

# Global Technology Commercialization Platform for KAIST GCC

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# Backgrounds: KAIST

- **Korea Advanced Institute of Science and Technology**
  - KAIST was established in 1971 to model a research focused university and to foster elite human resources in science and technology needed by the nation
  - 2015 QS Asian University Rankings: 3<sup>rd</sup>, World University Rankings 43<sup>rd</sup>

KAIST's core values are  
**Creativity and Challenge**

2015 QS World University Rankings:  
13<sup>th</sup> in Engineering & Technology, 43<sup>rd</sup> overall

REUTERS  
Ranked 10<sup>th</sup> in the World's Most Innovative  
Universities



# KAIST: Brief Statistics



Enrollment

**11,144**

Undergraduate 4,490  
Graduate 2,863

Joint M.S./Ph.D. 1,233  
Ph.D. 2,558



Degrees Conferred

**50,993**

B.S. 14,180

M.S. 26,603/Ph.D. 10,210



Faculty & Staff

**1,107**

Faculty 623

Staff 484



Annual budget

**KRW 749,121 million**  
(USD 661.8 million)  
(as of 2014)



Land covering  
1,154,029 m<sup>2</sup>

**Daejeon**  
Main Campus



Land covering  
279,007 m<sup>2</sup>

**Munji** Campus



Land covering  
110,360 m<sup>2</sup>

**Seoul** Campus



# Backgrounds: GII (Global ICT Innovation) Network

- IT-customized international scholarship education program for foreign countries
- ITTP (IT Technology Program) at KAIST
- ITPP (IT Policy Program) at Seoul National University
- 263 members from 66 countries (Nov. 2016)





The background of the slide is a photograph of a large, modern building with a curved glass facade and multiple stories. The building is surrounded by greenery and trees. The sky is clear and blue.

# Global Technology Commercialization over GII Network: KAIST GCC

KAIST GCC is a Global Commercialization Center established in 2015 to promote technology commercialization between Korea and foreign countries.



# KAIST GCC

- KAIST GCC focuses on ICT and scientific technology fields and provides global commercialization opportunity to domestic as well as foreign research institutes, SMEs and venture firms.

KAIST

## Vision, Mission, and Core Value with Strategy

1  
VISION

- Creating innovative economic value through the technology transfer and global technology commercialization

2  
MISSION

- Transferring technology for commercialization into value creation
- Bridging the R&D Institutes, SMEs to the demands of emerging countries

3  
GOAL

- Satisfying partner countries' demand and potential needs, not givers
- Revitalizing ICT R&D performances of Korea into value creation of demands

4  
STRATEGY

- Pursuing strategic development and cooperation among R&D Institutes, SMEs, Ventures, KAIST ITTP program, and developing countries

2015. 10. 23 (Fri)

Lotte City Hotel

ITTP





# Five Key Strategies: Critical Success Factors

## Demand Pull

- Focus on Market oriented Demand Pull rather than Technology Push

## Sustainable Consulting

- GCC will provide sustainable business support including consulting with partners to ensure continues success

## Industry-driven

- Encourage efforts led by industry to accelerate commercialization based on the highly marketable products, pursuing a mutual benefit

## Regional Hubs

- Build a cooperative partnership with localized Hubs who may support GCC Program implementation

## Trust Network

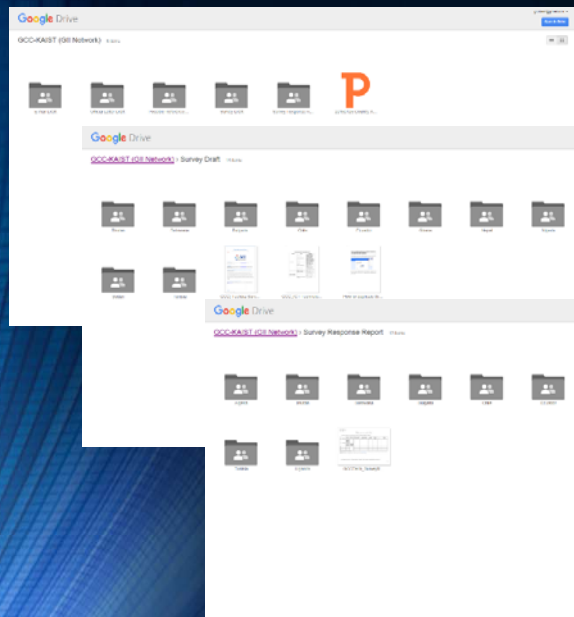
- Collaborate with GII Network which has a worldwide scope based on reliable relations with foreign countries





# Demand Pull: Focus on Market oriented Technology

Searching technology demand of partner countries and matching domestic technology for promoting technology commercialization



- Constructing cooperative network between GCC and regional hubs
- Surveying specific technology demand in developing countries (GII Channel)
- Searching tech & demand in Korea (KAIST, ETRI, KISTI, NIA, KETI, etc.)

## 1<sup>st</sup> Phase Target Tech.

## 2<sup>nd</sup> Phase Matching Tech.

- Identifying target tech. at business and product level
- Matching tech. to technology demand
- Constructing DB for target and matching tech (GCC technical information DB)

- Selecting participate company based on matching technology
- Commercializing business tech. in local community
- Suggesting business model
- Consulting service

## 3<sup>rd</sup> Phase Business Tech.







# Governmen

Ministry of  
Economy,  
Industry &  
Commerce

University of  
CR,  
Incubation  
Centre  
"Auge"

TEC  
Institute  
"CIETEC"

# Academy

National  
University  
"INCUBA"

Open  
Future  
(Telefonica,  
MICITT,  
MEIC)

## Industry

Carao Ventures

ICT Chamber  
(Company  
Union)





# Methods for Technology Commercialization



PL

## Product Localization (PL)

- There is an ICT product or service, however it requires support for the commercialization process in the domestic or foreign market -either in Korea, Asia, Africa, Latin America, for example. A joint business model is developed where profit is shared between the parties. (Ex: GoPato)

CP

## Co-Project (CP)

- Looking for a "partner" with sufficient technical expertise to collaborate in order to commercialize a product or service. A collaboration initiative is started where the parties work together to develop a business product or service and commercialize it. (Ex: NTIS)

TT

## Technology Transfer (TT)

- There is a business idea that requires some specific technology. Developing countries may receive the technology or intellectual property as well as training to develop a product or service in their country. (Ex: ETRI, KAIST)



# Industry-Driven: Encourage efforts led by industry

Encourage efforts led by industry to accelerate commercialization based on the highly marketable products, pursuing a mutual benefit

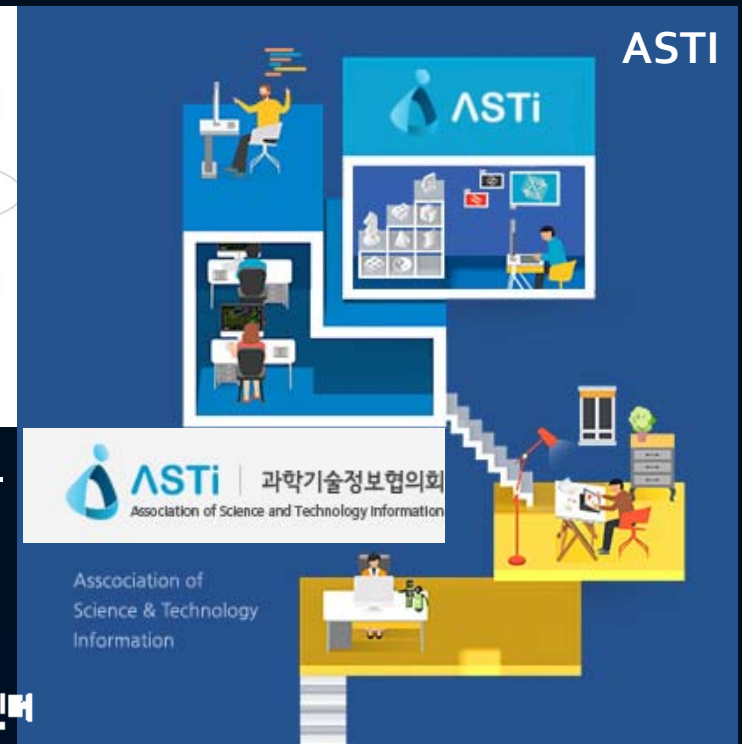


Techno Park

18



Creative Economy Innovation Center





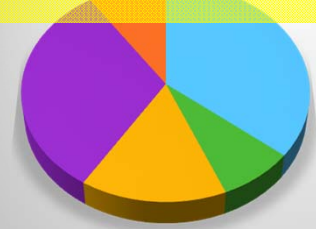
# Trust Network: GII Network

GII(Global ICT Innovation) Network enables to reach partner countries with 263 members from 66 countries as of Nov, 2016.

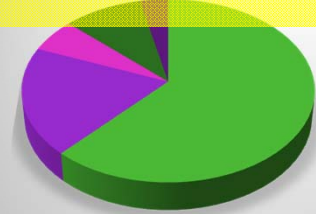


[http://gii.kaist.ac.kr/html/kr/gii/index\\_2.html](http://gii.kaist.ac.kr/html/kr/gii/index_2.html)

No. of Students



Job Classification



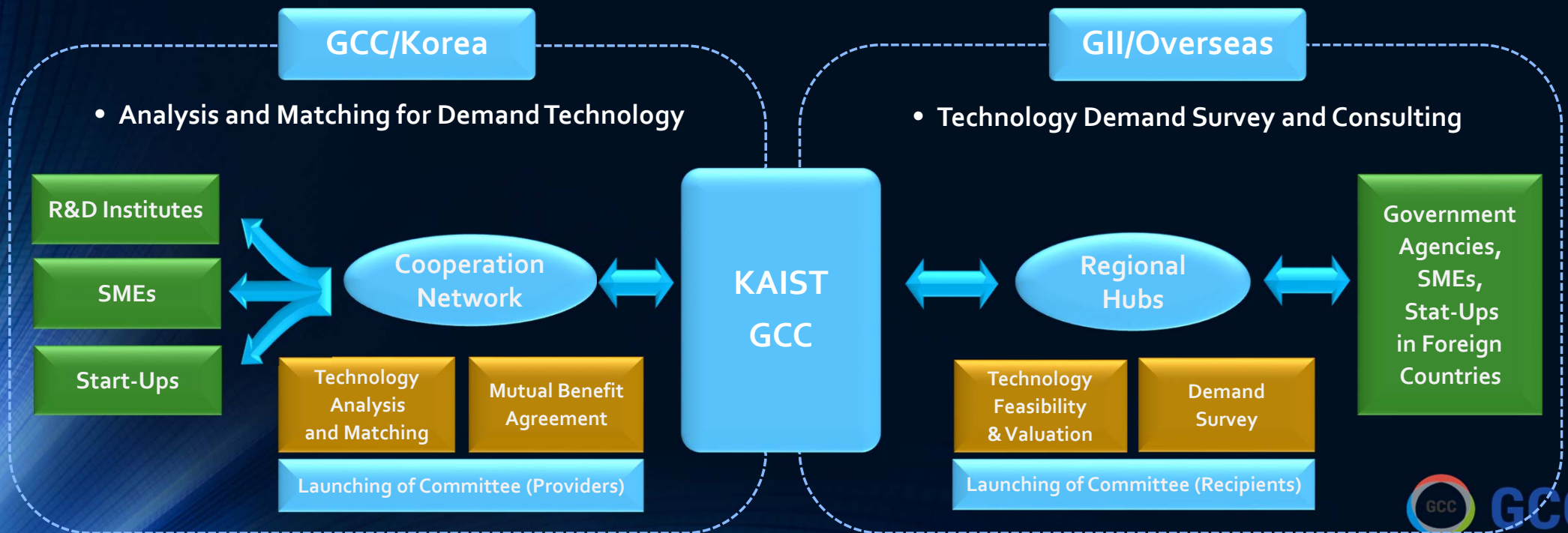
No. of Countries





# Regional Hubs: Localized entities who may support GCC Program implementation

- Conducting technology demand survey with GCC in the region
- Identifying and bridging high-potential collaboration and feasible business opportunities
- Consulting for the matching technologies (Feasibility Study and Business Model) with GCC



# Regional Hubs: On-site representative of GCC

- RHs may come from public, private or academic sectors:
  - Venture Capitalist Agencies, Incubator Parks, Consulting Firms, Industry-Cluster Organizations, Government Agencies



- RHs can have different natures and profiles, and their benefit and motivation to collaborate with GCC, may differ accordingly





# Sustainable Consulting:

GCC will provide sustainable business support including consulting with partners to ensure continues success



# Case Study:

## Smart Energy Cooperation Program

### Stakeholders

Costa Rica: ICE Group (Costa Rican Electricity Institute)  
Korea: KAIST GCC, POSCO ICT, JoongAng Control
























# Charg EV app





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<https://www.youtube.com/watch?v=33p0UCh90s>

Electricidad ICE



# Case Study: Smart Farm in Mongolia

## Stakeholders

Mongolia: MEGO, Micorciti, Ikh Tiin Group

Korea: KAIST GCC, ETRI, InVaKo, Shinhan A-Tec, Jeil Seed













## Greenhouse Management System

Monitoring Growth Control Growth Diary Issue CCTV Configuration

Ulaanbaatar Farm ▾

Greenhouse 02 ▾

### External sensing info

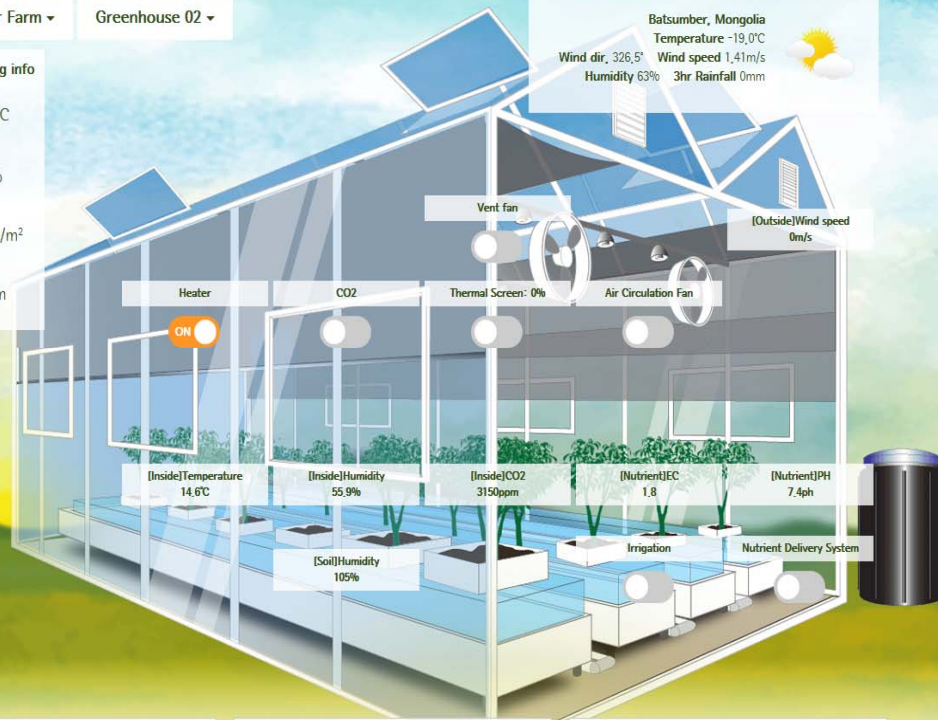
 -26.0 °C  
Temperature

 78.0 %  
Humidity

 42.0 w/m<sup>2</sup>  
Insolation

 0.0 mm  
Rainfall

Batsumber, Mongolia  
Temperature -19.0°C  
Wind dir, 326.5° Wind speed 1.41m/s  
Humidity 63% 3hr Rainfall 0mm



### Growth Diary [more](#)

Start Date	Time1	Time2	Greenhouse
2016,11,07	10:00:00	17:00:00	Greenhouse 02

### Alert [more](#)

GCG ID	Time	Status
5002	2017-01-16 18:50	Yellow

### Issue [more](#)

Greenhouse	Date	Progress
Greenhouse 01	2016,09,14 18:50	Processing





# Proposed & Ongoing Projects

- **Smart Farm: Agricultural Innovation by Connected Farm**
- **Smart Grid: Effective Management about Energy Generating, Storing and Consuming**
- **NTIS: National Science and Technology Information Service**
- **New Materials: Copper/Graphene Combination, Hydrogen Generation & Storage**
- **Cyber Security: National Broadband Network Security**
- **AR(Augmented Reality) based Contents Production Technology**
- **Smart Factory: Advanced Manufacturing and Smart Factory Applications**