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Smart Government Action Plan

National Development Council

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I. Preface

In the face of innovative development of digital technology, advanced countries are all actively promoting national digital strategies, especially involving digital transformation, to improve national competitiveness. For example, in 2016 Japan and Singapore launched “Society 5.0” and “Smart Nation 2025” respectively. Taiwan also approved “Digital Nation & Innovative Economic Development Program. (DIGI+),” in which “Digital Nation” is a main theme, on 24 November, 2016.

To accelerate the digital transformation of the government, Premier Lai instructed the National Development Council (NDC) to assist the central and local governments to develop Smart Government in No.3603 Cabinet Meeting on June 7, 2018. The NDC then, following the instructions of Premier Lai, held interdepartmental coordination meetings. Moreover, domestic representatives and experts from industry, academia and youth were invited to discussion meetings. With solving problems in citizen’s daily lives as the starting point, innovative smart approaches were actively planned. The “Smart Government

Blueprint” was completed and reported to 3632nd Cabinet Meeting on 27 December, 2018.

On 27 December, Premier Lai instructed that “the NDC shall be in charge of planning the overall program, coordinating with all public agencies to achieve the goal of Smart Government.” In order to formulate the Smart Government Action Plan, the NDC urged public agencies to list specific practices, schedules, and budgets according to the "Strategic Plan for Smart Government Promotion" (approved by the Executive Yuan on January 10, 2019). The NDC convened meetings with all public agencies to confirm measures, methods and timeliness, then reported to the Executive Yuan.

II. Overall Directions

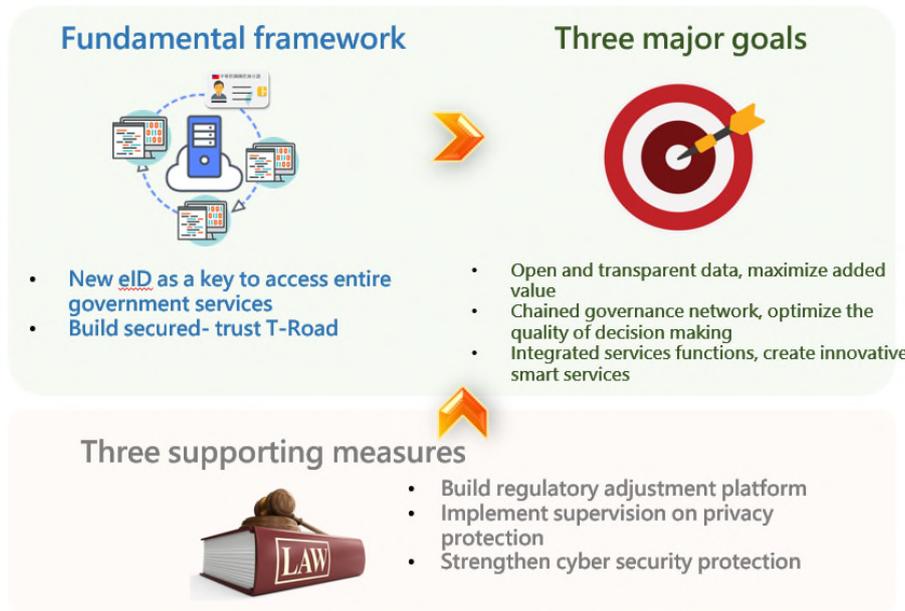
In recent years, countries around the world have realized the importance of digital transformation and are actively building smart governments. For example, Estonia approved “Digital Agenda 2020 for Estonia” and Singapore launched “Smart Nation Singapore 2025”. Looking at these international “Smart Government” experiences, we can see that governments with a “people-first approach” are driven by “data”, applying related innovative technologies such as the Internet of Things and blockchain to promote open governance, optimize government decision-making, and bring innovative services to meet citizen's needs.

The subjective and objective conditions as well as merits of Taiwan's promotion of Smart Government should be taken into account. The experiences of Estonia and Singapore can be served as reference. Estonia and Singapore share the same priority of “enhancing digital identity verification” and accelerating “government data interoperability”, to “maximize the worth of data applications”, and ultimately provide

“convenient digital services” to the citizens.

Therefore, this Action Plan places priority on “Full issue of New eID” and “Establish a secure and trusted data exchange system” as two frameworks to establish a digital environment for identity verification and data interconnecting and sharing. Meanwhile, the aim is achieving the vision of Smart Government, namely “convenient, efficient, 24/7 service”. While ensuring information security and privacy protection, the government strives to reach three major goals, “open and transparent data, maximized added value”, “chained governance network, optimized quality of decision making” and “integrated service functions, innovative smart services”.

Goals : Convenient, efficient, 24/7 services



1. Fundamental framework: The Pass for citizen to obtain government services

(1) Establish a digital identity verification mechanism:

The establishment of a digital identity verification mechanism is the basis for launching government digital services. The current citizen certificate issued by Ministry of the Interior can be used for identity verification.

However, the circulation and application fields are relatively limited, the MOI indicates that there is an urgent need for establishing a national digital identity mechanism.

(2) Government data sharing and interconnection mechanism:

In order to improve services for citizen and enhance data sharing between public agencies, the government needs to establish a government data exchanging and interconnection mechanism. GSN, the current government network is used as the backbone to connect government internet at all levels. In the future, the T-Road information exchange channel will be set up in GSN to establish a consistent cross-boundary data exchange and interconnection mechanism.

2. Three major goals: “Convenient, efficient, 24/7 services”

According to a survey by the NDC, only 30% of the services offered by the Executive Yuan’s subordinate agencies can be provided online, so there is still considerable room for improvement. In the future, the government should move toward the following three goals to provide innovative smart services and achieve the target that, by 2020, 80% of applications for government services can be completed online.

- (1) Open and transparent data, maximized added value
- (2) Chained governance network, optimized quality of decision making
- (3) Integrated service functions, innovative smart services

3. Three supporting measures: Ensure privacy protection and cyber security

The conveniences of government digital services, as well as the balance between privacy protection and cyber security, are major issues for governments and prerequisites for promoting Smart Government. Referring to international experiences, our government will build a regulatory adjustment platform, implement supervision of privacy protection and strengthen cyber security protection.

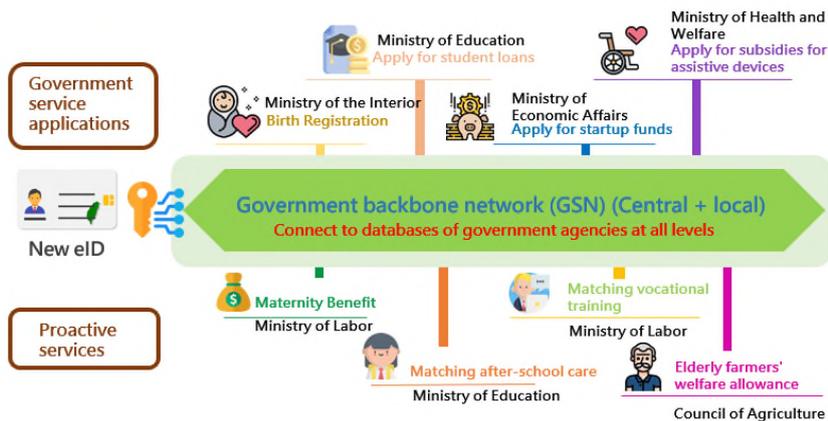
III. Specific Approach

1. Fundamental framework

The eID is the key for citizens to access digital government services. In 2020, the government will start full issue of new eID and establish a secure and trusted data exchange system, T-Road. In the future, after identity verified using eID on T-Road portal, people will be able to apply for various government services through T-Road and obtain government services and personal data.

Fundamental Framework

Axis 1. New eID connecting all government services
Axis 2. Establish secure and trusted T-Road



(1) Full issue of New eID

Considering that 128 countries have launched eID, the Ministry of the Interior is planning to replace the old-type national identity card with the “Digital identity card” that combines ID card and citizen digital certificate. The function of eID is identity verification, not a database for personal data saving. The Ministry of the Interior is planning the specifications and requirements of eID. In the future, it will complete the relevant regulations for national identity cards and establish related functions of the household administration information system. The government plans to start replacement in October, 2020, and replacement will be completed by September 2022.

(2) Establish a secure and trusted data exchange system

In order to enable citizens to access various government digital services conveniently and securely on mobile phones or computers, the NDC will work with relevant public agencies to plan and establish a secure and trusted T-Road to provide online services on a one-stop portal platform. Citizens will gain quick access to a wide

range of public services and personal data such as birth, schooling, work, home care, end of life care in their life courses. The specific measures are as below.

1. Establish T-Road network: The NDC is planning to build T-Road, a data exchange channel in GSN, the backbone of government network. Public agencies will establish exclusive network segments for data exchanging zones to access T-Road, and provide various public services online.
2. Establish a government data exchange platform and mechanism: The NDC will establish a T-Road data exchange unified interface, specification and management platform. Meanwhile, the NDC will coordinate with public agencies to carry out cross-boundary regulatory adjustment, and complete the data exchange mechanism.
3. Establish a T-Road portal: Set up the connection rules between government digital service and T-Road portal. Public agencies will provide online

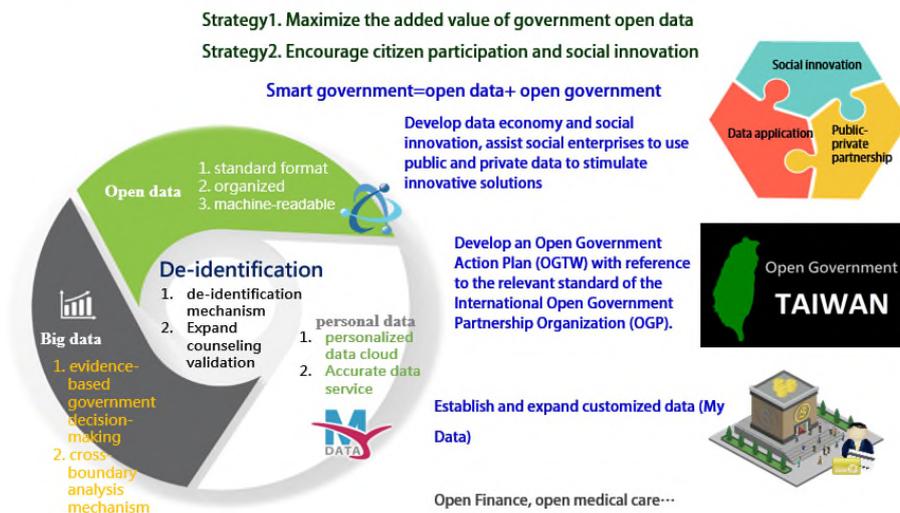
application services connecting to the T-Road portal, offering end-to-end online government services and customized services.

2. Three major objectives

(1) Goal 1: Open and transparent data, maximized added value

In the era of the digital economy, smart government must be based on the openness and transparency of information and strengthened cooperation between the public and the private sector. Transparent governance will drive innovative social service models and solve livelihood issues of concern to the people in the community.

Goal 1. Open and transparent data, maximized added value



Strategy 1. Maximize the added value of open government data

With the effort made by public and private sectors, Taiwan's transparency of government data has been ranked No.1 in the world twice. The next stage of government open data is to expand open data and maximize cooperation between government and citizens based on the Freedom of Government Information Act. As for sensitive personal data, it should be de-identified in accordance with relevant

regulation before provided to external users.

Meanwhile, Taiwan is promoting the My Data mechanism and expanding its application of customized data with authorization from citizens.

1. Coordinate “Operational Principle of Government Open Data”: The Executive Yuan amended “Operational Principle of Government Open Data for Executive Yuan’s Agencies” on January 17, 2019. Public agencies will propose an “Open Data Action Plan”, add a list of “Data Provided by Application” and establish an application process to provide data that is "machine-readable, organized, open format and complies with data standards in the categories".
2. Complete personal data de-identification mechanism: The Ministry of Economic Affairs will set national de-identification operational principle, and to expand third-party verification. Meanwhile, public agencies will also promote benchmarking de-identification of sensitive information related to

citizen's livelihoods.

3. Complete building a personal data (My Data) and expanding its application: The government will strengthen the establishment of personal data and provide mechanisms for multiple identity verifications, data circulation, data flow auditing, personal data storage on cloud computing, etc. Meanwhile, public agencies will propose loosening of regulations where needed, and set up management principles to complete the autonomous authorization and innovation application mechanism for individual (industry/business) personal data.

Strategy 2. Encourage citizen participation and social innovation

Transparent governance, citizen participation, and an open environment are goals every country is working towards.

In response to the international trend, Taiwan will

promote open government, strengthen citizens participate to governance policies and integrate civil power to better implement social innovation.

1. Promote open government and implement deliberative democracy: Develop Taiwan's Open Government Action Plan (OGTW) with reference to the relevant standard of the International Open Government Partnership Organization (OGP). Meanwhile, in order to enhance the partnership between the government and citizens, the government should strengthen the Public Policy Online Participation Platform, deepen the horizontal integration of open government Participation Officers (PO) and establish an inter-public agency cooperation mechanism.

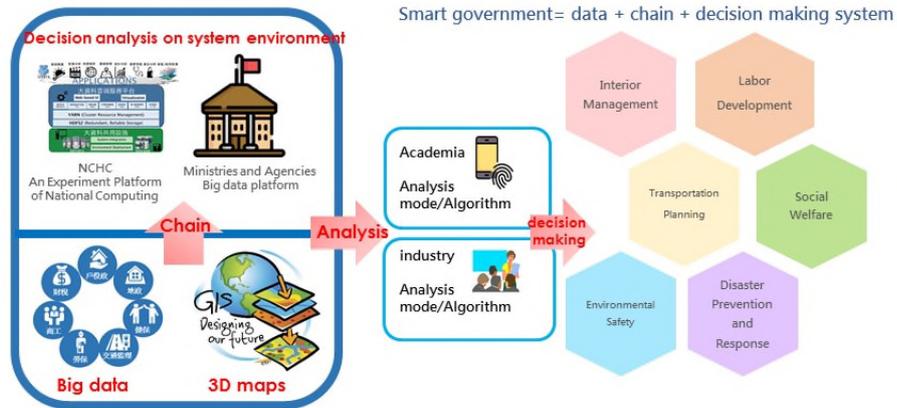
2. Establish a data-driven social innovation model: In order to develop a data-driven social innovation model, the government needs to strengthen the

"social innovation and civic technology communication platform", collect social and industrial issues online, invite folk units to communicate offline, integrate optimized policies, adjust regulations, and plan a procurement incentive mechanism for social innovation products and services.

(2) Goal 2: Linked governance network, optimized quality of decision making

The innovation of the smart government's governance decision-making model is based on the integration of "data analysis", "cross-boundary cooperation" and "communicative decision-making". The government will establish an evidence-based governance decision-making model, and make full use of the GIS national geographic information, so that the government, enterprises, and academia can work together to find solutions for livelihood issues or major governance issues.

Goal 2. Chained governance network, optimized quality of decision making



Strategy 3. Optimization of decision making quality by data oriented computation and analysis

In recent years, the technologies on data mining, semantic analysis, image interpretation, and machine learning have made huge progress. The government needs to utilize public statistics and big data from folk units, connecting innovative technologies such as AI to provide reference for decision making on citizen's livelihood issues through data analysis.

1. Establish an evidence-based government

decision-making model: All relevant public agencies will use big data to analyze key issues of citizen's livelihoods such as social security, economic development and environmental sustainability to optimize governance decision-making.

2. Establish a cross-boundary decision analysis mechanism: All relevant public agencies will establish a public-private collaboration mechanism, using big data from the folk units, combining smart and innovative technology to analyze cross-boundary issues such as citizen's welfare, industrial development and social security and provide reference for decision making.

Strategy4. National Geographic Information System (NGIS) as reference for decision making

Taiwan has been promoting the NGIS since the 1980s. Essential maps for national land planning, such

as nationwide electronic maps, national numerical terrain models, and aerial imagery have been established. In the next stage, the government should focus on speeding up the opening and application of national base map, and formulate the standards of 3D data, GIS value-added application, and industry development.

1. Establish 3D base map and basic database: Establish maps for 3D buildings, roads, railways, and metro systems. In addition, develop cloud computing services that support 3D GIS.
2. Strengthen GIS database management and openness: Promote the upgrade of TGOS to the “Metadata of Map Assets” and provide API services to competent authorities. The authority for map management develops a graded management system for authorization, utilization of maps and charging standards, and handles the circulation of maps, too.
3. Develop GIS decision-making model and expand its

application: Public agencies prioritize the key needs of citizen's livelihood, and actively use the map to strengthen the GIS decision-making model.

(3) Goal 3: Integrated service functions, innovative smart services

Smart government must start from pain spots in citizen's lives and re-examine the government's services processes. By loosening regulations, simplifying operating procedures, and utilizing digital technology, the government can create a new service experience and implement customized livelihood services.

Goal 3: Integrated service functions, innovative smart services

Strategy 5. Introduce innovative technologies to customized livelihood service
Strategy 6. Mobilized, digitalized end-to-end online services
Strategy 7. Once-for-all data input

Smart government= more innovative technology + more accurate data + more convenient service



Strategy 5. Introduce innovative technologies to customize livelihood services.

The government should focus on “Technology as the power to enhance government service quality” as principles, flip the government's patterns of serving the citizens and transform the government service model with regard enterprises in order to accelerate the efficiency of government operations.

1. Innovate the government's patterns of serving the people: The government makes good use of the

emerging technology to flip the service model for citizens. For example, blockchain keeps traceability records for school meals, AI for smart analysis of medical images, and immersive experience technology simulates dangerous working environments and digital courses on professional skills.

2. Enhance the effectiveness of digital service for enterprises: The government uses innovative technology to transform the government service provided to enterprises and assists enterprises improve their business environment. For example, apply blockchain technology in cross-border cargo clearance, establish an experimental field to develop unmanned vehicle, and develop an AI classification and distribution mode for patent applications.
3. Digitalization accelerates government operational efficiency: The government makes good use of AI,

blockchain and other technologies to improve the government's operational processes and focuses on the application of government internal management. For example, directly transfer subsidies or allowances to citizens' accounts, develop digital documents and based on blockchain technology its applications, write off without attaching paper receipt, as well launch referendum electronic voting (not online voting)

Strategy 6. Mobilized, digitalized end-to-end online application

Mobile devices are widely used nowadays; citizens are used to handling all kinds of things big and small through their smart phones in daily life. It is necessary for government to expand its services to mobile devices; public agencies should actively expand the scope of applicable government services online, and put priority on matters closely related to citizen's lives.

1. End-to-end applicable government online

services for citizen:

Public agencies will provide end-to-end applicable government services online first for services with a large number of cases and with wide impact. Citizens can complete application, payment, and issuance of certificates on the T-Road portal. The certifications required for the application can be verified online. Therefore, no license or copy is needed. The aim is to achieve the goal that, by 2020, 80% of applications for government services can be completed online.

2. Connect government service processes with life events as the axis: The NDC work with public agencies to plan a cross-boundary integration service with the "life events" as the axis. The T-Road portal will provide public services needed in the life process from birth, schooling, work, home care and end of life care.

Strategy 7. Once-for-all data input

The NDC will accelerate completion MyData, a personal data self-application mechanism, and collaborate with relevant public agencies to provide citizens with personal data. Thus, proactive government services will be improved.

1. Establish personal data (My Data) download and cloud connecting: Establish MyData digital service customized zone connecting to T-Road, offering multiple identity verification, data circulation, information flow auditing and personal cloud storage.
2. Allow citizens to download personal data: Public agencies will be responsible for providing personal data for citizens to download through T-Road.
3. The public authorizes expanded use of personal data: With citizen's authorization, public agencies will replace paper materials with MyData, allowing citizen to obtain accurate and customized services.

3. Three supporting measures

Smart government Three supporting measures

Build a regulatory adjustment platform	<p>Establish a smart government regulatory adjustment platform to clarify the applicability of regulations when promoting smart government .</p> <p>Loosen the relevant interpretations, administrative rules and regulations on smart government for the convenience and benefit of the people</p>
Implement supervision of privacy protection	<p>Re-examine Taiwan's Personal Data Protection Law and reinforce the implementation of Personal Data Protection Law and consistency of all ministries and agencies.</p> <p>Initiate a consultation with EU for adequacy certification on personal data protection</p>
Strengthen cyber security protection	<p>Complete information security monitoring centers in key infrastructure fields and complete the security monitoring mechanism for local threats and vulnerability analysis</p> <p>Adjust the government backbone traffic capacity and analysis structure to expand GSN data storage and data extraction.</p>



(1) Build a regulatory adjustment platform

The NDC will startup a smart government regulatory adjustment platform for the smart government. With its single window, it will coordinate public agencies to clarify doubts about the application of regulations. Also, it will actively collects opinions from the public and groups to eliminate the uncertainty of the application of regulations. For the convenience and benefit of the citizens, public agencies will

loosen related government interpretations, administrative rules, and regulations.

(2) Implement supervision of privacy protection

The “Personal Data Protection Program Office” has been startup by the NDC; it will reinforce the consistent implementation of the Personal Data Protection Law and consistency of all public agencies. In addition, it will re-examine Taiwan’s Personal Data Protection Law. Meanwhile, it will handle the application for EU adequacy certification of related public agencies, submit a self-assessment report to the EU, conduct a technical dialogue, and apply for EU adequacy certification.

(3) Strengthen cyber security protection

The Executive Yuan Department of Cyber Security will establish a national cyber security system, connecting the Executive Yuan, competent authorities of key infrastructure and

key infrastructure providers, which provides three levels of the integration: monitoring management of cyber security, incident reporting and information sharing. Besides, it will also link with civil sector resources and cooperate with the international community. Meanwhile, in line with the network environment adjustments of public agencies, the cyber threat analysis capability of the government backbone network will be expanded. At the same time, cyber protection will be improved, the network environment of each relevant ministry adjusted regarding to the internal network structure, the GSN traffic capacity expanded, and the government backbone traffic capacity and analysis structure also adjusted to expand the data storage and data extraction.

IV. Methods of Implementation

1. The NDC is responsible for coordinating the implementation progress of each public agency of the plan and regularly reviewing the results.
2. Deputy ministers of central government ministries under the Executive Yuan form steering committees and report on implementation regularly. The NDC holds review and discussion meetings every six months.

V. Required Funding

The annual funding required by ministries (including subordinate agencies) for the plan (see annex for detailed information) from 2019 to 2020 is 3,066,345,000 NTD, 3,624,747,000 NTD, respectively. The total is 669,109,000 2,000 NTD. The annual funding is handled by various agencies in accordance with funding procedures.

VI. Main Indicators

1. The government will start issuing New eID in October,

2020. Full issue of New eID will be completed by 2022.
2. The T-Road data exchange network will be completed in December 2019. 40% of applications for government services can then be completed online.
 3. The T-Road portal will be completed in September 2020, actively providing services in citizen's life courses from birth, schooling, work, home care and end of life care. 80% of applications for government services will be completed online.
 4. Ministries will launch the "Open Data Action Plan" in December, 2019 to maximize the added value of open government data.
 5. Taiwan's Open Government Action Plan (OGTW) will be completed by December 2020 to establish an open government that is transparent, responsible, participatory and inclusive.
 6. Government's innovative smart services will complete benchmarking planning in December, 2020. For example:

- Medical image intelligence analysis and accurate interpretation of symptoms
- Trial of unmanned vehicles to complete the logistics network
- Apply blockchain technology in cross-border cargo clearance
- Aerial remote sensing technology for a better grasp of land crop production
- Launch referendum electronic voting (not online voting)
- Introduction of write off without attaching paper receipt

VII. Cooperation of Ministries/Agencies and the Schedule

Measure	Specific approach	Completion deadline	Ministry /Agency
1. Basic framework			
(1) New eID linking to all government services			
1. The specifications of New eID and its need planning	(1) Plan the specifications on New eID, ID card production center, and management as well as safety regulations. (2) Plan certificate application API, certificate identity verification and device security level.	December 2019	Ministry of the Interior
2. Establish Household Administration system and complete regulations	(1) Establish a Digital identity verification mechanism, incorporate diverse verification mechanisms	December 2019	Ministry of the Interior
	(2) Establish a ID Card production center, develop relevant software, establish New eID issue management system, and develop and test interfacing application software (API)	December 2020	Ministry of the Interior
	(3) Amend the "Regulations for the Establishment of Photo ID for the National Identity Card and the Household Register" to clarify the format of the new national identity card and related implementation details; amend the "Charge Standards for Fees Collection in Household Registration"	September 2020	Ministry of the Interior
3. Full issue of New eID in phases	(1) The government will start issuing in September, 2020. By 2020, the issue of New eID aims to cover 3% of the total population.	December 2020	Ministry of the Interior
	(2) Complete full issue of New eID. For cumulative accrual rates for each year in 2021 and 2022, the issue of New eID aims to cover 63% and 100% of the total population, respectively.	September 2022	Ministry of the Interior
(2) Establish a secure and trusted T-Road			
1. Establish T-Road	(1) Establish T-Road network backbone:	December	National

Measure	Specific approach	Completion deadline	Ministry /Agency
network	Establish T-Road data exchange channel, set up the regulation of T-Road network, and strengthen data exchange protection mechanism	2019	Development Council
	(2) Establish T-Road access network: 45 data center governing agencies set up network centralized exports to T-Road, establish exclusive network segments for data exchanging zones, access to T-Road network, and complete relevant security protection operations in accordance with "Regulations for Classification of Cyber Security Responsibility".	December 2019	Related ministries agencies
2. Establish a government data exchange platform and mechanism	(1) Establish T-Road cross-institutional data exchange platform: Establish a T-Road data exchange unified interface, specification and management platform to ensure traceability of data exchange records	June 2020	National Development Council
	(2) Complete cross-institutional data exchange regulations: Coordinating ministries to conduct cross-institutional data regulations and regulations, and complete cross-institutional data exchange system	December 2020	Related public agencies
3. Establish a T-Road portal	(1) Establish a T-Road portal: Plan to complete the transformation of the government portal, set up regulations for government digital service interface, provide end-to-end online proactive services, and implement once-for-all data input.	September 2020	National Development Council
	(2) Provide end-to-end online government services: public agencies will provide online application services connecting to the T-Road portal. Citizens can gain quick access to a wide range of public services and personal data such as birth, schooling, work, home care,	December 2020	Related public agencies

Measure	Specific approach	Completion deadline	Ministry /Agency
	terminal care in their life courses. By December 2019, 40% of applications for government services can be completed online. By December 2020, 80% of applications for government services can be completed online.		
2. Three major goals			
Goal 1: Open and transparent data, maximized added value			
(1) Strategy1. Maximize the added value of open government data			
1. Government open data Maximized	(1) Promote "Operational Principles on Government Open Data": The Executive Yuan amended the above principles in January, 2009. Based on the Freedom of Government Information Act, the information provided by the government in 2 ways, "Open Information" and "Information Provided by Application" to expand the open data of Government. The NDC will assist in the promotion.	Ongoing	National Development Council
	(2) Develop Information Open Action Plan: Public agencies will develop an "Information Open Action Plan" based on the "Operational Principles on Government Open Data". All types of information should be "machine-readable, organized, open format ". List "Information Provided by Application" and establish an application process, specific objective and implementation schedule.	December 2019	Related public agencies
2. Complete personal Data de-identification mechanism	(1) Establish operational national regulations of de-identification: Refer to the international standard, publish the national standard for "identification verification requirements and control measures for personal data", encourage potential verification agencies to provide verification services, and improve the	December 2019	Ministry of Economic Affairs

Measure	Specific approach	Completion deadline	Ministry /Agency
	domestic verification development environment.		
	(2) Promote benchmarking case on de-identification personal data: Prioritize de-identification on sensitive information related to citizen's livelihood, for both privacy protection and data application needs. De-identification of traffic supervision data De-identification of fiscal and tax information De-identification of commercial and public utilities data De-identification of medical image from the National Health Insurance database	December 2020 December 2020 December 2020 December 2020	Ministry of Transportation and Communications Ministry of Finance Ministry of Economic Affairs Ministry of Health and Welfare
3. Complete building a customized data (My Data) and expanding its application	(1) Complete building a customized data: Provide mechanisms for multiple identity verifications, data circulation, information flow auditing and personal cloud storage; public agencies provide personal data for downloading.	December 2019	National Development Council, related ministries agencies
	(2) Promote the autonomous authorization and innovation application mechanism for the use of personal data: The relevant public	December 2019	Ministry of Health

Measure	Specific approach	Completion deadline	Ministry /Agency
	<p>agencies will start loosening regulations, formulating regulations, and completing the autonomous authorization and innovation application mechanism for individual (industry/business) customized data.</p> <p>Open Healthcare: Provide a Health bank Software Development Kit (SDK) for third-party to develop information services. Citizens can authorize the use of personal health bank to trusted parties.</p> <p>Open telecommunications: Promote the use of telecommunication data by the telecommunications industry when authorized by citizens.</p>	December 2020	Ministry and Welfare National Communications Commission
(2) Strategy2. Encourage citizen participation and social innovation			
1.Promote open government and implement deliberation	(1) Develop Taiwan's Open Government Action Plan: Develop an Open Government Action Plan (OGTW) with reference to the relevant standard of the International Open Government Partnership Organization (OGP). Formulate its work priorities and implementation schedules, and establish an open government that is transparent, responsible, participant and tolerant.	December 2020	National Development Council
	(2) Strengthen public participation in public policy: In order to enhance the partnership between the government and its citizens, the government should strengthen the Public Policy Network Participation Platform, deepen the horizontal integration of open government Participation Officers (PO), establish an interdepartmental cooperation mechanism and make good use of online streaming and	Ongoing	related ministries agencies

Measure	Specific approach	Completion deadline	Ministry /Agency
	social media.		
2. Establish a data-driven social innovation mode	(1) Strengthen the "social innovation citizen technology and communication platform" of public-private partnership: Collect social, innovation, and industrial issues at home or abroad online, and propose a coordination mechanism; invite industry, political sector, academia, and civil groups to exchange ideas offline in order to optimize policy making and regulatory adjustment.	Ongoing	Ministry of Economic Affairs
	(2) Promote the development of data-driven social innovation model: Plan a procurement incentive mechanism for social innovation products and services, strengthen the cooperation of the industry, academia and research centers, and propose demonstration of benchmarking applications in an innovative and experimental way.	December 2020	Ministry of Economic Affairs
Goal 2: Chained governance network, optimized quality of decision making			
(3) Strategy 3. Computation based on data and analysis on optimization of decision making quality			
1. Establish an evidence-based government decision-making model	Relevant public agencies will use big data to analyze key issues of citizen's livelihood such as social security, economic development and environmental sustainability to optimize governance decisions. "Interior Management" decision-making: Analysis of social and economic regeneration of aging and solitary population, and analysis of crime prevention "Labor" development decision-making: Policy analysis regarding unemployed labors returning to workplace, and promotion of	December 2020	Ministry of the Interior
		December 2020	Ministry of Labor
		December 2020	Ministry of
		December 2020	Transportation and Commu

Measure	Specific approach	Completion deadline	Ministry /Agency
	<p>child-raising women's labor participation</p> <p>“Transportation” decision-making: Analysis of important transportation corridor travel, research on transportation capacity and entrepôt market capacity</p> <p>“Disaster” rescue decision-making: Early warning of areas prone to flooding and landslides, sediment disaster and potential analysis</p>		<p>Communications</p> <p>Ministry of Science and Technology,</p> <p>Ministry of the Interior</p> <p>, Ministry of Economic Affairs</p> <p>, Council of Agriculture</p>
<p>2. Establish a cross-boundary decision analysis mechanism</p>	<p>Relevant ministries will establish a public-private partnership mechanism to use private big data to analyze issues such as citizen’s welfare, industrial development and social development to optimize governance decisions.</p> <p>Reduce security risks: Fraud and drug prevention, decrease dropout rates and increase registration rates</p> <p>Strengthen social welfare: Do research on the health and well-being of the working population; foreign laborer human resource analysis for the long-term care industry and for social welfare</p>	<p>December 2020</p> <p>December 2020</p> <p>December 2020</p> <p>December 2020</p>	<p>Ministry of the Interior</p> <p>,</p> <p>Ministry of Education</p> <p>n</p> <p>Ministry of Labor</p> <p>Ministry of Economic</p>

Measure	Specific approach	Completion deadline	Ministry /Agency
	<p>Activate economic development: Analysis of decision-making in the development of industrial land, data analysis and application on actual price registration of real estate, promotion of tourism industry services and network information integration, promotion of smart transportation systems</p> <p>Safeguard the environment: Analysis of water, soil and forest environmental changes; ecological monitoring and development of conservation policies</p>		<p>c Affairs, Ministry of the Interior , Ministry of Transportation and Communications</p> <p>Council of Agriculture</p>
(4) Strategy4. National Geographic Information System (NGIS) as reference for decision making			
1. Establish 3D base map and basic database	(1) Upgrade the current 2D base map to 3D: "Nationwide electronic map" is the "national base map". Establish maps for 3D buildings, 3D roads, 3D railways, 3D metro systems as well as develop data standard and a service shared platform.	<p>December 2019(3D buildings)</p> <p>December 2021(3D roads)</p> <p>2022(3D railways and 3D metro systems)</p>	Ministry of the Interior
	(2) 3D business units establish 3D pipeline database: Formulate the "3D pipeline data standard". The authority related to maps has	December 2020	Ministry of the Interior,

Measure	Specific approach	Completion deadline	Ministry /Agency
	to coordinate with business units, such as Taiwan Water Corporation, CPC Corporation to establish a 3D pipeline database.		Ministry of Transportation and Communications, Ministry of Economic Affairs, National Communications Commission
	(3) Promote the establishment of numerical maps for buildings: Complete establishing a 3D approximated building database with multi-scale 3D digital building modeling (LOD2) and building information modeling (BIM)	December 2020	Ministry of the Interior
	(4) Cloud computing services that support 3D GIS: Cooperate with the Ministry of the Interior for data remote backup/ permanent preservation, data value-added development, computing environment services, and 3D map platform optimization.	Ongoing	Ministry of Science and Technology
2. Strengthen GIS database management and openness	(1) Promote the upgrade of TGOS to the “Metadata of Map Assets” and provide API services to competent authorities.	December 2019	Ministry of the Interior,
	(2) Establish a graded management system for NGIS maps based on data characteristics: Authorities related to maps establish a graded	December 2020	Ministry of the Interior,

Measure	Specific approach	Completion deadline	Ministry /Agency
	management system in accordance with the relevant map data standards and management specifications issued by the Ministry of the Interior.		Ministry of Economic Affairs, Environmental Protection Administration, Council of Agriculture, Ministry of Transportation and Communications
3. Develop GIS decision model and expand its application	(1)Smart Agriculture: Chained estimation model of agricultural and fishery resources as well as pest control model, combined with GIS and agricultural information, and analysis of the relationship between agricultural land conditions and production	December 2020	Council of Agriculture
	(2)Smart Transportation: Improve the efficiency of traffic flow and traffic safety by introducing the application of technology combined with GIS for accident-prone areas, jam-prone areas or corridors	December 2020	Ministry of Transportation and Communications
	(3)Smart environment: Develop GIS-based environmental spatial information disclosure	December 2020	Ministry of

Measure	Specific approach	Completion deadline	Ministry /Agency
	<p>and auxiliary governance decision-making foundations, such as abnormal waves around the island, water environment, mining area distribution, air quality simulation.</p>		<p>Transportation and Communications, Ministry of Economic Affairs, Ministry of Science and Technology, Environmental Protection Administration,</p>
	<p>(4)Smart Disaster Prevention: For watersheds, rivers, river basins, and potential debris flow torrents, establish disaster preventions such as monitoring information, warning areas, traffic obstruction, emergency shelters, and disaster information.</p>	<p>December 2020</p>	<p>Ministry of Science and Technology, Ministry of Economic Affairs, Ministry of Transportation</p>

Measure	Specific approach	Completion deadline	Ministry /Agency
			tation and Communications, Ministry of the Interior, Council of Agriculture
Goal 3: Integrated service functions, innovative smart services			
(5) Strategy 5. Introduce innovative technologies to customized livelihood service			
1. Innovate on the government's service model for citizens	(1)Strengthen social security: Plan entry and exit management with face recognition to prevent wanted persons to cross the border Blockchain keeps traceability records for school meals Build a land–ocean seismic monitor to accelerate earthquake warning	December 2020 December 2020 December 2020	Ministry of the Interior Ministry of Education, Council of Agriculture Ministry of Transportation and Communications

Measure	Specific approach	Completion deadline	Ministry /Agency
	<p>(2)Improve agricultural development: Aerial remote sensing technology for a better grasp of land crop production Development and application of monitoring technology for agricultural production management “Oriental Beauty Tea Blockchain Project” combines AI and blockchain technology to establish a tea certification system</p>	<p>December 2020 December 2020 December 2020</p>	<p>Council of Agriculture Ministry of Science and Technology, Council of Agriculture Hakka Affairs Council</p>
	<p>(3)Improve the quality of health care AI for analysis of medical images, enhancing medical quality</p>	<p>December 2020</p>	<p>Ministry of Health and Welfare</p>
	<p>(4)Promote sightseeing: Create iTravel with 8 languages which can recommend travel agencies, tourist attractions, food and other complementary services with AI customer service Create a new digital experience for museum culture with virtual reality technology</p>	<p>December 2020 December 2020</p>	<p>Ministry of Transportation and Communications National Palace Museum</p>

Measure	Specific approach	Completion deadline	Ministry /Agency
	(5)Optimize education training : Blockchain used in digital academic qualification documents, virtual reality teaching materials Immersive experience technology simulates dangerous working environments and digital courses on professional technical skills	December 2020 December 2020	Ministry of Education Ministry of Labor
2. Improve effectiveness on government digital services for enterprises	(1)Customs clearance and tax services: Blockchain technology for cross-border cargo clearance, AI assisted tax services	December 2020	Ministry of Finance
	(2)Application of AI in Traffic and Transportation: Establish an experimental field to develop unmanned vehicle transportation technology Encourage industry to conduct innovative experiments in unmanned vehicles; industrial applications of cloud security and intelligent image analysis	December 2020 December 2020	Ministry of Transportation and Communications Ministry of Economic Affairs
	(3)AI-assisted review: Develop AI classification and distribution mode for patent applications Establish a universal health insurance smart review model	December 2020 December 2020	Ministry of Economic Affairs Ministry of Health and Welfare
3. Digitalization accelerates	(1) Operational effectiveness: Directly transfer subsidies or allowances to	December 2020	Public agencies

Measure	Specific approach	Completion deadline	Ministry /Agency
government operational efficiency	citizens' accounts Develop blockchain digital documents and its applications Establish an image analysis technology for inmates Launch referendum electronic voting (not online voting)	December 2020 December 2020 December 2020	Central Personnel Administration Ministry of Justice Central Election Commission
	(2)Improve the efficiency of information resources: Promote shared digital funds reporting, expand the scope of application of payroll systems Expand the range of applications for shared attendance systems	December 2020 December 2020	Directorate-General of Budget, Accounting and Statistics Central Personnel Administration
(6) Strategy 6. Mobilized, digitalized end-to-end online services			
1. End-to-end online services for citizens	(1) "Interior affairs" registration: Adoption registration, registration of legal Guardianship, application for Alien Resident Certificate, registration of Social Organizations and cooperatives, registration of political	December 2020	Ministry of the Interior

Measure	Specific approach	Completion deadline	Ministry /Agency
	parties, etc.		
	(2) "Tax" services: Tax registration application, accounting and tax return filing agent registration application, estate and gift tax application, application for primary residential land value tax rate, etc.	December 2020	Ministry of Finance
	(3) "Labor" benefits: Labor/agricultural insurance benefits, National Old Age Pension and maternity benefit, the Labor Insurance Program's medical treatment form for occupational disease, business start-up loan application, recruitment of foreign labors, education grant for the children of unemployed labors (not for those who are the sole breadwinner)	December 2020	Ministry of Labor, Council of Agriculture, Ministry of Health and Welfare
	(4) Application for "enterprise": Company registration, startup services, approval of application on Foreign Investment in Taiwan, industrial talent cultivation, etc.	December 2020	Ministry of Economic Affairs
	(5) Services for "farmers and fishermen": Detailed product certificate for non-feed or feed additive, distant water fisheries catch certificates, certificate of fishing boat's departure, food dealer registration, fishing vessel crew training certification, etc.	December 2020	Council of Agriculture
	(6) Application for "Health and Welfare": Funeral subsidy for organ donation, medical personnel practice license in English, etc.	December 2020	Ministry of Health and Welfare
2. Connect government service	(1) Assistance at "birth": Services related to birth, adoption,	December 2020	Ministry of the

Measure	Specific approach	Completion deadline	Ministry /Agency
processes with life events as the axis	guardianship, adoption registration, maternity benefit, health insurance card for newborns, childcare allowance (0-2 years old), childcare subsidy, and maternity allowance can be obtained on the T-Road portal.		Interior , Ministry of Labor, Ministry of Health and Welfare
	(2) Subsidies for “Schooling”: Services related to childcare allowance (2-5 years old), reduction and exemption from tuition, scholarship application, vaccination, etc. can be obtained on the T-Road portal.	December 2020	Ministry of Education, Ministry of Health and Welfare
	(3) “Working ” service: Job-seeking services, recruiting services, vocational Training application, startup services, tax services, vocational training and living allowances, etc. can be obtained on the T-Road portal network	December 2020	Ministry of Labor, Ministry of Economic Affairs, Ministry of Finance, Veterans Affairs Council
	(4) “Home Care”: Elderly farmers' welfare allowance, application for foreign caregivers, etc. can be obtained on the T-Road portal.	December 2020	Council of Agriculture, Ministry

Measure	Specific approach	Completion deadline	Ministry /Agency
			of Labor, Veterans Affairs Council
	(5) "End of life" care: Funeral allowance offered by agricultural insurance, funeral grant offered by labor insurance, transfer and give away real estate, estate and gift tax application, public cemetery and burial permit can be obtained on the T-Road portal.	December 2020	Council of Agriculture, Ministry of Labor, Ministry of Finance
(7) Strategy 7. Once-for-all data input			
Provide citizens with accurate personal data	(1) Establish customized data (My Data) download and cloud connecting: Establish MyData digital service customized zone connecting to T-Road, offering multiple identity verifications, data circulation, information flow auditing and personal cloud storage.	December 2020	National Development Council
	(2) The personal data saved by public agencies will be provided by the MyData mechanism: Public agencies will be responsible for providing customized data for citizens to download through T-Road.	December 2020	Ministry of the Interior
	Interior: Household information	December 2020	Ministry of Health and Welfare
	Health and Welfare: Information on health, medical, and social welfare	December 2020	Ministry of Education
	Education: Status and training information	December 2020	Ministry of Education
	Transportation and Communications: Vehicle Services	December 2020	Ministry of Education
	Economic Affairs: Company registration	December 2020	Ministry of Education

Measure	Specific approach	Completion deadline	Ministry /Agency
	<p>information</p> <p>Labor: Labor insurance information</p> <p>Finance: Fiscal and tax information</p> <p>Justice: Legal information</p> <p>Conscription: Conscription information</p>	<p>2020</p> <p>December 2020</p> <p>December 2020</p> <p>December 2020</p> <p>December 2020</p>	<p>n</p> <p>Ministry of Transportation and Communications</p> <p>Ministry of Economic Affairs</p> <p>Ministry of Labor</p> <p>Ministry of Finance</p> <p>Ministry of Justice</p> <p>Ministry of the Interior</p>
	<p>(3)The public authorizes expanding the use of customized data: With citizen’s authorization, public agencies replace paper materials with MyData, allowing citizens to obtain accurate and customized services.</p>	<p>December 2020</p> <p>December 2020</p>	<p>Ministry of Health and Welfare</p>

Measure	Specific approach	Completion deadline	Ministry /Agency
	<p>Value-added health care services: Patients actively authorize the hospital to obtain their personal data, so that the hospital can inform patients to apply for subsidies.</p> <p>Simplify social welfare application: When students apply for tuition and miscellaneous fees exemption, they authorize schools to obtain low-income household information without providing paper certification documents.</p> <p>Improve the quality of financial services: Citizens authorize the banking business to obtain their personal data without providing paper certification documents.</p> <p>Improve company registration process: Integrate one-stop online application of company, business and limited partnership with personal data of the responsible person, business and limited partnership to simplify the business registration online application service.</p>	<p>December 2020</p> <p>December 2020</p>	<p>Ministry of Education</p> <p>Financial Supervisory Commission</p> <p>Ministry of Economic Affairs</p>
3. Supporting measures			
(1) Build a regulatory adjustment platform			
1. Build a smart government regulatory adjustment platform	Establish a single window that assists public agencies to clarify doubts about the application of regulations, clarify the regulatory implications and eliminate the uncertainty of the application of regulations	June 2019	National Development Council
2. Loosening the regulations of smart	(1) For the convenience and benefit of the citizens, public agencies loosen the relevant	Ongoing	National Develop

Measure	Specific approach	Completion deadline	Ministry /Agency
government	government interpretations, administrative rules, and regulations to pragmatically solve the regulatory obstacles towards a smart government.		ment Council
	(2) The NDC collects opinions from the public and groups to review if the relevant regulations are appropriate, promoting regulations to be in line with the international community.	Ongoing	National Development Council
(2) Implement supervision of privacy protection			
1. Integration for the personal data protection regulation	Re-examine Taiwan's Personal Data Protection Law and reinforce the consistent implementation of Personal Data Protection Law and consistency of all public agencies.	Ongoing	National Development Council
2. Application for EU adequacy certification	Initiate a consultation with EU for adequacy certification on personal data protection, submit a self-assessment report to the EU, conduct a technical dialogue, and apply for EU adequacy certification.	Ongoing	National Development Council
(3) Strengthen cyber security protection			
The central and local cyber security co-defense system	(1) Establish a critical system for infrastructure and cyber security: Establish a computer emergency response team (CERT) in various infrastructure fields and a national level cyber security monitoring center (N-SOC).	December 2019	Department of Cyber Security, Executive Yuan
	(2) Establish cyber security centers for local governments: Establish local response team and procedures of cyber security incidents, and complete the security monitoring mechanism for local threats and vulnerability analysis.	December 2019	Department of Cyber Security, Executive Yuan

Measure	Specific approach	Completion deadline	Ministry /Agency
2. Improve capacity for cyber security protection	(1) Cooperate with the government agency to adjust the internal network structure, expand GSN's capacity. The capacity of GSN and data storage will reach 100G and 40G, respectively.	December 2020	Department of Cyber Security, Executive Yuan
	(2) Adjust backbone flow capacity and analysis structure; expand data storage and data extraction. The capacity of GSN flow data extraction will reach 100G.	December 2020	Department of Cyber Security, Executive Yuan