Provides customized skin care



3. Current Progress – Overseas marketing



By Amazon.com Primary vendor B2C Sephora 등 distributoring



Shenzhen 4 cities

K-Beauty marketing



Sol Beauty Academy & skincare shop branch (marketing root)

Overseas local partners skincar e shop branch posession University of Sao Paulo (USP) Hospital Clinical application of dermatology



5. Success Factor



Global Business Target

Established US corporation (Jan. 2017) Silic on Valley & Brazil Sao Paulo alliance Establis hing a bridgehead for North and South America

Technological & Business Validation

Global Innovator Festa Award(Nov.2016) Glob al Sources Best Technology Award (April,2017) Kore a BI Technology Commercialization Association Exc ellence in overseas market entry (Jun.2017)2017 Women Entrepreneurship Competition Best award(Sep. 2017)

Patent registration

3 patent 1 preparing patent Continuous techno logy transfer

Investment and partnership

Domestic : Samsung Overse as: UDA Silicon valley VC, Angel China VC Group Allianc e: Panasonic, LG Life health

Purchase & Market

Domestic : All for skin Dermatology specialty hospital Overseas: Vietnam, China (Sol Beauty Academy & skincare branch)

6. Hardships and Overcoming Hardships

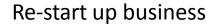
Support of Daegu Creative innovation center & K-ICT start up mentoring enter For financing and business progress mentoring

7. Advice to women entrepreneurs or people considering founding a new business

Need a persistence and commitment to overcome When the unfortunate adversity comes. What to do for a careful approach and a practical plan must be established.

8. Suggestion

It is strictly male oriented for IR, Business evaluation Viewing a female entrepreneur's difference, to approaches business items & financing, mentoring etc.





CEO of KIDS IT Lee Yeon Keoyung

History

- Current) CEO of KIDS IT Co., Ltd
- Aug 2008 July 2014 Brain Factory Institute
- Jan 2000 Aug 2016 NORI Education Institute Director
- Nov 1998 Jan 2000 HABA Principal of Kindergarten



Career

Professional at developing elementary education curriculum. Provides consulting and solutions for all areas of early childhood education

From textbook, teacher's guide, and program design.



1. Motives for startup

CODING EDUCATION PLATFORM for Cultivating creative talents.

4th Industrial Revolution

The advent of the age of the second information revolution based on Intelligence information technology

Programming Education

Preparing for the age of information revolution / Designated as compulsory education in middle school and high school in 2018



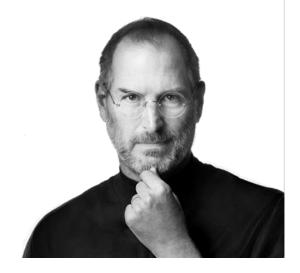
How to program a computer, Because it teaches you how to think.





CODING? Process for creating a command of a digital program

Designation of the contract of Patriarm for 5 — 1 years ald to cultivate Erpitish Hilpet's and conspreyed Hidding



2. Business Model



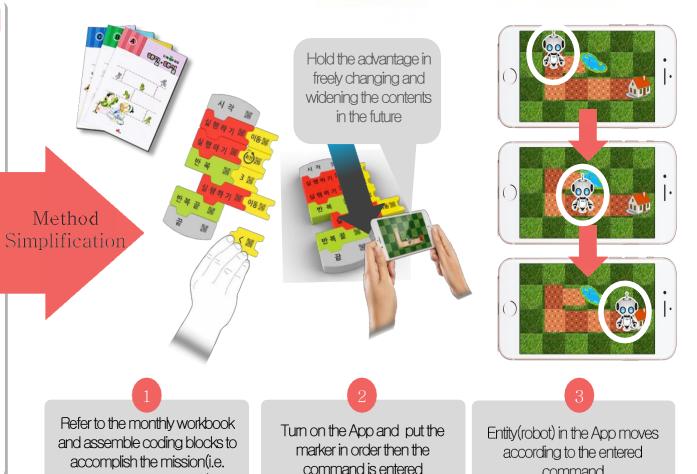
3. Applying ICT Smart Technology

Original Coding Method





- Unfamiliar method for children (Operating coding program)
- Lack of variety and extension potential (Limited Contents)
- For course completed professionals Unsuitable for educating children



Develop digi-log augmented reality coding education platform for children from 5to 7

Taking robot to home)

Can easily understand the concept of coding through simplified coding method and platform design suitable for children

command

4. Business solution or product









4. Business solution or product – CODE & CRAFT



https://www.youtube.com/watch?v=2TEVYlp7dd0&feature=youtu.be

5. Current Progress – Domestic Commercialization

Commpreidlization



(Coding textbook, Coding block, Teacher's manual, and Online video) **Included Integrated Coding Education Solution Package**

B to B

Booklets monthly provided as teaching materials

B to C

Divide into 3 different levels of teaching materials

Source of Demand



B to B

Children education institutes

B to C

Merchandise by distribution network

Expected Unit Price



B to B

Yearly 180thousand won per person (Kindergarten/Pre-Kindergarten/Institution)

B to C

Approx. 700thousand won per package

2017 1st Quarter

2017 2nd Quarter 2017 3rd Quarter

2017 4th Quarter

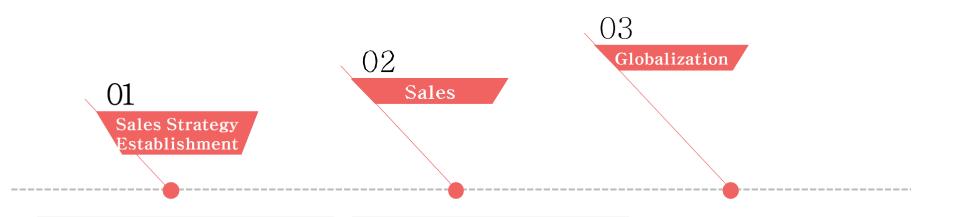
Select education institution for usability test

2018 Start to commercialize developing Stembaker/Nuribaker

Beta Test(Usability Test) of Stembaker/Nuribaker With 7 institutes. Exhibited in Daegu EXCO

Submitted in 2017.10 Hongkong Autumn Electronic **Exhibition Sales in Domestic** Children education institutes

5. Current Progress – Globalization



- B TO B

Production of product promotional materials (brochure, product manual)

Establishment of sales network and sales strategy development

-B TO B

Organizing Product briefing sessions

Operation of teacher-training programs

Sales support activities

-B TO C

Crowdfunded sales abroad

Exports planned to China (negotiating), Taiwan, et cetera.

6. Emphasis

'People are the most delicate Androids in the world'

In preparation for the 4th industrial revolution in which 'people' hold the utmost priority, we support children in cultivating the power to think and craft creatively, and to share such abilities with others to collaborate so that they can lead their lives independently.

Hence, in team building, we include teachers from the early childhood education field, program development specialists, women with disconnected career due to parenting, and researchers currently parenting their children, et cetera to enlarge the educational range to include not only children but also teachers and parents.

7. Success Factor

In search for needs in the ICT education industry for 4th industrial revolution, we developed **NURI MAKER** and **STEM BAKER** in a joint development with AR specialist firm **INSOL M&T INC.** We have now recruited over 50 branches domestically and are ready to launch in 2018 with further plans to expand to domestic early childhood education institutions, China and Thailand.

Our success factor is in shortening production period through sharing and cooperation and establishing an environment in which spot inspections can be conducted to assess the program's usability. In addition, through responsive and continuous revisions, we have developed more complete programs that let us stand in the lead out of competitors.

8. Hardships and Overcoming Hardships

- -First to establish ' 놀 이 학 교 (playing school)' system in Korea to stimulate creativity through children's playing.
- -In the process of creating other institutes for franchise management, our leased building went through eviction lawsuits, and we had to swipe out '노리교육연구소 (NORI educational institute)', early childhood education institute, in 2008 as a result of such financial difficulty.
- -The biggest reason for business' failure was the eviction lawsuit. However, we had learnt that building educational institutes require high-costs, rendering it a high-entry-barrier franchise. Furthermore, we learnt that target customers had low distribution ability because of high-cost offline private tutoring's obstructive nature.
- As a result, we have put emphasis on outsourcing program development business until now. We established AR-based program for educational institutes, **NURI MAKER**, and coding program for educational institutes, **STEM BAKER**, through collaboration and decided to establish these as our own brand.
- In addition, as a part of government-supported-business, we are preparing the launching of an individual online subscription service named 'CODE & CRAFT'.

9. Advice to women entrepreneurs or people considering founding a new business

- Having whatever you like as your job
- Enjoyable teambuilding through ceaseless communication and self-development.
- Share yours, and have others' shared to you through cooperation



CEO of KiPPiNG company Su Jin Kim

2014 .07.01 Set up business 2017. 02 Gain profit

2017.07 Smart Venture Campus 5th
2017.07 DIP Global Accelerating Program – Founders Space IR
2017.07 K-Global Startup Mentoring Centre 9TH 201
7.05 Gyeong Buk Content Korea Lab Award – 3rd 201
6.07 Gyeong Sang Buk-Do Young CEO
2014.12 Gyeong San si Young CEO

Business motivation









Working at this company (hospital promotion)

Write on a blog.

Art & Culture Class Information

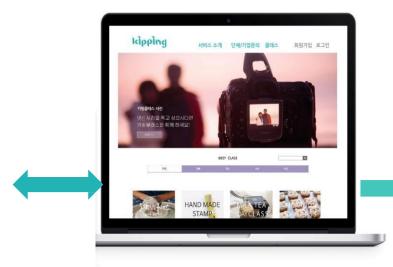
Gain profit

Business Model



Training Manager

\$2,000 Avg Class kipping



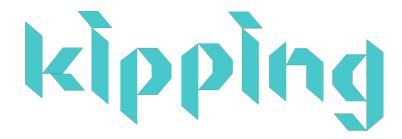
Arts teachers

20~40% Commission

\$400 - 800

\$1,200 - 1,600 Per Class 60~80%

ICT & SMART SKILLS





- 1. for your refined search with big data.
- 2. Search to close classes.
- 3. Have communication through messenger

Business Emphasis

- 1. Convenient to find suitable instructors
- 2. Need one platform has all information.
- 3. Few reliable teacher we have

Success factor

sincerity: Write on blog for 3years

CUSTOMERS

4 corp.

400 employees

1100 individuals











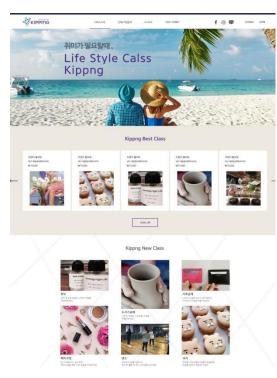


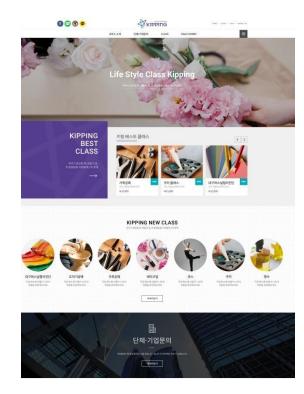


Adversity & Overcome adversity

Develop homepage







Advice

- 1. To tell someone your business and ask for advice.
- 2. Create Your Account (SNS)





Support of the policy for women & businessman

1. TAX CUT & EDUCATION

2. INTERNSHIP PROGRAM

Styleshare

- Fashion platform
- Established in 2011 and 45 employees
- As of 2017, only six years after its establishment
 - 2.8million total member, 85% of all members are under 23
 - Monthly Average User is 600,000 members
 - From April 2016 to April 2017, Annual turnover total \$100 million
 - Now enterprise values of \$ 40million, that is 1,600 times more than the initial capital of \$ 25,000
- Styleshare's CEO is a young female entrepreneur who is attracting attention from the world.
 - Global Vogue Editor Susan Mann Kiss visited the styleshare in 2015, then she said "styleshare is called a strong team that changes the landscape of the fashion industry"
 - Forbes Asia was selected as one of the youngest 30 Asian leaders in 2016, CEO of Styleshare
 - Invited as a representative of Korea at "GLOBAL ENTERPRENEUR SUMMIT" Planned by president Obama in 2016



Who is CEO of Styleshare



- Yoon Jayoung
- 2011 ~ CEO of Styleshare
- 20 Yonsei University, 전자공학과, 심리학 전공

High interest in fashion



BUT, Fashion content pr ovided by existing media does not get young cons umer sympathy



Finding a UK blog with street fashion as its main focus a nd meeting with blogger



Awarded numerous awards by participa ting in various start-up competitions org anized by universities, government and private organizations



Derive business ideas based on sharing fas hion information



Special lecture with Angel investor primer



Established style share with small investment and development workforce and mentor sup port

Styleshare







체육대회 시즌이 다가왔어요. 제일 먼저 준비해야할 건 바로 반 티죠~

우리반 친구들과 잊을... 더 보기

팔로워



"오늘은 무슨 신발을 신지?" 매일 아침 신발장 앞에서 서서 고 민해요.

항상 정답은 어디에나 잘 어울리 는 Keds! 더 보기



당신의 뮤즈가 되어 줄... by 스타일쉐어 써를



봄 데일리 메이크업 로... by 박세일



옷 입기 애매한 봄 날... by 오늘뭐입지



<4월 마지막 주 세일... by 금주의세일봇



향기 스타일링 상담은...



<주간 맨투맨 랭킹> 봄...

How are they doing business?

Fashion SNS (2011~)

- Fashion SNS
 - Users uploading their own styles
 - Purchasing information (product name, brand, price review, shopping mall)
 - Sharing real-time information a nd generate responses (follow, I ikes, alarm, comments)
 - Style feed(update in second, latest real-time trend information)

Market Place (2013~)

- Off-line flea market
 " market fest" has been
 held annually since 2013
 - Models, Designers, Brands shopping mall (Participant)
 - 40,500 people participated in this year
- Advertising system develop ment and advertising

Commerce platform (2016~)

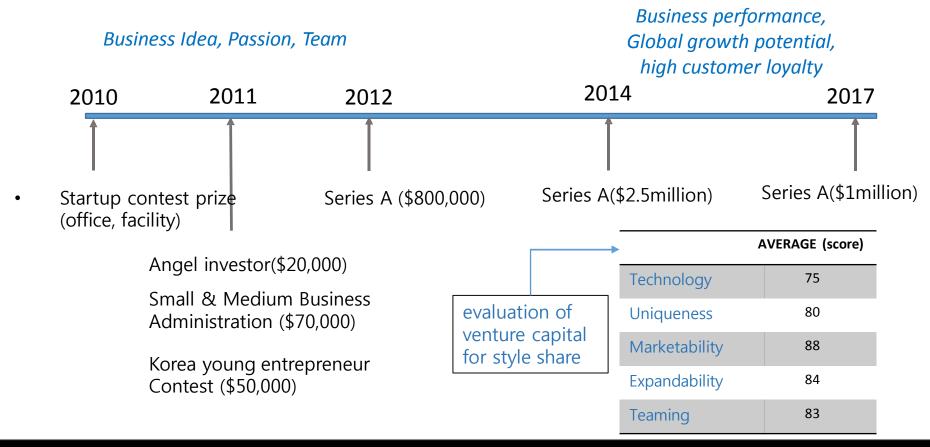
- Breakeven Achievement
- Online store open in 2016 April
- Cumulative annual turnover \$10million
- as of 2017, 6,000 apparel brands,
 300 shoe and bags brands,
 300 beauty brands
- Joint marketing with fashion company
- Development of styleshare own brand product

Member: 300,000 Member: 1,000,000 up Me

Member: 2,800,000 up

How did they procure the necessary funds?

- Establishing a company as an external resource
- The key to attracting external resources was initially business ideas, enthusiasm, and teaming
- After that, it is a substantial achievement related to business growth potential.



Who has been with?

- One of the biggest challenges of start-up is securing and retaining the right human resources
- The biggest difficulty of the CEO is that in the second year of the company's foundation, five out of seven team members quit at once.
- Constant self-learning: In the early days of the company's start-up, all team members spent four months in the start-up accelerator program Mass Challenge in the United States
- Having a great mentor from Angel Investor
- Aggressively recruit talented people. (More than two-thirds of the current workforce consists of experienced workers)
- Explore and utilize available government support policy(military service exception system)

How was ICT applied?



- In 2011, Mobile application developed for iOS and Android
- Utilizing open source for all development including homepage and service
 - Economy
 - stability
 - Performance
- Installing the server in Japan and Amason Web Server
 - Traffic
 (Weekly average revisit rate 78%,
 Upload 10,000 content a day 9
 00 million cumulative contents
 - Global service

Success factors

- Marketable business idea
- Competitive Services (User-centered UX, UI)
- CEO's Passion, Tenacity, Confidence
- Utilizing various business start-up support programs and networking
- Substantial business performances management



CEO of ANTCLABS Inc. Kyung-yeon Lee (Paris)

• 2015. 05. Invented BLTouch (Auto Bed Leveling sensor for 3D printers)

• 2015. 09. Launched BLTouch at Indiegogo

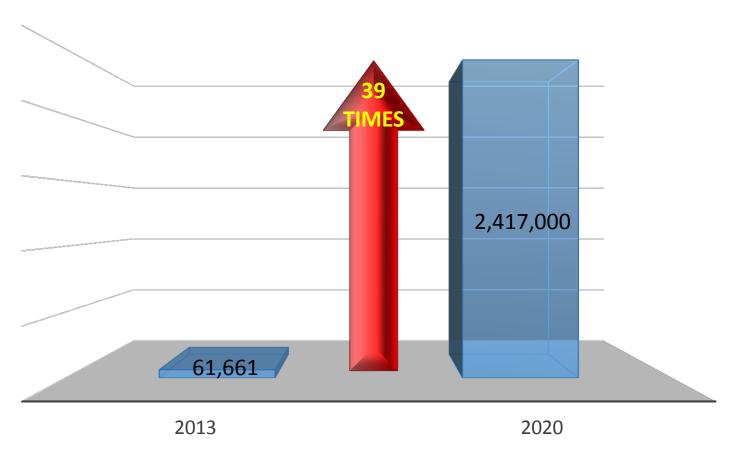
• 2015. 09.~ CEO of ANTCLABS

Awards

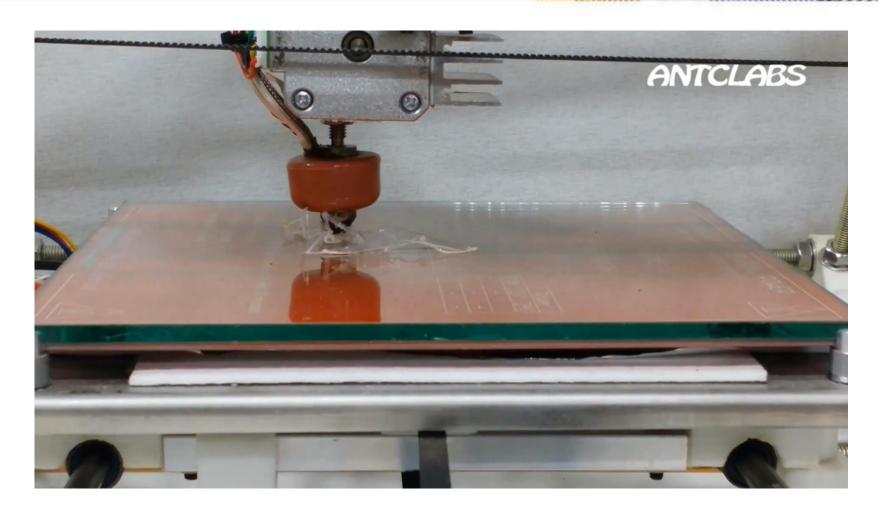
November, 2014	Two Gold Prizes, Seoul International Invention Fair
November, 2014	Grand Prize, Korean Intellectual property office
June, 2016	Gold Prize, Korea International Women's Invention Exposition
June, 2016	Prize of Minister of Science, ICT and Future Planning Republic of Korea

Business Model (BLTouch :: Auto Bed Leveling Sensor for 3D Printers)

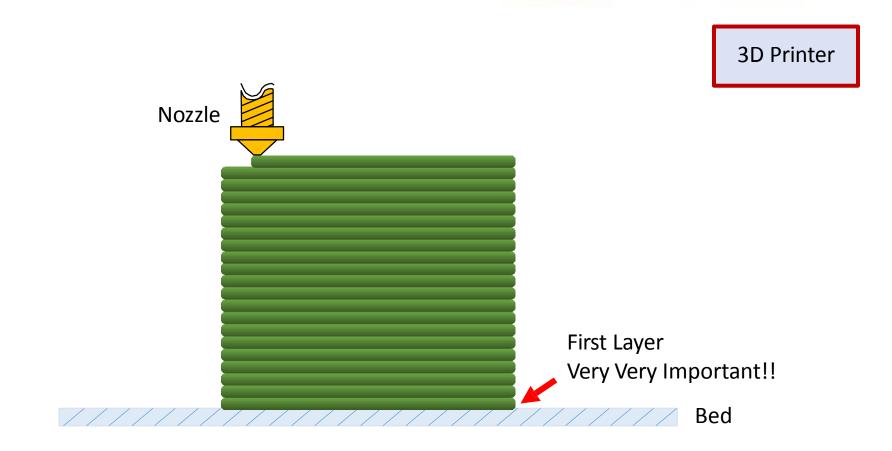


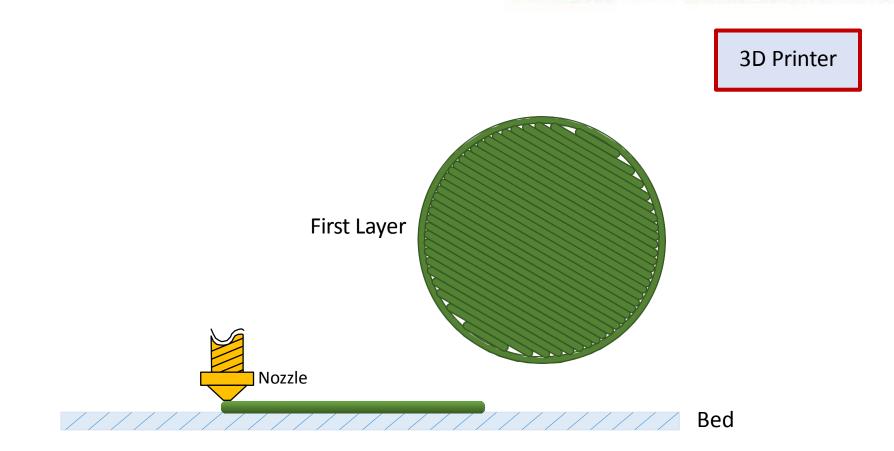


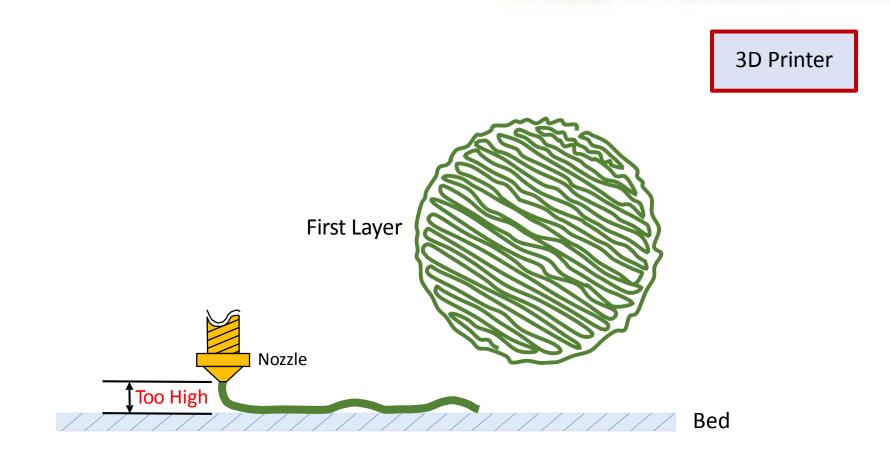
2016, Gartner

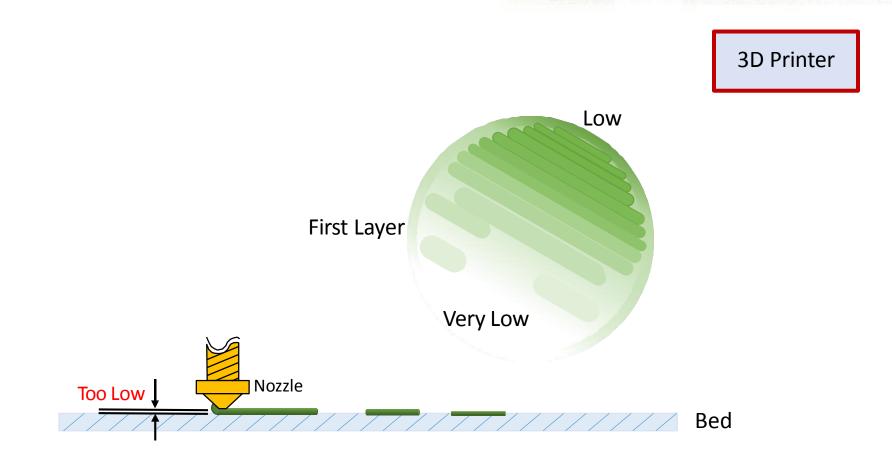


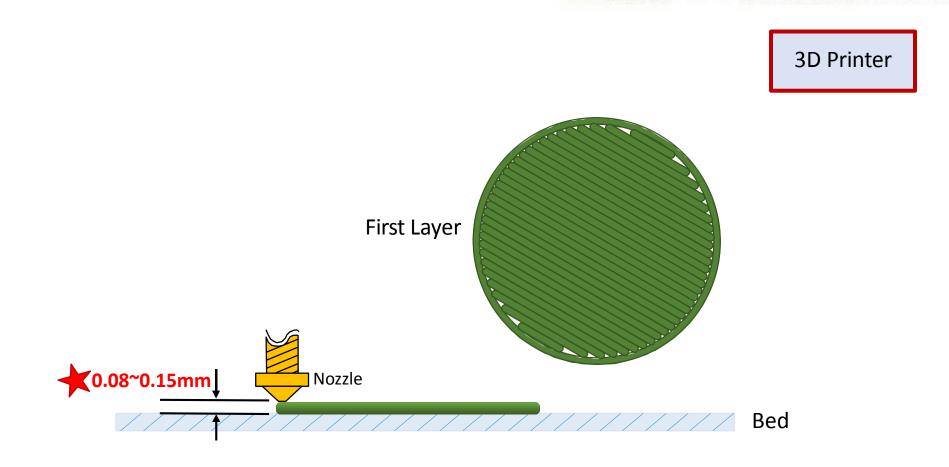
Bed Leveling is one of the most difficult things at 3D Printing.

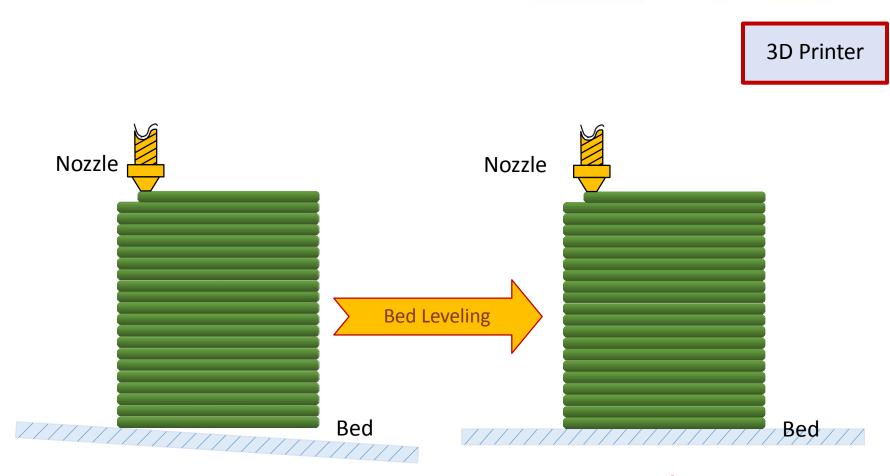






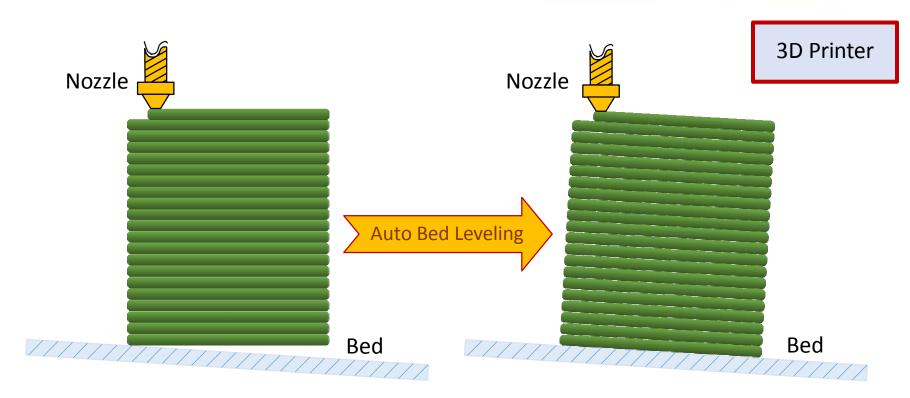






 $0.08^{\circ}0.15$ mm $\rightarrow 0.115\pm0.035$

<Hand-operated Bed Leveling system>



 $0.08^{\circ}0.15$ mm $\rightarrow 0.115 \pm 0.035$

<Auto Bed Leveling system>

For doing auto bed leveling, we need a sensor which one can detect accurately under ± 0.03 mm. Users want under ± 0.01 mm for good quality, but at 3D Printer environment, there wasn't before.

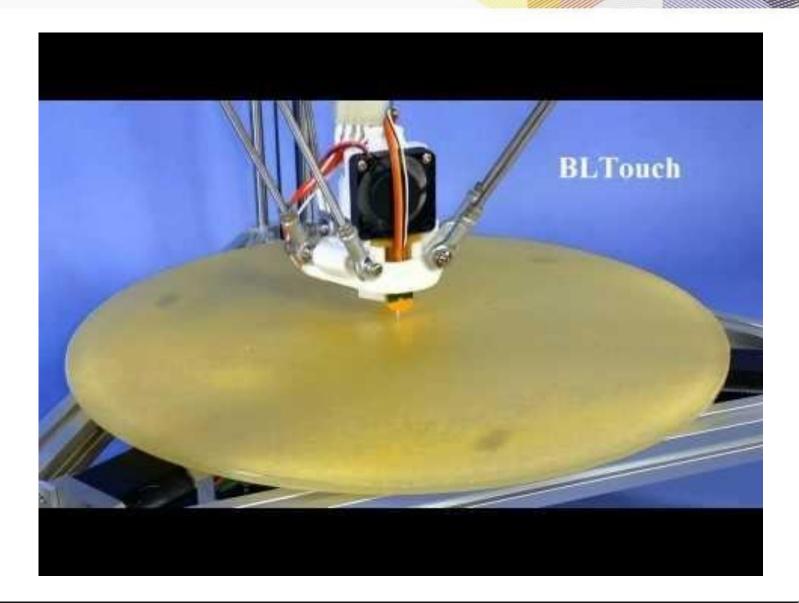
BLTouch: Auto Bed Leveling sensor for 3D Printers

√ business solution or product

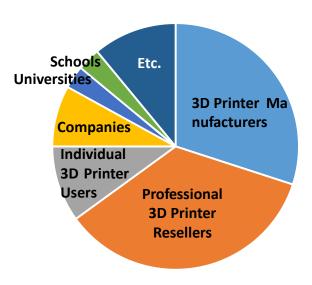


BLTouch: Auto Bed Leveling sensor for 3D Printers

- Standard Deviation: 0.001~0.01mm (Including Hall sensor)
- Working well at every bed material (Glass, metal, wood etc.)
- Smart, Simple, Small, Silence
- Launched at Indiegogo in September, 2015.
- Selected as one of the options at Marlin firmware
 (Most of 3D Printer users use Marlin for their 3D Printer firmware)
- \$38 USD

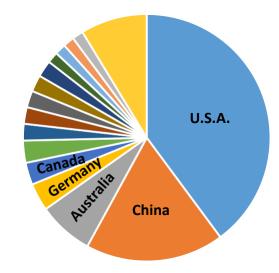


Who Purchase BLTouch?



- 3D Printer Manufacturers Profe
- ssional 3D Printer Resellers Indi
- vidual 3D Printer Users Compan
- ies
- Universities
- School
- Etc. (Governments, agencies, armies, etc.)

BLTouch is loved by over 80 countries in the world



- U.S.A.
- Australia
- Canada
- New Zealand
- Spain Denm
- ark Korea Si
- ngapore

- China G
- ermany
- United Kingdom
- France
- Italy R
- ussia J
- apan
- etc.

With BLTouch, your 3D Printing can be much more lovely and exciting experience!

Carboneplay Co., Ltd





AnySeok & Jae Up Ryu, Co founder, CEO

- June 2017.~ CEO & Founder of Carboneplay, Inc.
- Apr. 2017 ~ 6 month challenge fund award of Jeonbook Creative Innovation center
- jan 2016 ~ K-ICT start up mentoring center's ddicated mentoring

1. Motives for startup

Oriental stringed instruments comparable to Western stringed instruments



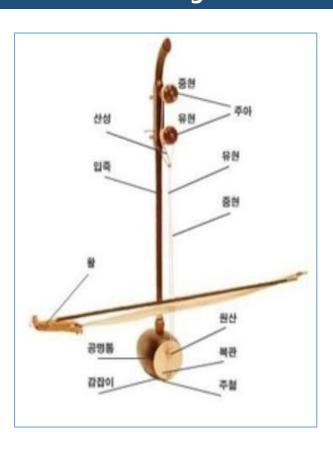




2. Business Model – find problem

Korea Traditional String Instrument "Haegum"

Limitation of Popularization & Globalization



Natural wood material – Easily broken

Difficult to keep and manage

Long production period (34days)

Difficult to maintain

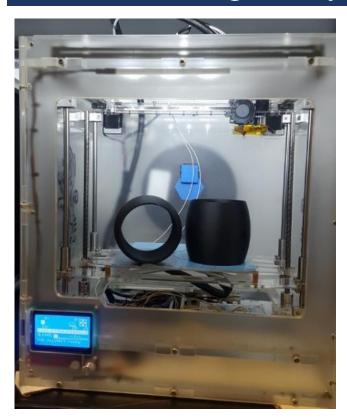
Uneven quality

Mass production impossible (high price)

Fixed playing with fixed Sound facility

3. Applying ICT Smart Technology

Carbone, Molding + 3D printing + Electronicize + Traditional lacquer





JeonbukCenterforCreativeEconomy&Innovation (Cultiv atedbyJinSooKim,SooYoungLee,ChungYealRyu) Co—mentoringwithHongJinRyu,YongPilKum

4. Current Progress — First concert

Sep. 25, 2017 in Hall of Korean Culture of Korea

Carbone-electric Haegum

Lead Popularization & Globalization



Carbon material - Excellent durability

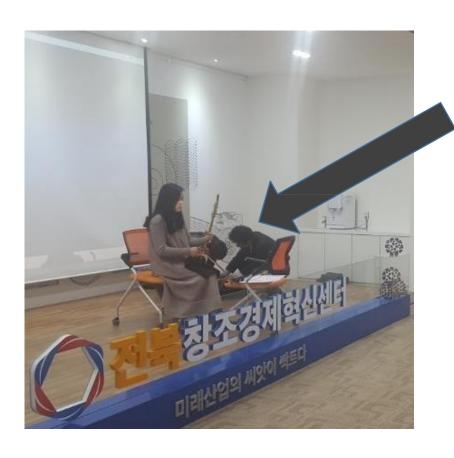
Molding, 3D printing (3days)

Self keep and manage Qualit

y uniformity guarantee

massive production(Ensure price competitiveness)

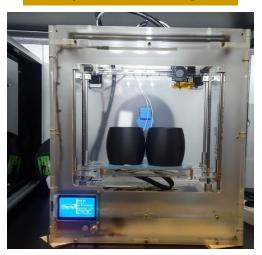
Sound control – Dynamic performance



Gaegum : Carbone + IT Pl ay case : IT convergence

- Two wide speaker
- 4 channel E.Q
- USB port
- Bluetooth for Mobile
- Reberve (nose limitation)

Mass production By 3D printing



Carbone electronic Ha eGum's player cultivation



Yun Sol Lee, 3rd grade elementary school

Carbone electronic HaeGum Performanece



Ueon Hean Go HaeGum player

4. Current Progress – Overseas marketing start

Carbon Musical Instrument Market Size

Global Carbon Musical Instrument Market : 2 ~ 3% of the composite market

► About 1 trillion







Culture - Country
Traditional - Industry
Children - Family

Economy

To cultivate and encourage for APEC Business Women And to make offline networking opportunity

2017 APEC BEST AWARD hosted by Russia



2017 The APEC Best Award's winner - Rika Yajima of Japan

6. Success Factors

I am not success!

Just to be successful women entrepreuner, I hope to be...
I'm R&D start up continuously

- Always looking for new things
- Not tied to one source & one technology
- Find new application areas of source technology + IT

Be accustomed to making concessions and waiting

7. Advice to start a business or give to women entrepreneurs

- Never giving up in any difficulty
- •To meet an expert for entrepreneurial spirit development However,

Must have an insight to judge whether the expert is genuine or not.

8. Policy Suggestion

- Advice to women entrepreneurs or people considering founding a new business
- To make business's collaboration support policy for APEC's female companies
- To Excavate and cultivate mentors for 4th Industrial business APEC's women start up
- Support APEC WEF 'VR interactive campus community with APEC WEF R&D platform

No. Dream. No. Future

2002 Korea – Japan Worldcup in held Korea



My 1st sun, 3rd & 2nd daughter & niece, before 15 years