Digital New Deal and Innovation:
Consolidation of Economy, ICT, and Inclusive Society

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Unprecedented Crisis, COVID-19
Changes Brought By COVID-19

Photos: Gyeonggi Ilbo, Hankook Ilbo, Gyeonggi Broadcast, and Digital Times
Domestic Economic Shock caused by COVID-19

The shock is in full swing throughout the economy, putting us through a crisis

Shock hitting mostly on domestic demand in early crisis (Jan ~ Mar)

Retail sales
Service industry production

Shock then hitting exports hard from the second quarter


Source: Presentation of Korean New Deal Initiative (July 14, 2020)
Outlook: Uncertainty

Endure, Revive, and Reform

Reform
Adapting to and leading structural changes

Endure and Revive
Minimizing shock and revitalizing the economy

Source: Presentation of Korean New Deal Initiative (July 14, 2020)
Korean New Deal = New Strategy for National Development

- **Endure**: Minimizing economic shock by creating jobs
- **Revive**: Fast getting back onto the normal growth path
- **Reform**: Building foundation for adapting to and leading structural changes

National development strategy for **overcoming the crisis** and **leading the global economy after COVID-19**
What Korean New Deal Looks Like

Korea’s Great Transition Toward Becoming a Leading Nation

Transform the economy from a fast-follower to a pace-setter, from a carbon-dependent economy to a green economy, with the society going from an unequal society to a more inclusive society

Korean New Deal

1. Digital New Deal
   - Leading the digital innovation economy

2. Green New Deal
   - Accelerated transitioning into eco-friendly, low-carbon economy

3. Stronger Safety Nets
   - (Investment in employment and social security programs and human resources)

Human Resource Investment:
- Public Wi-Fi quality upgrade
- Expanded building of wireless Internet infrastructure
- Rural area communication network upgrade
- Digital capacity-building education for all citizens
Digital New Deal: 4 Areas of Focus + 12 Projects

1. Strengthen D.N.A. Ecosystem
   - Build, open and use data that are closely related to citizens’ daily lives
   - Expand 5G and AI convergence to all of the first, second and third industries
   - Build a 5G and AI-driven intelligent government
   - Establish Korean way of cyber incident prevention (K-cyber incident prevention framework)

2. Digitalize Educational Infrastructure
   - Build digital-driven educational infrastructure in all elementary, middle and high schools
   - Step up online education in nationwide universities and vocational training institutions

3. Promote Non-contact Industries
   - Build smart healthcare infrastructure
   - Expand remote work in SMEs
   - Support e-business in micro businesses

4. Digitalize SOC
   - Establish a digital management framework for 4 key infrastructures
   - Promote digital innovation of urban and industrial spaces
   - Build a framework for smart logistics

Invest a total of KRW 44.8 trillion (government fund) and create 903K jobs by 2025
Data Dam: Hoover Dam of the AI Era

Building AI Training Databases

Open Data Youth Internship

Building Big Data Platforms

AI Convergence Project (AI + X)

Cloud Flagship Project

Collect data using 5G, IoT, sensors and robots

Accumulate, process and combine data

Use data and create AI-driven innovation services

AI-driven Disease Prediction
AI Analysis of Crimes
Energy Saving
Digital Government

Source: Conceptual Diagram of Data Dam, Ministry of Science and ICT
Building AI Training Databases

- Build data bases for AI learning and develop more application services

Research and Development of AI Application Services

Create a Model

Process Data (pre-processing)

Obtain Data

High-performance Computer

Cloud

Data labelling, Classification and Selection, Format Change, Combination, Modification, etc.

Images, Videos and Texts Obtained through IoT and Mobile

AI Agent

Behavioral, Collaborative Intelligence

Inference, Knowledge Expression

Visual, Verbal, Auditory Intelligence

Context, Emotion Understanding

Safety
Healthcare
National Defense
Energy
Finance
Agro-Fishery
Manufacturing
Mobility
City
Welfare
# Building AI Training Databases

High-Quality AI training data, widely used in private sectors

Establish and open a total of 170 types in 8 major fields

<table>
<thead>
<tr>
<th>Phonetic, Natural Language</th>
<th>Vision</th>
<th>Land and Environment</th>
<th>Agriculture, Livestock, Fishing</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Video comprehension</td>
<td>Land cover map and species of forest</td>
<td>Agriculture</td>
</tr>
<tr>
<td>Korean-English translation corpus</td>
<td>Human behavior video</td>
<td>Aviation, Satellite</td>
<td>Cron's feet and disease</td>
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<tr>
<td>Free conversation</td>
<td>Human action in sports</td>
<td>Water and sewage</td>
<td>Fish behavior and species</td>
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<tr>
<td>Phonetic by situation</td>
<td>Emotion recognition and summarized footage</td>
<td>Images of submerged marine litter</td>
<td>Images of medical herbs</td>
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<td>Korean text</td>
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<tr>
<th>Safety</th>
<th>Healthcare</th>
<th>Autonomous Driving</th>
<th>Miscellaneous</th>
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</thead>
<tbody>
<tr>
<td>CCTV footage (surveillance camera recording)</td>
<td>Images of breast cancer</td>
<td>Static object recognition in driving environment</td>
<td>Synchronization of indoor (LiDAR, RGB cameras, and camera)</td>
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<tr>
<td>Public security</td>
<td>Oral and Maxillofacial 2D, 3D image (3D dress-up)</td>
<td>Harbor structure</td>
<td>Mathematics learning competency measurement</td>
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<tr>
<td>Facility safety</td>
<td>Diagnosis</td>
<td>Road status and self-driving bus</td>
<td>Landmark image</td>
</tr>
<tr>
<td></td>
<td>Diagnosis (cancerous tissue etc)</td>
<td>Drone footage</td>
<td>Accuracy improvement of AR/VR screen</td>
</tr>
</tbody>
</table>

Source: 8 Major Fields of AI Training Data, Ministry of Science and ICT
Open Data Youth Internship

Support work on **public data opening, quality improvement and big data** through the **Youth Internship**

- **Training of the Internship participants**
  Basic, theoretical, practical and professional training which is required to perform duties

- **Provision of work experiences in data opening, quality improvement and analysis support in 740 institutions**
  (Data opening) data cataloging and opening; (Quality) quality assessment and error modification; (Analysis) analysis and visualization

- **Provision of support for complete opening up of 140,000 public data (structured data) by 2021**
  Provision of support also for opening up of non-structured data (images, videos, sensor data, etc.) from 2021
Building Big Data Platforms

Link the platform-integrated data map with 5 more platforms

- (Big Data Platforms) Providing support for collection, analysis, distribution and utilization of big data for each area
- (Big Data Centers) Systematically producing and building highly demanded quality data and distributing them through platforms
AI-based Government

- Improve 5G-based network for government work
- Move all administrative and public institutions to cloud
- Expand provision of non-contact services and promote customized service innovation
Building Foundation for 5G Government Network Infrastructure

Transform the wired national infrastructure to wireless 5G basis

- Link 5G to cloud (Mobile Edge Computing, MEC), apply network slicing and multi-layer security management framework

Wired LAN
2 PCs (each for work and Internet)

5G Small Cells
Mobile Devices for Intranet/ Work
Improving Infrastructure

Develop public sector lead services based on 5G MEC

Improve the quality of public Wi-Fi and expand its coverage

Achieve 100% Wi-Fi installation in all elementary, middle and high school classrooms and establish the wireless school environment
Promote digital capacity-building education for all citizens

Build Digital Capacity Centers in daily life facilities

Provide comprehensive education customized to target group and skill level

Create jobs by deploying professional instructors and supporters
Success Factors of the Korean New Deal

Government creates “Initial Demand”

Economic revitalization

Gap closing

Government investment
Private sector investment

Identify new economic growth engines, such as the non-contact industry promotion

Expand direct support from government to ensure no one is discriminated or excluded
Thank you
감사합니다
Спасибо
баярлалаа