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ETRI & ICT Innovation Ecosystem

April 11, 2019



제4차 산업혁명을 선도하는 ICT Innovator

ETRI

Contents

- 1. National Innovation Environment**
2. ETRI

1. Innovation Nation

Innovation Driven Society

2018 Bloomberg Innovation Index Rankings



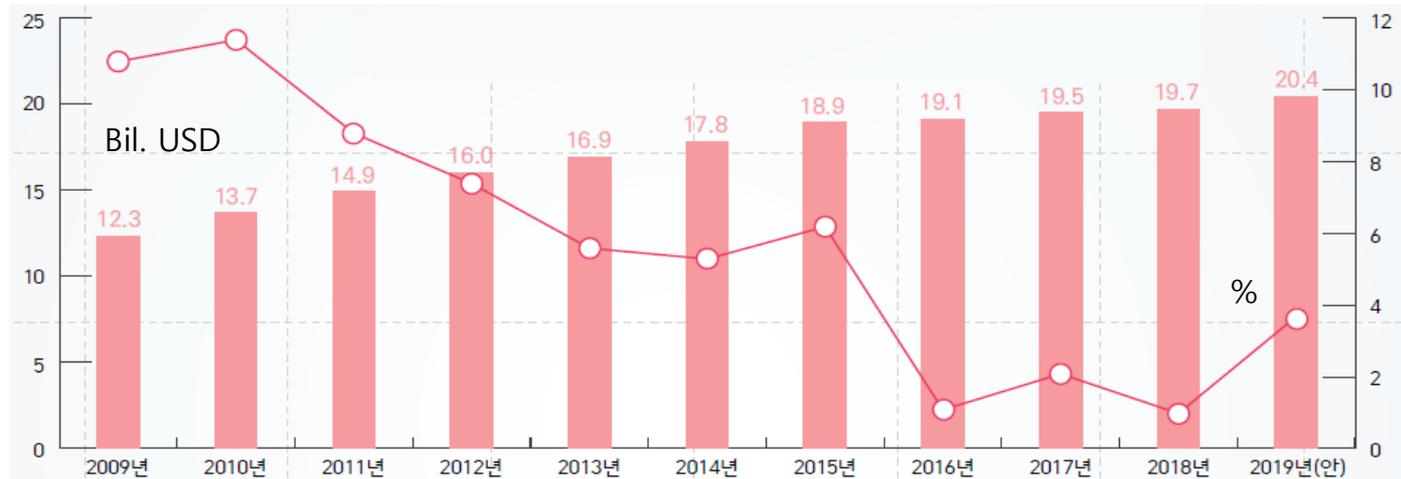
* Source: Bloomberg Innovation Index (2018)

Invest Korea, <http://www.investkorea.org/en/innovation/infra.do>

2. National R&D Budget

R&D Investment

- Total National R&D Budget
 - 20.4 Bil. USD in 2019
 - 4IR, Energy/Bio, SME



- National ICT R&D Budget :
 - 2.37 bil. USD(2018) -> 2.44 bil. USD(2019)

Source : R&D KIOSK, MSICT, 2019

3. Industry Portfolio

ICT Convergence & Industry Capability



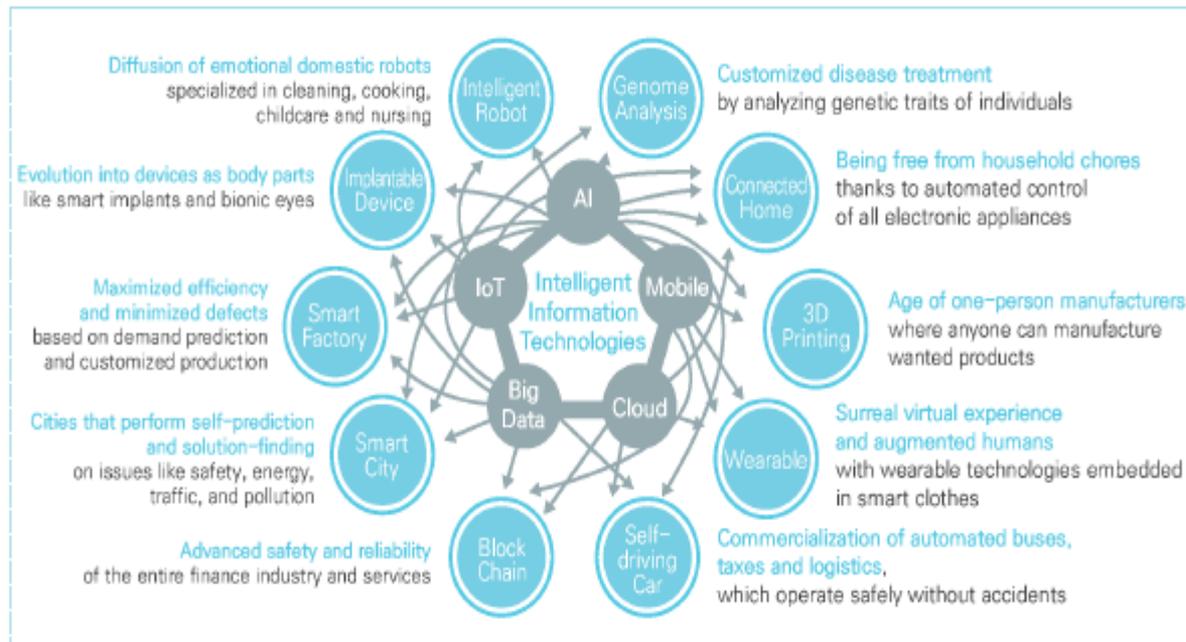
* Source : KAMA, Bloomberg, Z/Yen group, Nikkei, WIPO, OECD, ACI (2015)

Invest Korea, <http://www.investkorea.org/en/innovation/infra.do>

4. 4IR

ICT Policy & 4IR Technology

- Progress of new ICT Development :
 - AI, Mobile Service, Cloud Computing, Big Data, IoT
- Advancement of Convergence Infrastructure :
 - Giga Internet, 5G Mobile



Source: Ministries of the Republic of Korea, 2016 Comprehensive Mid and Long-term Measures for the Intelligent Information Society

Source : 2017 National Informatization White Paper, NIA

Contents

1. National Innovation Environment
2. **ETRI**

1. ETRI at a glance

Vision : ICT Innovator Leading the 4th Industrial Revolution

*Leader in the ICT
Technology development.*



- **Founded in 1976**



- **Head office :DaeJeon, Korea**
 - 3 branches, 2 overseas offices (US, China)



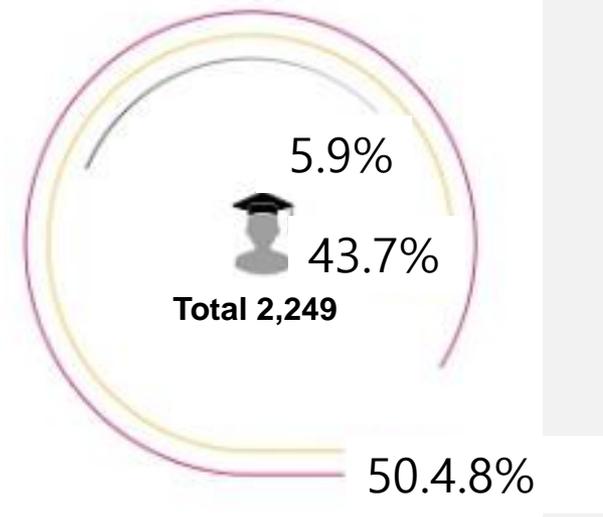
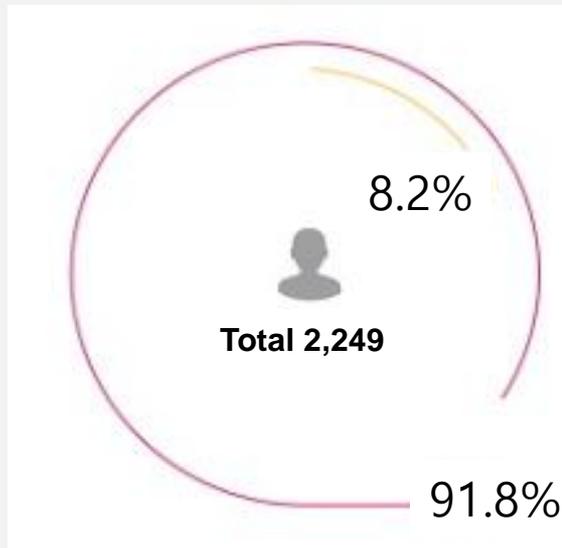
- **Scope of area**
 - R&D in ICT area
 - Strategic Planning for national R&D Policy
 - Engineering support for SMEs
 - Leading international standardization activities

2. Personal Status

Total : 2,249(as of Nov. 2018)

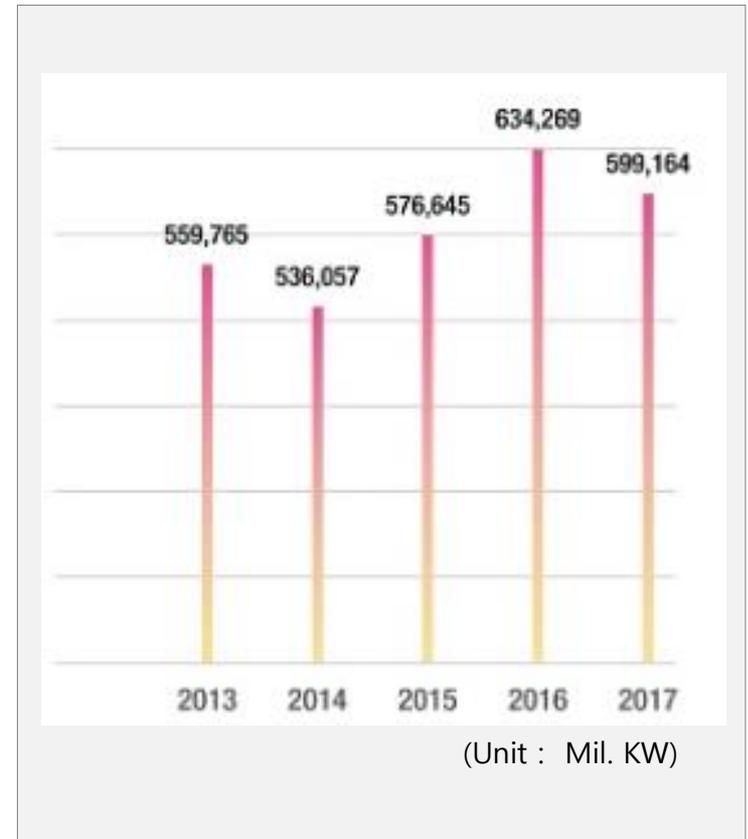
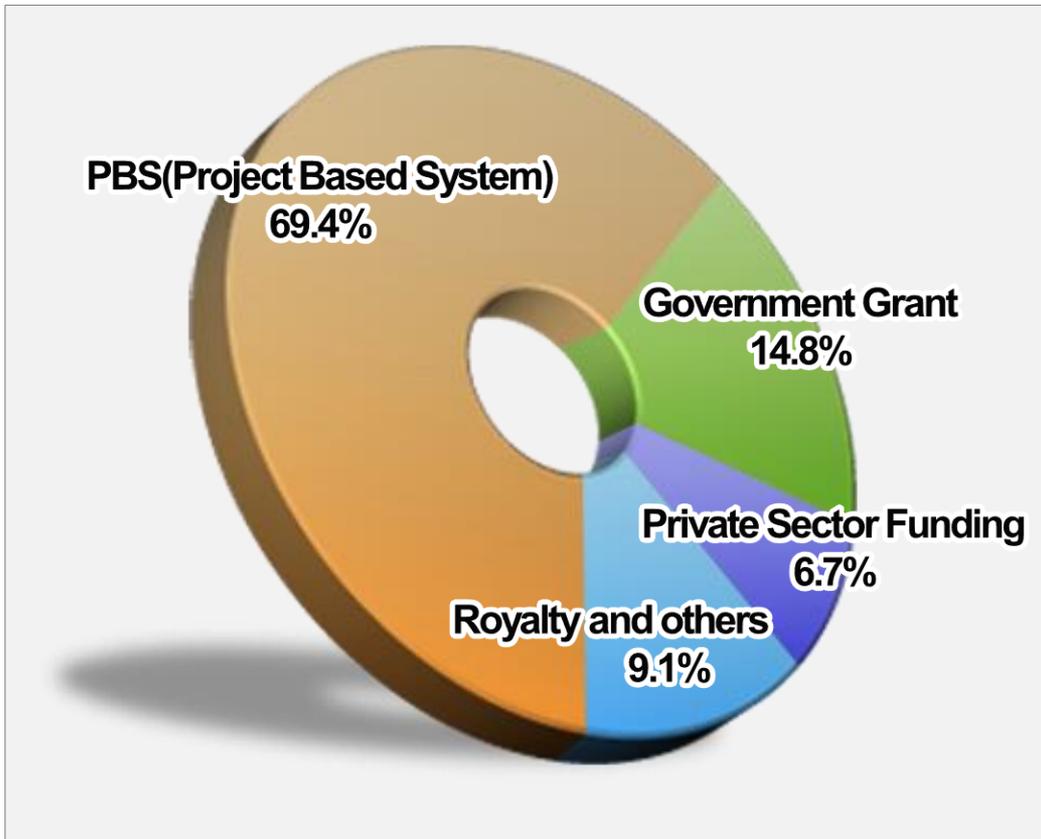
Research/Technical Staff : 2,081, 92%
Board Member/Administrative Staff : 166, 8.2%

Doctoral : 1,133, 50.4%
Master : 986, 43.7%
Bachelors : 130, 5.9%

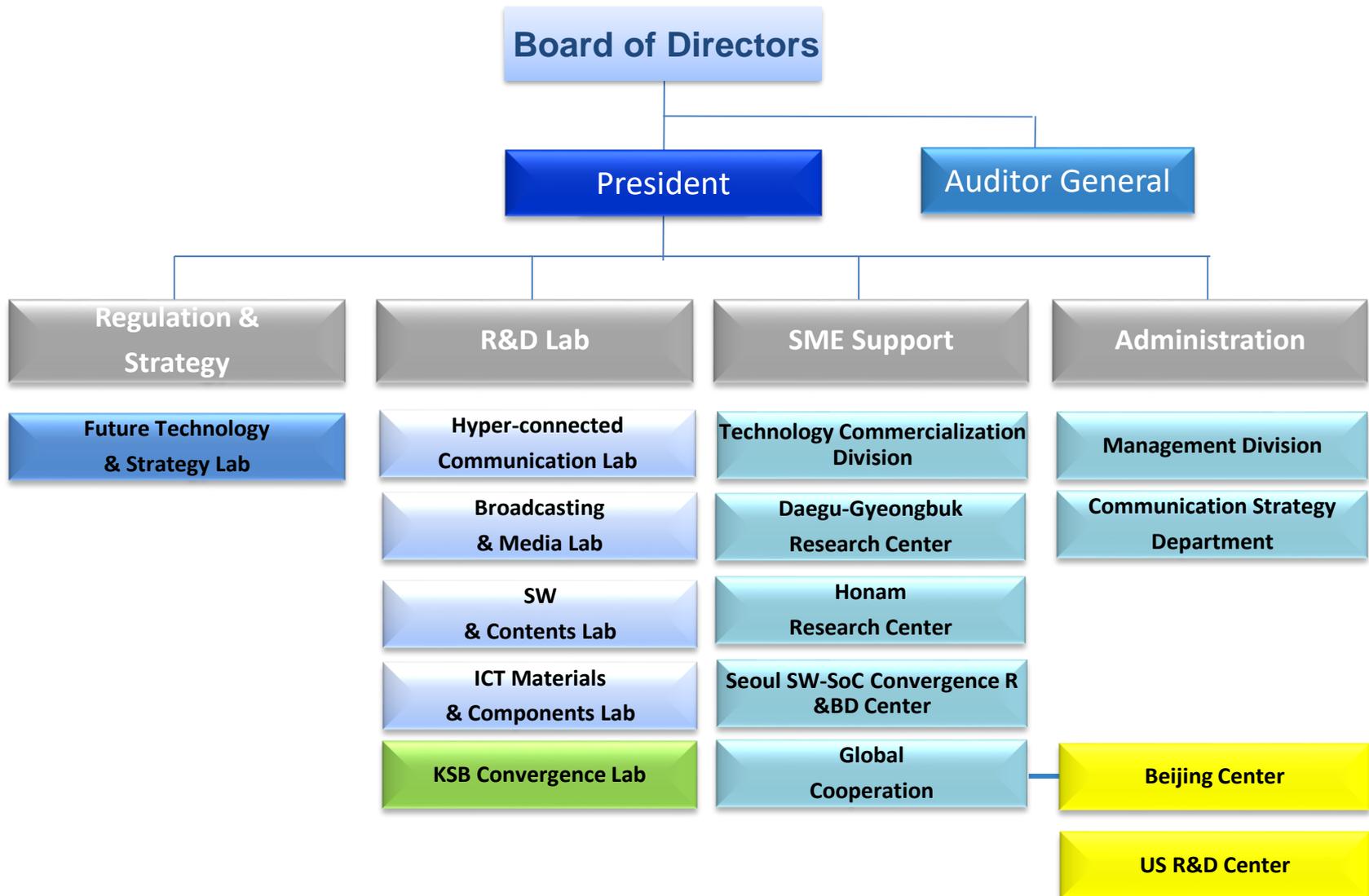


3. R&D Budget

R&D Budget: 560 Million USD(2018)



4. Organization



5. ETRI in National R&D Structure

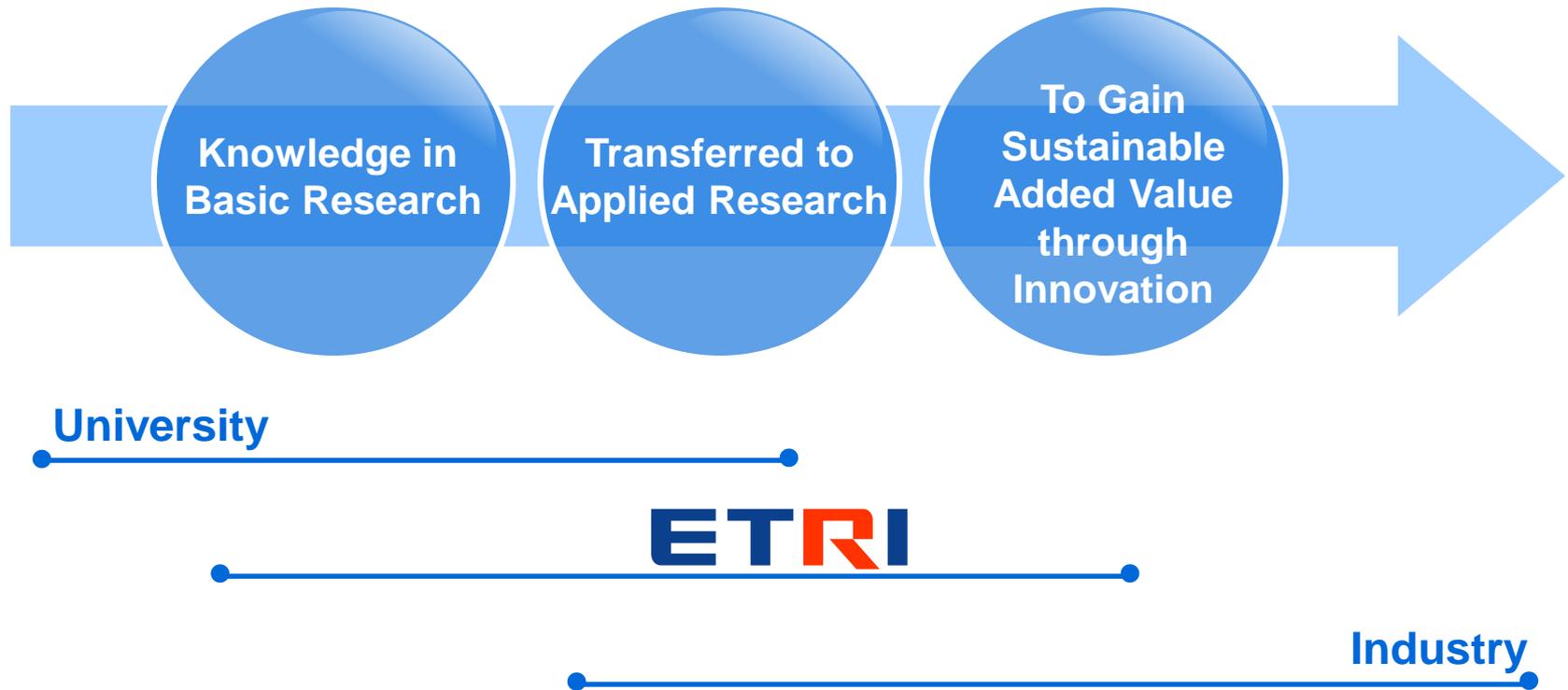
- Policy
- Project Fund

- Technology Development
- Technology License

- Commercialization
- Royalty Sharing



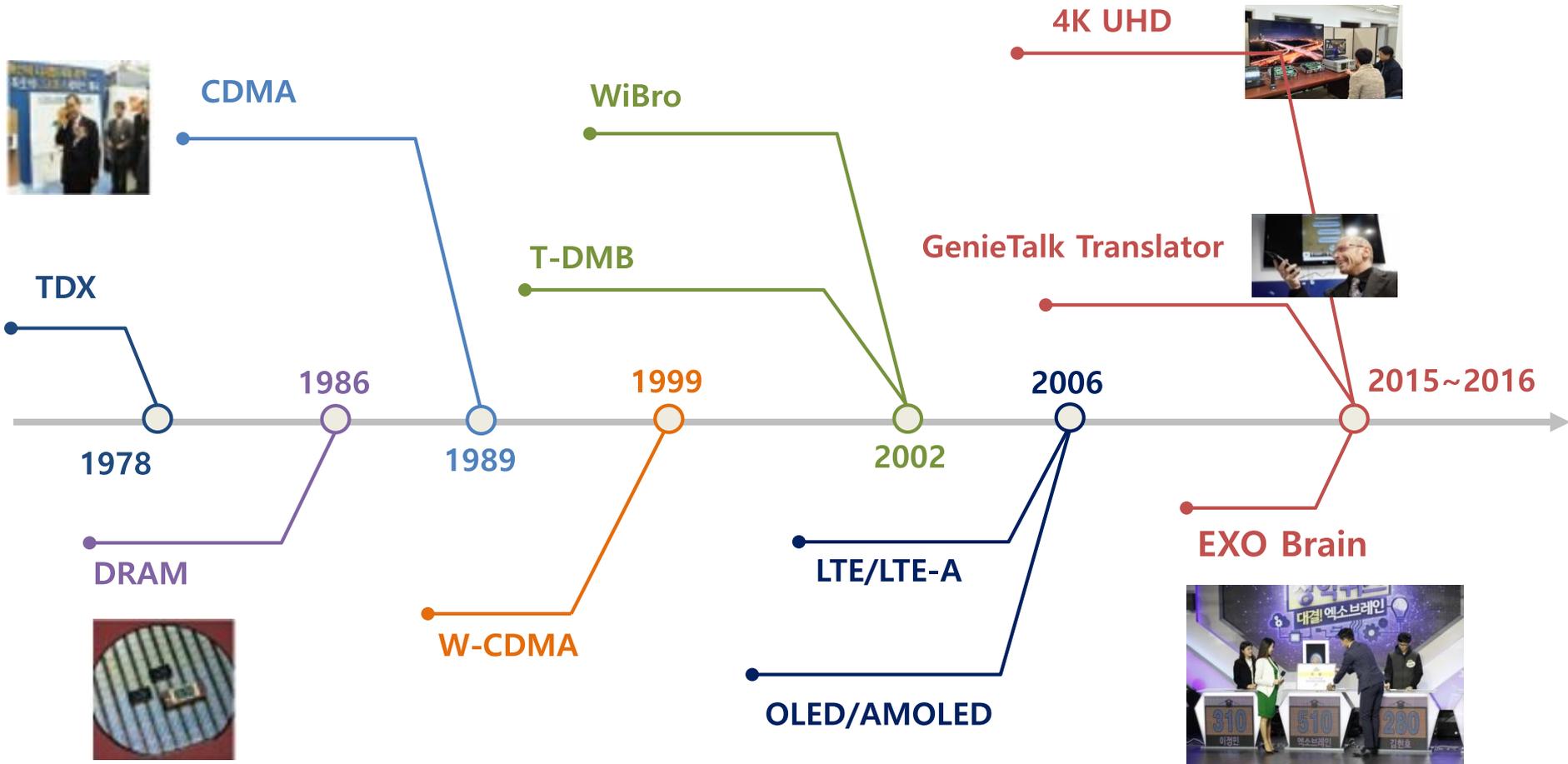
6. ETRI in an Innovation Ecosystem



- Strong Integration with Academia
- Demand Driven Research Combined with Scientific Excellence
- Professional R&D Services for Industry

7. Major Achievement

TDX/CDMA to Genie Talk/EXO Brain



8. Major Achievement (DRAM)

Single Export Item(2018): 126.7 Bil. USD

DRAM Case	
R&D Period	Oct. 1986 ~ Mar. 1993
Budget	277.9 Bil. KRW
Manpower	2,172 M/Y
Host & Participants	ETRI Goldstar, Samsung, Hyundai
Royalty Income	77.3 Bil. KRW(1993 ~ 2002)
Economic Ripple Effect	18.89 Tril. KRW (as of 2011)

Source : 35 Years of History of ETRI, ETRI, 2012

9. Major Achievement (CDMA)

Mobile Vendor Market Share Worldwide(2018):

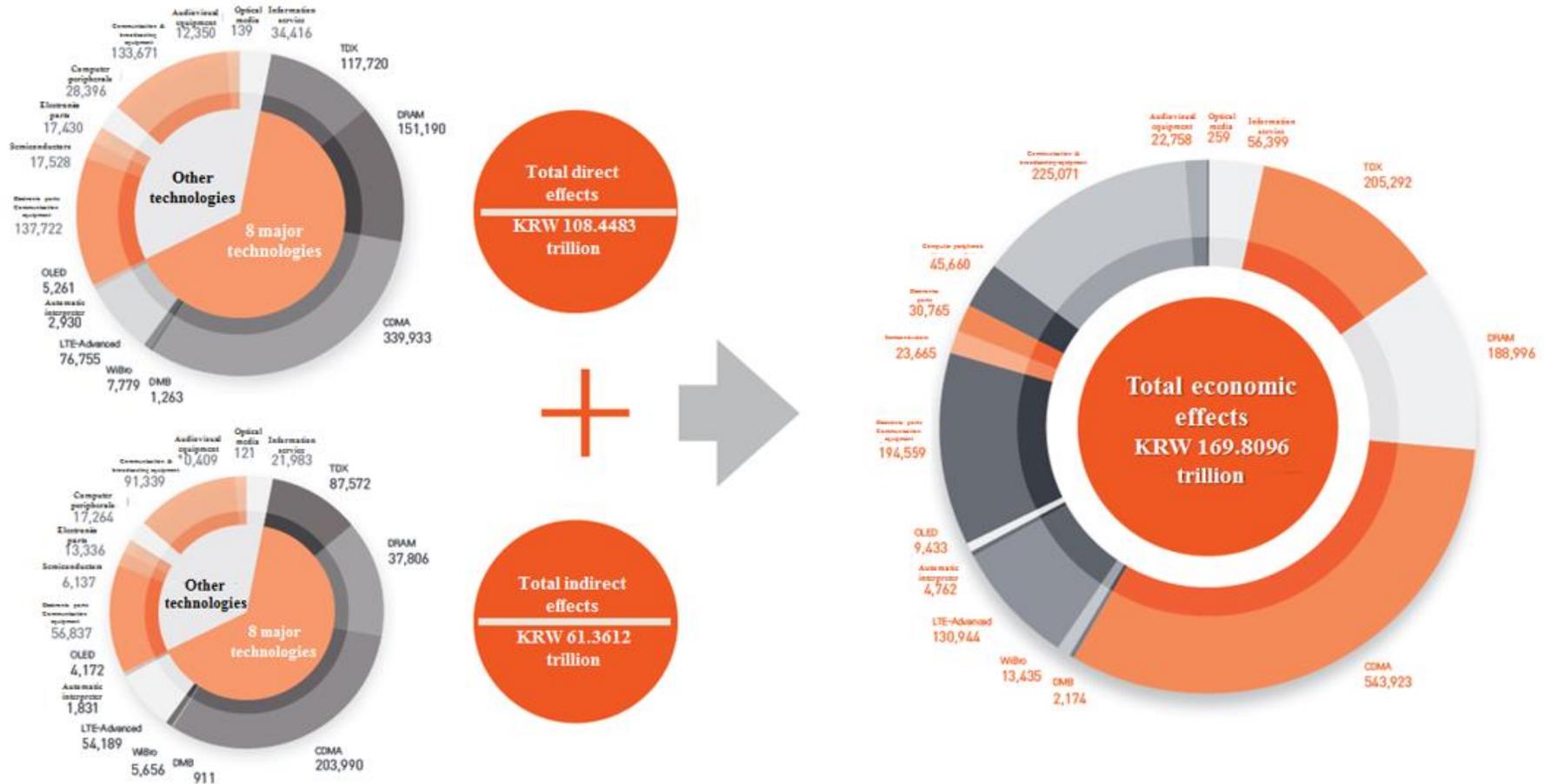
1) Samsung(31.49%), 2) Apple(22.35%), 3) Huawei(8.56%)

Source : statcounter, GlobalStats

CDMA Case	
R&D Period	Jan. 1989 ~ 1996
Budget	99.6 Bil. KRW
Manpower	1,042 M/Y
Host & Participants	ETRI LG, Samsung, Hyundai, Macson Electronics
Royalty Income (1997 ~ 2008)	318.3 Bil. KRW(Oversea) 25 Bil. KRW(Korean Companies)
Economic Ripple Effect	54.39 Tril. KRW (as of 2011)

Source : 35 Years of History of ETRI, ETRI, 2012

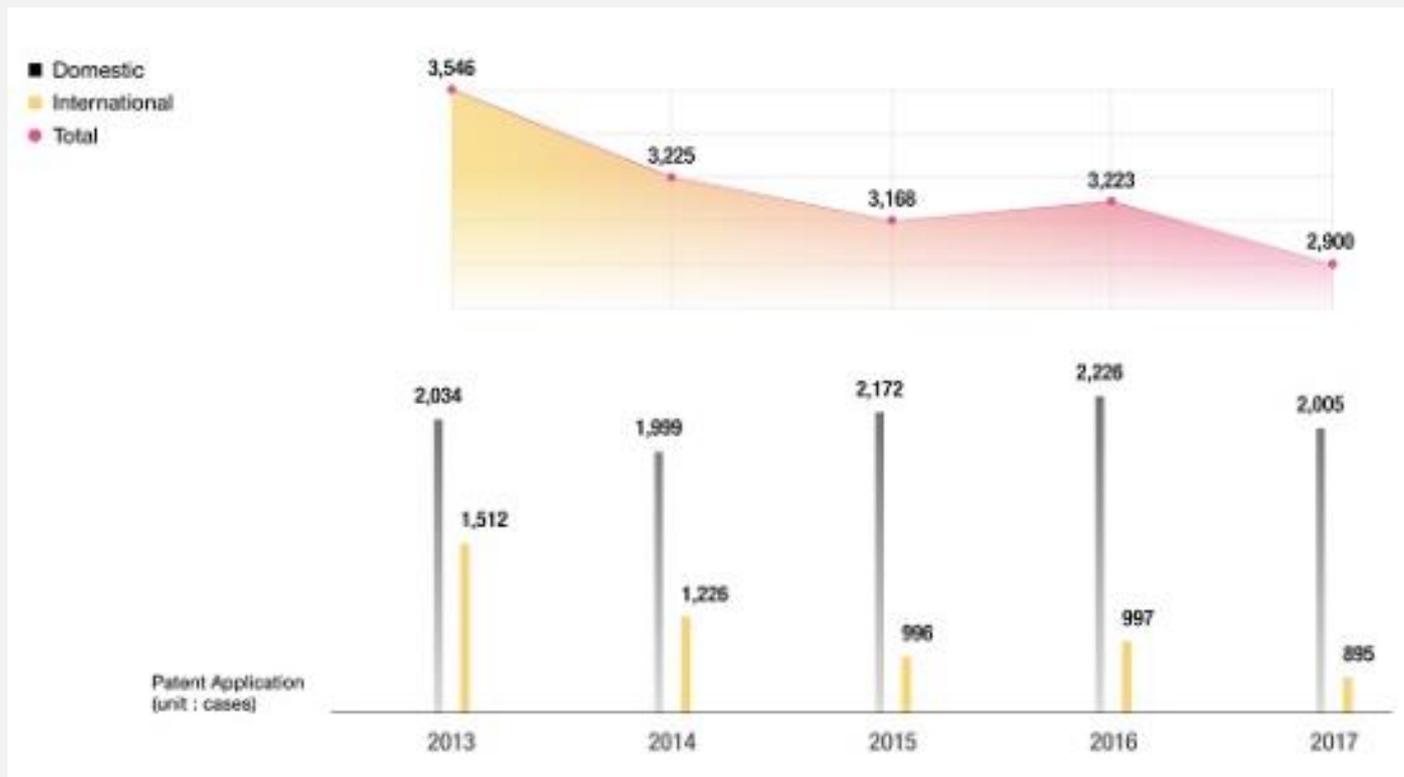
10. Total Economic Ripple Effects of ETRI



Source : 35 Years of History of ETRI, ETRI, 2012

11. Patent Applications

No of Patent Application : 16,062(total of past 5 years)



12. Technology Transfer

No of Technology/Royalty Income : 2,479 Cases/174 Bil. KRW (total of past 5 years)



13. Partners for Innovations

Government

 Ministry of Trade, Industry and Energy	 Korea Communications Commission
 Ministry of Culture, Sports and Tourism	 Ministry of National Defense
 Ministry of Agriculture, Food and Rural Affairs	 Ministry of Land, Infrastructure and Transport
 Ministry of Education	

Telcos



ETRI

Service Providers



Vendors



15. Your Best ICT Partner - ETRI

- **Strong and reliable R&D resource**
 - More than 2,000 engineers, 500 projects yearly
 - Successful developments for commercialization
- **Abundant experiences for commercialization**
 - TDX, CDMA, IPTV, DMB and Security technology
 - Progressive P&D projects with industry
- **Wide range of network for success**
 - Government
 - Industries (telcos, worldwide)
 - Universities (10 Open Labs)
- **Strong leadership**
 - Government-Industry- Academy



THANK YOU.



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