ICT-based Carbon Reduction Efforts in Korea

Yoon-seok Ko

Executive Principal

National Information Society Agency

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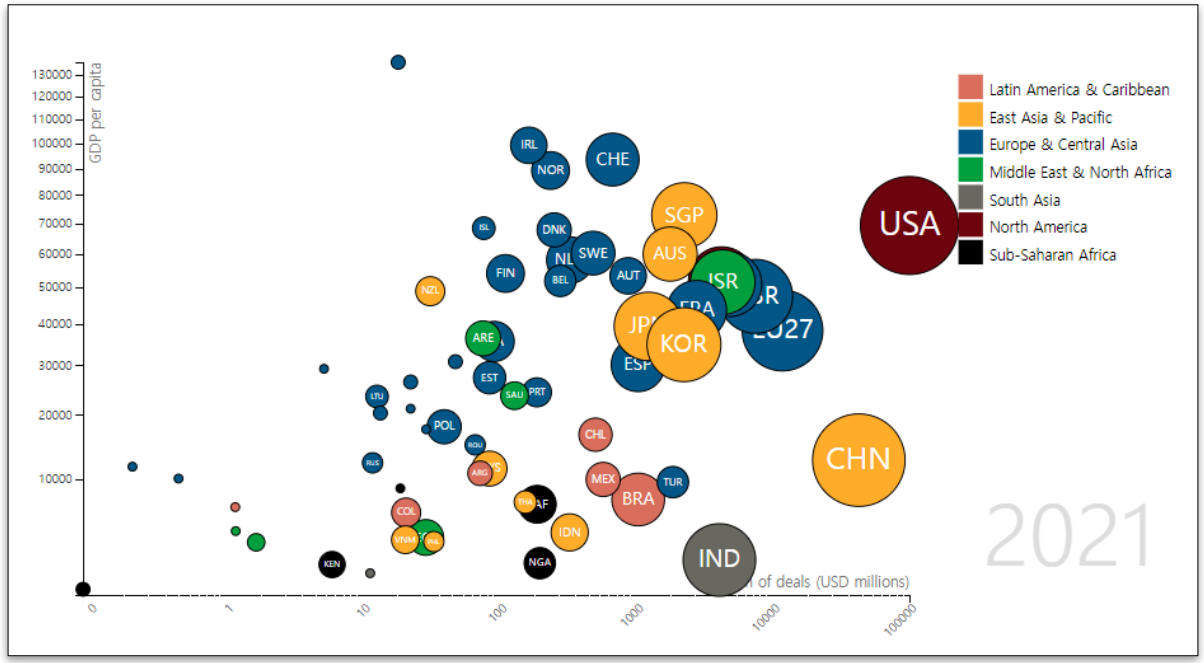
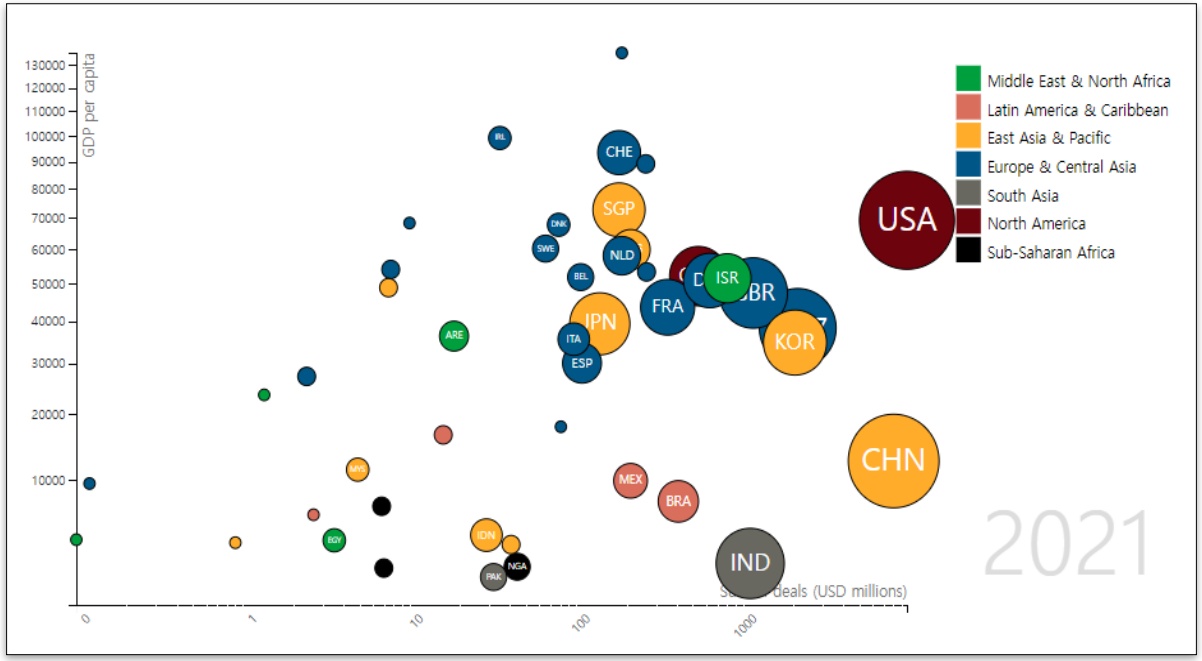


It shows the landscape of investments in AI by country

* Source: OECD.AI Policy Observatory (2023)

It shows the landscape of investments in Data by country



* Source: OECD.AI Policy Observatory (2023)

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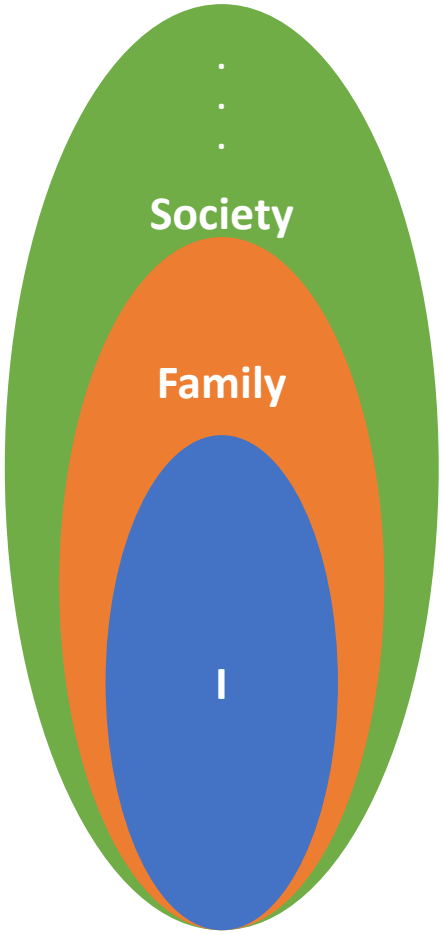
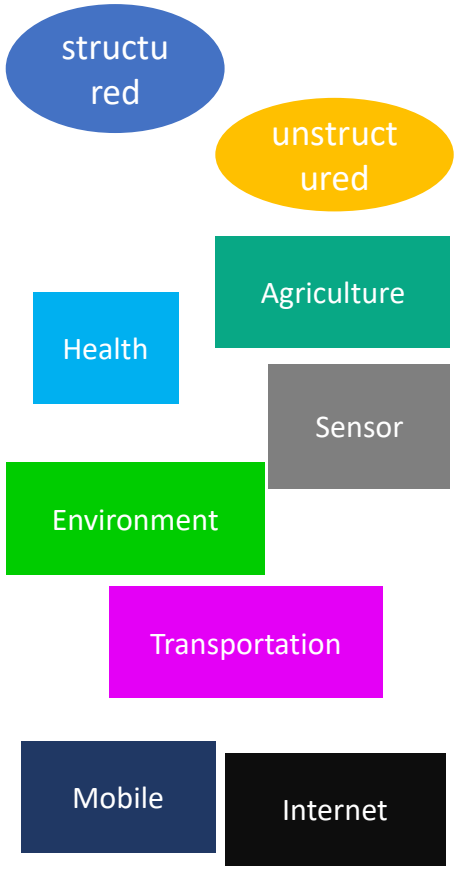
Boundary	Type	Volume	CPU Speed	N/W Speed
		bit	(1968) 2,300	(1984) 2.4kbps
		Byte	(1974) 29,000	
		KB	(1978) 134,000	(1996) 64kbps
		MB	(1985) 1.20 million	
		GB	(1991) 3.10 million	(2002) 2Mbps
		TB	(1995) 7.5 million	
		PB	(1999) 42 million	(2011) 1Gbps
		EB	(2005) 2.9 billion	
		ZB	2012년 1.90 billion	(2019) 20Gpbs

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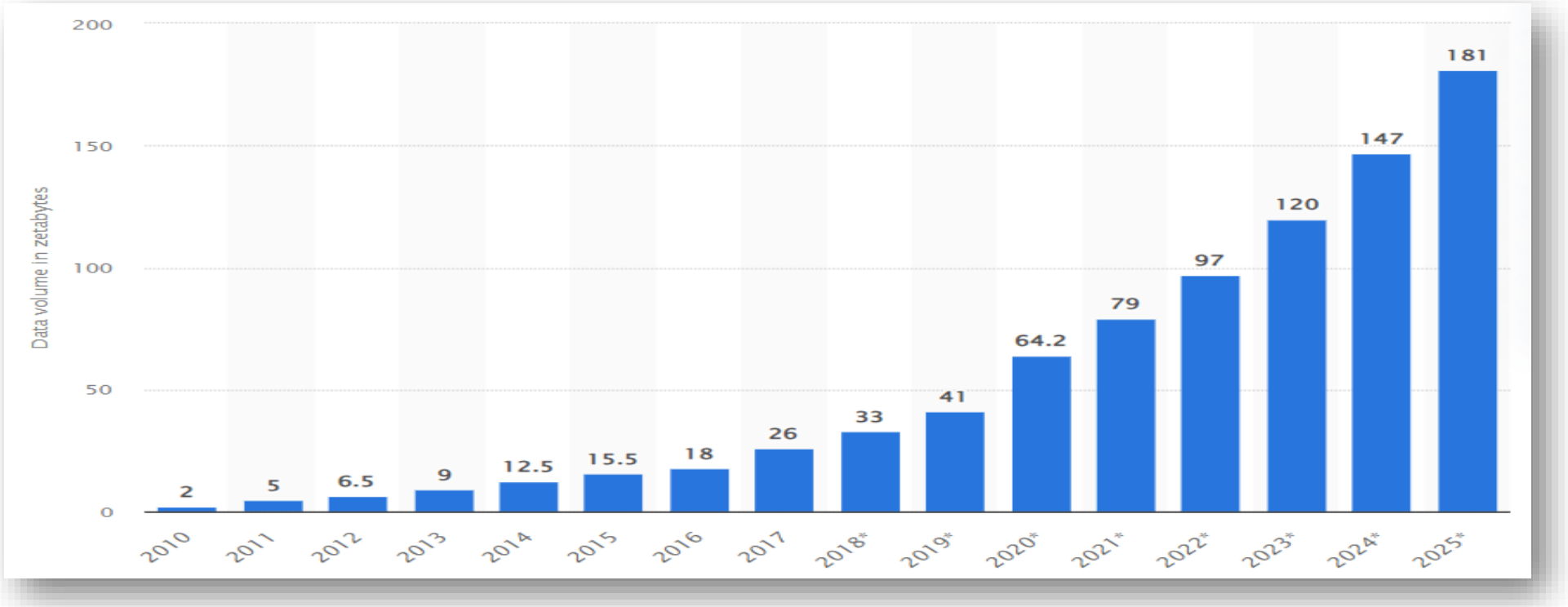
How will data grow in the future?

Global data production is expected to grow **44.8% annually to 181ZB by 2025**.

* 1ZB = 281.5 trillion songs / 3MB MP3 song



* source : statista, 2021

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Korean New Deal

Digital New Deal

1. Data Dam
2. AI Government
3. Smart Healthcare

Green New Deal

8. Green Remodeling
9. Green Energy
10. Eco-friendly Mobility of the Future

Digital & Green Convergence

4. Green & Smart Schools
5. Digital Twin
6. Digitalization of SOC
7. Smart & Green Industrial Complexes

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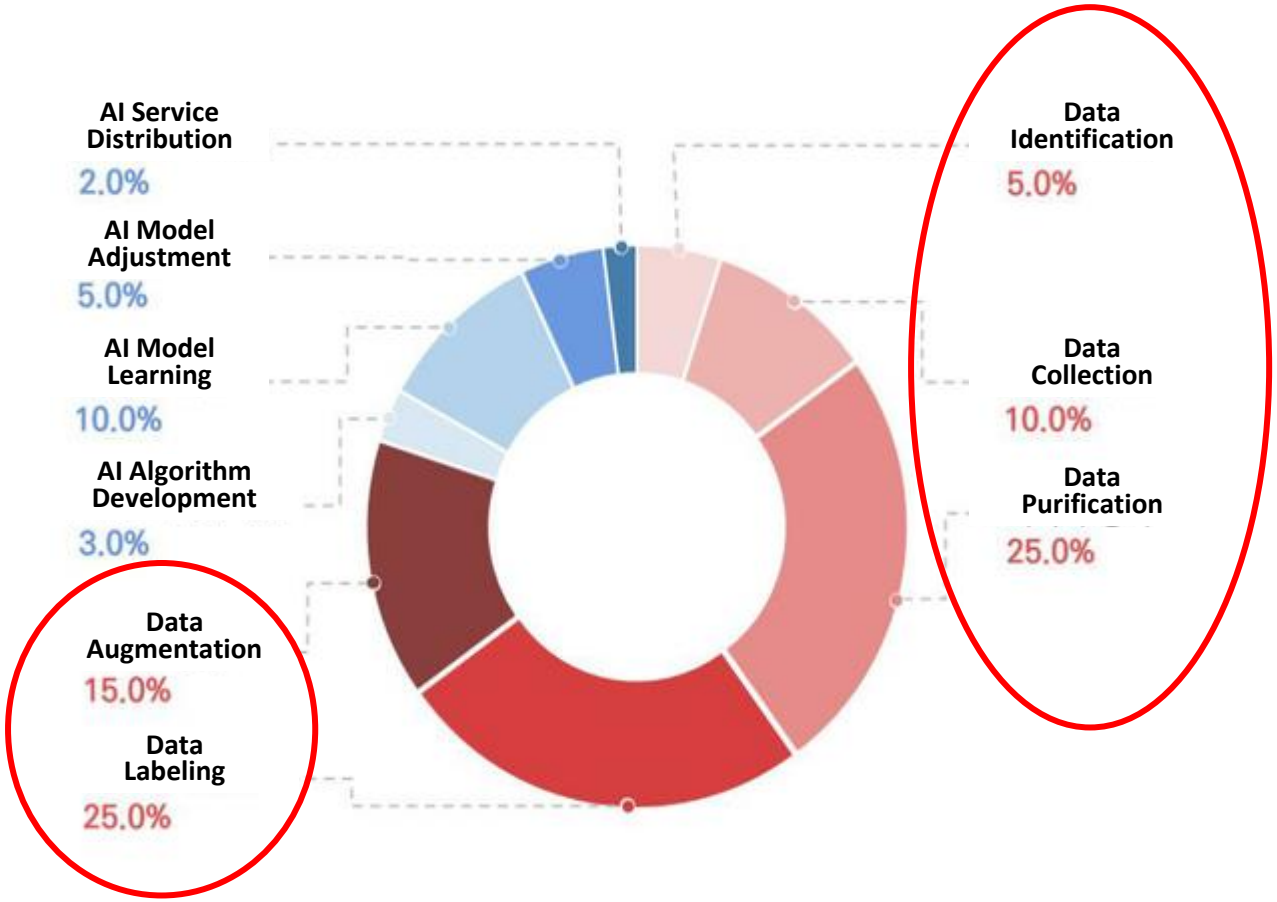
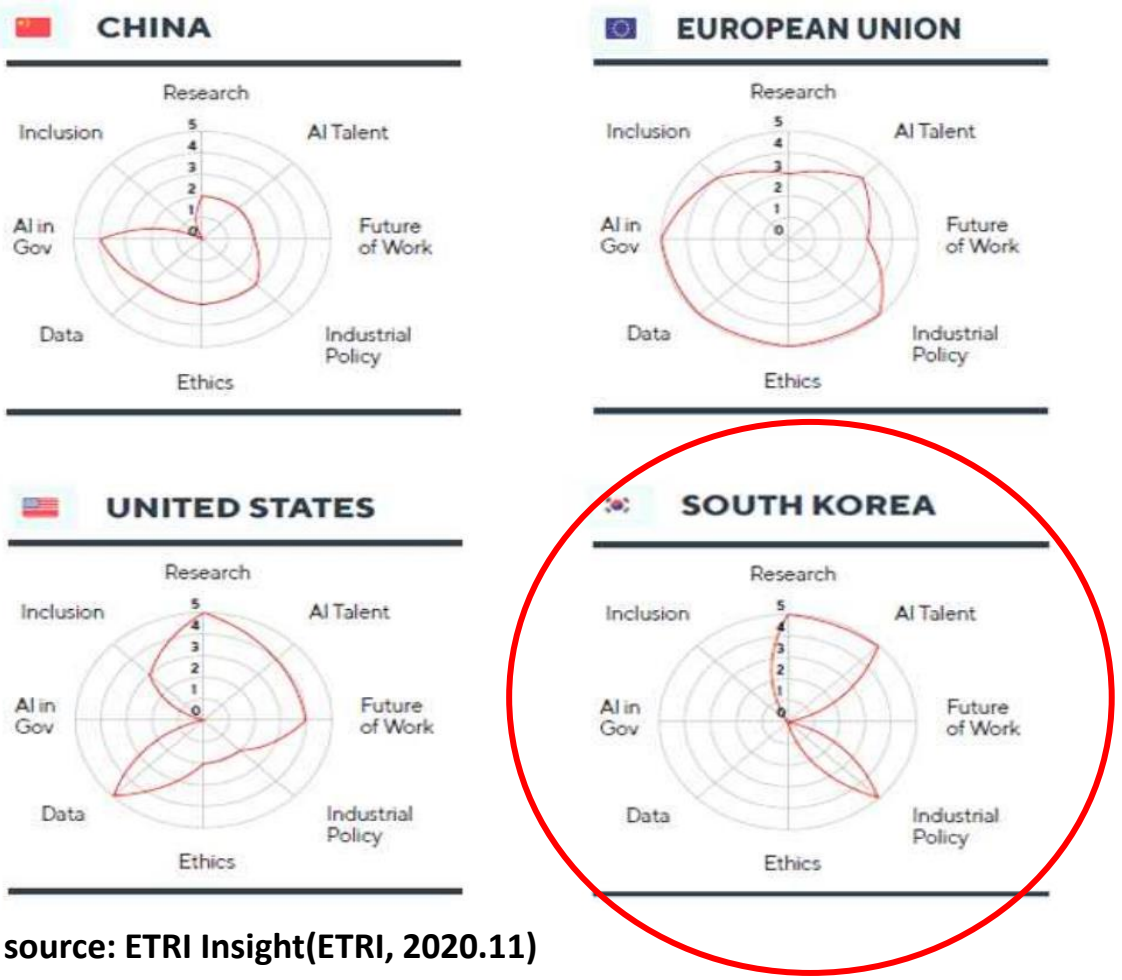


※ 자료 : The Ultimate Guide to Data Labeling for ML, Cloudfactory, Reorganized



source: ETRI Insight(ETRI, 2020.11)

Government Investment on Data (2020 – 2022)

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	2020	2021	2022	Total
Open Public Data Platform	USD 113 million	USD 138 million	USD 97.6 Million	USD 348.6 million
Big Data Platforms	USD 63 million	USD 53 million	USD 50 million	USD 166 million
AI Data Platform	USD 279 million	USD 311 million	USD 487 million	USD 1 billion

The Korean gov't invested USD 1.6 billion in three years on Data only.

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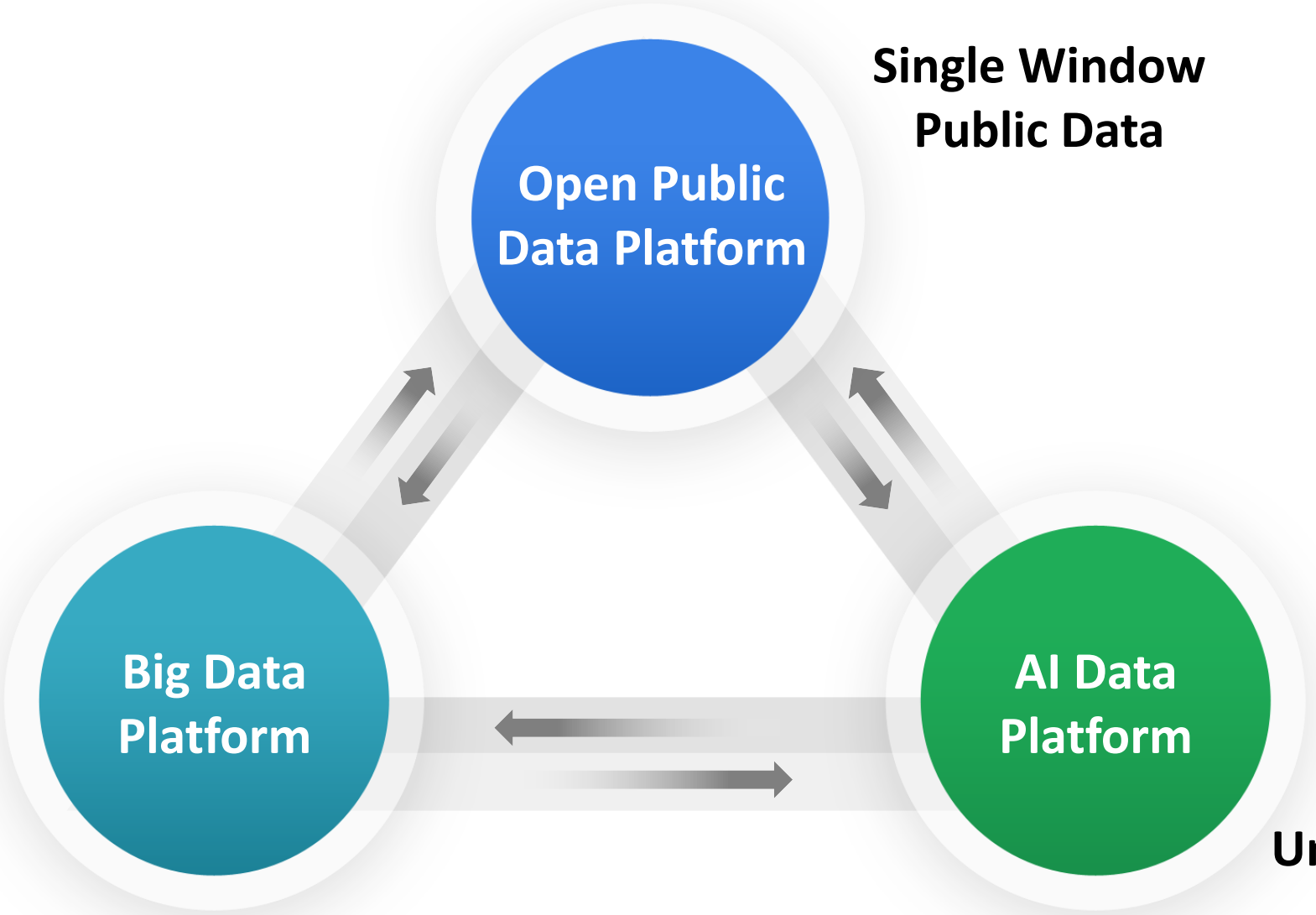

Single Window Public Data

Structured & Numeric Data

Unstructured & AI Training Data
(image/text/video)

[Ref.] Data Collection Phase

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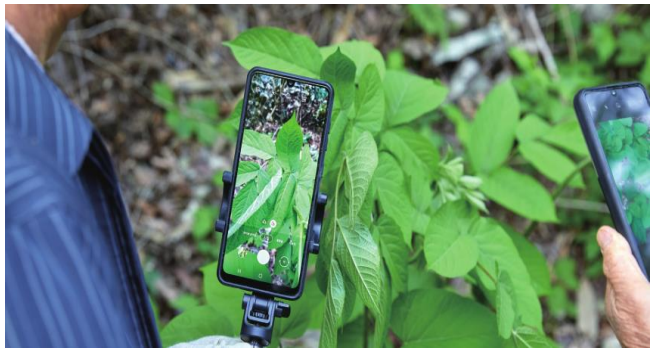
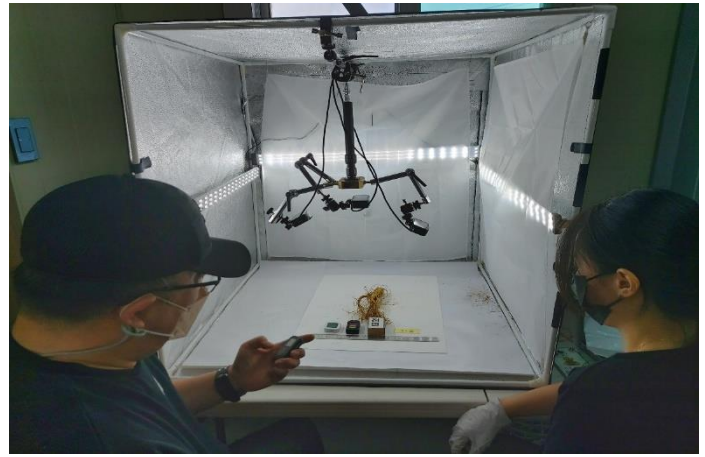


Herbal Data Collection

Robot Motion Data Collection

Pet Health Data Collection



Ginseng Data Collection

[Ref.] Data Cleansing Phase

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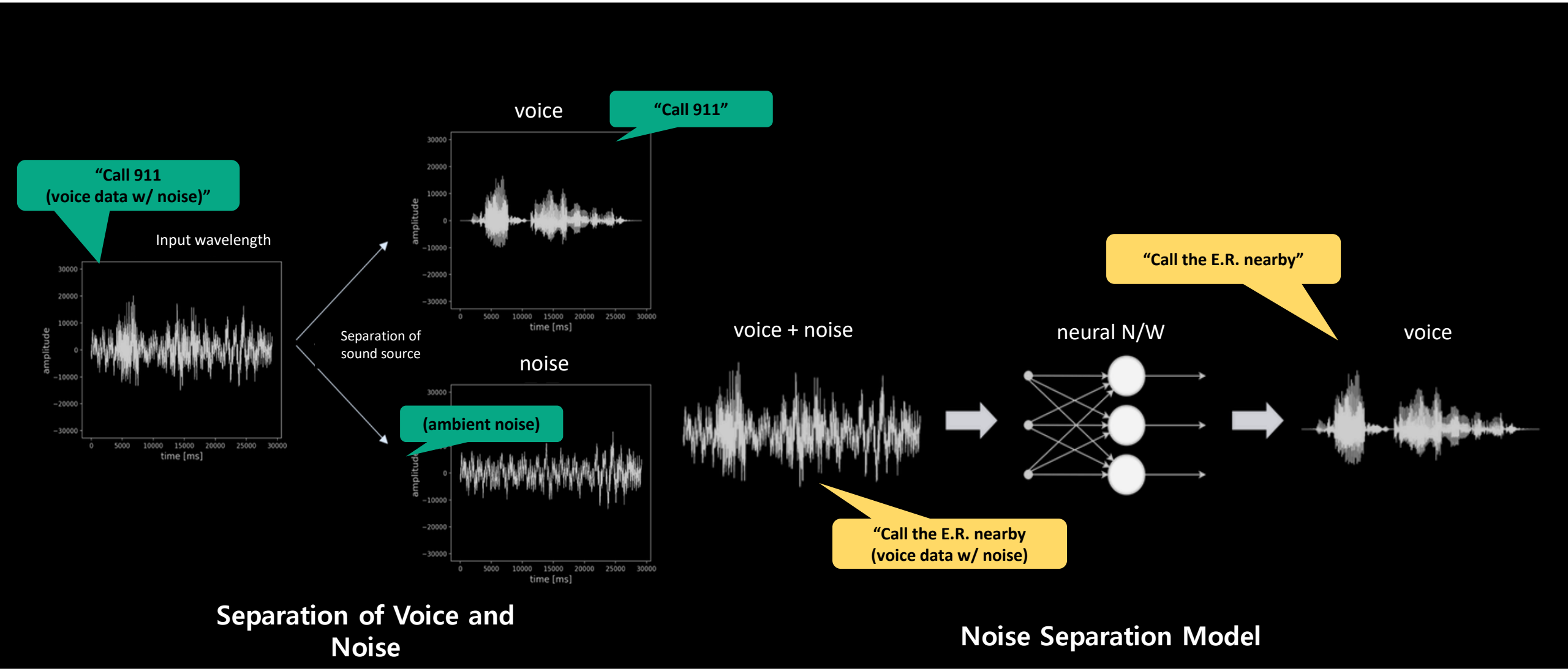

[Ref.] Types of Data Labelling

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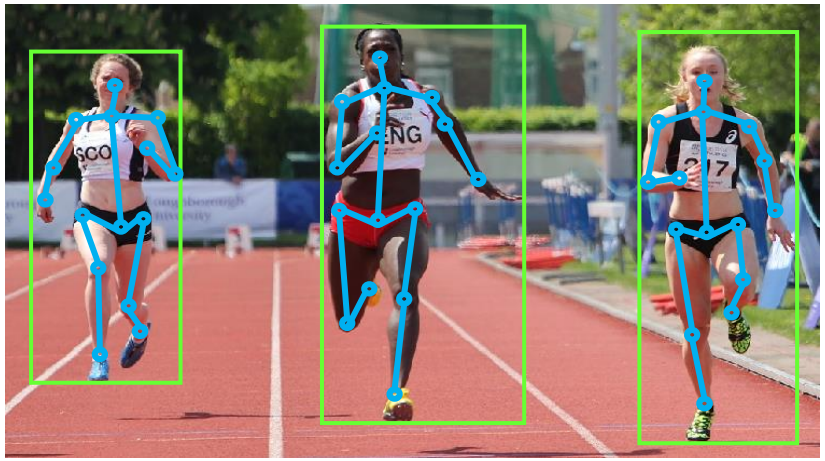

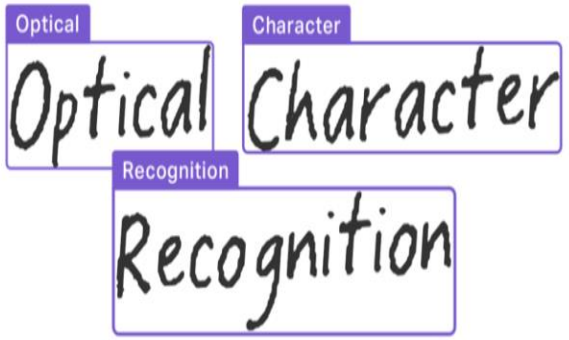

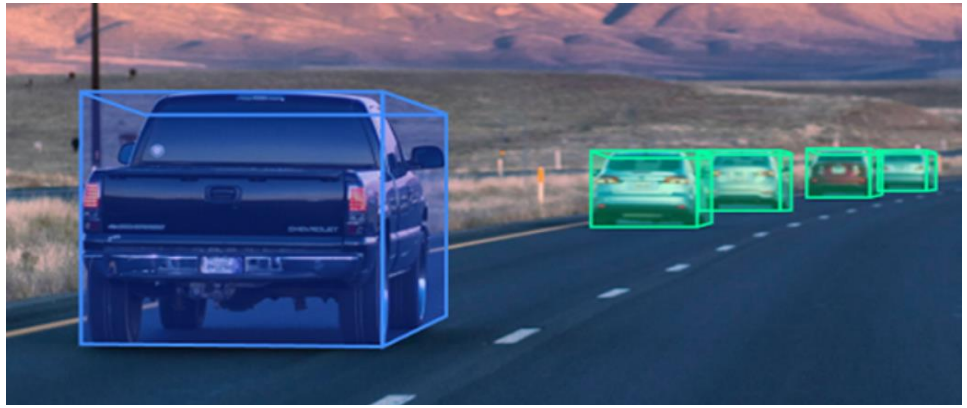

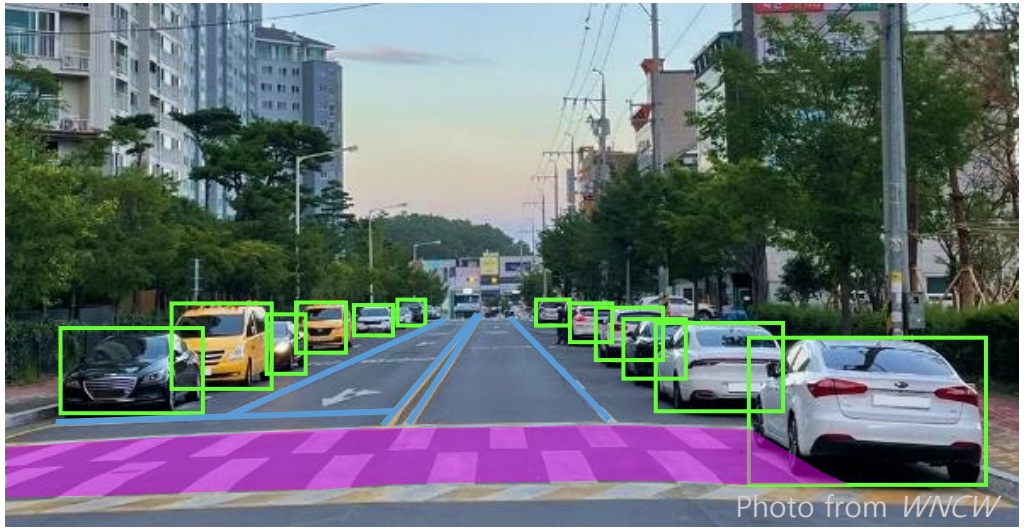

[Ref.] Data Distribution

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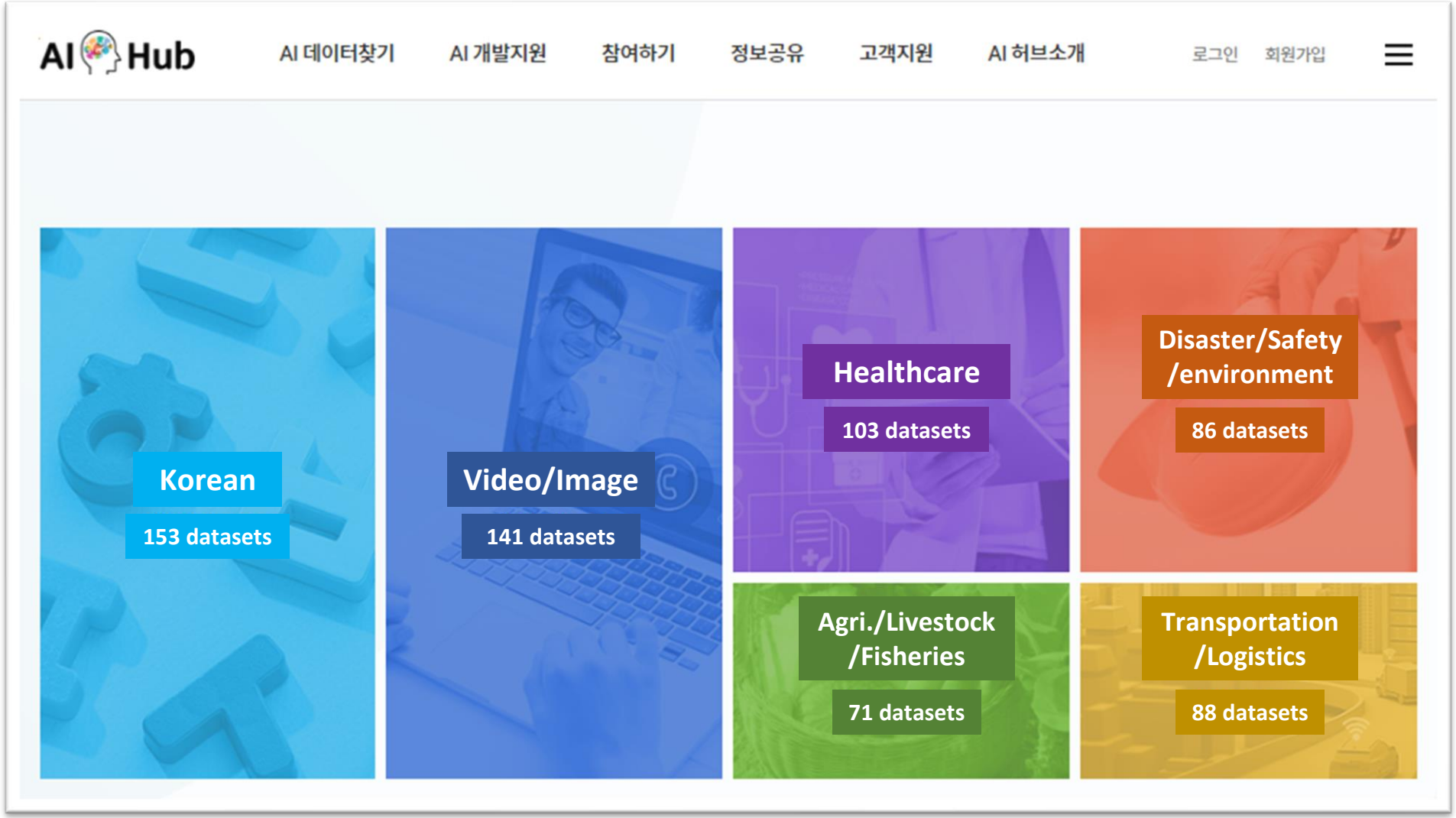

Outcomes of AI Data Platform Project

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Classification	2017~2019	2020	2021	2022
Budget	USD 25 million	USD 279 million	USD 311 million	USD 487 million
# of Dataset	21 datasets	170 datasets	190 datasets	310 datasets
# of Download	17,077	32,008	81,816	78,111
# of Company Participated ※ duplication allowed	35	621	811	1,222

Creative Vitamin Project (2014 ~)

The Government put efforts on converging ICT with each industry

- **Vitamin A: ICT – Agriculture**
- **Vitamin B: ICT – Bio**
- **Vitamin E: ICT - Environment**

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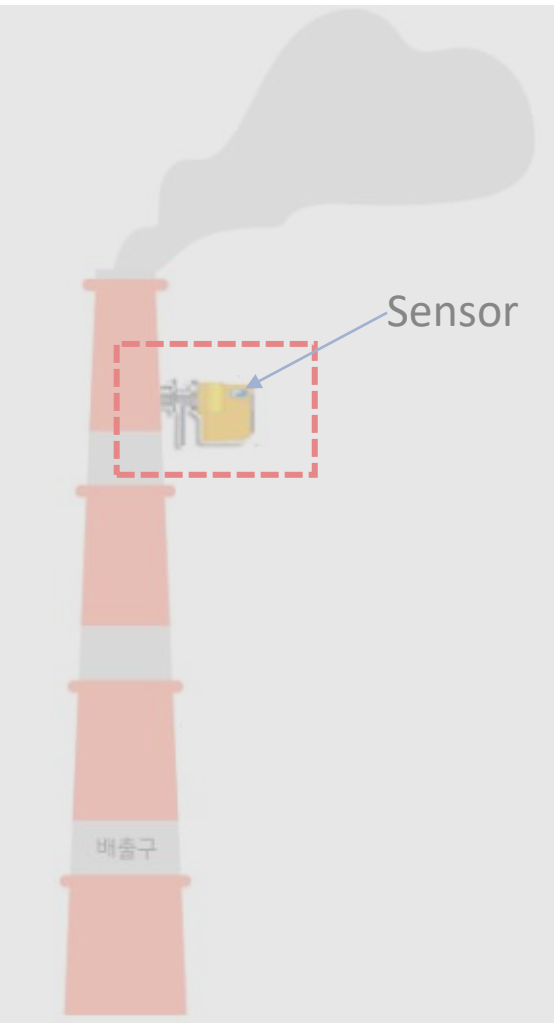
Nation-wide Chimney Monitoring System

2,988 chimneys at 887 workplaces nationwide are monitored in real-time for air pollutants (SOx, NOx, HCl, HF, NH_3, CO)



Smart Grid – Advanced Metering Infrastructure

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AMI has been installed in 48% of all households

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Carbon Neutral Smart Factory

Data-based Factory Energy Management System (FEMS, EMS)

Control System (electricity meter, energy saving algorithm, control devices, etc.)

Energy-efficient Facilities

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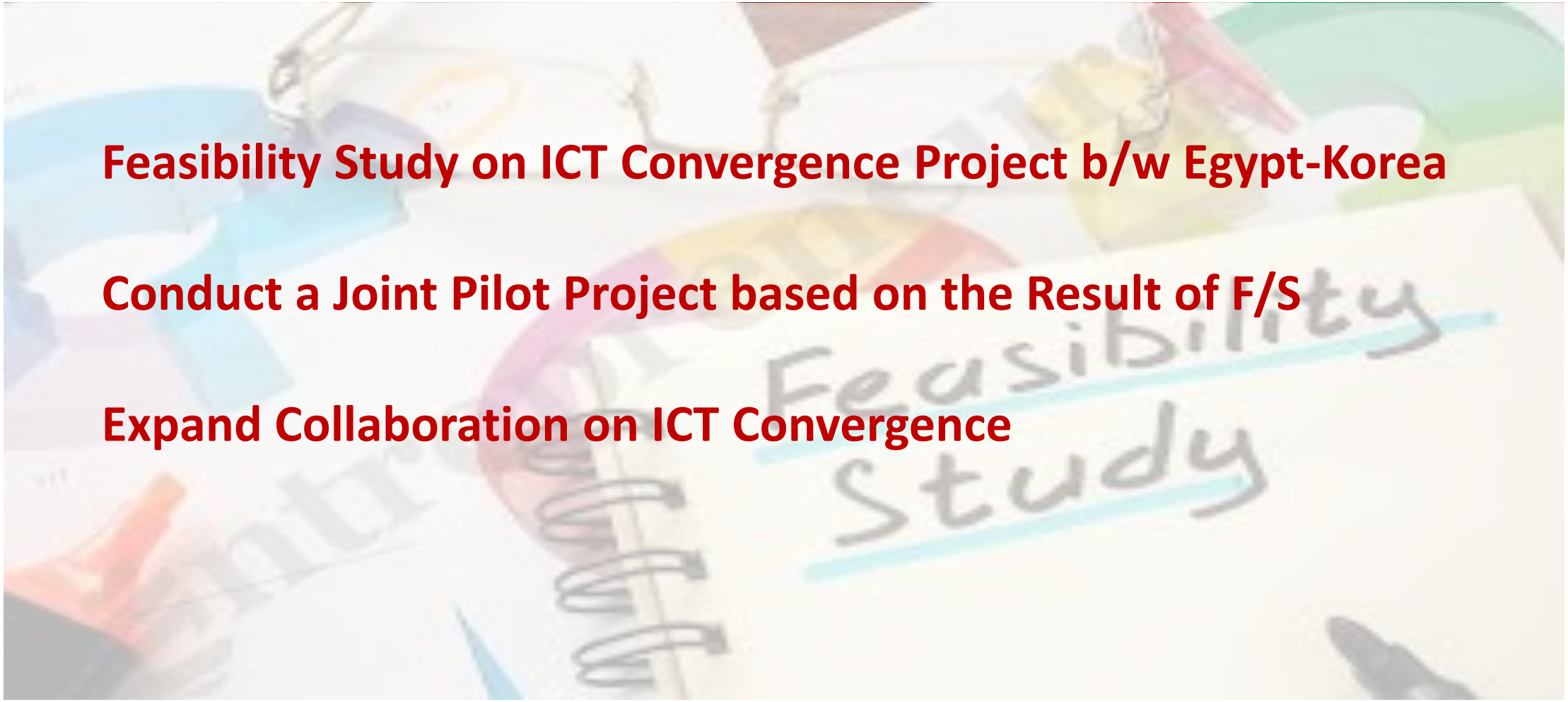
Future Collaboration



Feasibility Study on ICT Convergence Project b/w Egypt-Korea

Conduct a Joint Pilot Project based on the Result of F/S

Expand Collaboration on ICT Convergence

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Conclusion

1. Decide where to introduce AI “First” and then build datasets.

2. Don’t build datasets alone, let’s build datasets based on a platform.

3. Data is at scale. Let’s invest time and money as much as possible.

4. Let’s think how to make data flow at the same time.

5. Based on Concrete Data Ecosystem, use data in diverse services.

End of Document

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