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STI for SDGs Policy Implementation in Korea : Current Status and Challenges

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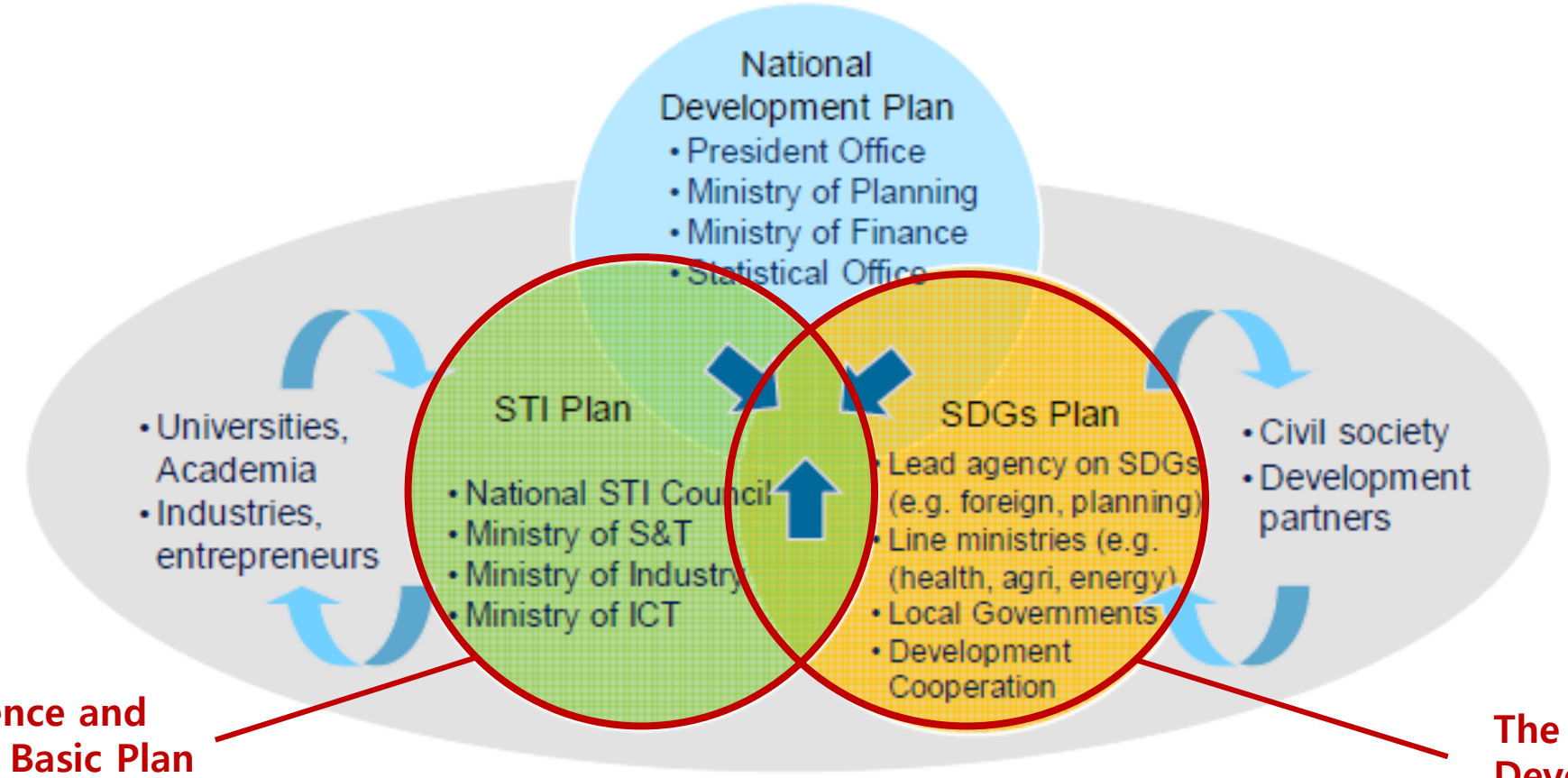
Linkage between the National STI & SDGs Plans

❖ Linkage between national STI plan and SDGs implementation plan
❖ Interactions among various stakeholders (STI and SDGs expert groups)

Source: UN IATT(2020), 『Guidebook for the Preparation of STI for SDGs Roadmaps』, p. 9.

Linkage between the National STI & SDGs Plans in Korea

K-SDGs (developed in 2018 & revised in 2021) highlights
the STI role to tackle global challenges and achieve SDGs
by connecting national S&T Basic Plan and Sustainable Development Basic Plan



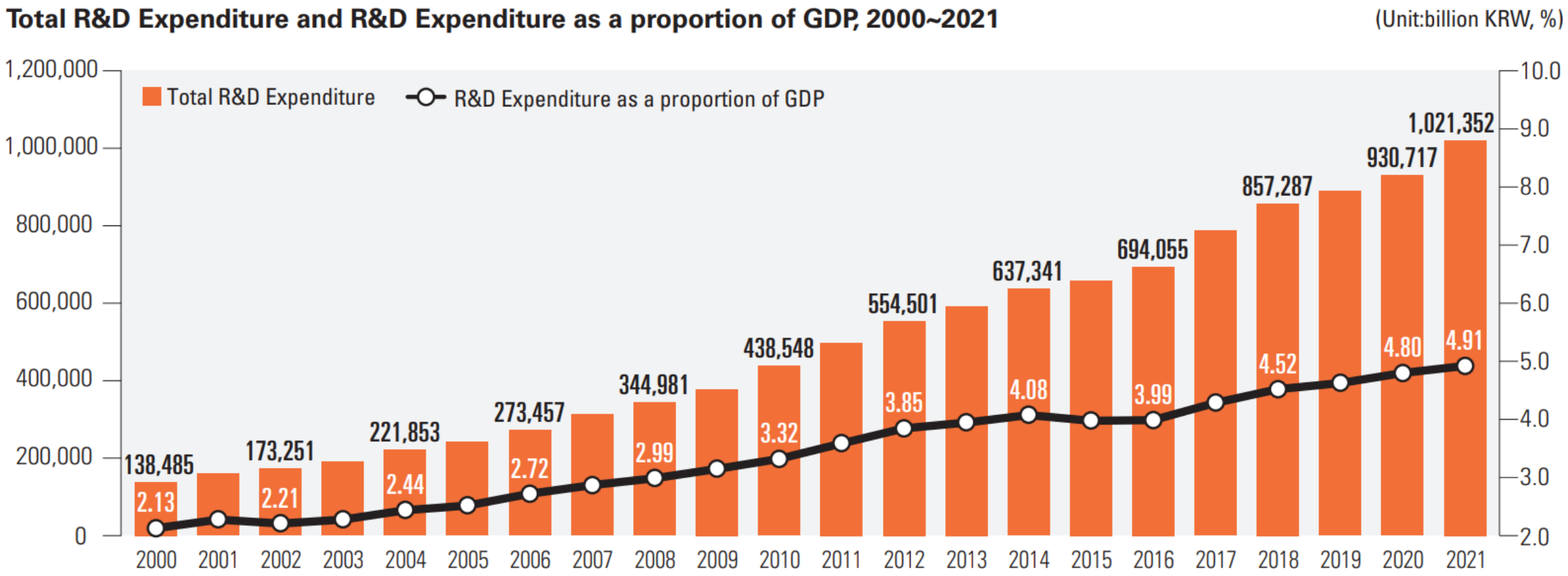
The 4th Science and Technology Basic Plan (2018-2022)

Source: UN IATT(2020), 『Guidebook for the Preparation of STI for SDGs Roadmaps』, p. 9.

The 4th Sustainable Development Basic Plan (2021-2040)

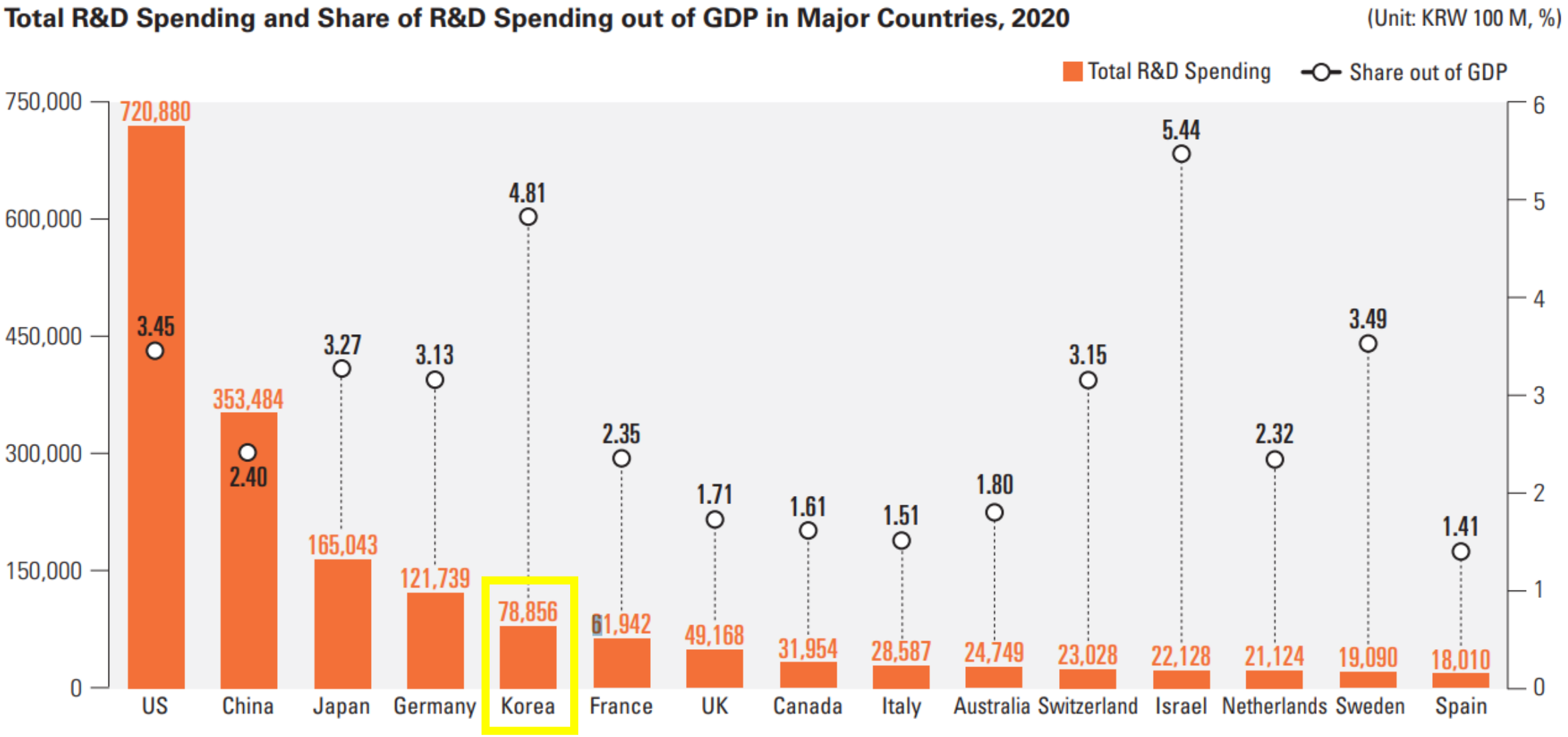
STI in SDG 9

SDG 9 Progress: R&D Expenditure (2000–2021)



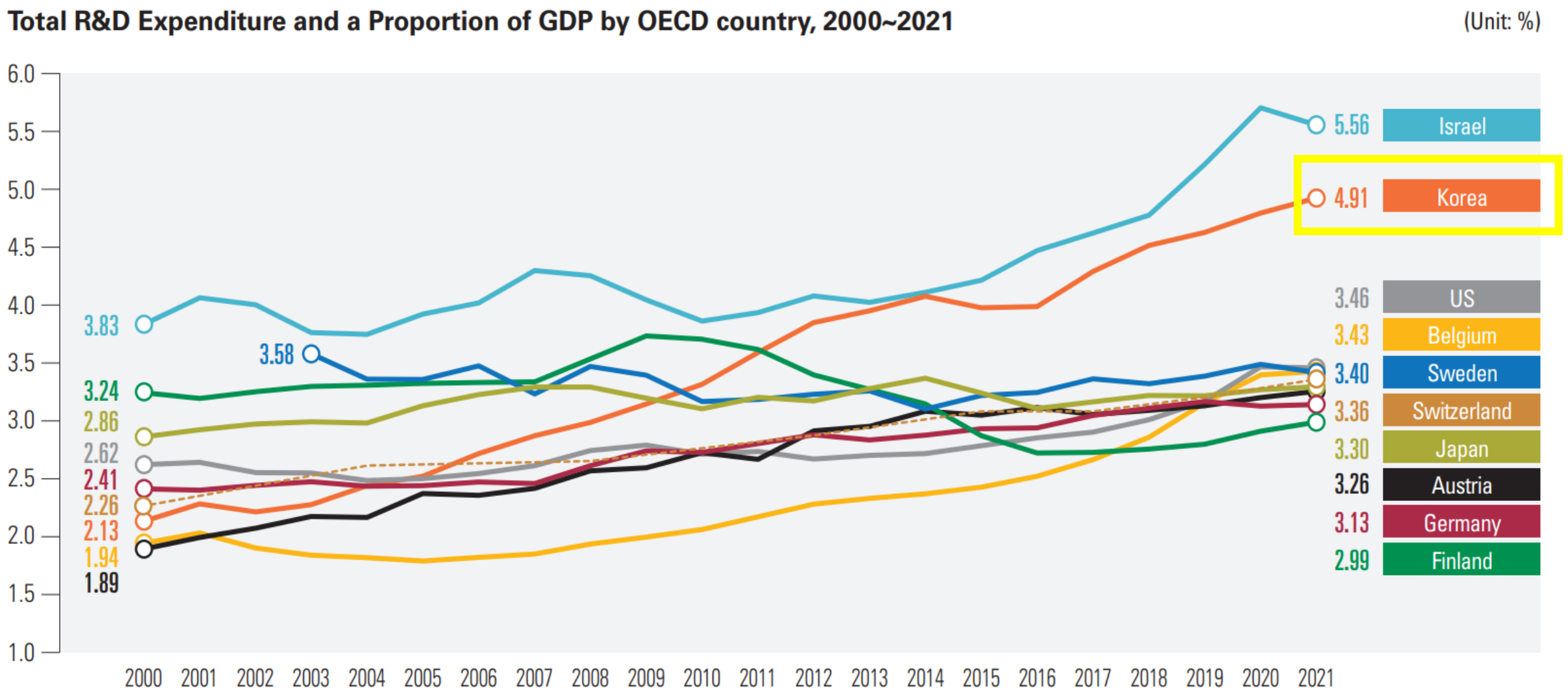
Source: SDG in the Republic of Korea: Progress Report 2024, p. 72.

SDG 9 Progress: R&D Expenditure in Comparison (2020)



Source: SDG in the Republic of Korea: Progress Report 2023, p. 66

SDG 9 Progress: R&D Ratio in Comparison (2000–2021)

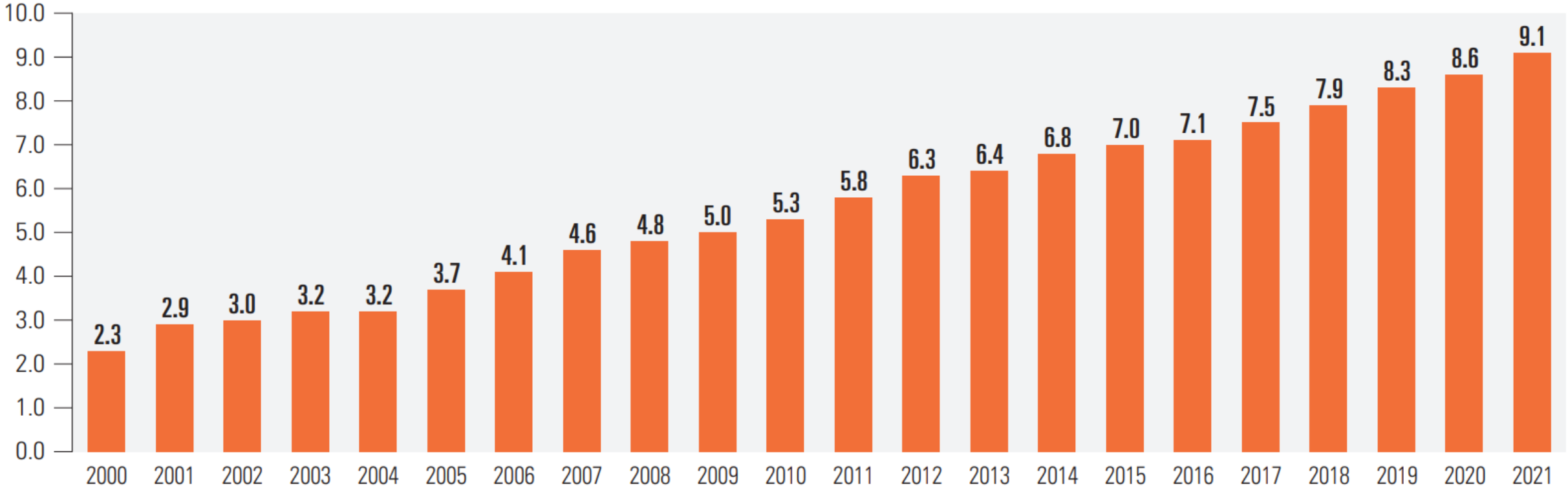


Source: SDG in the Republic of Korea: Progress Report 2024, p. 73

SDG 9 Progress: Researchers (2000–2021)

Number of Researchers in Korea, 2000~2021

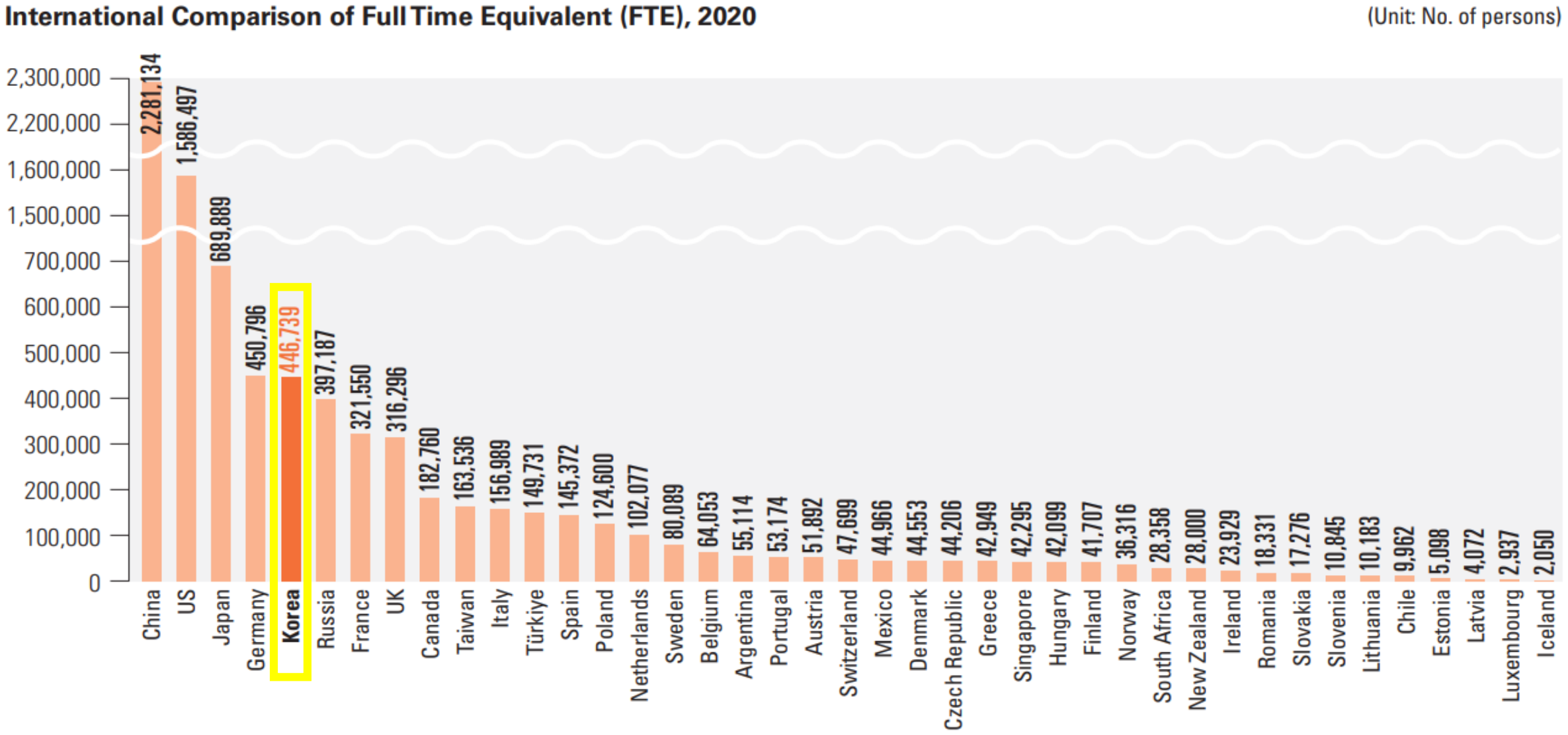
(Unit: per 1000 Population)



Source : Ministry of Science and ICT, R&D Survey(https://kosis.kr, retrieved on Sep 23, 2023)
Note : Based on FTE(Full Time Equivalent) Researchers

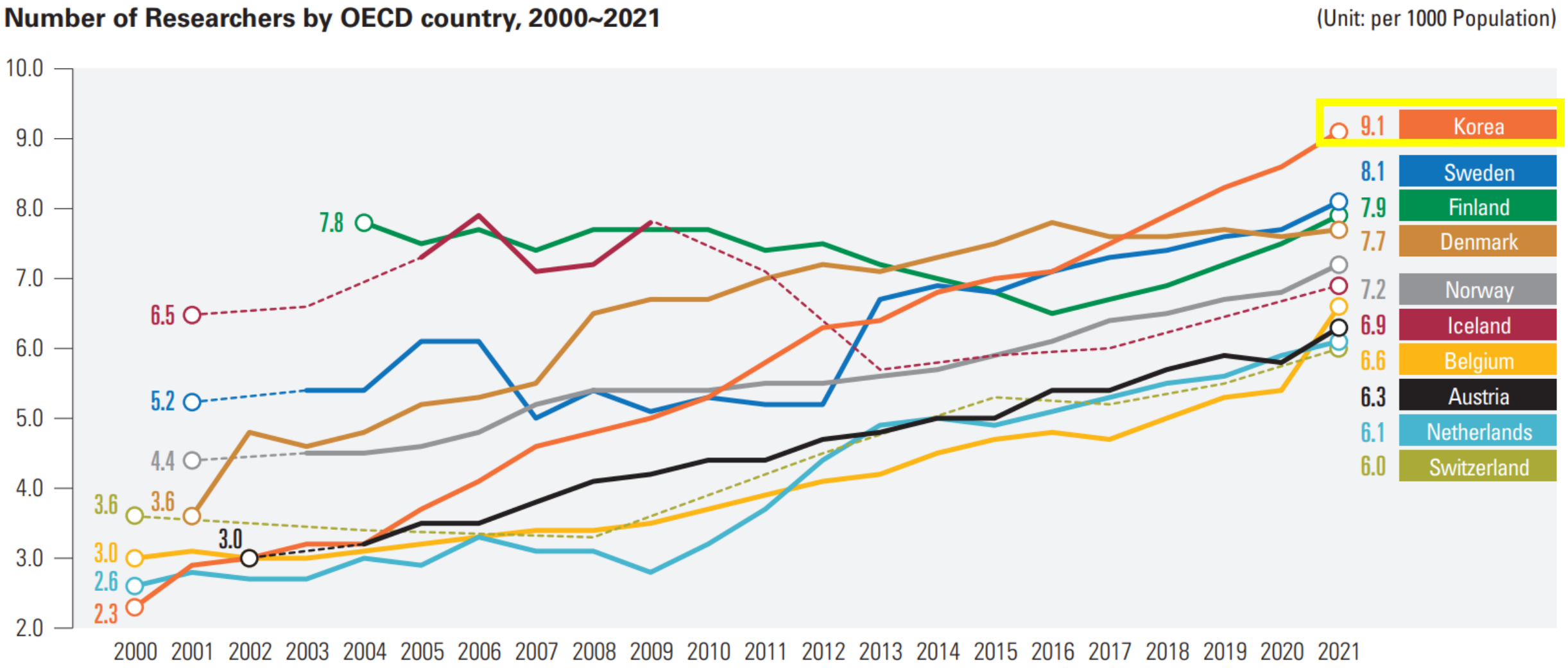
Source: SDG in the Republic of Korea: Progress Report 2024, p. 73.

SDG 9 Progress: Researcher Number in Comparison (2020)



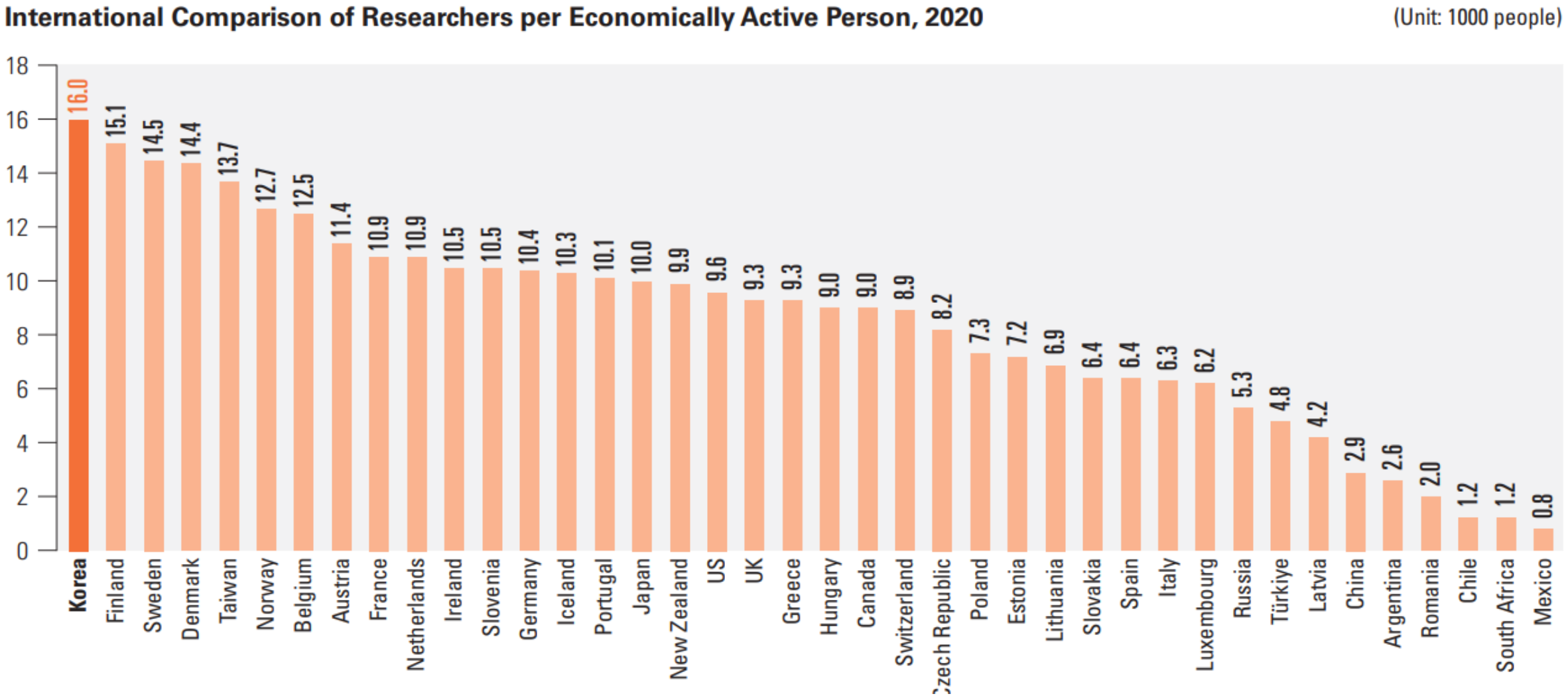
Source: SDG in the Republic of Korea: Progress Report 2023, p. 67

SDG 9 Progress: Researcher Ratio in Comparison (2000–2021)



Source: SDG in the Republic of Korea: Progress Report 2024, p. 73

SDG 9 Progress: Researcher Ratio in Comparison (2000–2021)



Source: SDG in the Republic of Korea: Progress Report 2023, p. 67.

STI Beyond SDG9, STI in All 17 SDGs

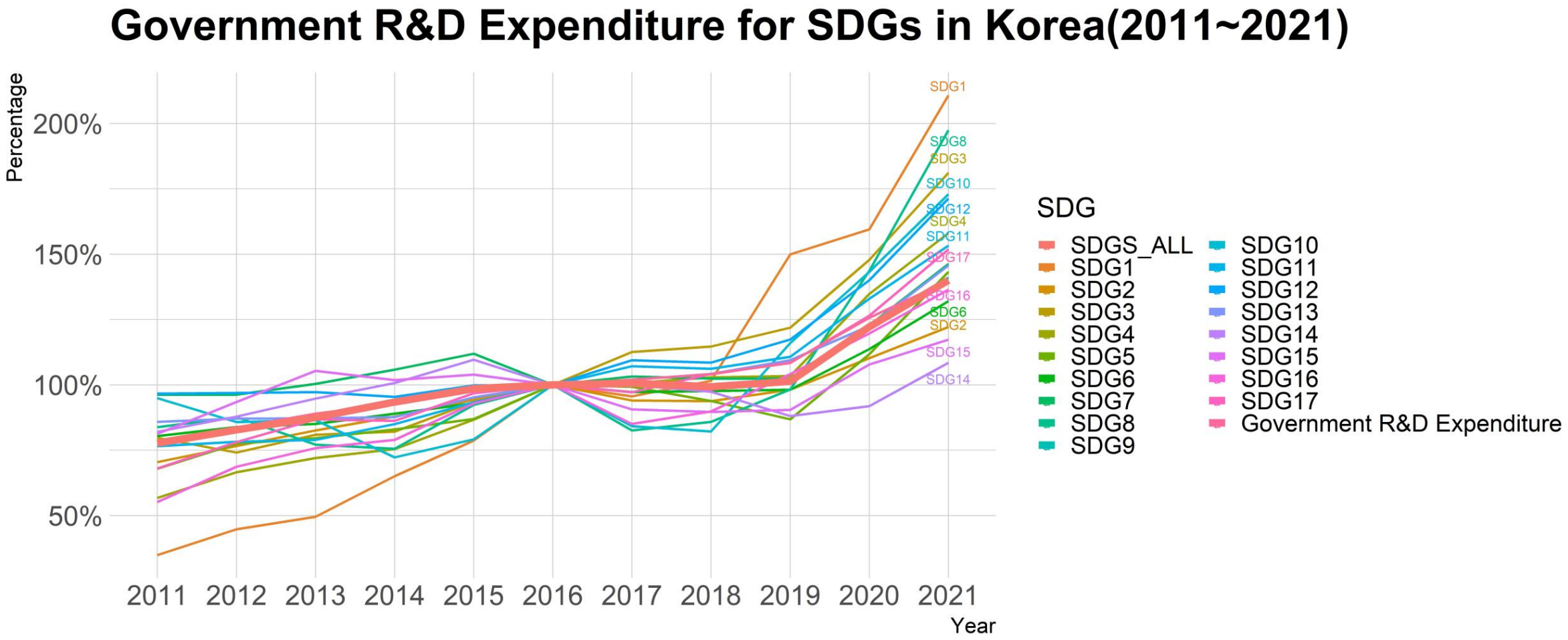
: How to Measure STI for SDGs?

Research Method

1. Unit of Analysis: **Government R&D expenditure** (2011–2021)
2. Source: National Science and Technology Information Service (NTIS) https://www.ntis.go.kr/en/
3. Data: Public R&D project information, including title, keywords, abstract, expected outcome, etc.
4. List of SDGs keywords (in Korean) identified by each SDG expert group (total 39 experts in 17 goals)
5. Identification of STI for SDGs R&D projects by keyword analysis in R&D project information
6. Variables: government R&D expenditures in;
    - Total Government R&D Expenditure
    - SDGs_direct
    - SDGs_all
    - SDG_crosscutting / SDG_global commons/ SDGs_overarching / SDGs_sectoral
    - SDG 1 ~ SDG 17

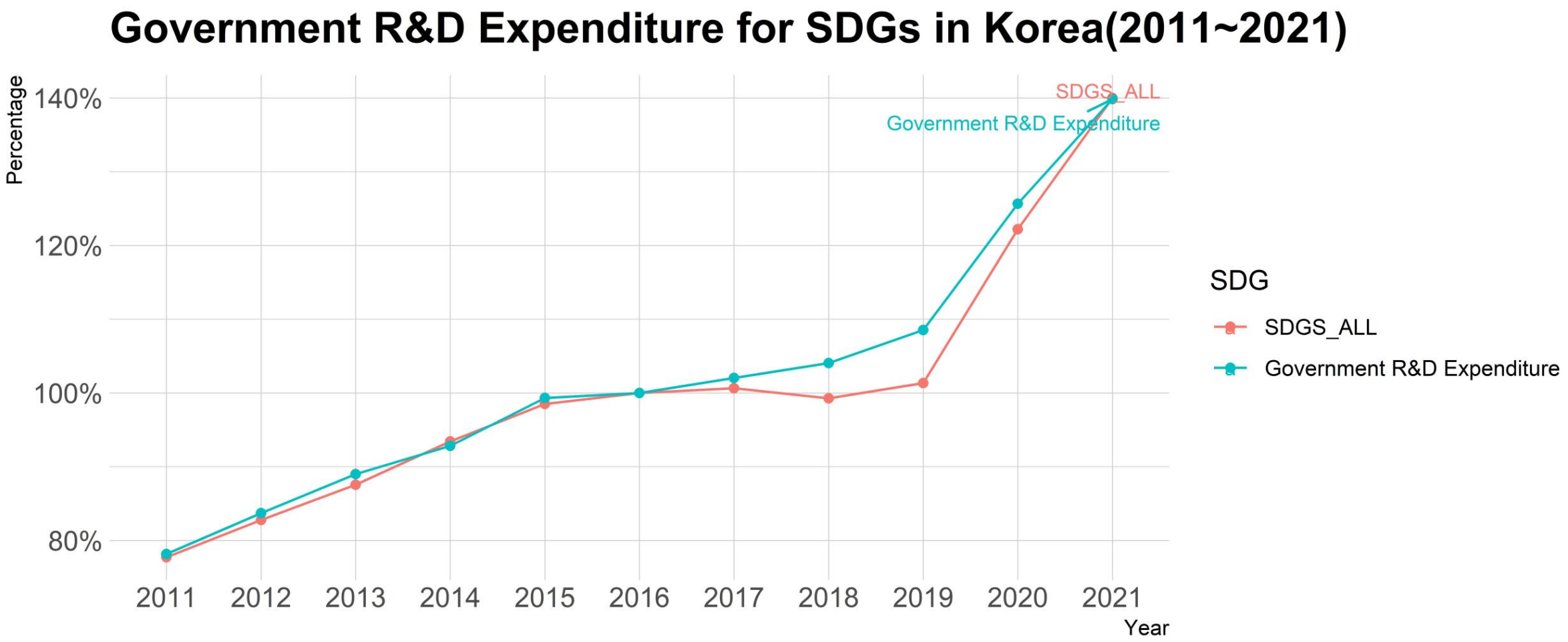
Government R&D Before and After SDGs Adoption in 2016

❖ Significant increase of SDGs R&D investment over the past 10 years
❖ The biggest increase in SDG 1 (no poverty) & lowest increase in SDG 14 (life under water)



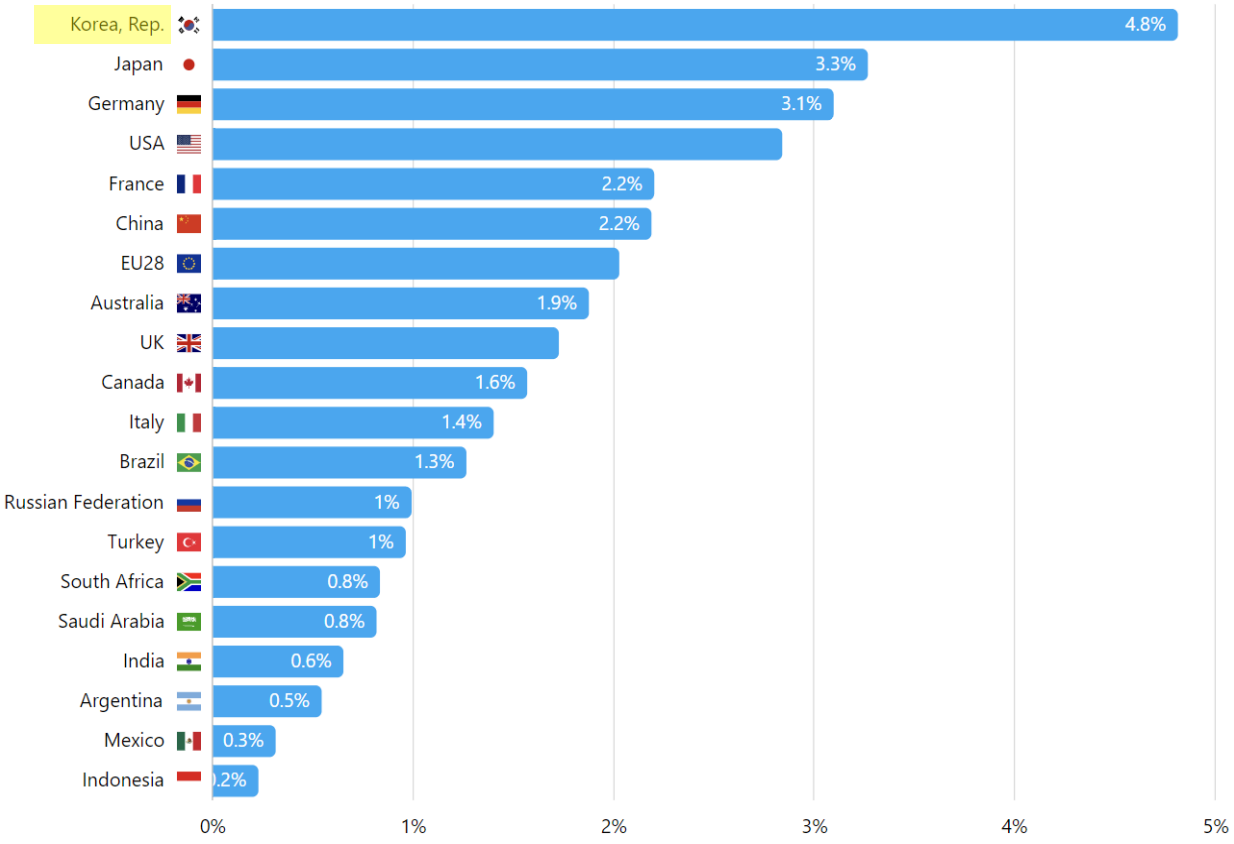
Government R&D Before and After SDGs Adoption in 2016

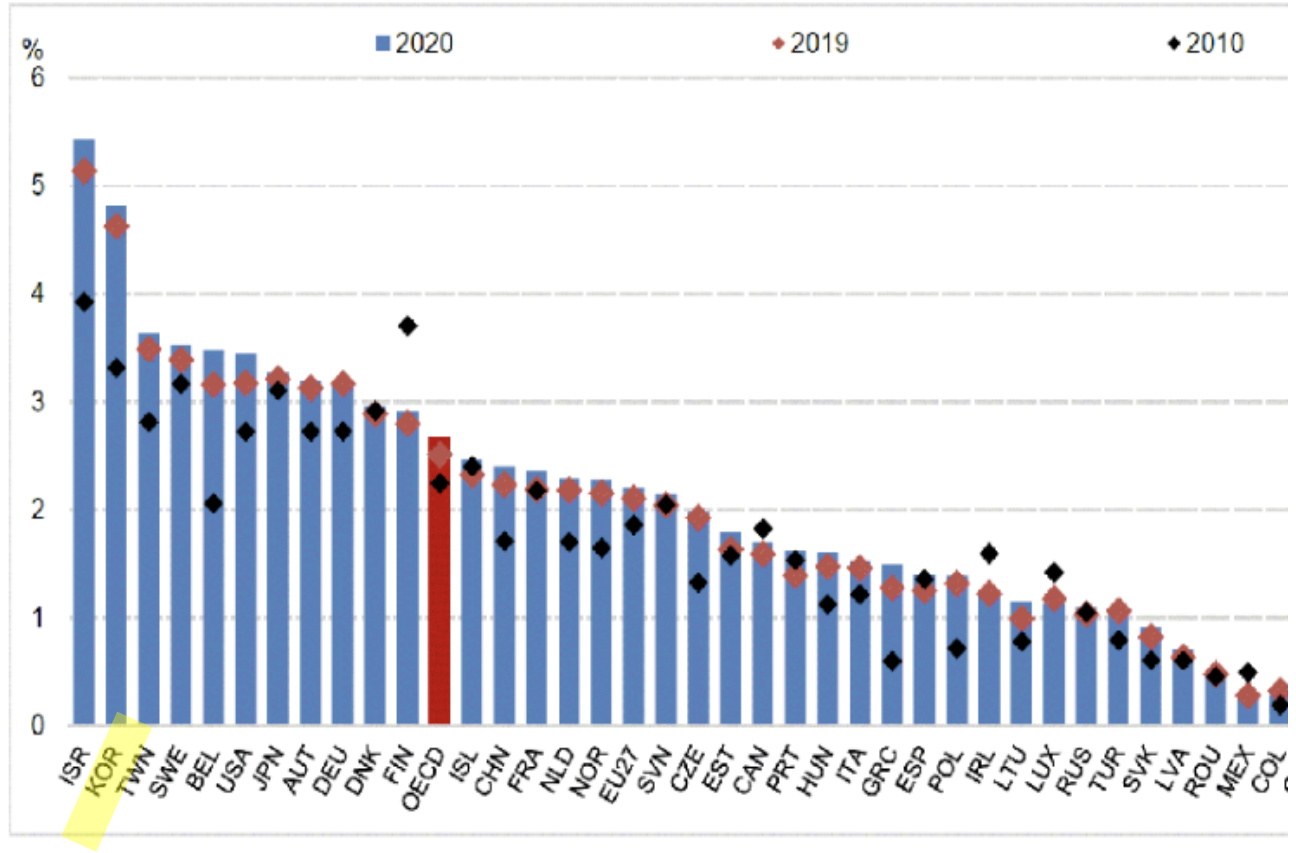
However,
It does not seem the SDGs adoption had real impacts on STI investment decision



Before and After SDGs Adoption in 2016

Korea is #1 R&D investor among G20 Countries, #2 among OECD Countries in terms of R&D intensity (Government expenditure on research and development as a share of GDP)



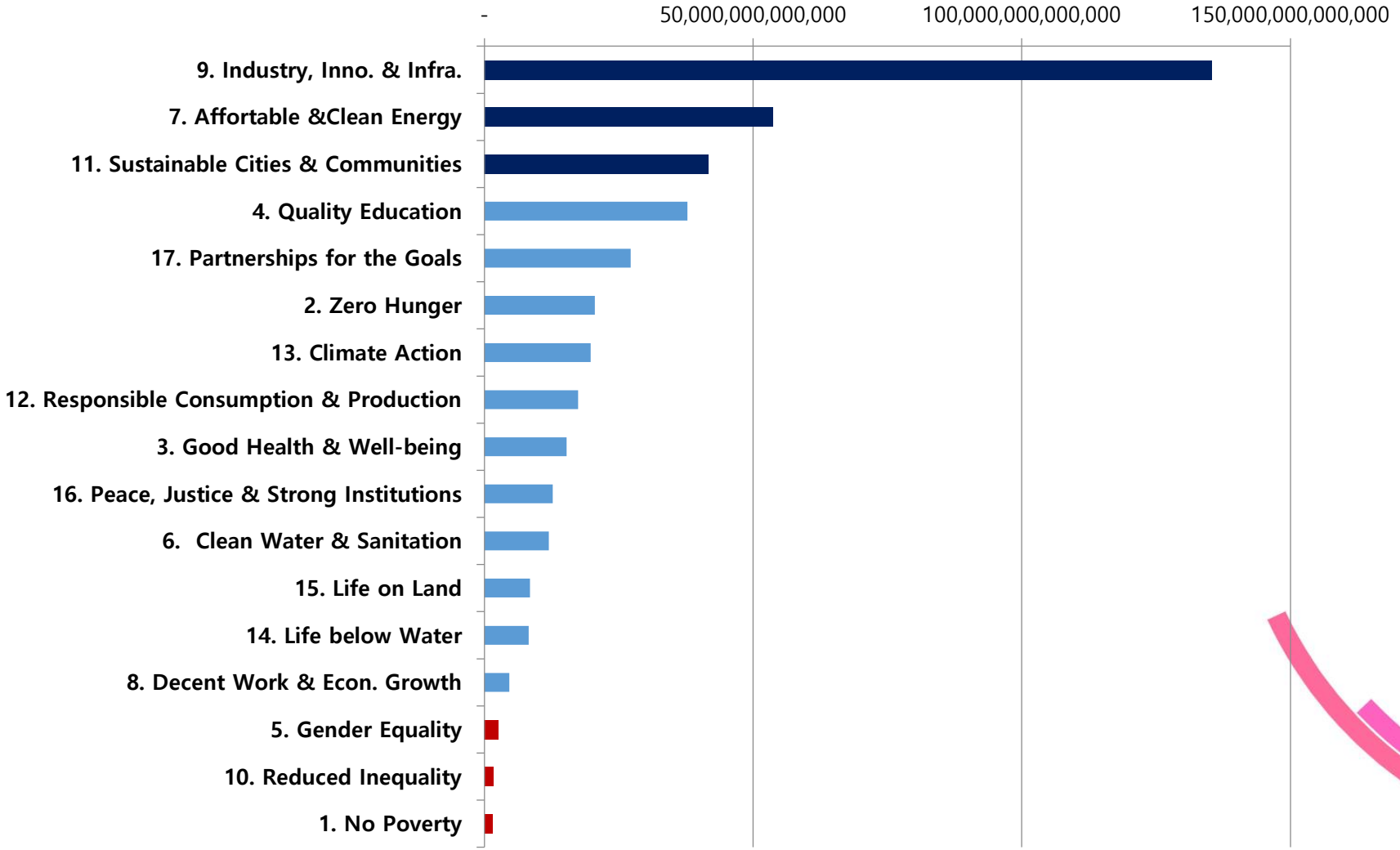


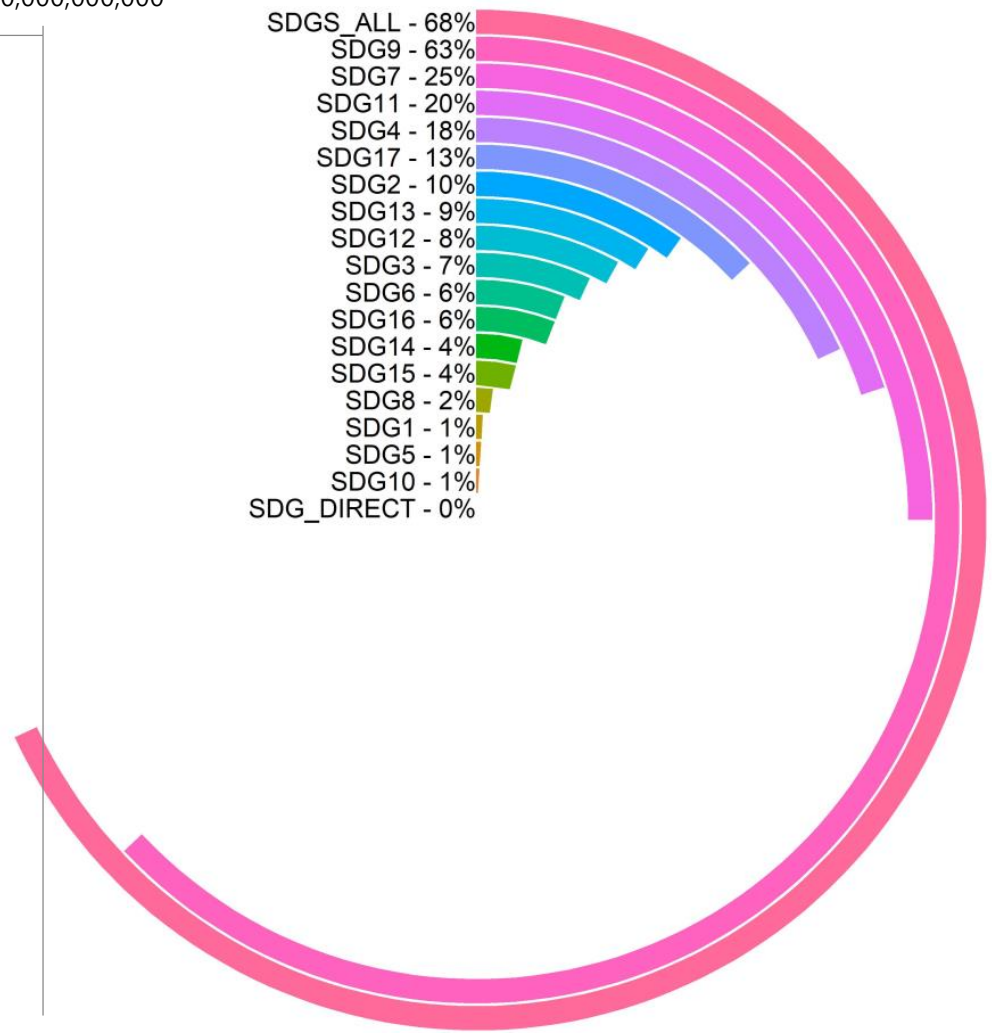
Source: UNESCO Science Report: the Race Against Time for Smarter Development (2021)

Source: OECD Main Science and Technology Indicator Database (March 2022)

Top Priority Fields of Gov. R&D Investment in Korea

% of Total Government R&D Expenditure (2011–2021)
SDGs Direct 0% / SDGs All (with potential contribution) 68% / Top 3 – 9 〉7〉 11 / Bottom 3 – 1 〈 10 〈 5

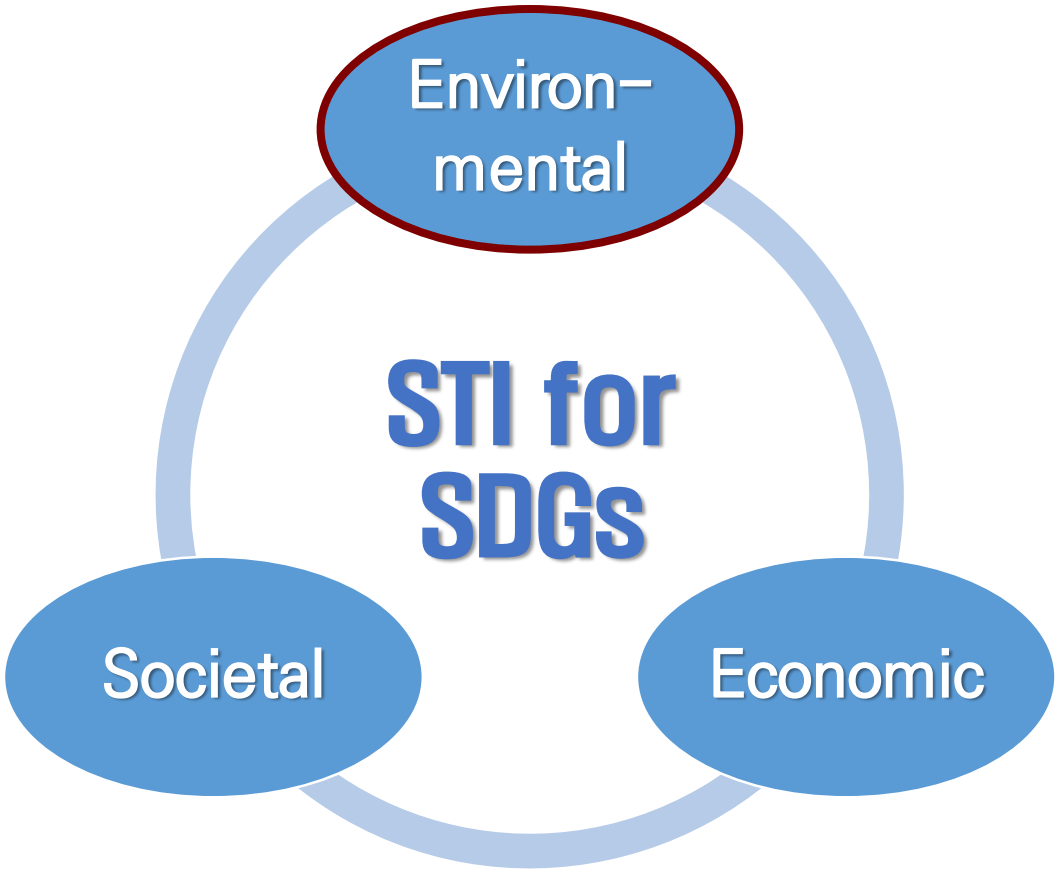




Challenges of STI for SDGs

: How to Promote STI for SDGs?

Misconceptions on SDGs & Little Interest in STI for SDGs



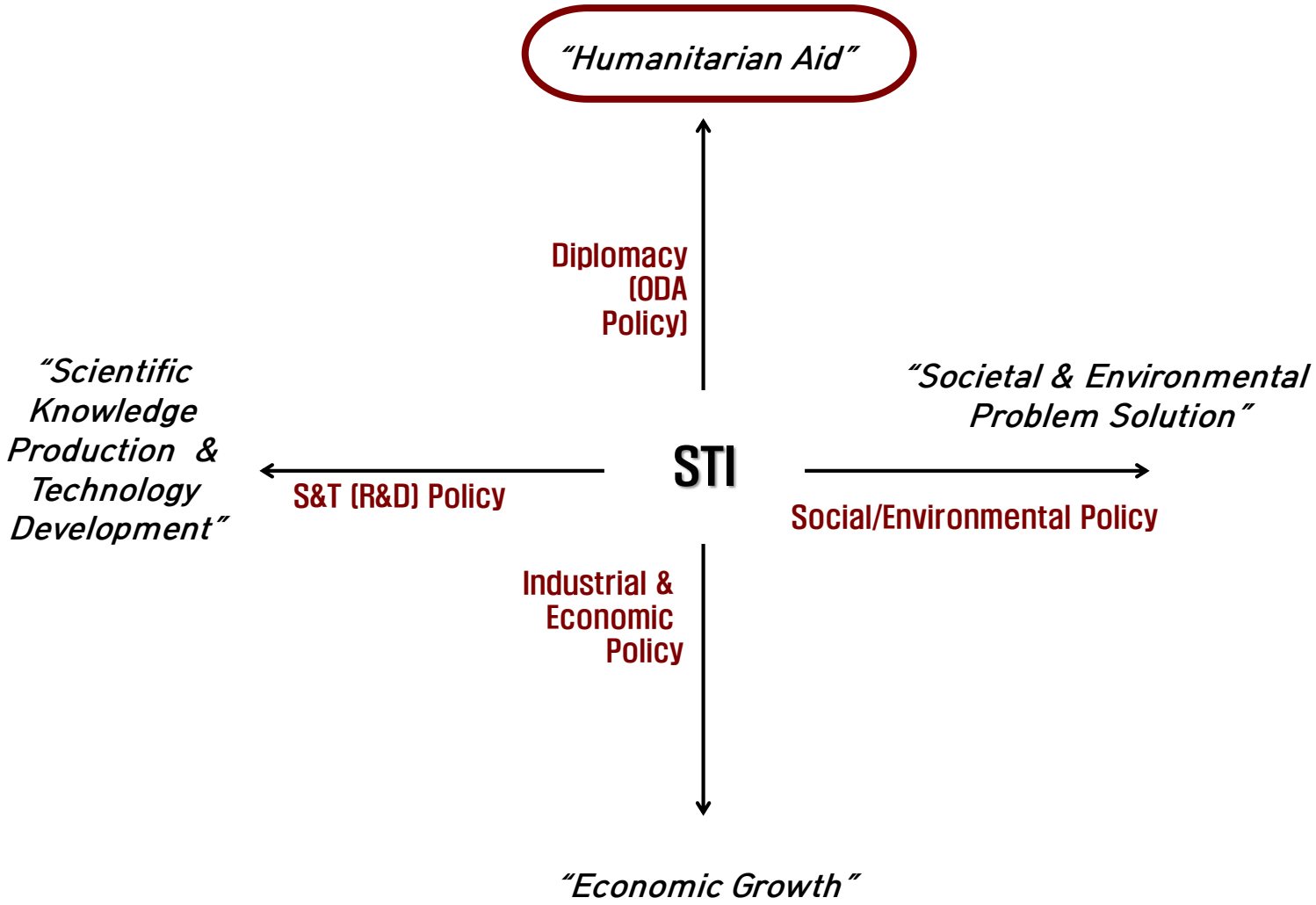
SDGs = Environmental Regulations ?

Governance and Legal Framework of SDGs

Sustainable Development Act
- 2008-2022
- Ministry of Environment
- Fragmented issues

Framework Act on Sustainable Development
- 2022 ~ present
- Prime Minister's Office for Government Policy Coordination

Misconceptions on SDGs & Little Interest in STI for SDGs



SDGs = ODA ?

Top Priority of STI Policy and Evaluation System, Emphasizing more Research Outputs (academic publications, patents) than Research outcomes

Transformation of "Evaluation System" (Incentives, Awards, etc.) "Research Culture"

Key Takeaways

- **Governance and the legal framework of SDGs implementation** matter to how the STI community perceives and responds to SDGs.

- **Transformative STI policy** matters to what extent the STI community proactively contributes to SDGs.

Thank You!

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