

Innovation Cluster for Creating Creative Industries

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Abstract

Korea, with the aging population and matured manufacturing, is confronted with low economic growth and needs some breakthrough for the further development. The Korean government tries to move forward by promoting the creative industries using the science and technology potential while maintaining the competitiveness in manufacturing sectors.

The evaluation of creative industry policy of Korea shows followings. First, the policy direction is quite relevant and appropriate for the current Korean economy. The strong Korean IT industry will bring some synergy when coupled with Korean entertainment culture (K-pop). Second, there has to be some preconditions to implement the creative industry policy such as creating technological eco-system with the open network among the university, industry, and research institute. Finally, it is suggested that strengthening of innovation cluster (Science and Technology Park) is one of the effective tools to realize the creative industry in Korea.

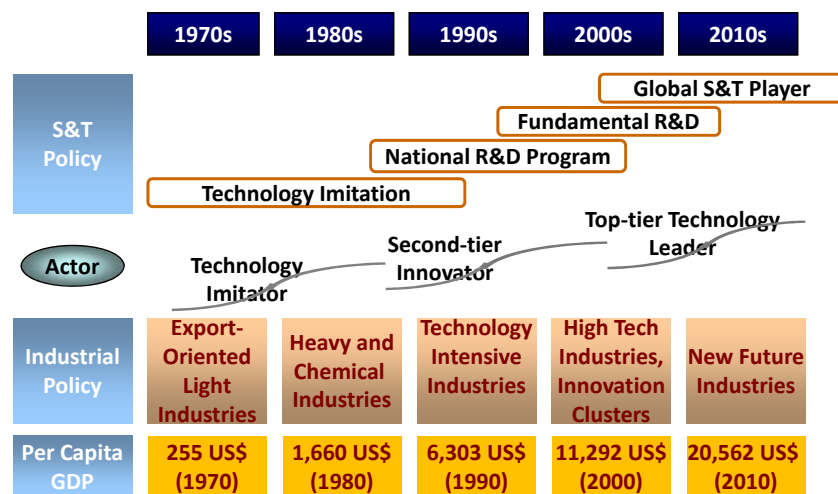
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Research Background and Purpose

- South Korea has been:
 - One of the fast growing economy in the world
 - From poorest country in 1950s to one of the global economic players in the world, both in terms of trade, industry and manufacturing
- South Korea now:
 - Aging population
 - Matured manufacturing
 - Relatively weak service and finance
 - From catch-up to front runner (from known to unknown), but how?
- Strategically thinking:
 - Major restructuring or change inevitable in term of quality and quantity
 - Creative industry is needed

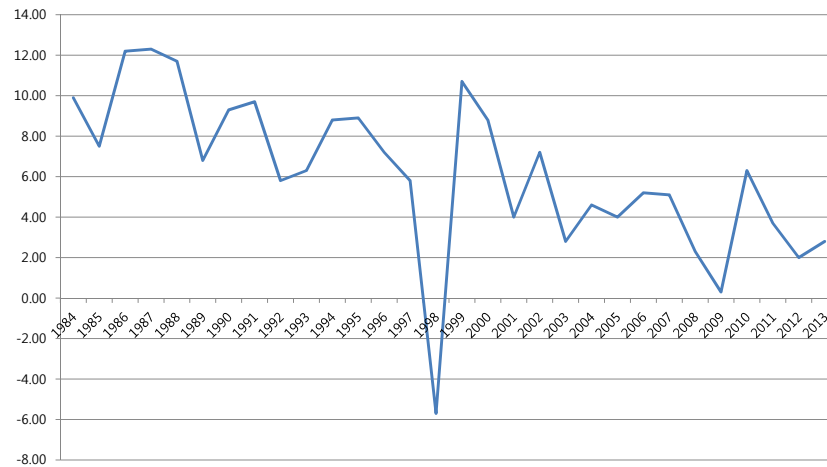
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Engine of Korea's Development: Science and Technology



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Declining growth



Source: Economic Statistics System(Bank of Korea). A rate of economic growth [Online]. Available: <http://ecos.bok.or.kr>

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Aging population

- Ratio of the people beyond 65 years old

Year	2000	2010	2020	2040
Ratio	7.0	10.9	15.7	32.3

Source: Statistics Korea. Aging Population [Online]. Available: <http://kostat.go.kr>

- The young population is declining in absolute number.

- Birth rate

Year	2004	2006	2008	2010	2012
Total Fertility rate	1.154	1.123	1.192	1.226	1.300

Source: e-National index(Korea). (2014, January 30). Birth rate [Online]. Available: <http://index.go.kr>

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R&D Investment in Korea

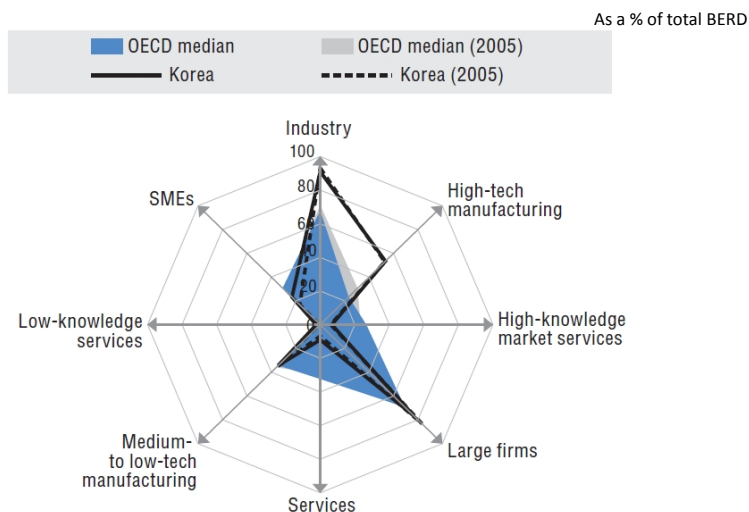
- Total R&D investment (2012) : 55.5 Trillion won (6th in World, 3.2% increase compared to 2011, 4.36% of GDP)
 - ※ Israel('11) 4.38%, Finland('11) 3.78%, Japan('11) 3.39%, Sweden('11) 3.37%, Denmark('11) 3.09%
- Korean government : about 10 % annual increase during the last decade
 - ※ (2012) 13.8 trillion won, (1982) 0.2 trillion won
- Industry : about 74.7% share of total R&D
 - Manufacturing sector (87.5%), Service sector (8.9%)
 - Major 20 companies account for 52.0%



R&D investment is increasing but SMEs and service sector need improvement for sustainable growth.

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Structural Composition of BERD, 2009

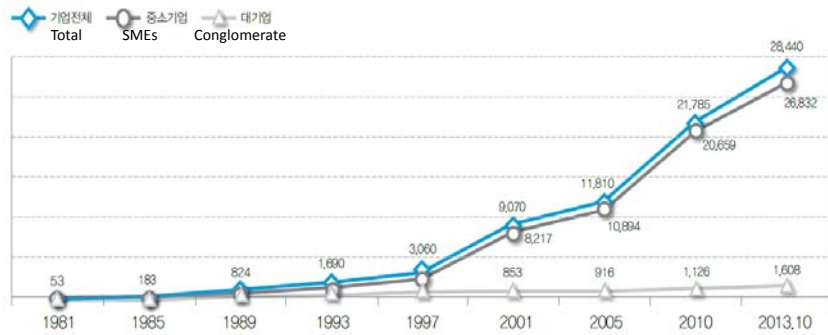


Source: OECD, OECD Science, Technology and Industry Outlook, Paris, 2012.

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Corporate R&D Centers

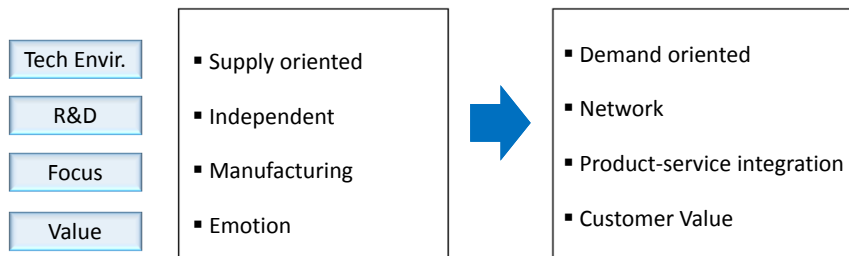
- Number of corporate R&D centers increased (28,440 as of Oct. 2013)
- Small R&D center (less than 5 researchers): more than 50.0%
 - large companies : 5~49 researchers (71.4%), more than 50 researchers (28.6%)
 - SMEs : less than 5 researchers (50.0%), 5~49 (47.9%), more than 50 (2.1%)



Source: KOITA, 2013 White Paper on Industrial R&D, KOITA Publishing, Seoul, 2013.

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Technology Paradigm shift



Source: KOITA, 2010 White Paper on Industrial R&D, KOITA Publishing, Seoul, 2010.



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What is Creative Industry?

- As of 2006, the DCMS (U.K.) definition recognises twelve creative sectors namely: 1) [advertising](#), 2) [architecture](#), 3) [arts and antique markets](#), 4) [crafts](#), 5) [design](#), 6) designer [fashion](#), 7) [film](#), [video](#) and [photography](#), 8) [software](#), [computer games](#) and [electronic publishing](#), 9) [music](#) and the visual and [performing arts](#), 10) [publishing](#), 11) [television](#), 12) [radio](#).”

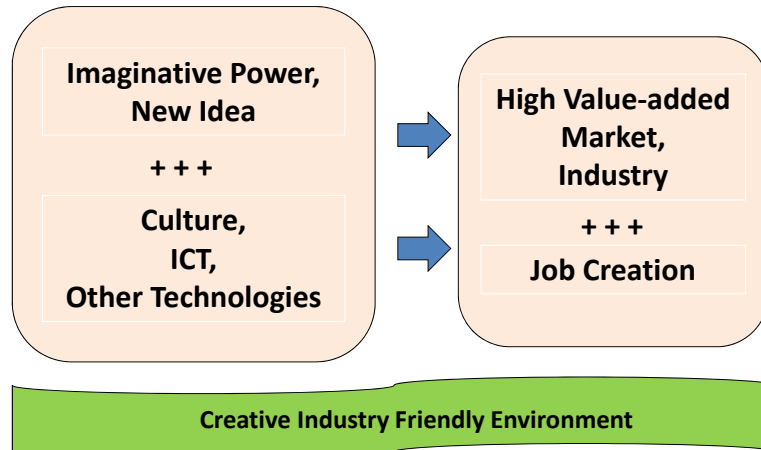
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What is Creative Industry?

- The creative economy is for making high-value-added market and industry, and creating jobs by creative imaginative power and ideas with culture and new technologies like ICT. (Korea's Policy Def.)

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Policy Concept of Creative Industry in Korea



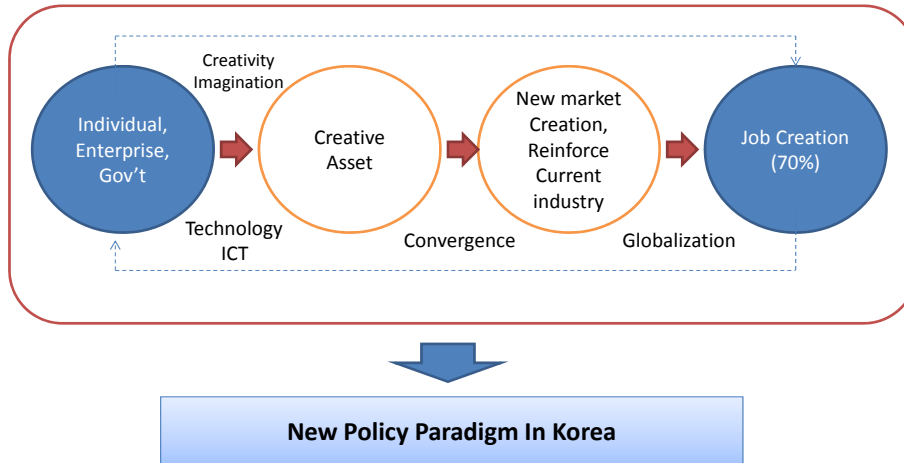
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What is Creative Industry? Example: Gangnam Style



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Creative Economy Paradigm in Korea



Source: MSIP, 창조경제 실현계획-창조경제 생태계 조성방안, Seoul, 2013.

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National Strategic Technologies in Korea

1. IT-convergence and new industries	- Next generation communication network - Advanced material, environment friendly automotive technologies and 8 more technologies
2. Future growth engine	- Solar-energy, launching technologies and 10 more technologies
3. Environment	- Water, air, pollution treatment - High-efficiency energy building and 2 more technologies
4. Health and well-being	- Customized new drug, disease sensing bio-chips and 4 more technologies
5. Safe society	- Prediction of social disaster and corresponding technology (ex: nuclear security) - Food safety evaluation and 4 more technologies

Source: MSIP, 국가중점과학기술 전략로드맵 수립계획(안), Seoul, 2013.

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Programs for Creative Industries

Programs	Concerned Gov't
IP based creative industry strategy	Korean Intellectual Property Office
Contents industry promotion	Min. of Science, ICT and Future Planning + Ministry of Culture, Sports and Tourism
Space information industry promotion with convergence and openness	Ministry of Land, Infrastructure and Transport
Promotion of global start-up	Min. of Science, ICT and Future Planning
Regulation reform for convergence of different technologies and culture	All the ministries for the concerned subjects

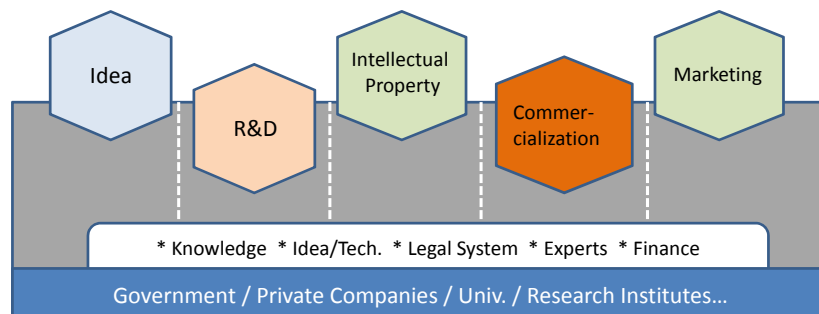
Source: author's summary of KOREA gov't policies

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Creative Economy Town in Korea

Creative Economy Town Service Concept

- Open source, Idea Sharing, Resolution of Issues, Commercialization Support

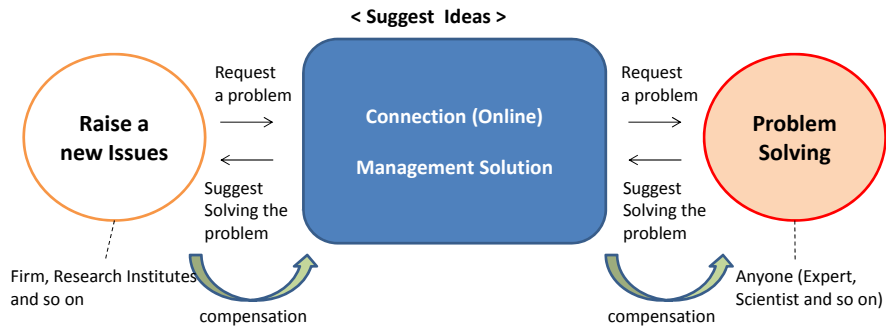


Source: Creative Economic Town(Korea). Available: <https://www.creativekorea.or.kr>

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Creative Economy Town in Korea

Problem Solving Service



Source: MSIP, 국민과 함께 만들어가는 창조경제타운(보도자료), Seoul, 2013.

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KOREA Government Initiatives in 2014

Progress Direction in 2014

- Government driven
- Central government
- Domestic



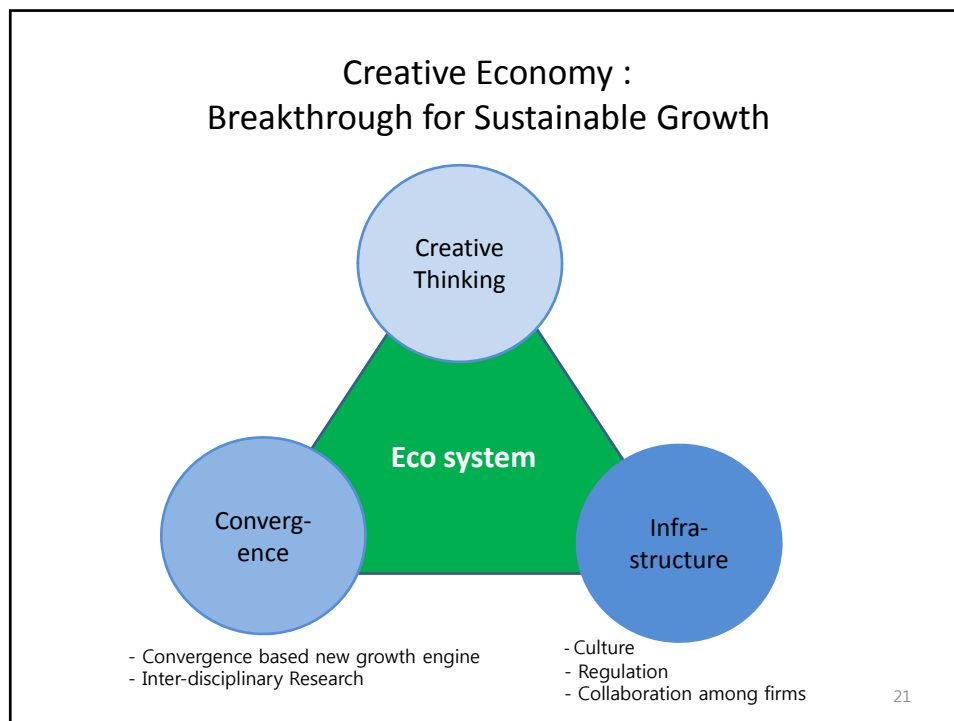
- Private sector
- Local, Region
- Global

Key Challenges

- 1) Acceleration of creative economy ecosystem establishment
- Start-up fund for youth (100 Mil. Dollar add-up), support to big-mid firm M&A
- 2) New growth engine for new industry and new market
- creative vitamin project, 13 future growth engine
- 3) Strengthening of creative infrastructure and culture
- Innovative restructuring of engineering school, establishment of creative-economy innovation center

Source: MSIP, 2014년 창조경제 주요 추진과제 확정, 본격 시행, Seoul, 2014.

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Agenda for Creative Industry

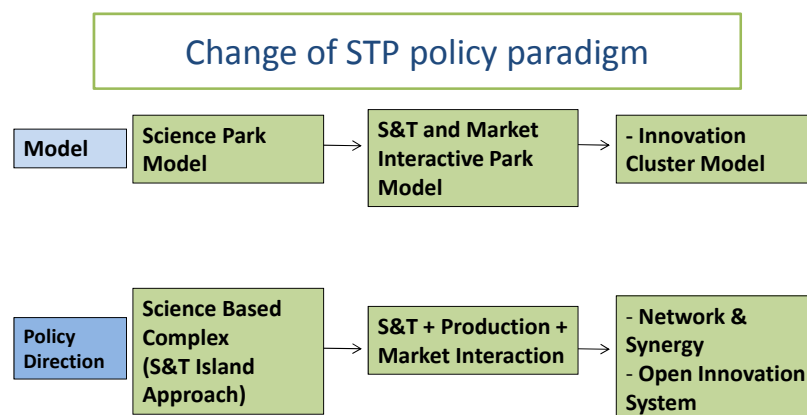
- Can the creative industry lead a country without manufacturing?
- Is it possible to change the culture? If so, how?
- How to introduce new innovation model?
- How can we accommodate the elements of city?
- How to secure the soft infrastructure such as IP protection, access to financial capital, activation of R&D funds, and so on

Agenda for Creative Industry: Where?

- Where can the creative industry be nurtured or developed easily?
 - City
 - Traditional cultural area
 - Science and Technology Park
 - Industrial area

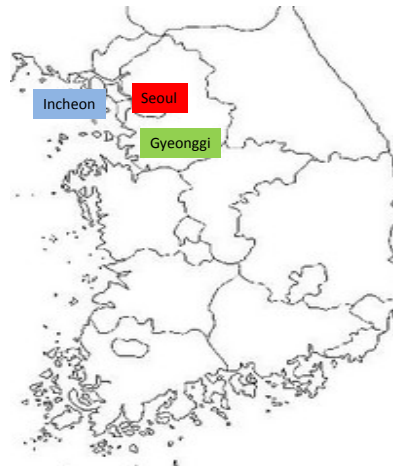
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Agenda for Creative Industry: Where?



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Candidate location for creative industry: metropolitan area



location	Innovation Cluster
Seoul	<ul style="list-style-type: none"> - Guro Digital Complex - Sangam Digital Media City - Hongoeung Research Complex
Gyeonggi Province	<ul style="list-style-type: none"> - Gwanggyo Technovalley - Pangyo Technovalley - Ansan Science Valley
Incheon	<ul style="list-style-type: none"> - Songdo Technopark

Talented People, Money, Culture, Technology are there

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Seoul, Gyeonggi, Incheon Metropolitan Area

- Year 2012: The population is 24.7 Mil. (50.4% of Korea)
- Year 2011: The GRDP is 47.1% of Korea
- Seoul and Gyeonggi account for 41% of total R&D expenditure in Korea
- Seoul is for service and IT (knowledge industry), while Gyeonggi province accounts for advanced manufacturing

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Agenda for Creative Industry: By whom and how?



How to be
creative,
collaborative,
open,
networked?

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Further research suggested

- This paper deals with mostly the conceptual and macro-level policy issues
- Further research is necessary:
 - To see whether there are such a policy effect
 - In what conditions, the creative industry can be nurtured?
 - What are the roles (or contribution) of creative culture? Can the creative culture be nurtured?
 - What are the ways firms can utilize such an creative industry concept in technological innovation process

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Conclusion and Discussion

- ✓ Creative industry policy is a must path Korea has to take for the further growth.
- ✓ It is necessary to nurture a technological eco-system rather than implement just technological development programs.
- ✓ Creative, open and collaborative culture is important.
- ✓ STP is a very effective policy tool for creative industry

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Thank You!

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