

National Data Strategy

2021-06-18 NATIONAL STRATEGY OFFICE OF IT, CABINET SECRETARIAT

Background

- **Data is a key source of**

- Knowledge/wisdom, value and growth
- Sustainability, increasingly competitive market, and innovation

- **Global Leadership Competition**

- Paradigm shift geographical/technological changes in response to COVID-19
- Risks in digital society: privacy and security

- **Toward Digital Society**

- International collaboration, Global by Design
- Promoting the DFFT (Data Free Flow with Trust) initiative

The story behind

- 2020-12-21 **Data strategy** 1st release
 - Proposed a basic structure of the strategy.
 - “Why and what is data strategy?”

Vision

Principle

Architecture

Pilers & Action items

- 2020-05-26 **National Data Strategy** (Data strategy 2nd release)
 - Proposed the goals and the processes.
 - “How can we realize/implement the data strategy?”

Concept of the national data strategy

We will realize a citizen-centric society that balances efficiency and trust.

Philosophy

We aim to realize a sustainable human society. It is the human-centric society that creates new value by achieving both economic development and solving social issues. It is achieved through a digital twin by using data.

It is consistent with the vision of Society 5.0 that is the future vision of Japan. Our society values trust and safety. It is essential to realize high efficiency and hospitality services at the same time.

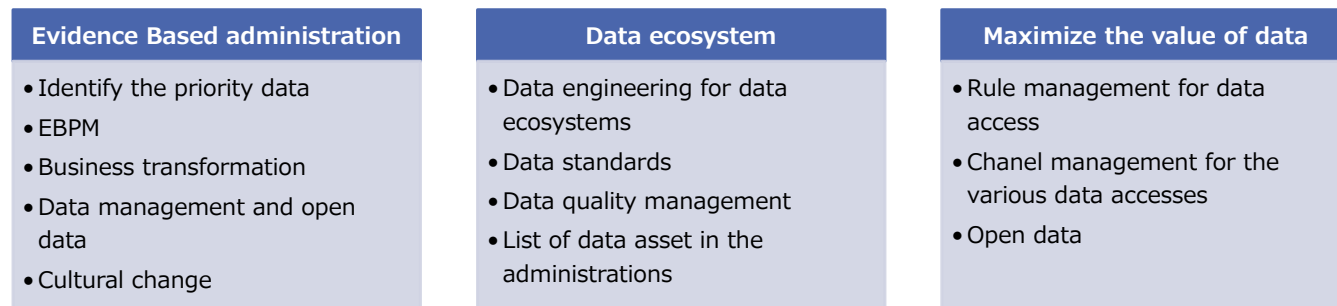
Vision

Principle of Data strategy



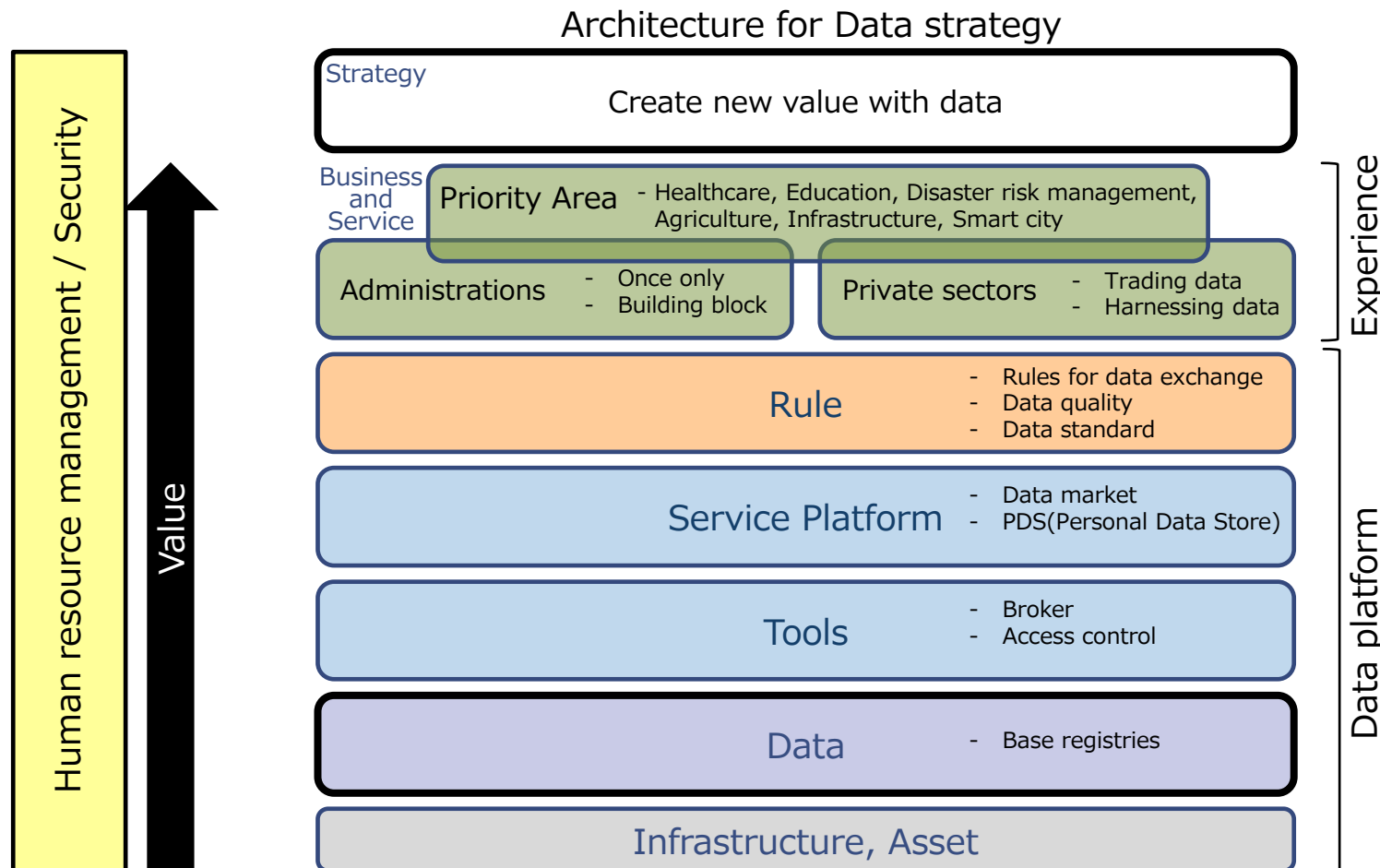
Principle

Principle of ministry's action



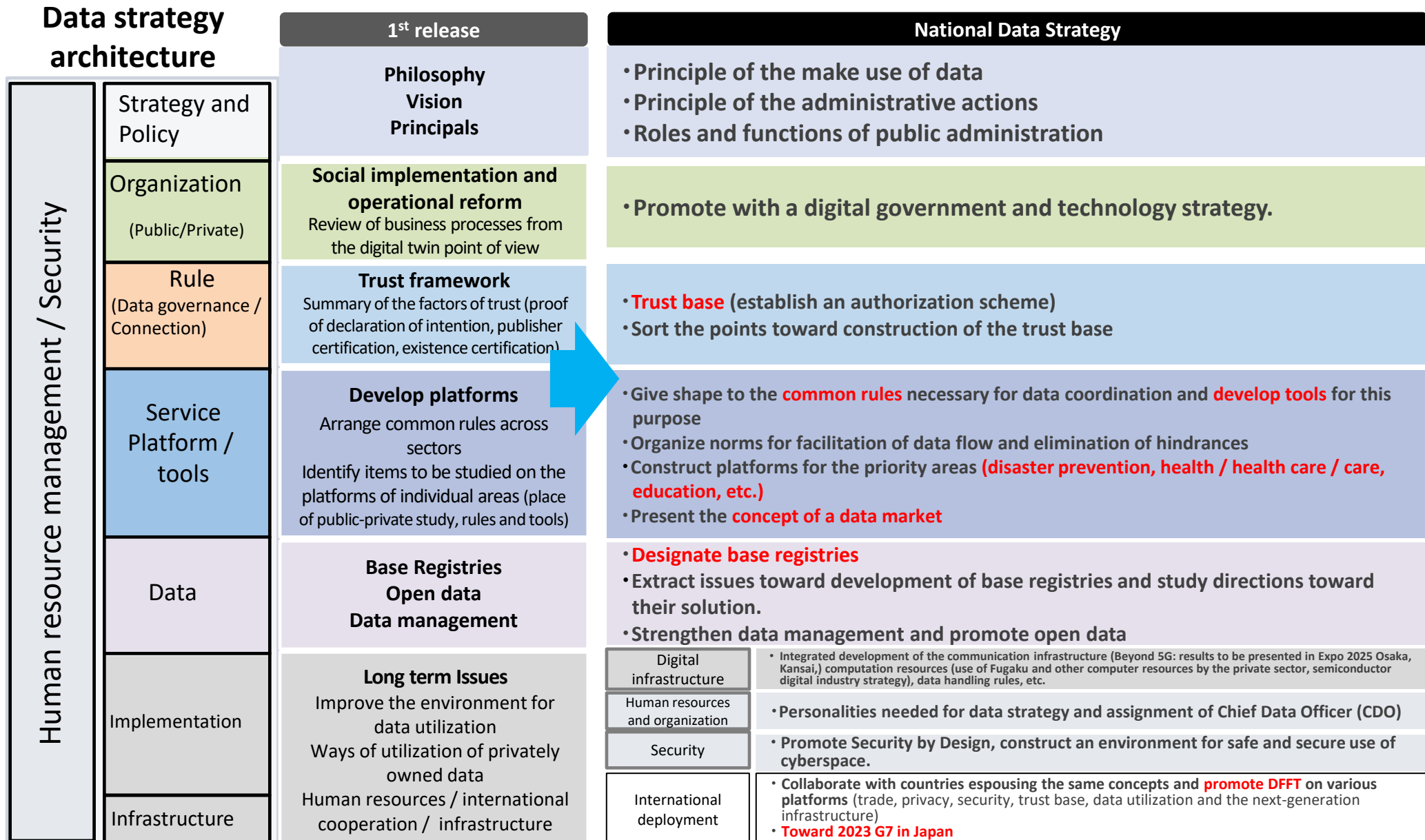
Architecture

- Data strategy is base of all social activities and industries.
 - The architecture is based on the Society 5.0 reference architecture.



OVERVIEW OF THE NATIONAL DATA STRATEGY

Vision Humancentric society that creates new values through a system where cyberspace and real space are highly integrated (digital twin)



The role of government in this strategy

Role

- Government as a platform
 - The Government is the largest data holder in Japan, and its systems and actions will have a significant impact on Japan's society, economy and industries.
 - The Government plays a role as "a platform of platforms" in the digital society and contributes to society's sophistication.

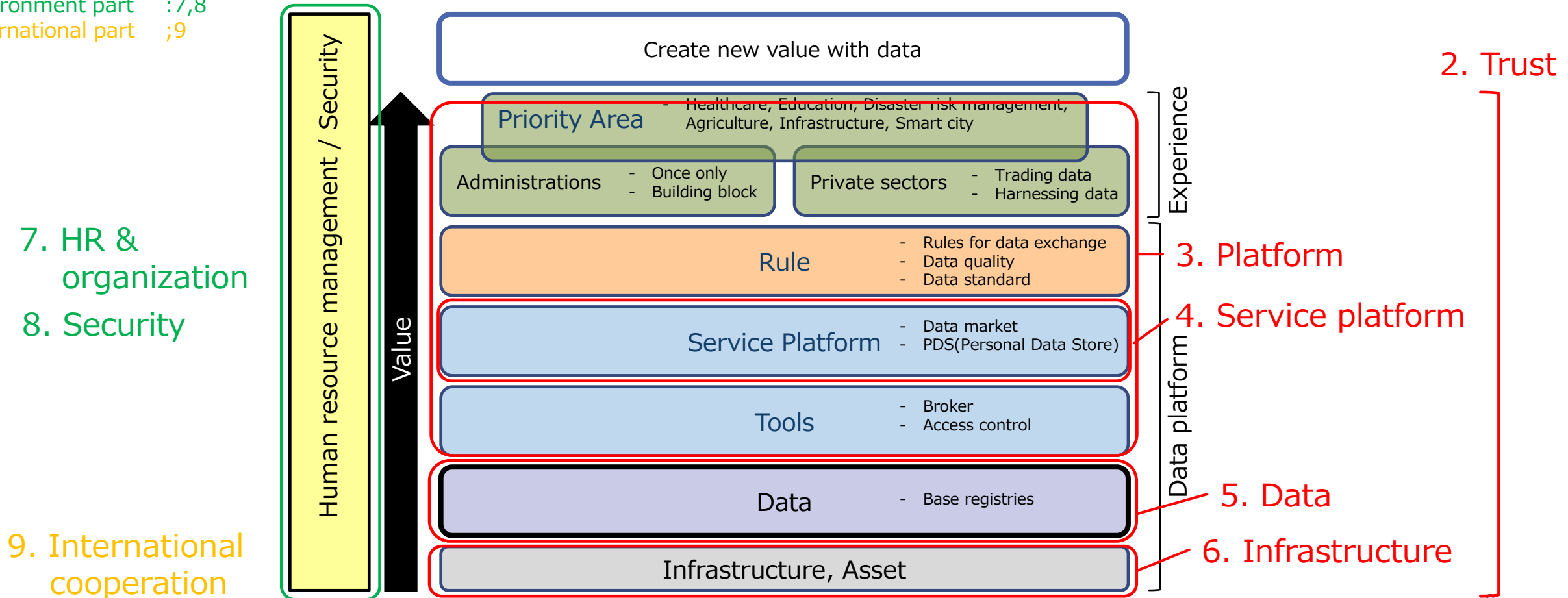
Mission

- The Government will provide strategy, architecture, ID framework, base registries, essential data and the platform.
- The Government will reform the existing rules and establish new ones .

Structure of this strategy

- Concept part :1
- Core part :2,3,4,5,6
- Environment part :7,8
- International part ;9

1. Strategy: Philosophy, Vision and Principals



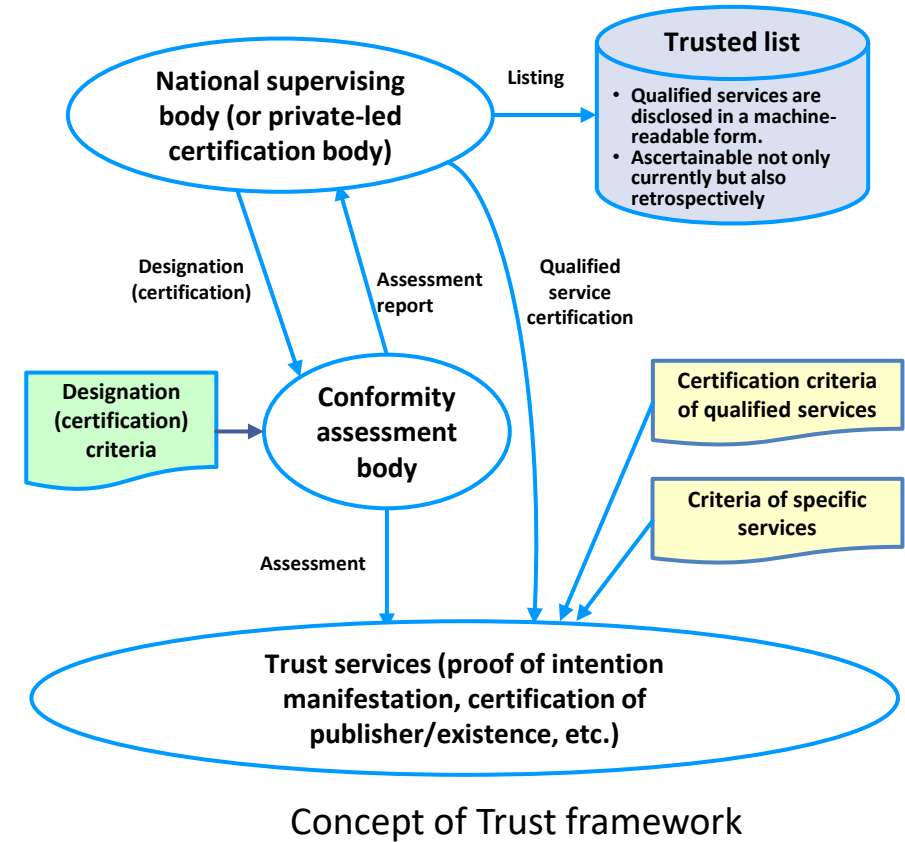
Action Plans

Trust

- Trust is an essential matter in a data-driven society. Trust includes social issues and technical issues.
- The Japanese government proposed a “DFFT” initiative in 2019. (DFFT: Data Free Flow with Trust)
- Open government, data and various activities foster trust.
 - ID systems, evidence-based policymaking, diverse, quantitative and high-quality data

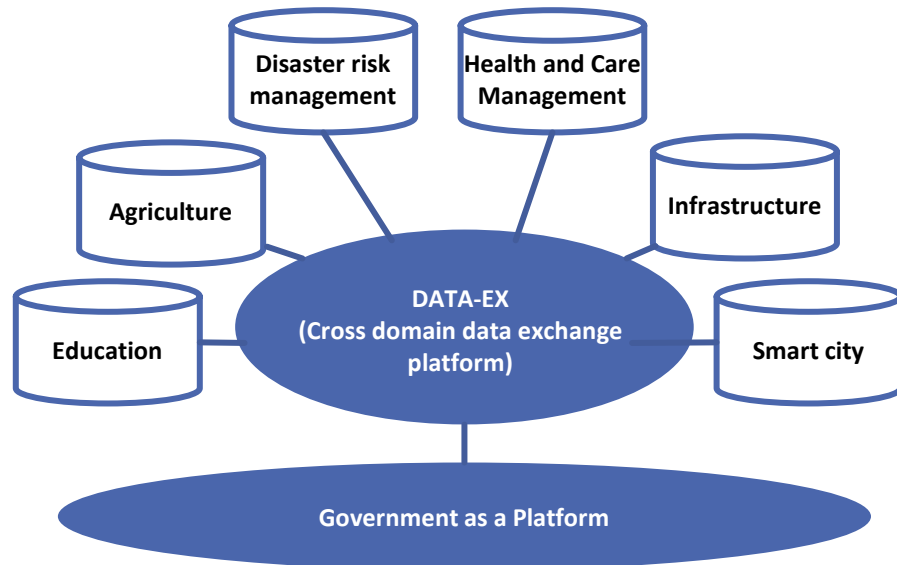
Trust

- Basic Concept
 - Comprehensive trust framework toward digital society
 - Trust service's general principles and common requirements
 - International mutual recognition
- Key Actions
 1. Establishment of authentication schemes
 2. Establishment of a trust framework
 3. Effects of certification
 4. Define the certification criteria
 5. Disclosure of qualified services as a trusted list
 6. International mutual recognition framework



Concept of the data platform

- **Data Platform** consists of
 - Functions, services, rules of data flow and connector
- **DATA-EX**: Cross-domain data exchange platform
- **Government**: Largest data holder, biggest player and platformer



Development of the common procedure

1. Identify the value, data and stakeholders
2. Architecture design
3. Ideal way of Business Process Re-engineering
4. Identify the base registries and priority data
5. Develop tools for interoperability: API, catalogue
6. Rule making
7. Define the data store and exchange platform, data marketplace, etc.

Rules for the platforms

- Develop rules to ensure that the platform is safe for everyone to use and can sustainably provide services.

Rules for data management

- Rules for trust management of data and the stakeholders
- Contraction rules for data trading
- Management rule for privacy information
- Standards for data exchange
- Data quality management framework

Rules to remove barriers to data management

- Set the stakeholders' mindset for data-driven society.
- Establish a governance mechanism for data.
- Prevent unintended data flow/use.
- Guarantee fair data transactions and use.
- Open the platform structure so that anyone can participate

Data platform priority areas

■ Example of priority areas



Healthcare / Care management

Relevant organizations, such as hospitals and care homes, work together to share information. Information held on individuals will also be used to ensure that citizens receive the most appropriate services.



Education

Promote the data standards and enable schools and private educational institutions to use the information they have. We will make a new learning style for the digital age.



Disaster Risk Management

Standardize data and rules and connect disaster response systems. Create an environment in which data can be effectively analyzed and utilized in the disaster situation.



Agriculture

Analyze existing agricultural systems and connect them based on data standards.

Create a smart food chain that includes not only agriculture but also supply chain.



Infrastructure

The National Land and Transport Platform is at the core of the collaboration of related systems.

We will promote the platform for using in new businesses in the private sector.



Smart city

A new urban model is created by connecting the various types of information available in the city. We will develop rules for the use and sharing of data for this purpose.

Shape the common rules for the data platform

- Common rules for data management guidance
 - Data provider and authentication
 - Contract and template
 - Personal data management
 - Data standards and quality, etc.
- Element of promoting data flow and removing barriers in the private sector
 - Stakeholders' mindset as data driven society
 - Governance mechanism
 - Fair data exchange/trading
 - Avoid lock-in: negative effect on innovation, etc.

Service platform (Data market / PDS / Information Bank)

■ Data market

- Today, the data market trades data itself. In the future, the market will trade data access rights. A fair and neutral data intermediary platform is needed for the market.
 - We will decide rules and procedures for the market and evaluate the needs.
 - We will establish a data market.

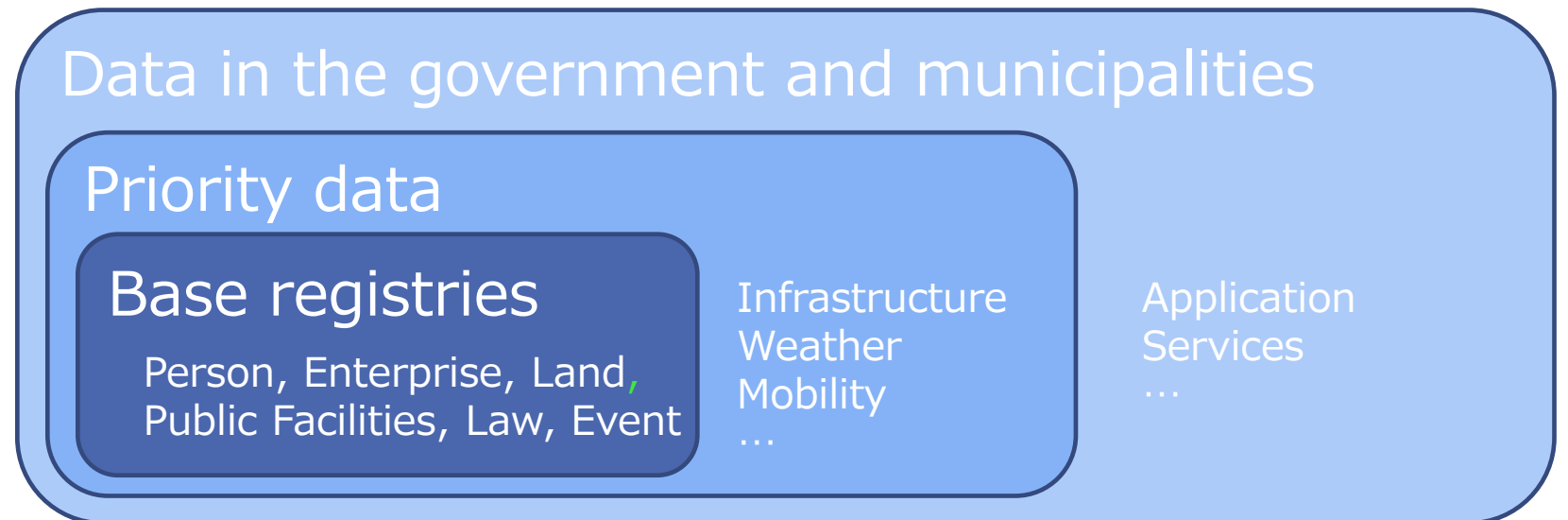
■ PDS (Personal Data Store) / Information bank

- In a data-driven society, we will need a data-sharing mechanism and a personal data store. Some data stores will provide a new service by using anonymous data. We should define the rules and criteria for new services.
- Primarily, we should ensure data safety in the PDS / information bank

Data (base registries / priority data and data governance)

- We will promote the base registries initiative to ensure that core data held by government agencies are used as a basis for society.
- The base registries will make it easier to carry out social activities and promote once-only administrative services.
- We selected 19 data in 6 fields. We will make the mechanism by 2025 and complete the dataset by 2030.
 - Other important data, "priority data," will be developed. We will also deploy this know-how to ensure efficient management and use of data across the government.

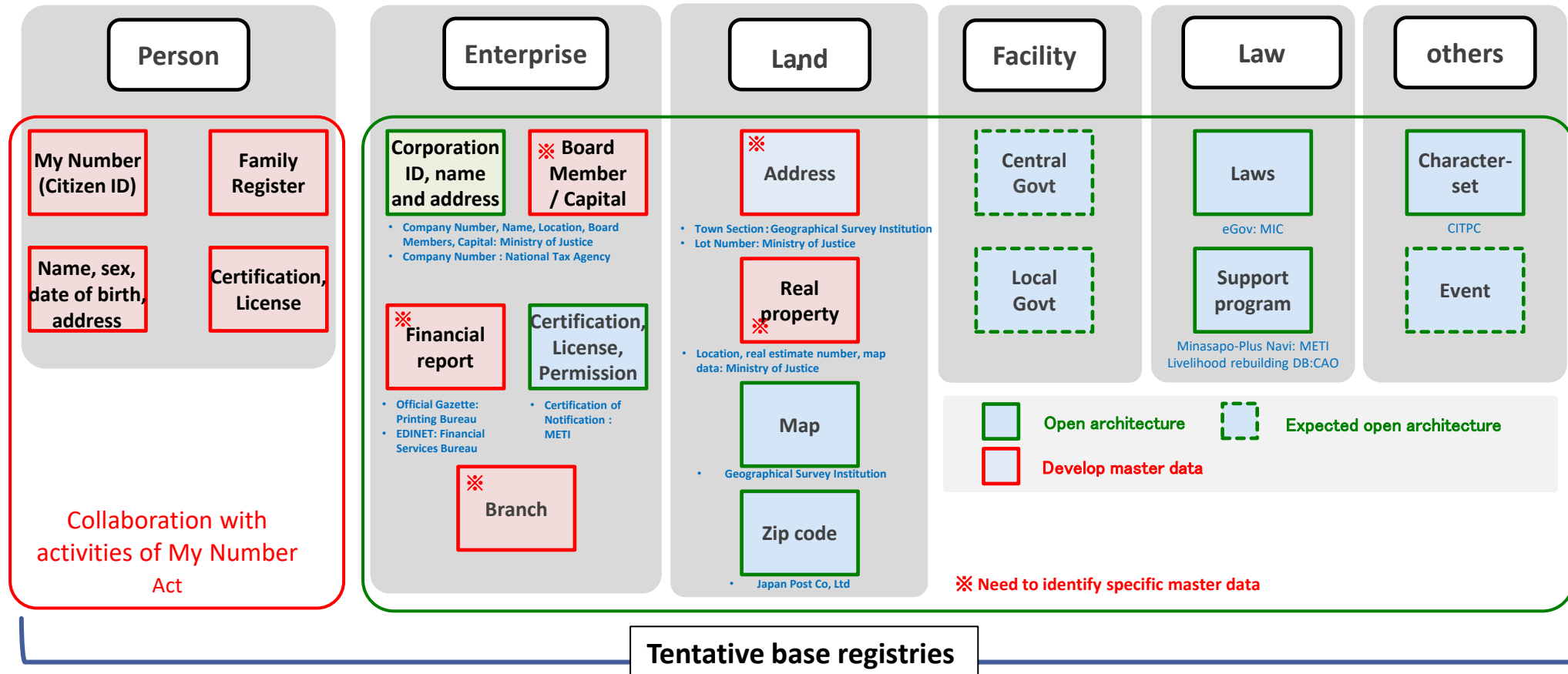
- Standard data model
- Quality management standard
- Data management standard



Data: base registries

- We selected 19 data in 6 fields, will develop the mechanism by 2025, and complete the dataset by 2030.

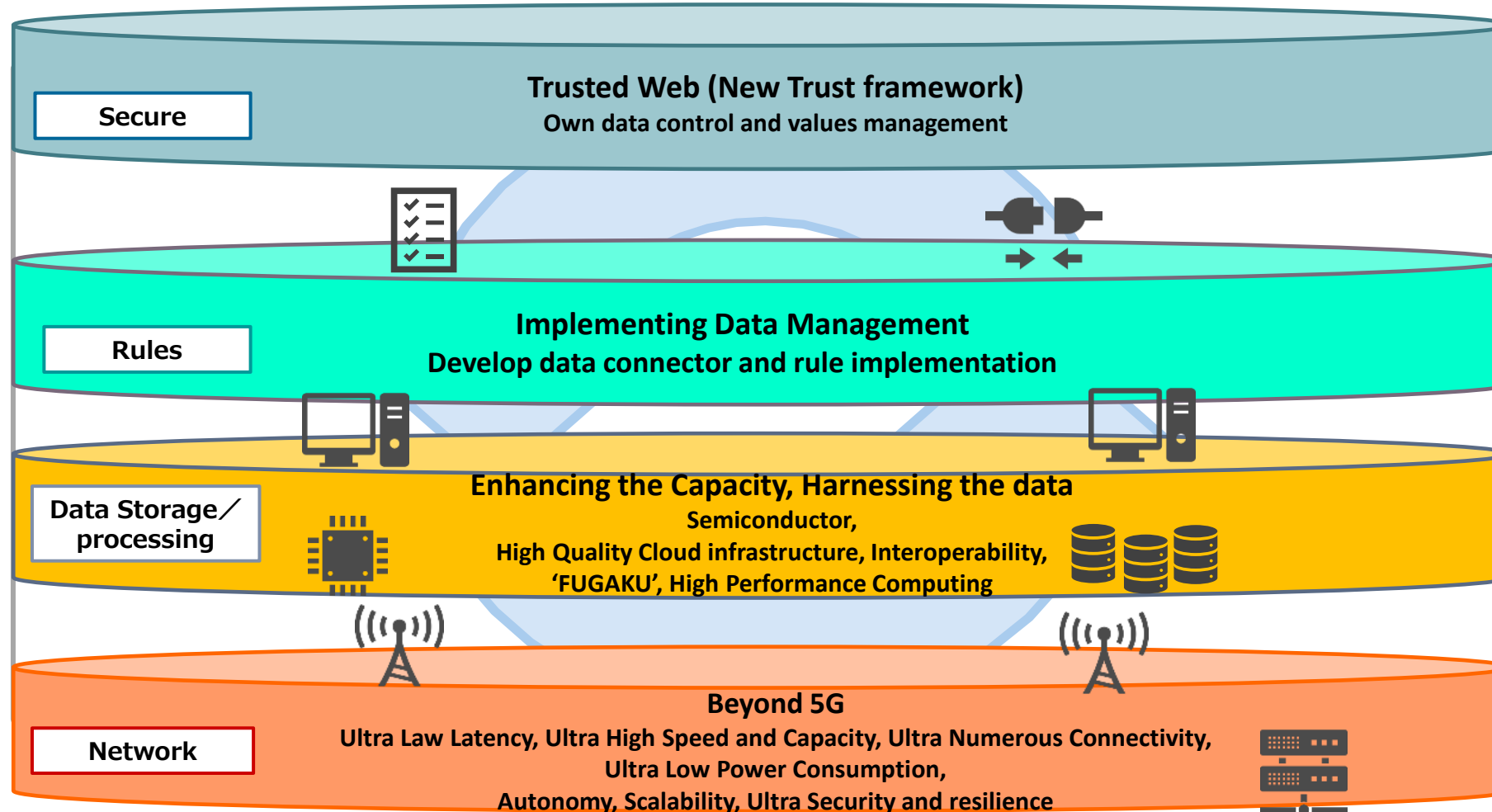
Priority data fields



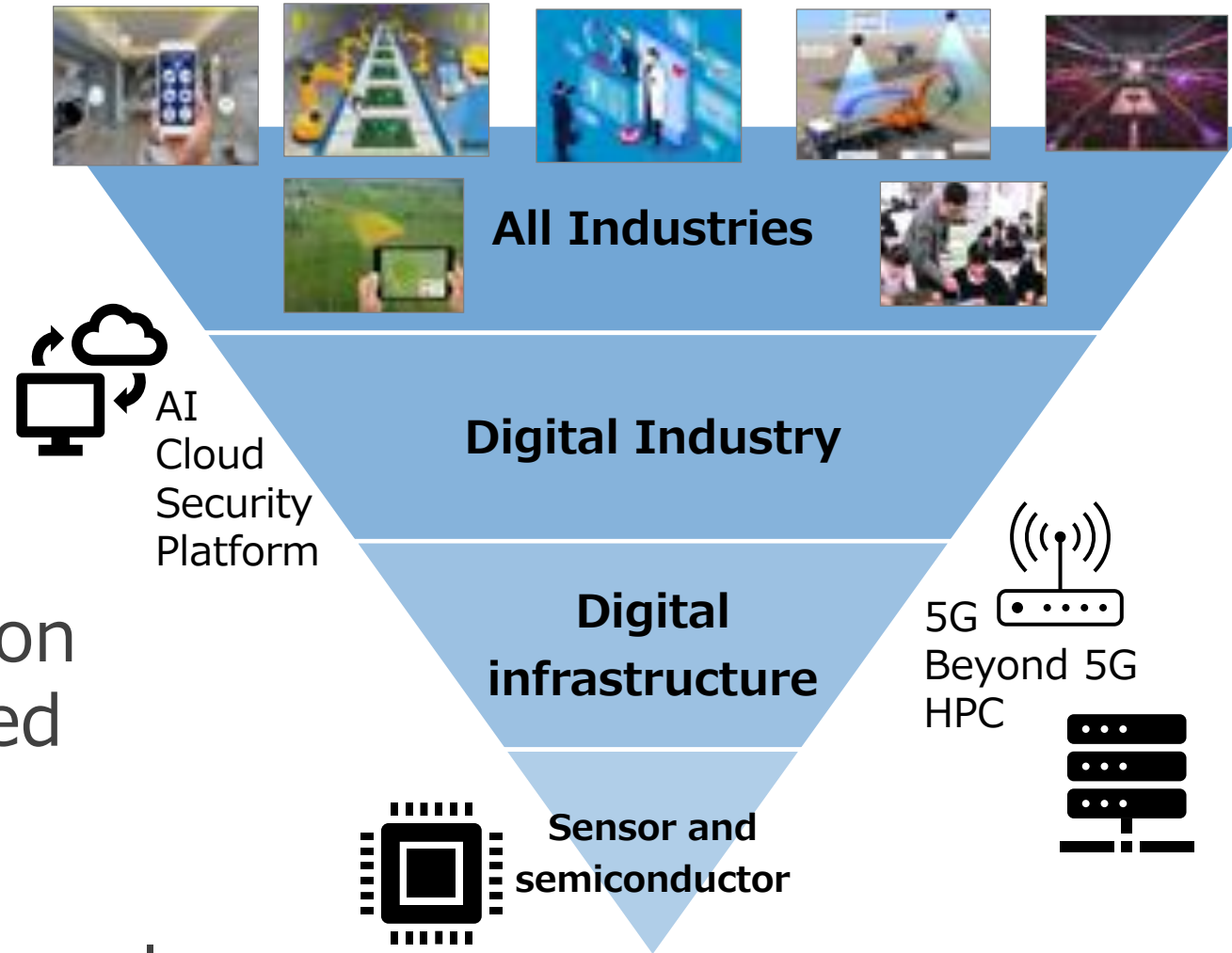
Digital Infrastructure

■ The structure of the elements

- Network, data processing, rules and secure layers



Infrastructure/assets



- We need not only communication infrastructure but also integrated development of factors from computation resources to implementation of data handling rules.

Human resources and organization

■ Human resources

- We will develop a data-related workforce through schooling, higher education and professional training. We will make the framework for human resource management.
- Furthermore, to promote digital transformation, we will develop the digital human resoudigital transformation of local companies and industries.
- All staff should have fundamental data skills in the government, and there will be professionals to analyze and design data.

■ Organization

- We will assign a CDO (Chief Data Officer) at the Digital Agency to take responsibility for the data stratrces necessary to accelerate the egy from changing public administration through data.
- And we will assign data officers at ministries to create new value in collaboration with the Digital Agency CDO and the data officers.

International collaboration

- Shape the concept of DFFT (Data Free Flow with Trust)
 - Trade, Privacy, Security, Trust, Data harnessing and Infrastructure
- Collaboration with like minded countries: sharing the common value
- Concrete actions before the G7 meeting in 2023

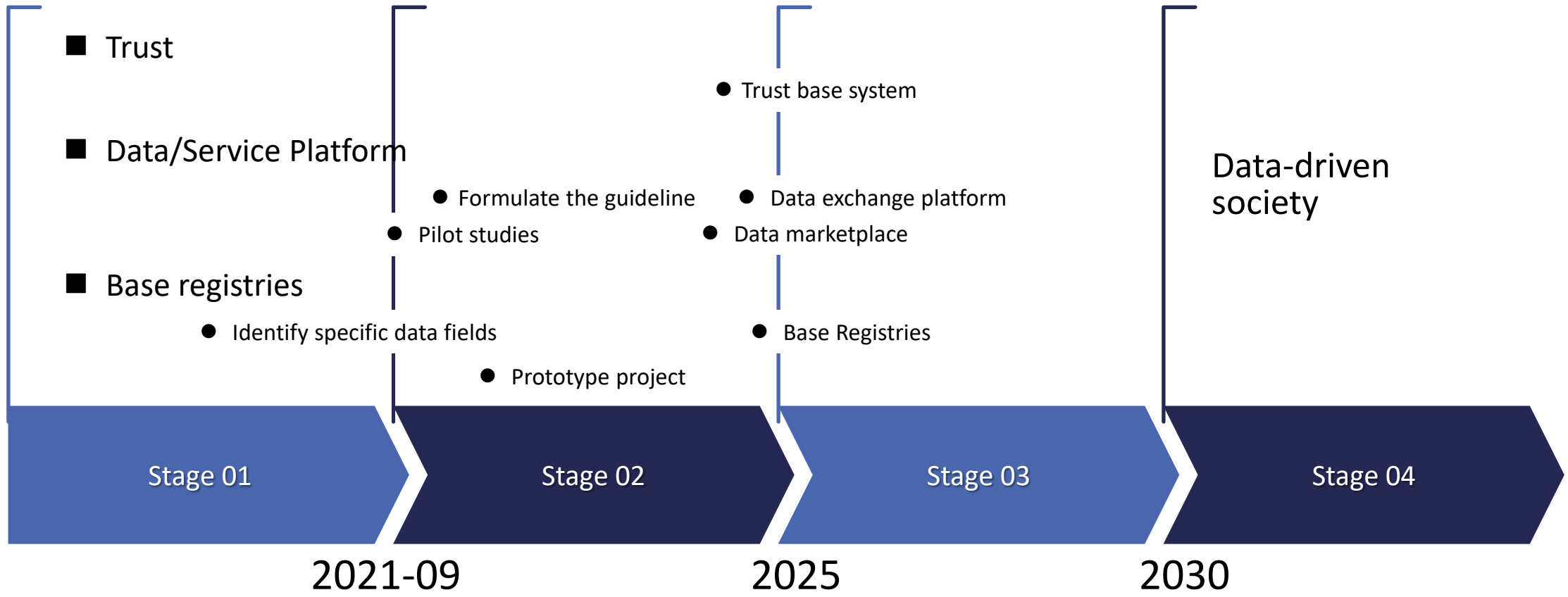
- Collaboration with like minded countries by sharing the concept of DFFT
- Working with the above countries to share the concept with them



- Government surveillance
- Conflict with freedom and democracy

Further Actions	
Trade	<ul style="list-style-type: none"> • Pursue high-quality discipline in WTO • Pursue high-level data discipline to the bilateral and among like-minded countries by sharing the way of thinking based on the data discipline in the JAP-US and JAP-UK frameworks • Discuss with EU rules on free flow of data under EPA • Ensure steady operation of RCEP and TPP agreement
Privacy	<ul style="list-style-type: none"> • Share a higher strategic target of opposing the government surveillance system • JAP- US-EU framework : globally acceptable company certification system • Cooperation with like-minded countries for discussions toward development of principles on government access <small>(Note 1) at OECD (Note 2)</small> <p><small>Note 1: public use of personal data held by the private sector Note 2: cooperation with like minded courtiers to discuss development of principles in line with data flow in general</small></p>
Security	<ul style="list-style-type: none"> • Identify specific areas of international collaboration and proper organizations • Formulate leading projects to collaborate with like-minded countries
Trust	<ul style="list-style-type: none"> • Develop a national trust base framework • Collaboration with US and EU by consideration of their trust systems
Data harnessing	<ul style="list-style-type: none"> • Research the global trend of international standards in the field of smart cities • Research the trends of data standards and quality, and work with other countries
Infrastructure	<ul style="list-style-type: none"> • Research national and global policy trends (including semiconductor and quantum technology strategies)

Roadmap



A sustainable society through trust and quality