

2023.11.22

Korea's Data Space Strategy: National Data Infrastructure

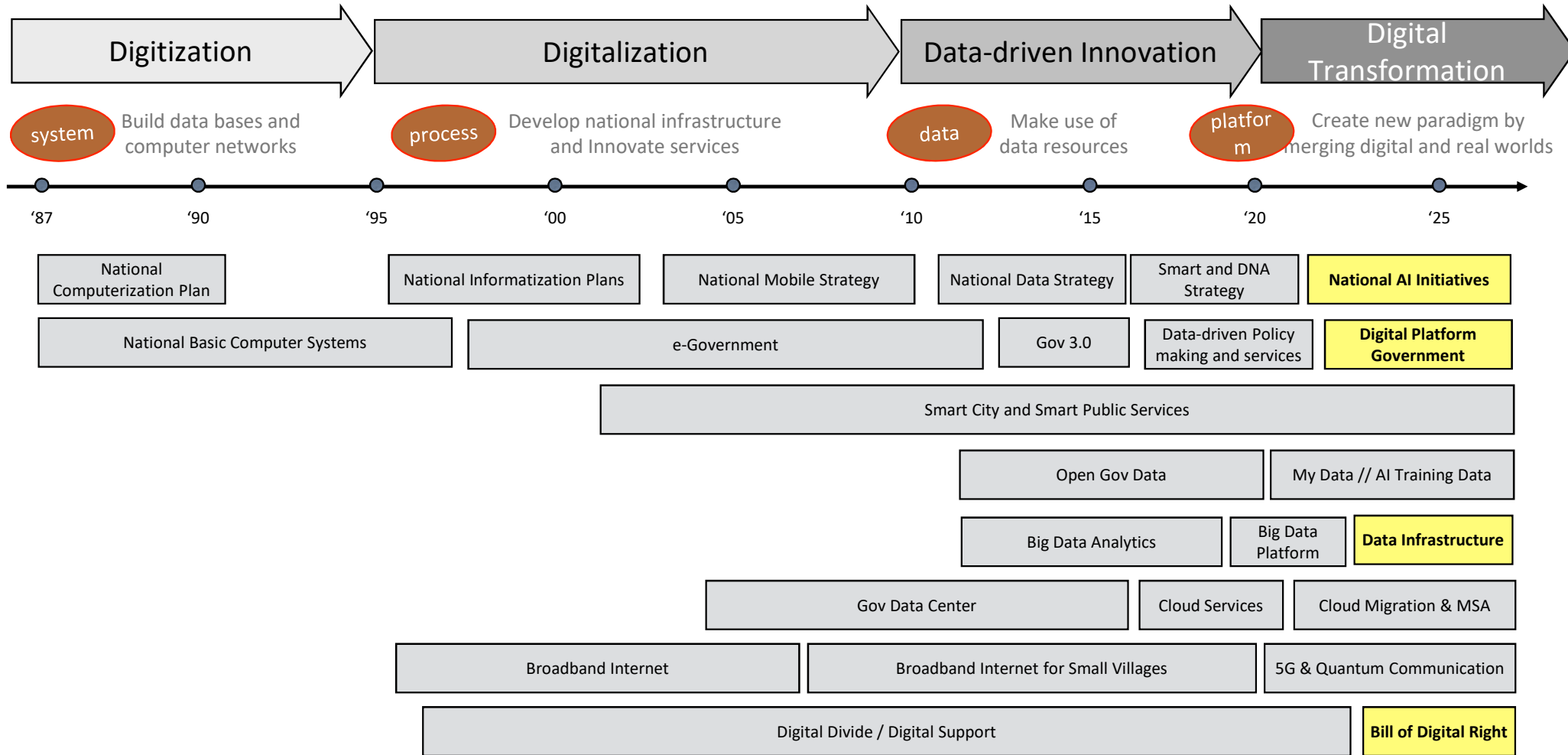
Hwang, Jong-Sung (President)



Government Digitization since the late 1980s

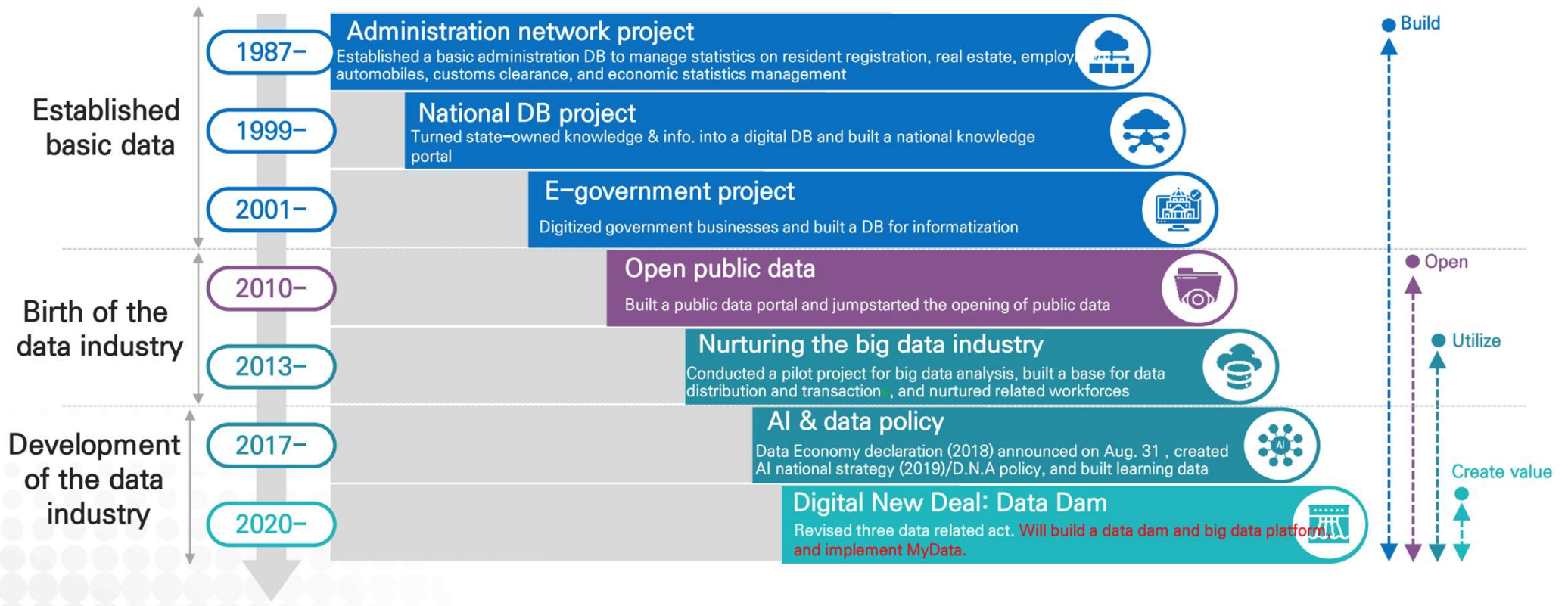


Changing Approaches to Digital Government



History of Data Policies

- Along with technological and industrial changes, the government's data policies have evolved from establishing a database to opening data to data utilization and value creation from data



AI Race and Competitions

“We Have No Moat, And
Neither Does OpenAI ”
Google
Report on open source LLM

How to win AI race at a national level

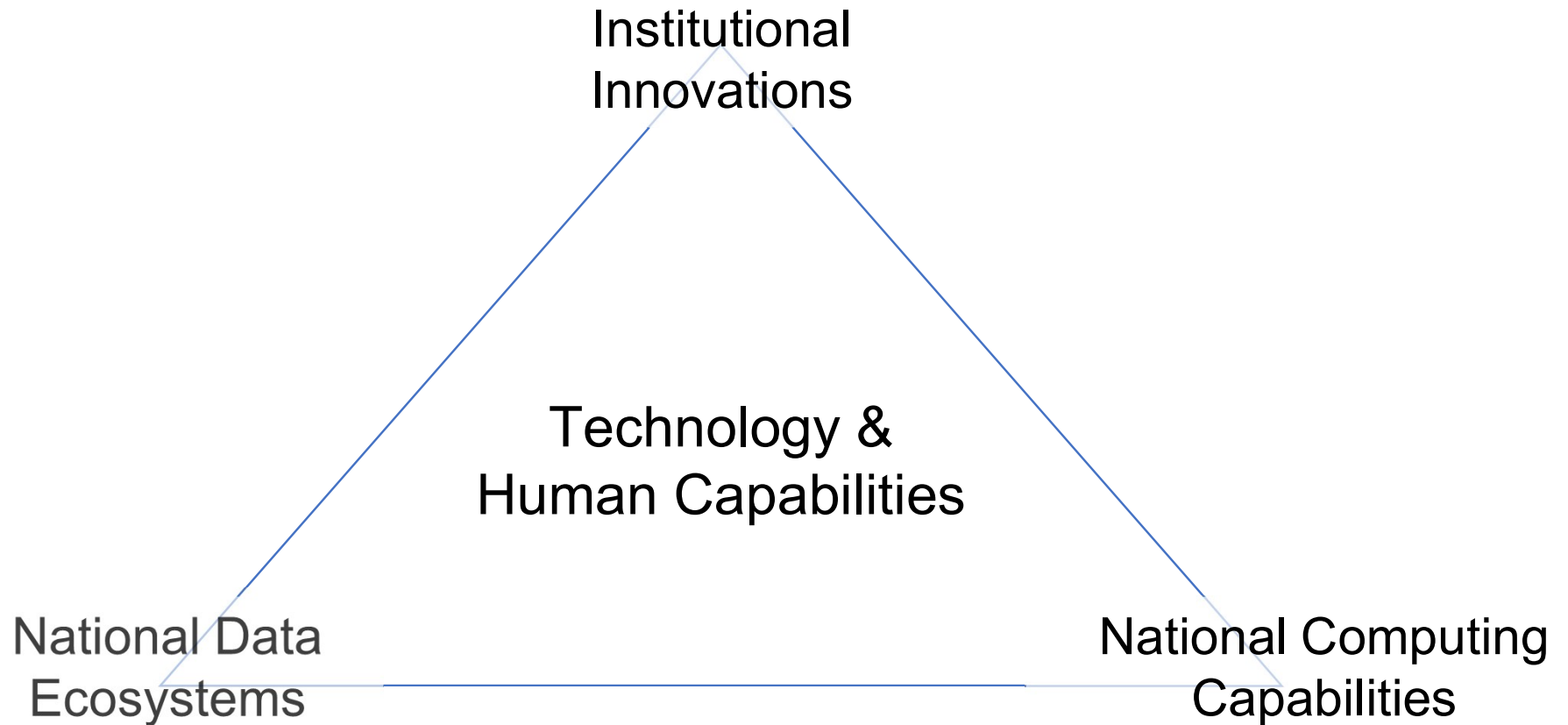
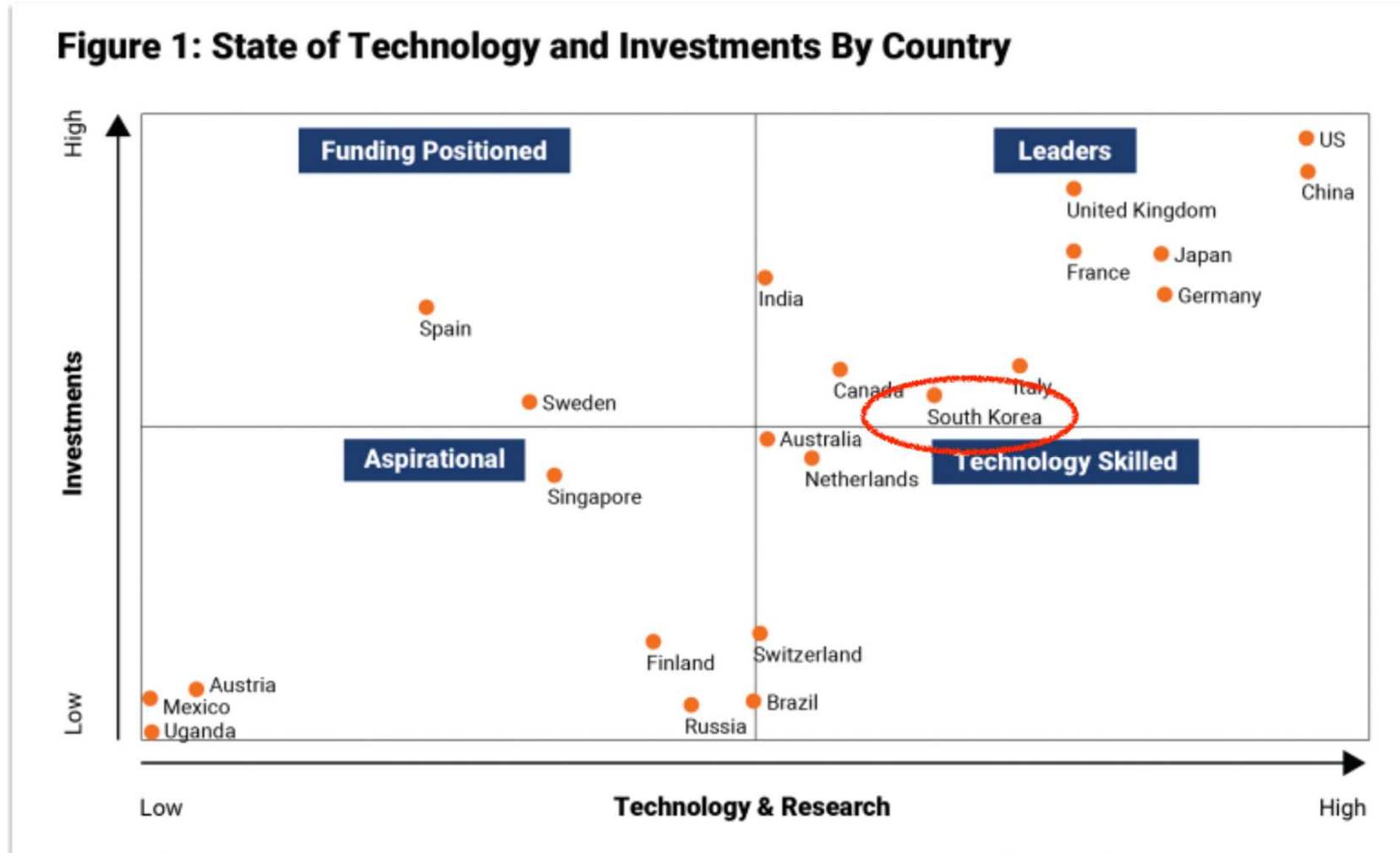


Figure 1: State of Technology and Investments By Country



<https://www.brookings.edu/articles/how-countries-are-leveraging-computing-power-to-achieve-their-national-artificial-intelligence-strategies/#footnote1>

Korea's Data Problems

Data ecosystems in silos

Data Landscape in Korea

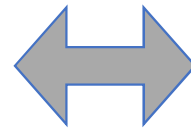
Domains have developed their own governance and ecosystems in silos with big differences in maturity levels

Category		Private Data	Public Data	Industry Data	AI learning Data	Medical Data	Geospatial Data	Financial Data
Legal system guidelines	Law	ACT ON THE PROMOTION OF DATA INDUSTRY AND THE ACTIVATION OF DATA USE	ACT ON PROMOTION OF THE PROVISION AND USE OF PUBLIC DATA , ACT ON THE PROMOTION OF DATA-BASED ADMINISTRATION	INDUSTRIAL DIGITAL TRANSFORMATION PROMOTION ACT	FRAMEWORK ACT ON INTELLIGENT INFORMATIZATION, ACT ON THE PROMOTION OF DATA INDUSTRY AND THE ACTIVATION OF DATA USE	BIOETHICS AND SAFETY ACT	FRAMEWORK ACT ON NATIONAL SPATIAL DATA INFRASTRUCTURE, ACT ON THE ESTABLISHMENT AND MANAGEMENT OF SPATIAL DATA	CREDIT INFORMATION USE AND PROTECTION ACT
	guidelines	Guidelines for designating and operating data safety zone, Guidelines for designating and operating a data valuation agency	Guidelines for Public Data Management	-	-	Guidelines for the Utilization of Health and Medical Data	National Geospatial Information Security Management Regulations	Regulations on Sepervision of Credit Information Business, Guidelinde for Pseudonymization ·Anonymization in Finance
Organization	Ministry	Ministry of Science and ICT	Ministry of Interior and Safety	Ministry of Trade, Industry and Energy	Ministry of Science and ICT	Ministry of Health and Welfare	Ministry of Land, Infrastructure and Transport	Financial Services Commission
	Commission/ Council	Data Policy Committee and Subcommittees (General, production sharing, distribution transactions)	Open Data Strategy Council and Working Committee, Expert Committee	Industry Digital Transformation Council	Data Policy Committee, AI Data Utilization Council	Institutional Review Board (IRB), Data Review Board (DRB)	Committee for National Spatial Data	-
	Professional Support Organization	NIA, KDATA	NIA Public data utilization support center	KIAT, Ministry of Trade, Industry and Energy designated organizations	NIA	Korea Health Information Service(KHIS), NECA	Korea Research Institute for Human Settlements, National Geographic Information Institute, Land and Geospatial Informatix Corporation	Financial Security Institute, Korea Credit Information Services, etc.

Lack of Incentives for Data Sharing

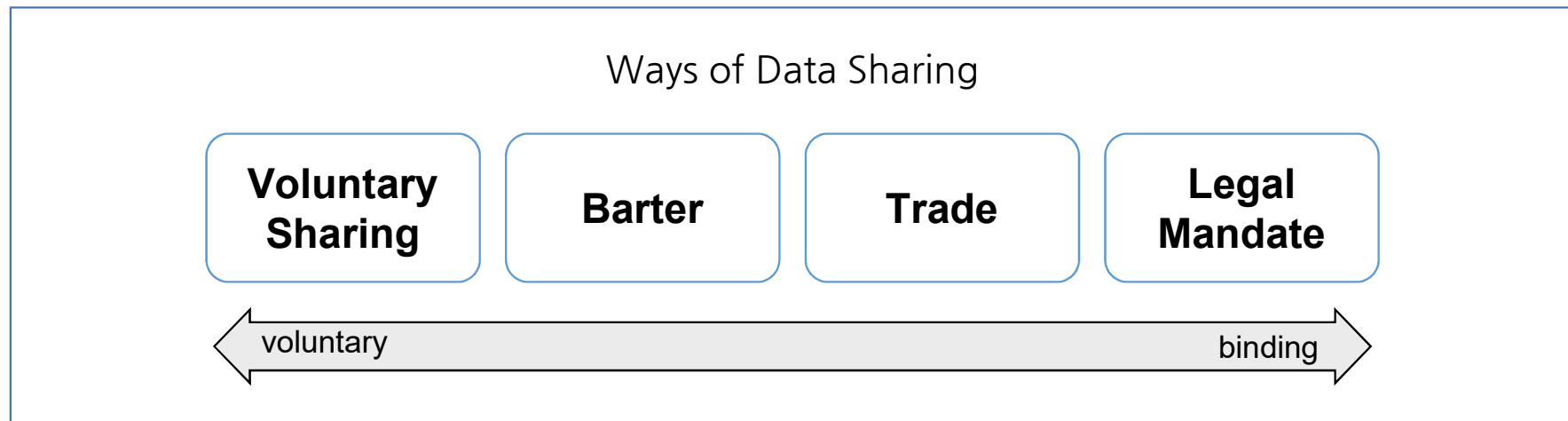
Hiding Valuable Data

Data owners
lose sovereignty over their
data once they are shared



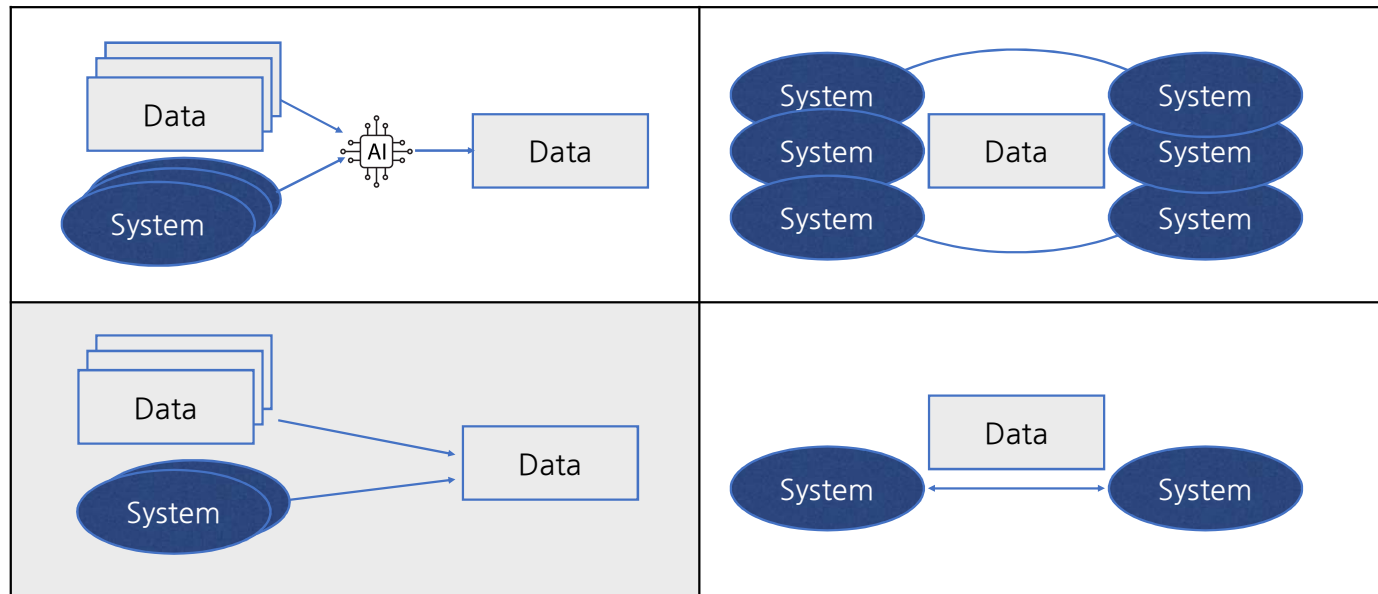
Discouraging Reuse of Data

Data users
have to overcome the lack of
trust in data for themselves



Sharing Data only, not systems behind them

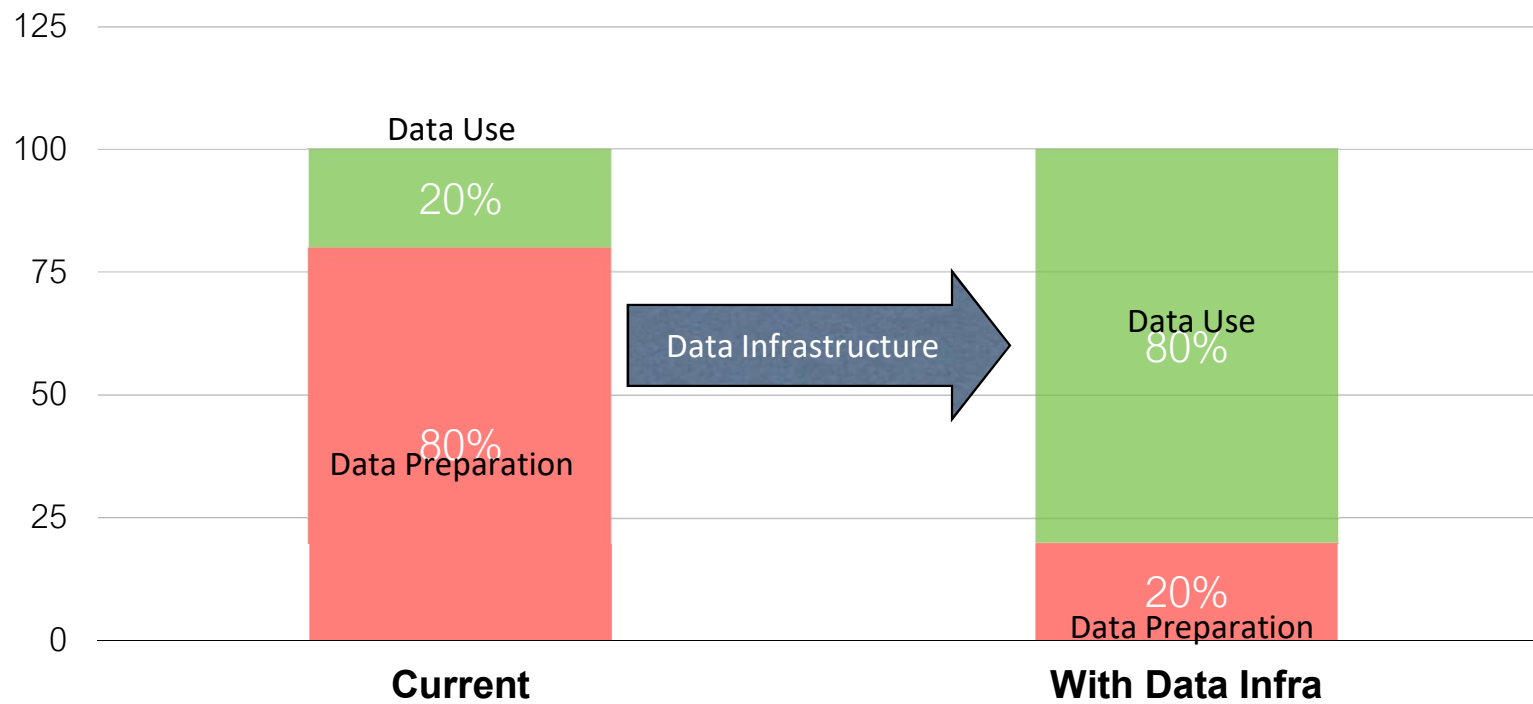
Embedded &
automated Sharing



Sharing Data Only

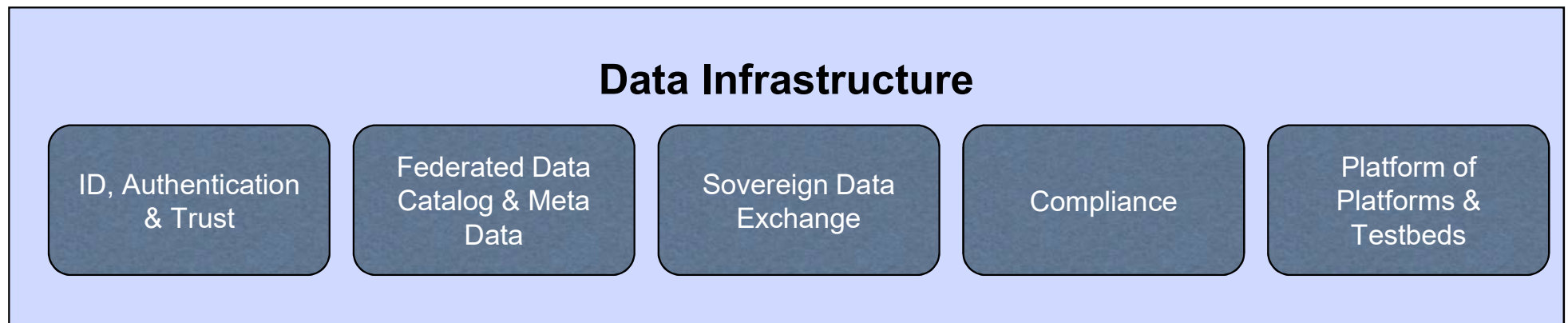
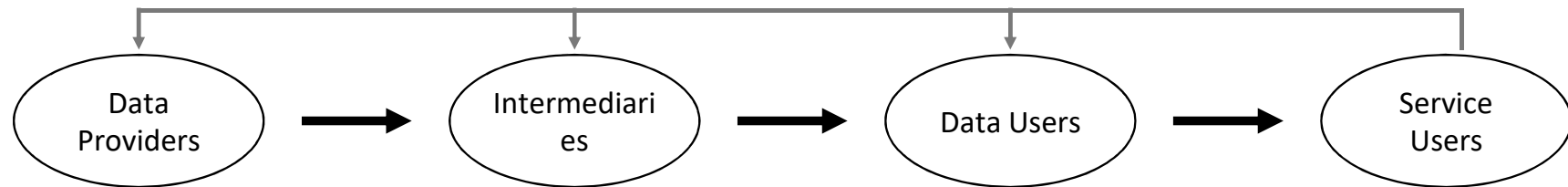
Connecting Systems

Data cost is so high now

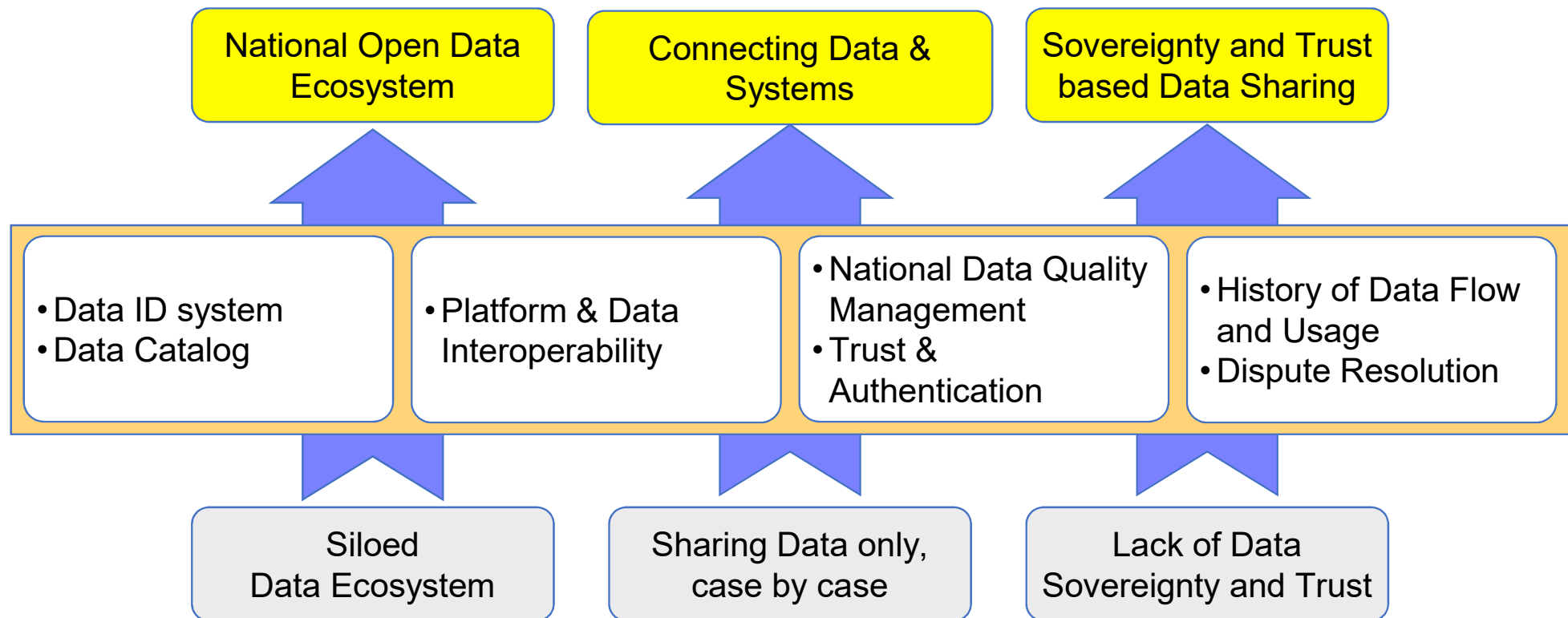


Data Infrastructure

basic processes and common services connecting players across the whole cycle of digital platform government



Key Changes by National Data Infrastructure



< 10 Basic Principles of National Data Infrastructure >

- 1.(Search)** Data should be found quickly and efficiently.
- 2.(Comprehend)** Be able to easily and deeply understand the meaning and properties of data.
- 3.(Access)** Data sources must be easily and reliably accessible.
- 4.(Feedback)** Be able to effectively understand how your data is being utilized.
- 5.(Contract)** Terms of data provision and use must be agreed upon in a clear and standardized form.
- 6.(Trust)** Data providers, intermediaries, users, etc. must be objectively trusted.
- 7.(Quality)** The quality of data and services using it must be guaranteed.
- 8.(Interoperability)** Data and related systems must ensure interoperability.
- 9.(Automate)** Data must be provided in a way that is machine-readable and capable of automated processing.
- 10.(Mediate)** Effective mechanisms must exist to mediate disputes and conflicts.

< Future Plan >

(Short to Medium term)

: National data infrastructure concept demonstration and mid- to long-term strategy preparation

- Prepared a comprehensive plan for building a national data infrastructure ('23 December)
- Initiation of the first phase of construction and application of the pilot field ('24~)

(Mid to Long term)

: Establish a step-by-step national data infrastructure

- Creating a national data infrastructure base centered on core areas and expanding its application ('25~)
- Expansion of global connections, etc. ('26~)