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Leading ICT
Creating a Better Future

ETRI Technology Commercialization in China & Opportunities

ETRI Beijing R&D Center
Director, Son Iksoo

iksoo@etri.re.kr

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**I . New Opportunities in China
– New Infrastructure Plans –**

II . ETRI in China



I

New Opportunities in China

– New Infrastructure Plans –

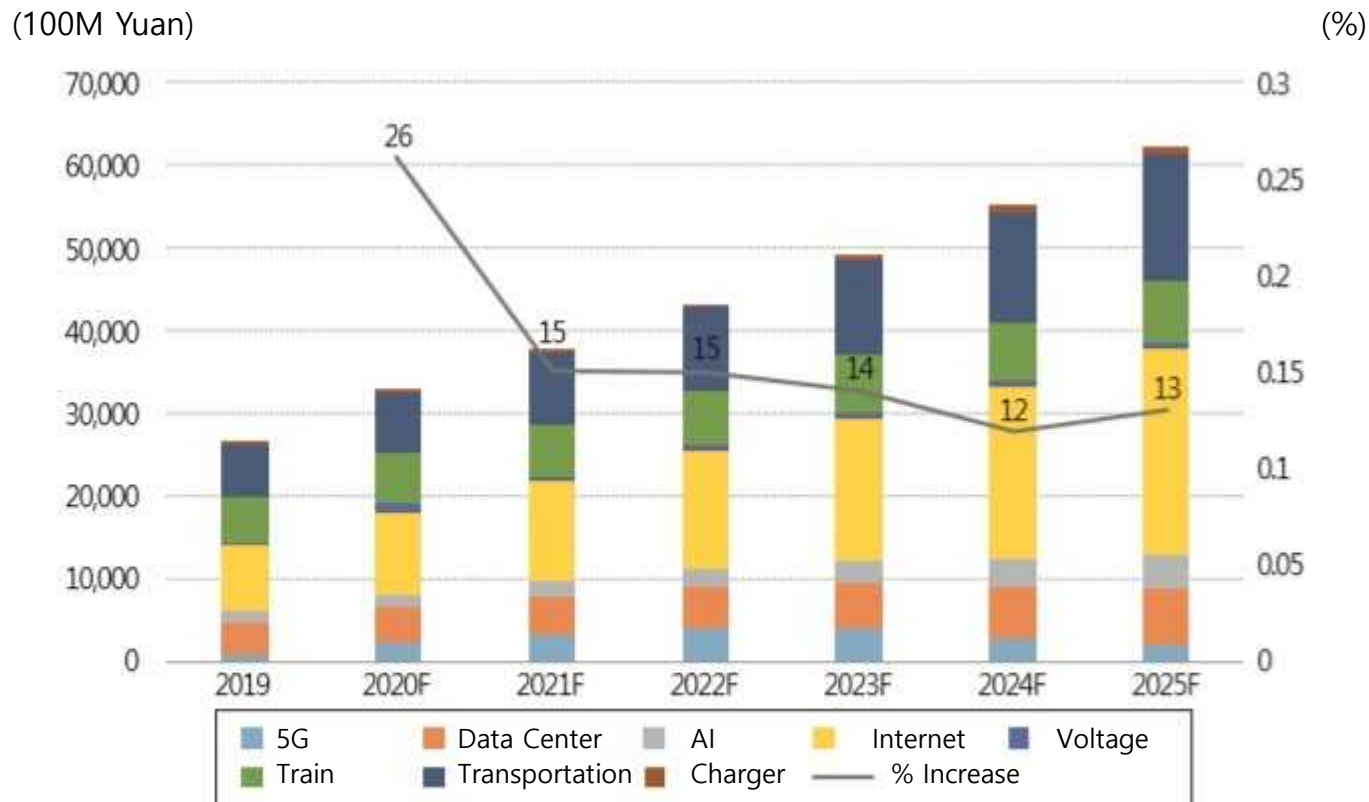
- ✓ China is doubling up on 'new infrastructure investments' in a bid to position itself as a high-tech powerhouse in the post-Covid-19 world
- ✓ As part of its plan to build "new infrastructure", the country is shoring up investments in 7 Sectors, such as 5G, AI, Cloud computing and other smart solutions built on existing infrastructure.

<Key sectors and goals in China's new infrastructure initiative>

Sectors	Goals
5G Infra-structure	Build 5G base stations - 600K by 2020 - 4.6M by 2025
AI	Build 20 AI innovative trial zones by 2023
Big Data Centers	Build super-data centers and edge computing data centers by 2025
Industrial internet	Build 3~5 world class industrial platforms by 2025 to make a million enterprises make digital transformation

Sectors	Goals
Ultra-high voltage	Begin up to 16 ultrahigh-voltage construction in 2020
Intercity high-speed rails and rail transportation	Expand railway network by more than 4,000km in 2020, including 2,000km for high-speed rails
Electric vehicle charging infrastructure	Add electric vehicle charging stations - 12,000 in 2020, - 36,000 by 2025

- ✓ Chinese economic stimulus package during 2008 financial crisis was about 4 trillion Yuan
- ✓ New infrastructure investment stimulus plan for Covid-19 (~2025) is estimated about 34 trillion Yuan
- ✓ 3 trillion Yuan in 2020 and increase about 15% every year until 2025.



Source : 中泰证券研究部 (2020) , 反弹买什么? 新基建、新消费和生物安全法

- ✓ Need to recognize and utilize the roles of central government, local governments and companies
- ✓ Central government identify national policy direction, local government deliver specific objectives and actions and private companies will participate in the plan
- ✓ For example, Shanghai local government decide to invest 270 b Yuan, while private companies need to participate with 210 b Yuan

<Shanghai New Infra Investment in 4 Sectors>

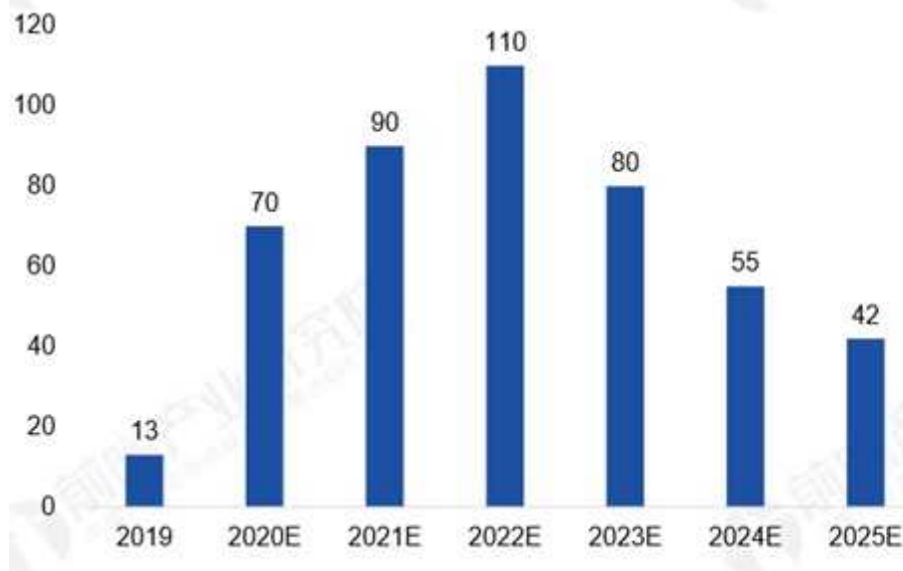
4 Sectors	주요내용
New Internet	<ul style="list-style-type: none"> • Un-manned system such as Smart Factory, autonomous driving using 5G Platform
New Infra	<ul style="list-style-type: none"> • Build Innovation Center oriented on 3 High Tech Industry (Semi-conductor, AI, BIO technology)
New Platform	<ul style="list-style-type: none"> • Construct next generation computing platform, AI platform
New Smart	<ul style="list-style-type: none"> • Smart industry on education, consumer, transportation, logistics and medical

출처: 上海市人民政府, 上海市推进新型基础设施建设行动方案 (2020-2022)

- ✓ To build 4.6 Million 5G Base Station during 2019-2025
- ✓ Investment about 628 Billion Yuan (About 94 Billion Dollar)

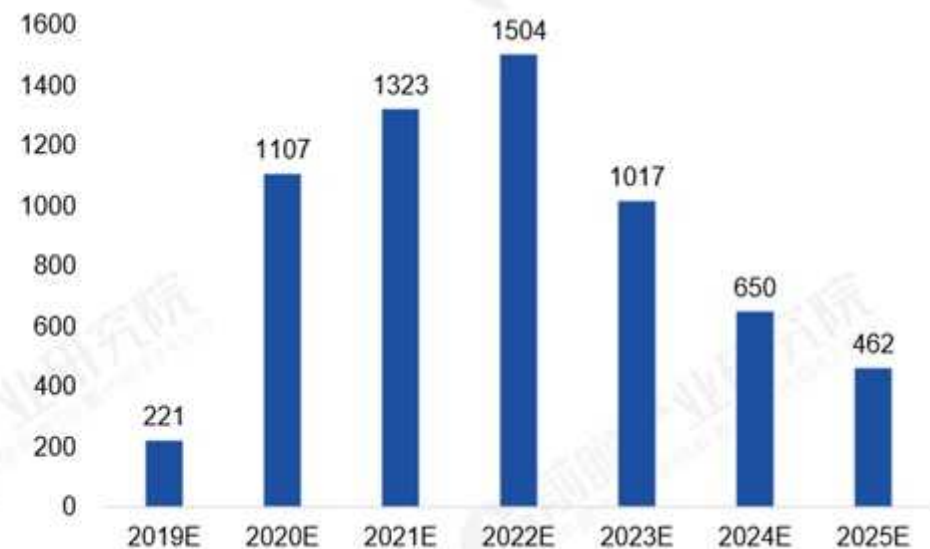
<No. of New 5G Station (2019-2025)>

(Unit: 10,000)



<Investment on New 5G Station(2019-2025)>

(Unit: 100M Yuan)

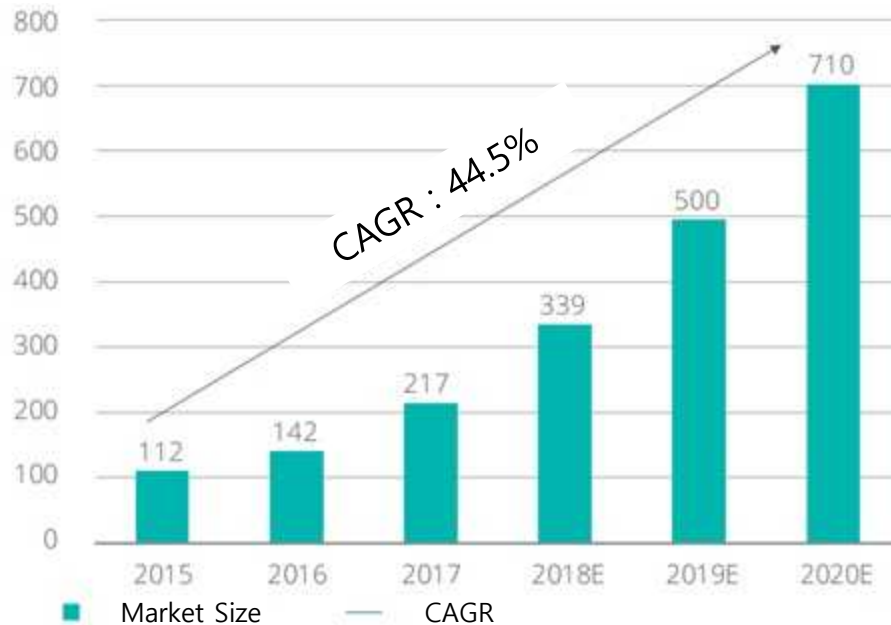


Source: 2020年中国新基建产业报告, 前瞻产业研究院, 2020.4

- ✓ Fast growth industry, CAGR 44.5% compare with 26.2% World average
- ✓ 710 Million Yuan (about 11 Billion US Dollar) in 2020.
- ✓ 11 Trial Zone in 2019 (Beijing, Shanghai, Tianjin
- ✓ Expected to increase to 20 trial zone by 2023

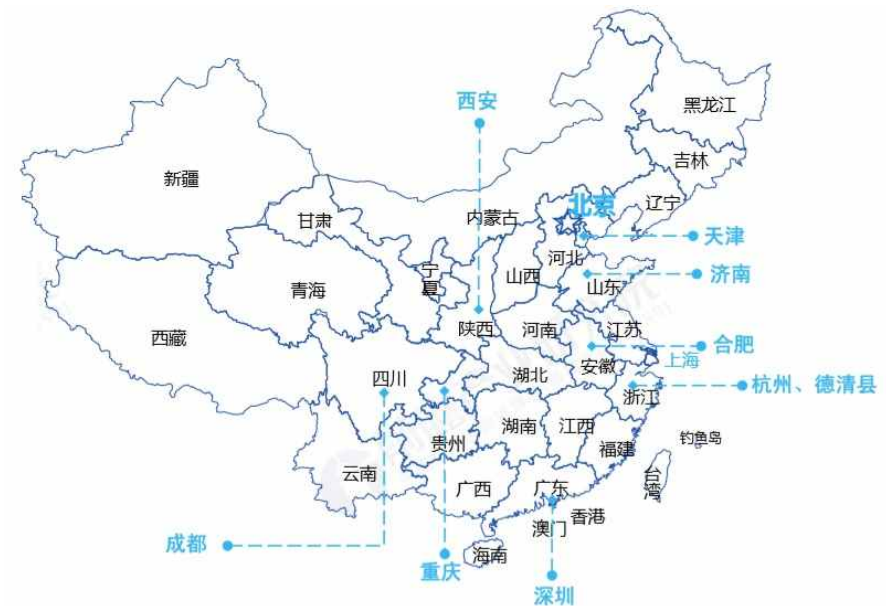
<AI Market Trend in China >

(Unit: 100M Yuan)



Source: 中国人工智能产业白皮书 中国信息通信研究院, Deloit 2018

<AI Trial Zone in China>



Source: 2020年中国新基建产业报告, 前瞻产业研究院, 2020.4

- ✓ Data is a key resource in production. Large amount of data produced through IoT, Industry Internet, e-commerce and need to be stored
- ✓ 370 Billion Yuan of market in 2019, expected to reach 707 Billion Yuan (about 105 Billion US Dollars) in 2025
- ✓ Alibaba Cloud retains leading share of 40.1% Market share in cloud service market. Top 4 players (Ali, Huawei, Tencent, Baidu) makes 79% of the market.

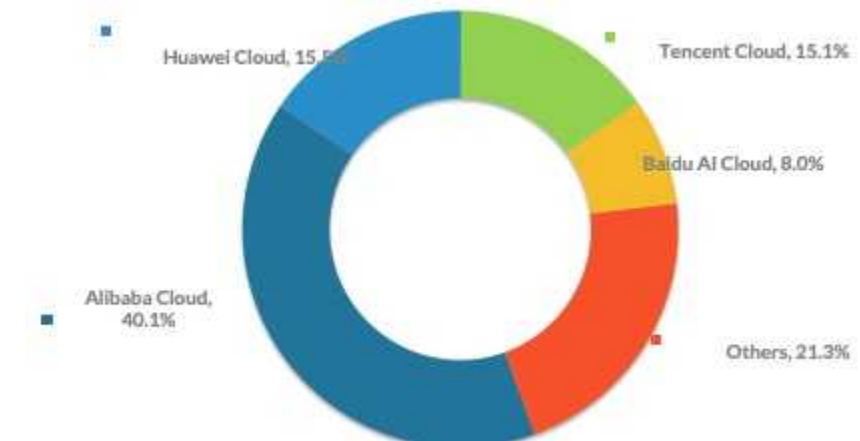
<Chinese Cloud Investment (2018-2025)>

(Unit: 100M Yuan)



source: 2020年中国新基建产业报告, 前瞻产业研究院, 2020.4

<Cloud Service Market Share (2020Q2)>

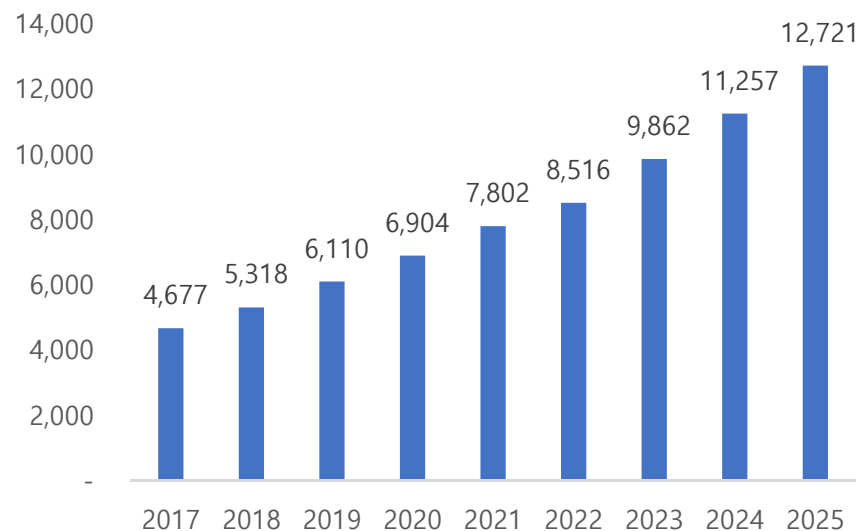


source: 中国信息通信研究院, 前瞻产业研究院

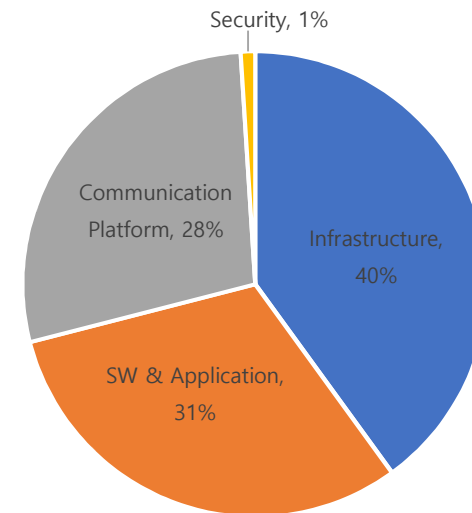
- ✓ Emphasis on building '5G + Industrial Internet' in 2020
- ✓ Build 3~5 World Class Industrial Internet Platform by 2025

<Industrial Internet Market Trend (2017-2025)> <Industrial Internet Size of Sectors >

(Unit: 100M Yuan)

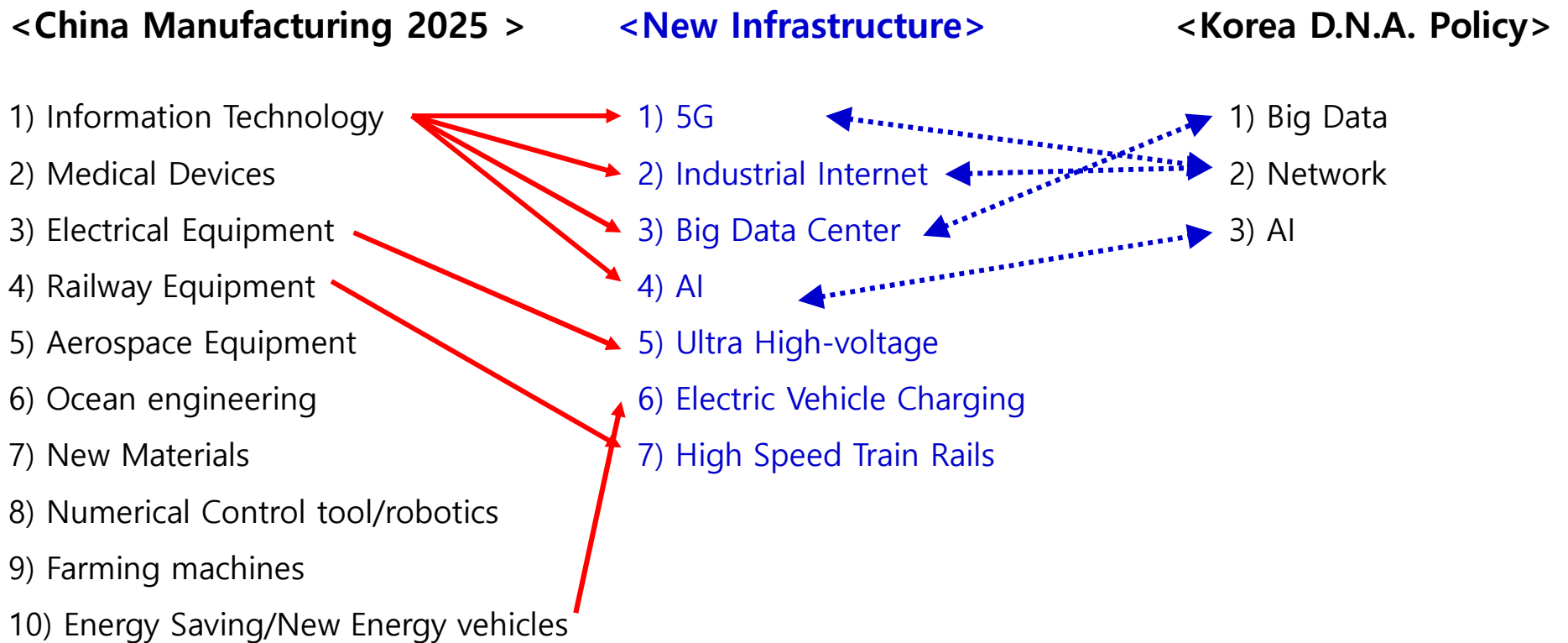


source: 前瞻产业研究院



source: 前瞻产业研究院

- ✓ Cross-Relationship comparison between Manufacturing 2025 Plan, New Infrastructure Investment and Korea's DNA Policy



✓ Business Opportunities ;

1. Unprecedented investments in new digital infrastructure
2. Increased exports and cooperation opportunities in New Infra Industry as Chinese government promote and reinforce its sectors by inviting foreign investors
3. Incentives to foreign companies that invest in the encouraged industry

✓ Strategies for Korean Companies;

1. Need to have competitive advantages (differentiation, costs, focus)
2. Need Market Study before hand to prioritize which province to enter
3. Need to find appropriate business partners
4. Fully utilize Chinese government's incentives packages

II

ETRI in China



Vision : National A.I Research Institute Making a Better Tomorrow



- **Founded in 1976**

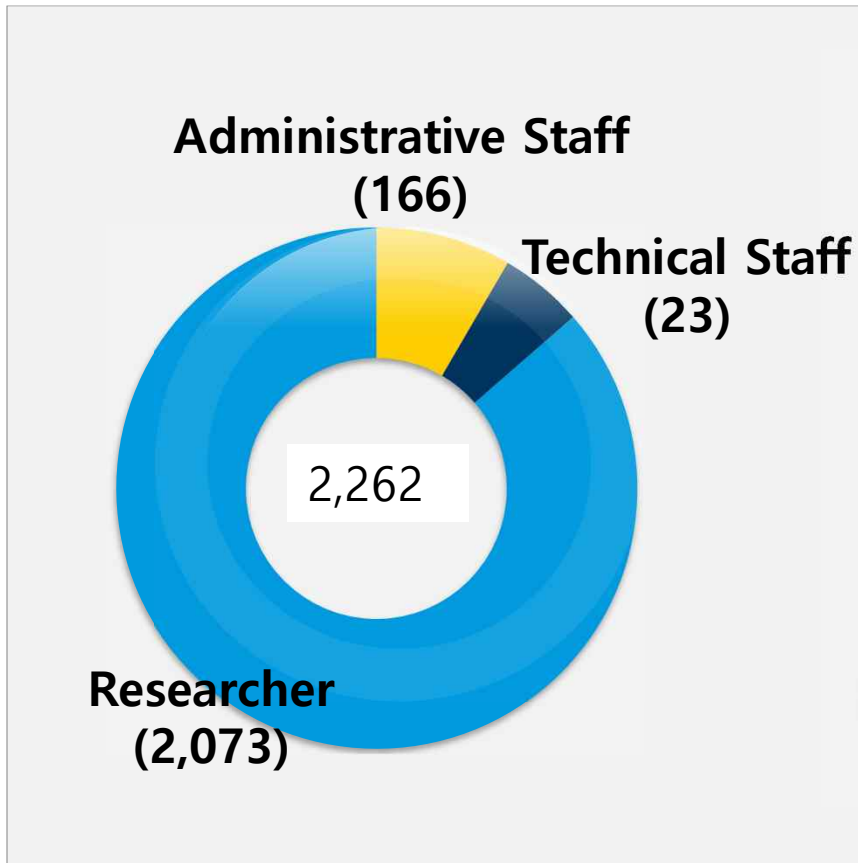


- **Head office :DaeJeon, Korea**
 - 3 branches, 2 overseas offices (USA, CHINA)

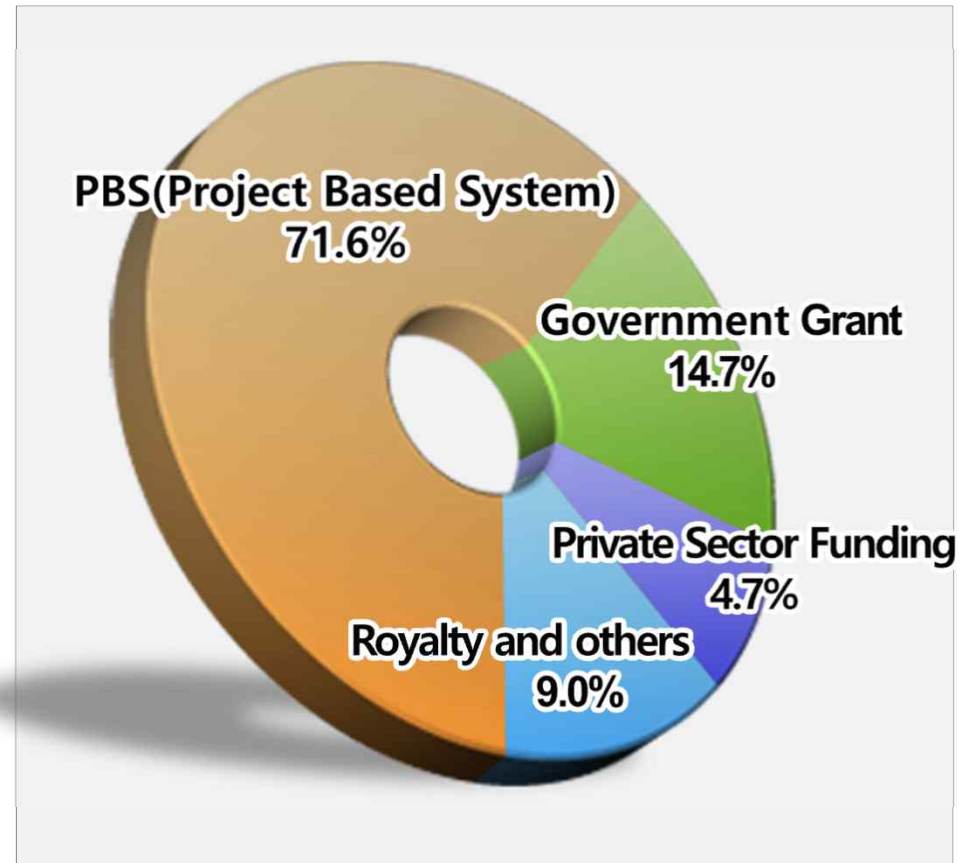


- **Scope of area**
 - R&D in ICT area
 - Strategic Planning for national R&D Policy
 - Engineering support for SMEs
 - Leading international standardization activities

Total : 2,262

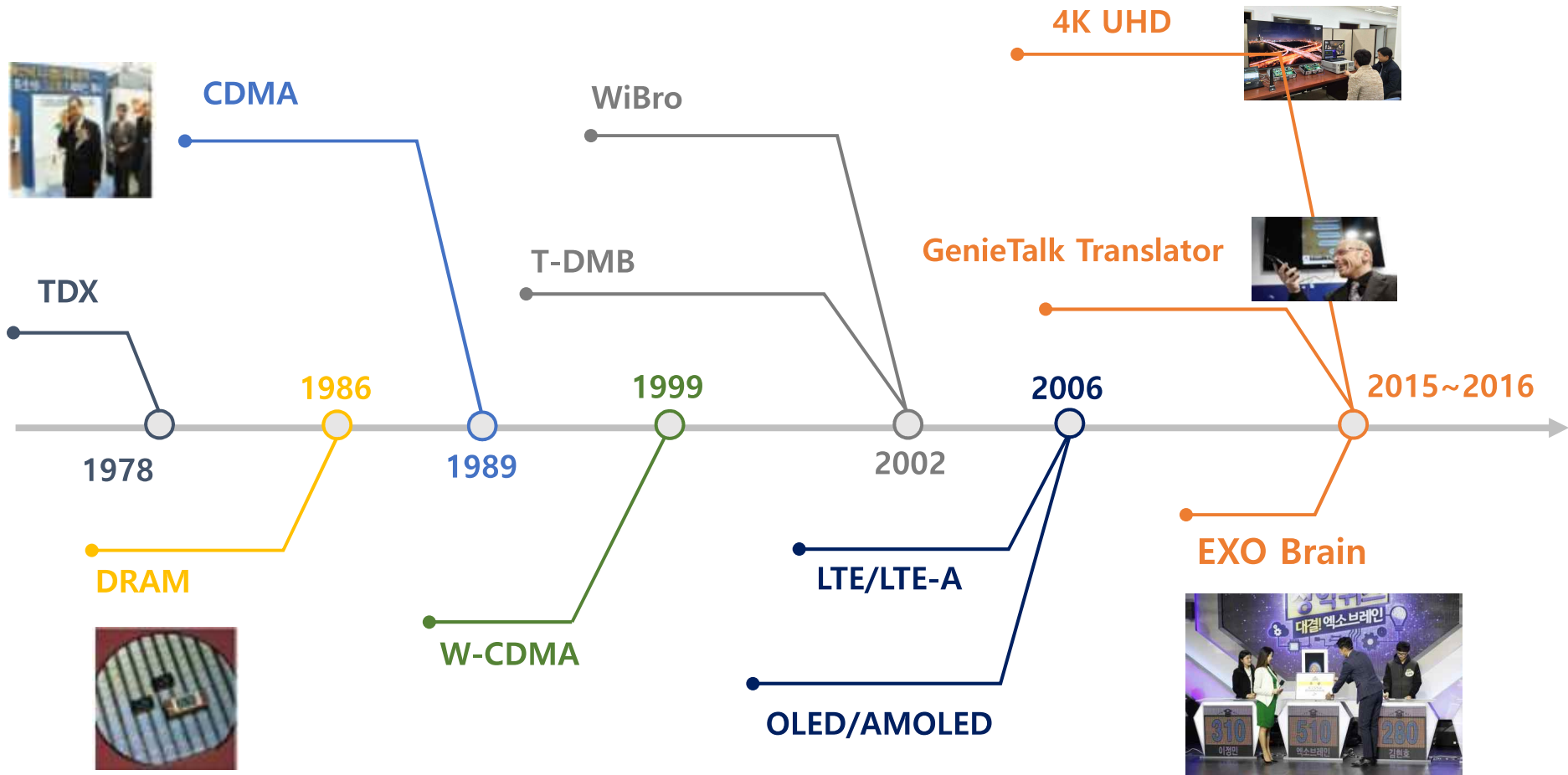


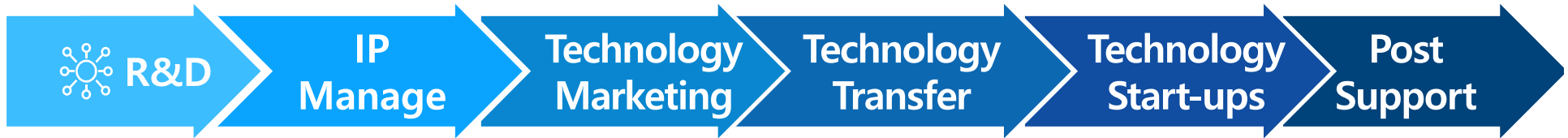
R&D Budget: 564 Million USD



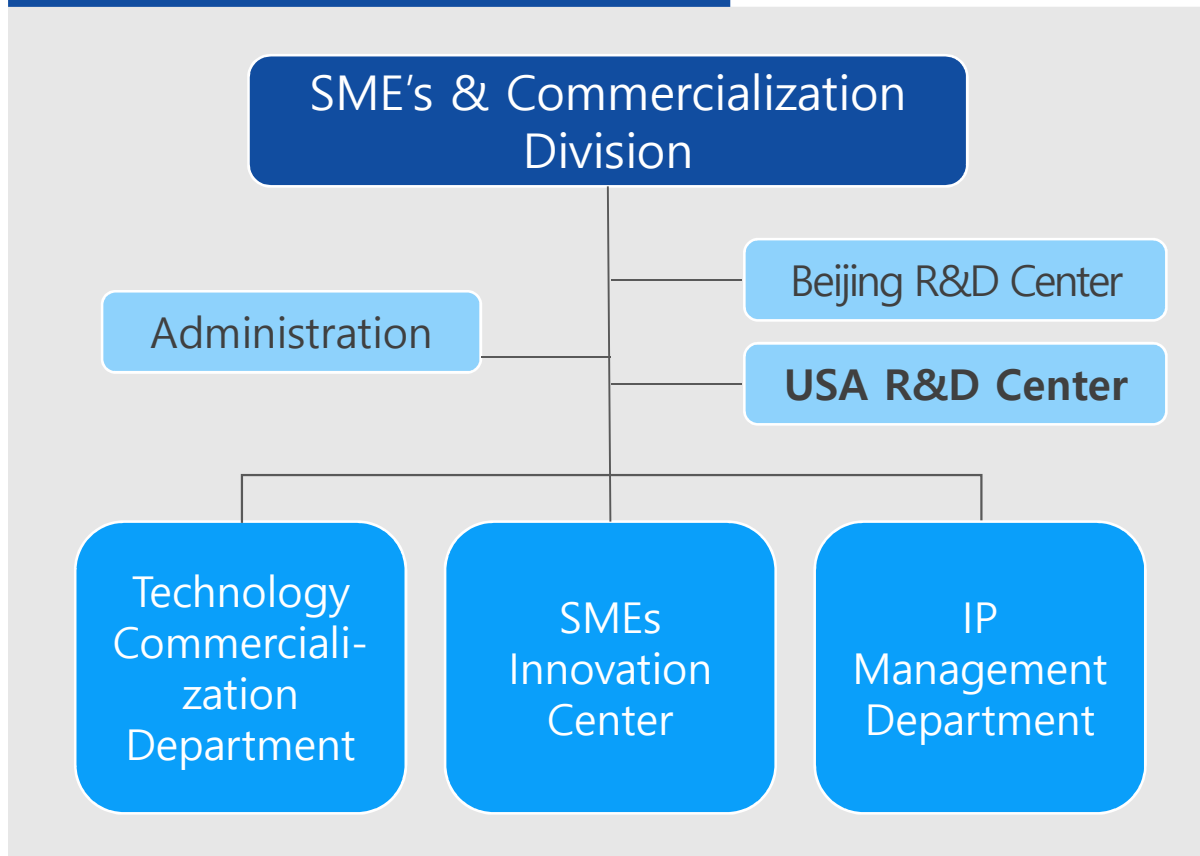
Ph.D.: 1,115(50%), MA: 981(43%)

CDMA to GenieTalk

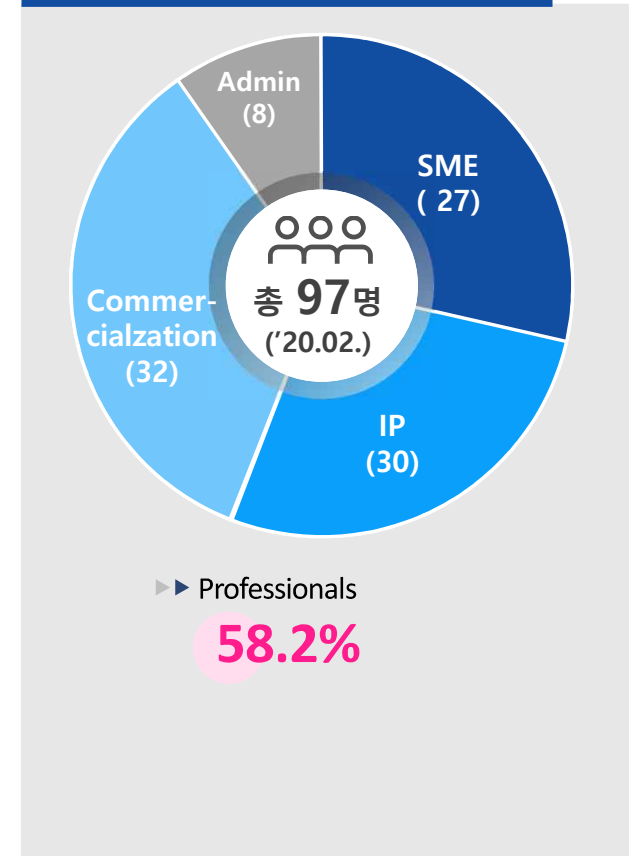




Organization Chart



Employee



■ 5 year Acc. (15년~19년)

- Patents : 14,653
- Transfer : 166M Dollars
- Partners : 2,398
- Start-ups : 42

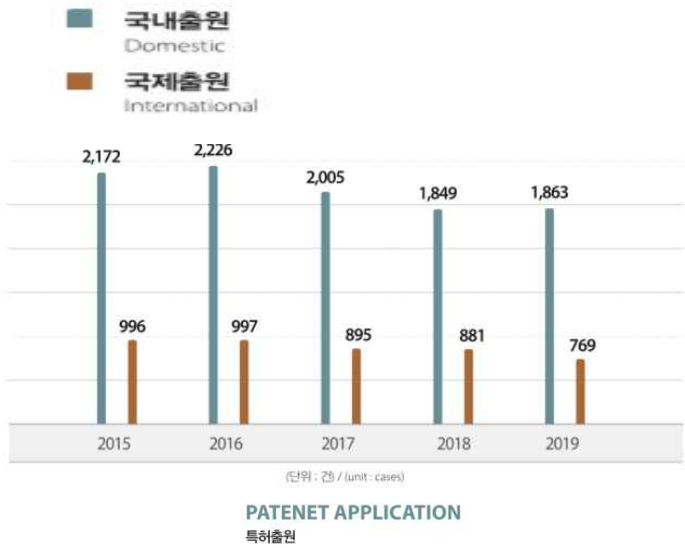
Achivement

42
Start-up

3
Exits

M&A 1

IPO 2



Introduction

- Founded : January 2002 (Beijing)
- Mission : ① Promote Korea-China Cooperation
② Promote ETRI Technology (Direct & Indirect)
③ Support Korean SMEs in China

① Cooperation Partners

- Government – Ministry of Science & Technology (CSTEC),
- National Development & Reform Commission (International Center),
- Ministry of Industry and Information Technology (CAICT)
- Local Governments - Qingdao, Jiangsu, Yancheng, Hefei, Jiaxing etc
- Organization – Tqinghua Holdings, China Technology Exchange, ITTN, etc

(ETRI-Tqinghua Uni. MOU
with Minister Choi Moonki)



(ETRI-Tqinghua Holdings MOU
with Minister Choi Yanghee)



② Promote ETRI Technology (Direct & Indirect)

- (Technology Promotion) Promote ETRI's technologies in various seminars/forums
- (Exhibition) ETRI technology exhibition with various Chinese partners
 - Display various products together with Chinese/Korean partners
- (Technology Transfer) Technology Transfer direct & indirect(through Korean companies) for successful commercialization in China

[3D Exhibition Center]



[VR Football in Nanguan School]



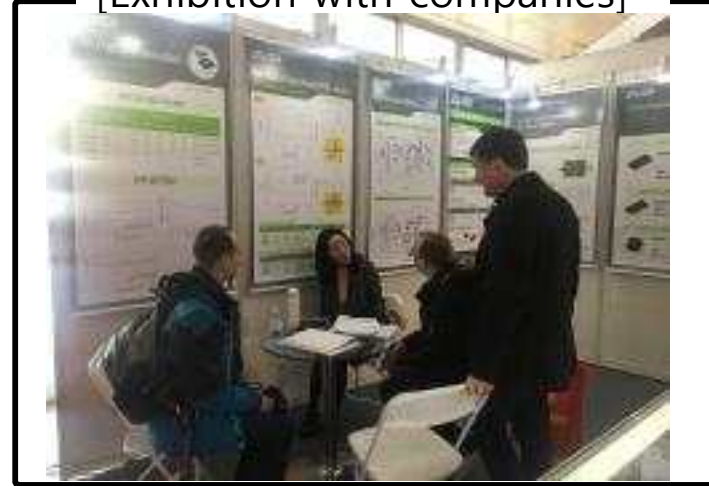
② Support Korean SMEs to Chinese Market

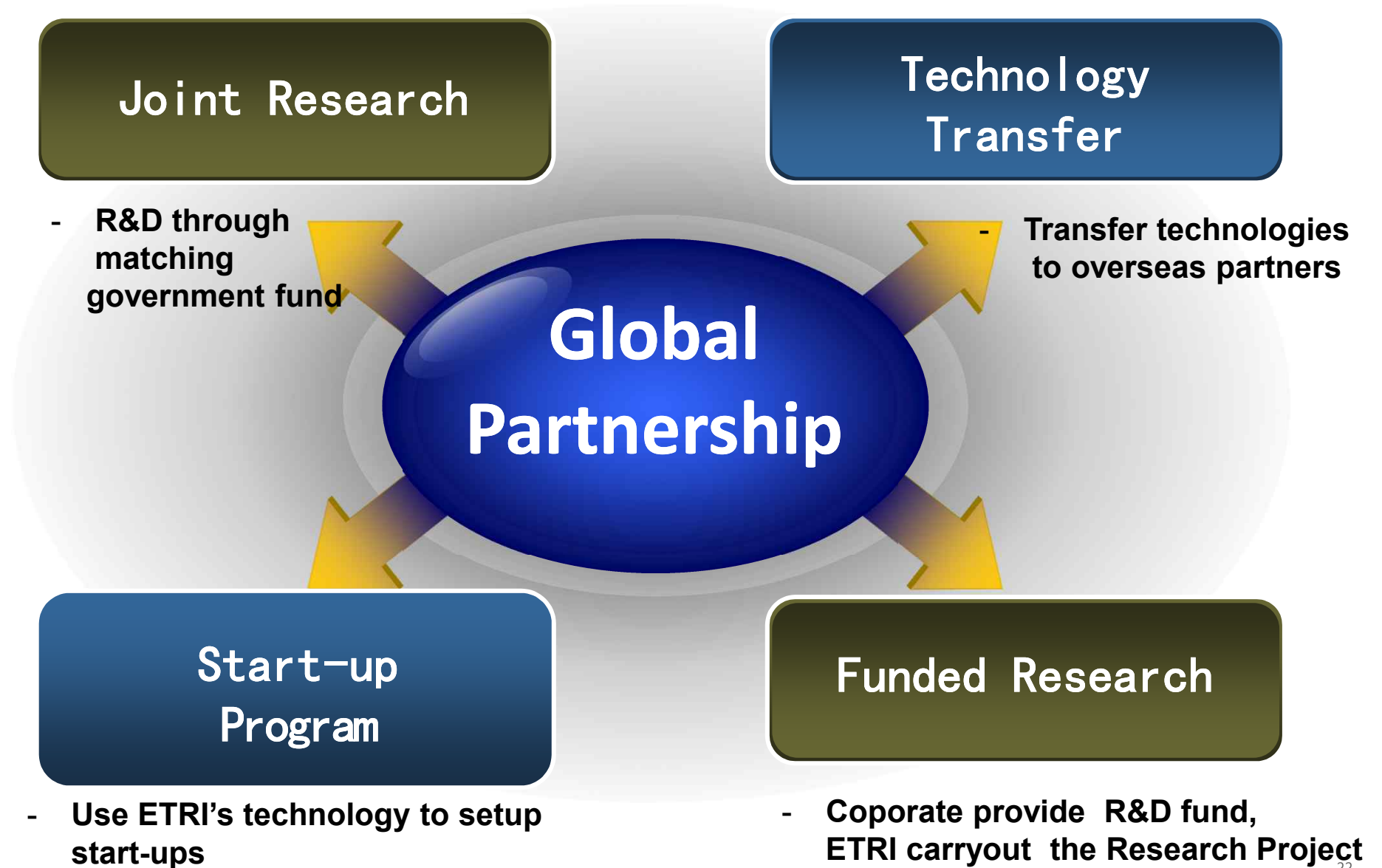
- (Target) ETRI partner Companies (Start-ups, Technology transferred)
- (Objective) To help ETRI partner companies to enter Chinese market
- (Support Programs)
 - Provide various activities such as market survey, Co-exhibition, B2B Match Making, Technology support, Patents applications, seminars, partners searching

[B2B Match-Making]



[Exhibition with companies]







감사합니다
Thank You
谢谢

孙翊铢首席代表
韩国电子通信研究院北京代表处
iksoo@etri.re.kr