

# Sustainability Briefing

## NRI's Approach to DX3.0

NRI's commitment to solving social issues through implementation of Digital Social Capital

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21 February 2024



# I DX3.0 Approach - Background and Overview

- 1 Why the Social Problem Solving Business now?
- 2 What is the DX3.0 business that NRI is working on?
- 3 What is NRI's challenge to create "digital social capital"?
- 4 How to market solutions to social issues?
- 5 What is NRI's unique approach to commercialization?

## II Introduction of Case Study "Forest Carbon Credit"

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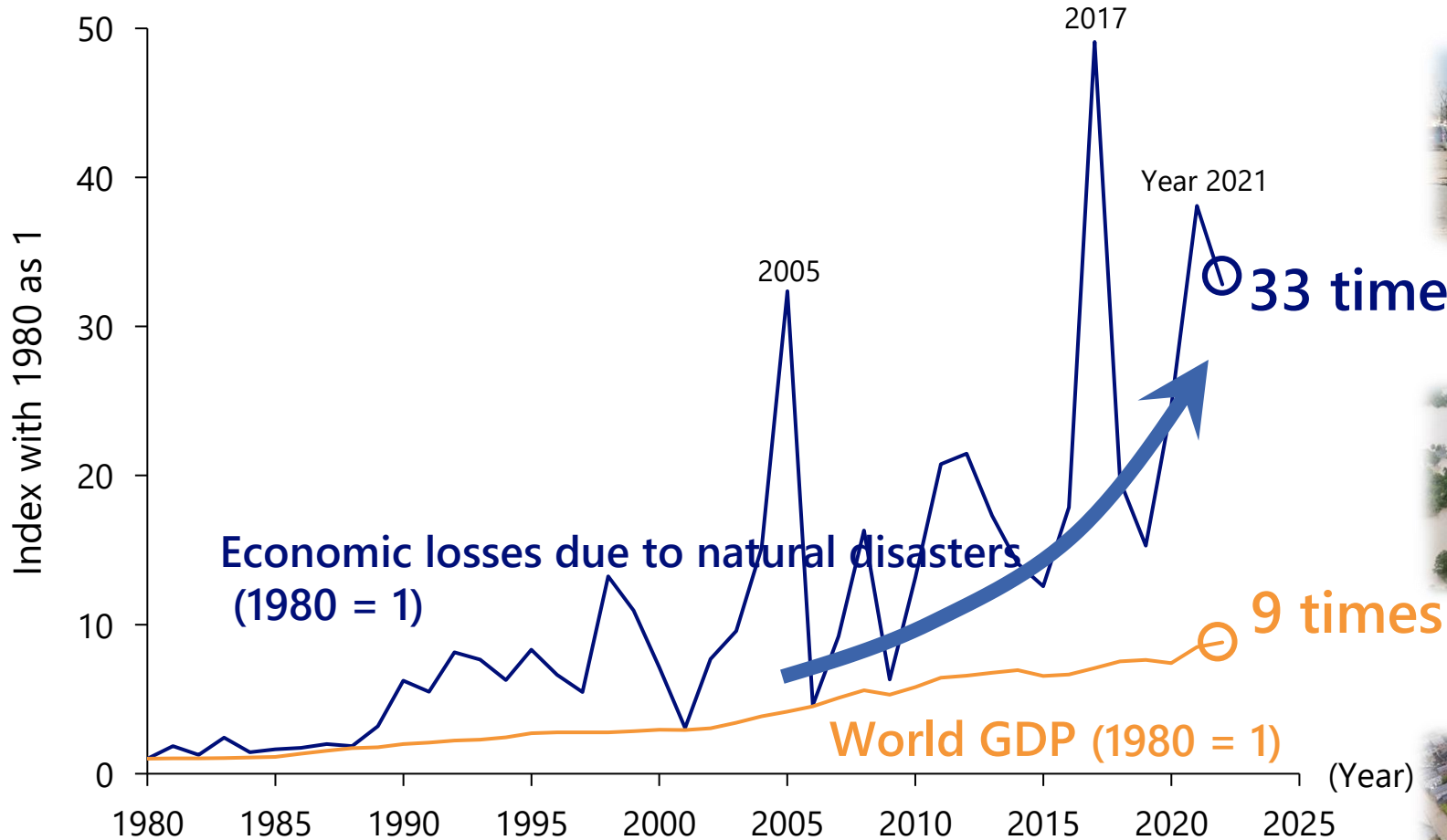
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Growing "social costs"

# Natural disaster losses due to economic activity increase every year

## Economic Losses and GDP due to Natural Disasters (Worldwide)



2005 U.S.A. Hurricane (Katrina)



2017 U.S. Hurricane (Harvey)



2021 Europe heavy floods



Note: Figures represent losses due to disasters considered to be related to economic activities (extreme climate, extreme temperatures, floods, droughts, wildfires, and landslides). (excluding earthquakes and volcanic activity)

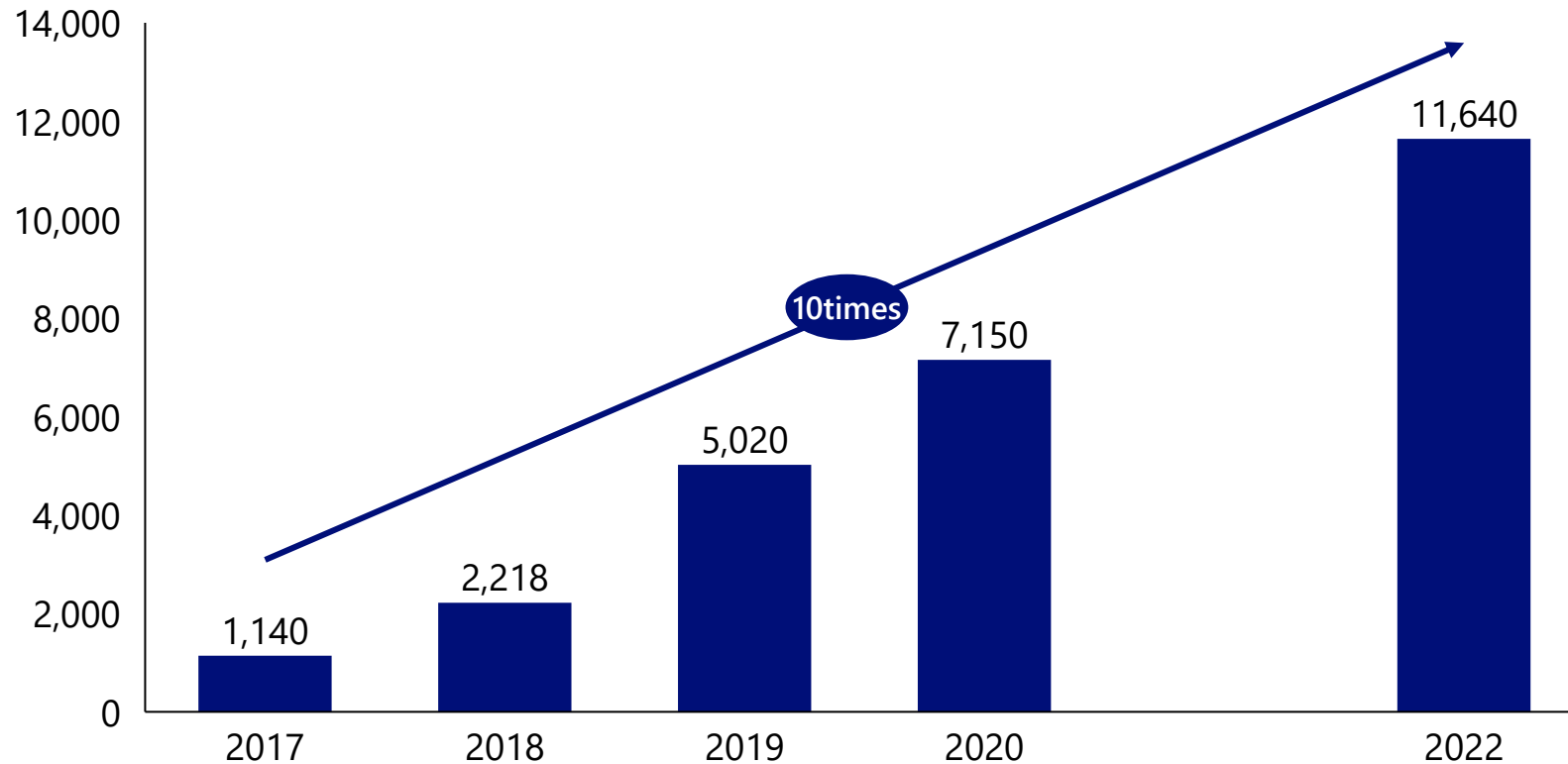
Source: EM-DAT, CRED / UCLouvain (2023); GDP from World Bank (nominal values)

The purpose of this material is to provide reference information for investment decisions, and is not intended as a solicitation to invest.

# Global impact investment is also on the rise

## Global Impact Investment Market Size\*

(Billions of U.S. dollars)



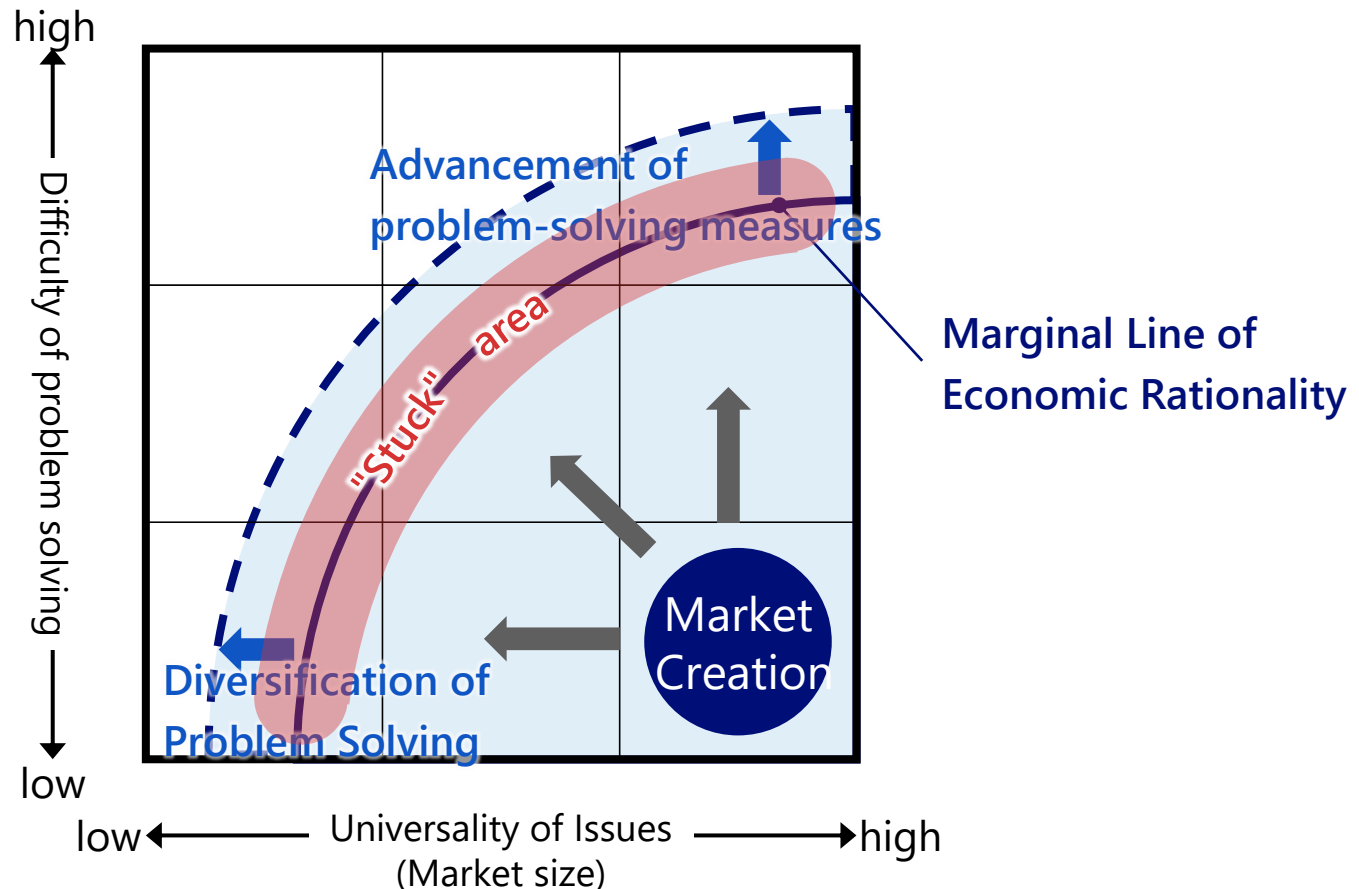
\*:Impact investing is investment aimed at creating social and environmental impact while pursuing financial returns.

Source: Foundation for the Advancement of Social Change, Latest Domestic and International Trends in Impact Investing (November 30, 2022).

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# Social challenges = an opportunity to break free from 'stuck at the limits of economic rationality'?

## The Limits of Economic Rationality



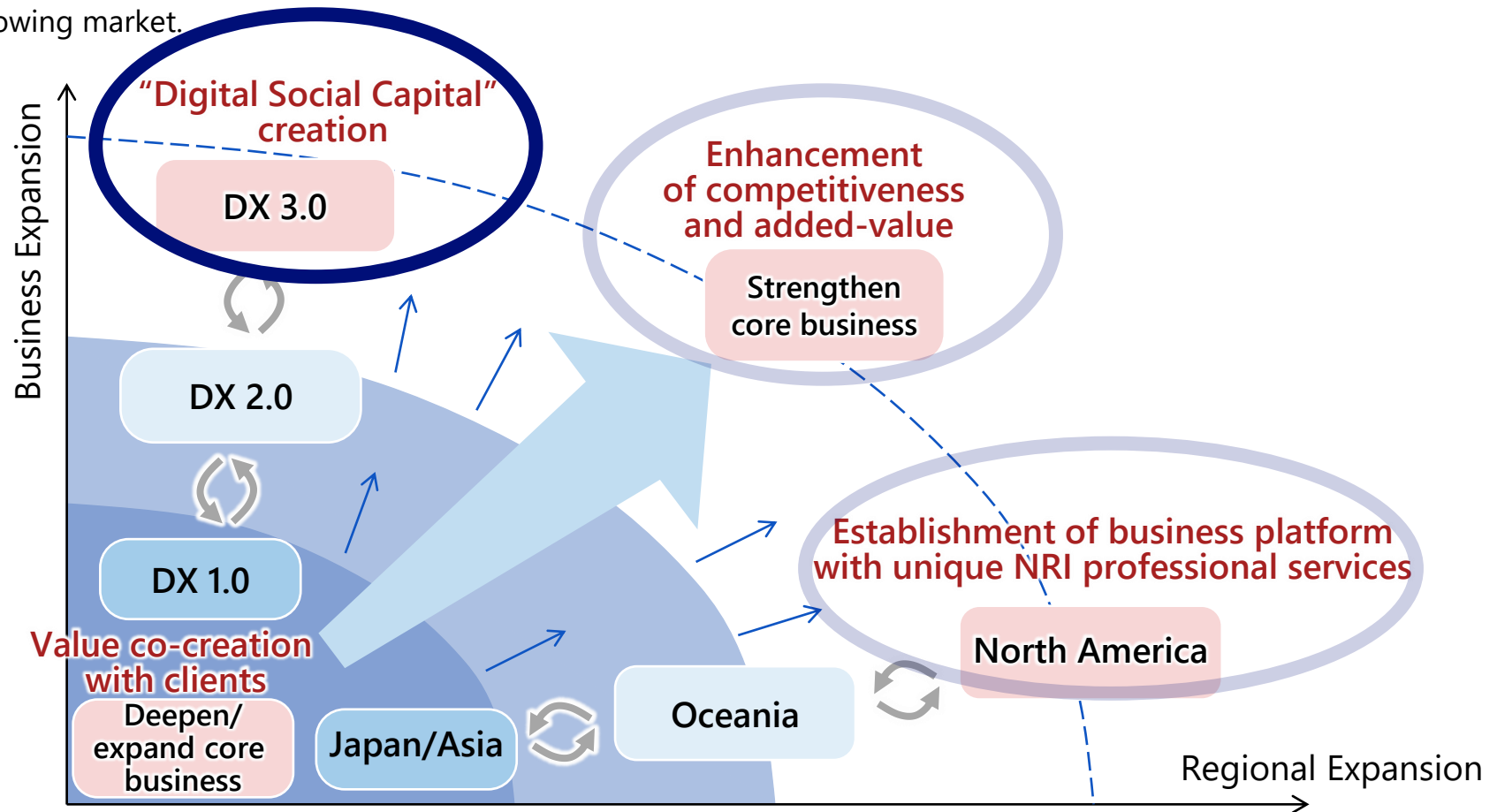
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# DX 3.0: Collaborating with clients to solve social issues

- **Core business:** We will further deepen value creation with clients via **Con-solutions**. We will also enhance competitiveness and added-value through the **expansion of Business Platforms** and **productivity innovation**.
- **DX:** Through **DX 3.0**, we will take on challenges to go beyond companies and industries, to make an impact to the society.
- **Global:** In addition to Asia and Oceania, we will also expand into **North America**, which is an enormous and fast-growing market.





DX Business Expansion

Accelerate transformation of enterprises, industry, and society

<p>Society transformation</p>	<p>DX 3.0</p>	<p>Paradigm shift</p>	<p><b>Creating "Digital Social Capital" in collaboration with various partners</b></p> <ul style="list-style-type: none"> <li>• Social DX</li> <li>• Value chain DX</li> <li>• Infrastructure DX</li> </ul>
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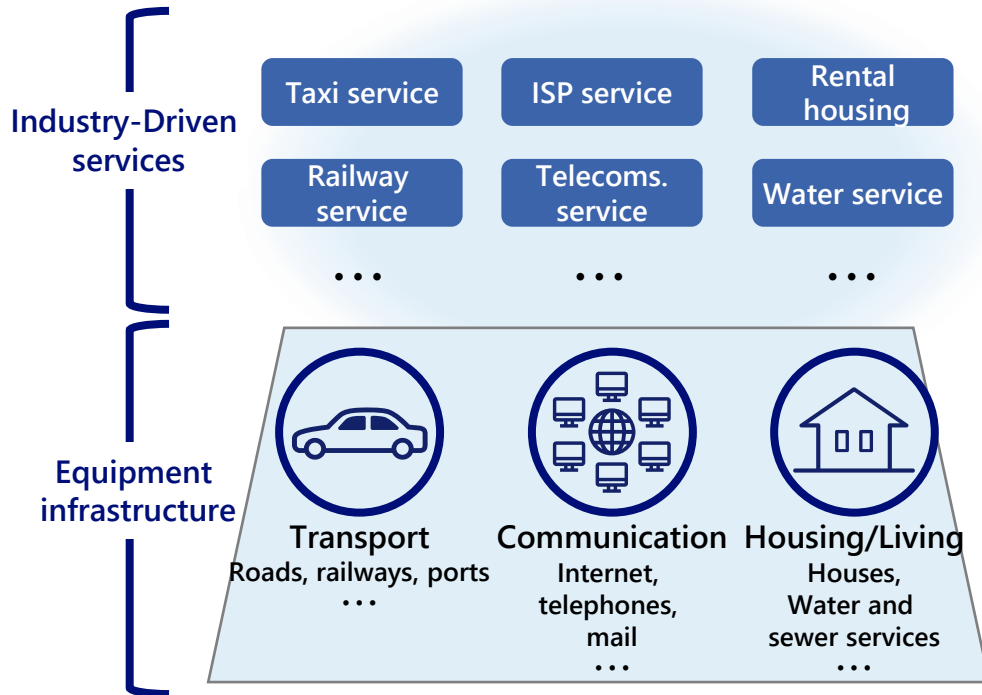
<p>Enterprises and industry transformation</p>	<p>DX 2.0</p>	<p>Business models</p>	<p><b>Establishing never before seen digital services</b></p> <ul style="list-style-type: none"> <li>• Developing new cross-industry platforms</li> <li>• Implementing new business models and ecosystems for clients</li> </ul>
	<p>DX 1.0</p>	<p>Processes  Infrastructure</p>	<p><b>Strengthening existing businesses for new opportunities</b></p> <ul style="list-style-type: none"> <li>• Consulting : Integration of management and digital</li> <li>• Financial IT : Restructuring the financial industry with BPF services</li> <li>• Industrial IT : Upgrading the digital IP to cross-industry services</li> <li>• IT Platform : Creating new IT infrastructure services</li> </ul>

Source: excerpt from NRI Group Vision 2030  
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## What is Digital Social Capital?

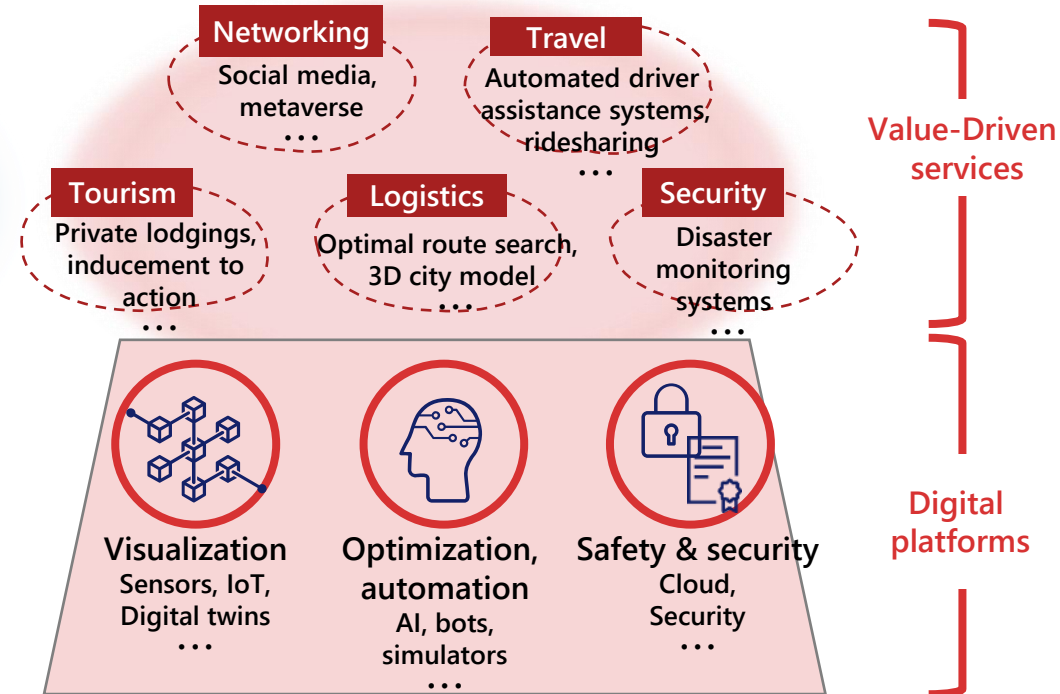
“Digital Social Capital” is a digital platform with an ecosystem of Value-Driven services leveraging the platform

### (Conventional) Industrial Social Capital



- Tangibles (hardware)
- Function-specific applications
- Large initial investment

### Digital Social Capital



- Intangible services (software)
- Value-specific applications
- Small initial investment ⇒ Gradual increase

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# Challenge to create digital social capital through DX 3.0

## 1. Social DX



### Create a society where people can live with high aspirations

Digital government

Improving convenience based on individual number platform



Regional revitalization

Promoting rural area DX, smart cities, and other social infrastructures

New financial services

Expanding the use of new financial assets such as digital assets

## 2. Value Chain DX



### Create people and planet friendly industry

Value chain optimization / Tracing

Coexistence of environmental symbiosis and economic efficiency, visualization of CO<sub>2</sub>



Circular economy platforms

Environmental symbiosis through effective use of natural resources

## 3. Infrastructure DX



### Provide a safe and secure social infrastructure

Infrastructure lifecycle transformation

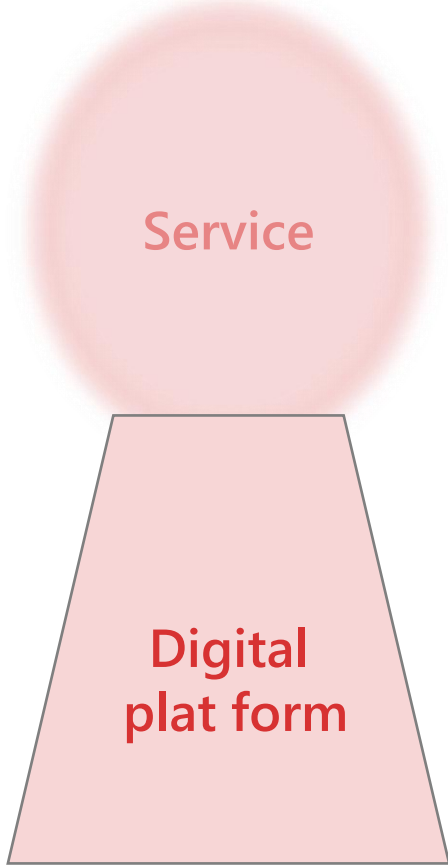
Realizing a sustainable and resilient social infrastructure

Financial infrastructure for Carbon Neutrality


Creating and sophisticating markets for decarbonization

# Social DX provides greater convenience for citizens by the My Number Card

Solving social issues: Procedures based on strict identification in the online space




**[Ex] Insurance services**  
(online completion of procedures using specific medical checkup information)

Insurance company 

Information Request ↓

↑ Result

**e-NINSHO** 

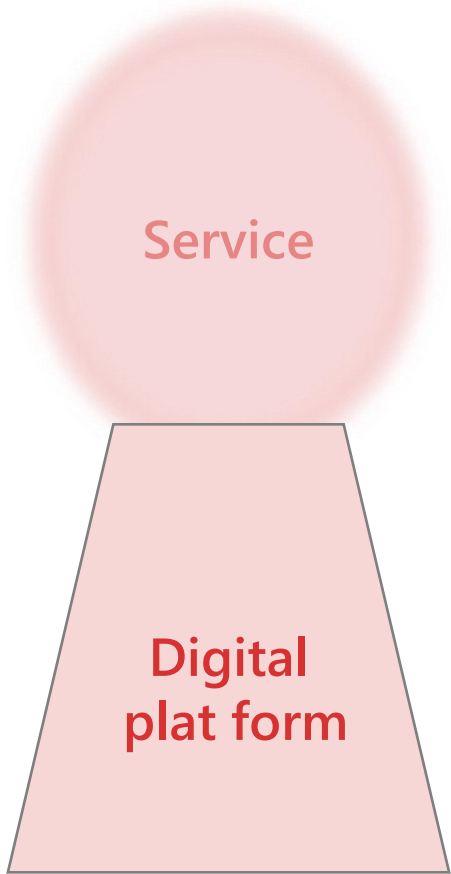
- Submit your own information (results of specific medical checkups) on MyNumber Portal.
- Online completion of the contracting process with insurance companies.

- Reproduce the person himself/herself in a digital space as part of the development of the infrastructure using the My Number Card.
- One-stop service for tax and social security  
Improved convenience

**My Number Platform**

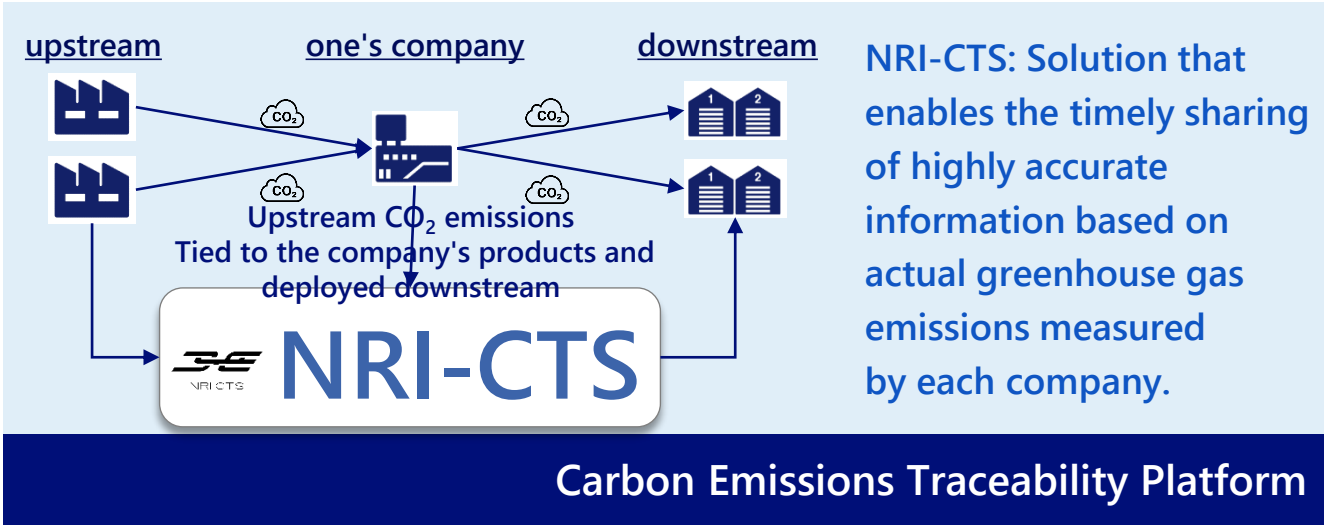
# Value Chain DX : facilitating corporate CO2 emissions management.

Solving social issues: Accurate and timely calculation and visualization of CO<sub>2</sub> emissions



## Image of the use of emissions information by companies

- Provide CO<sub>2</sub> Free Merchandise
- Clean Mobility and Logistics
- Internal carbon price



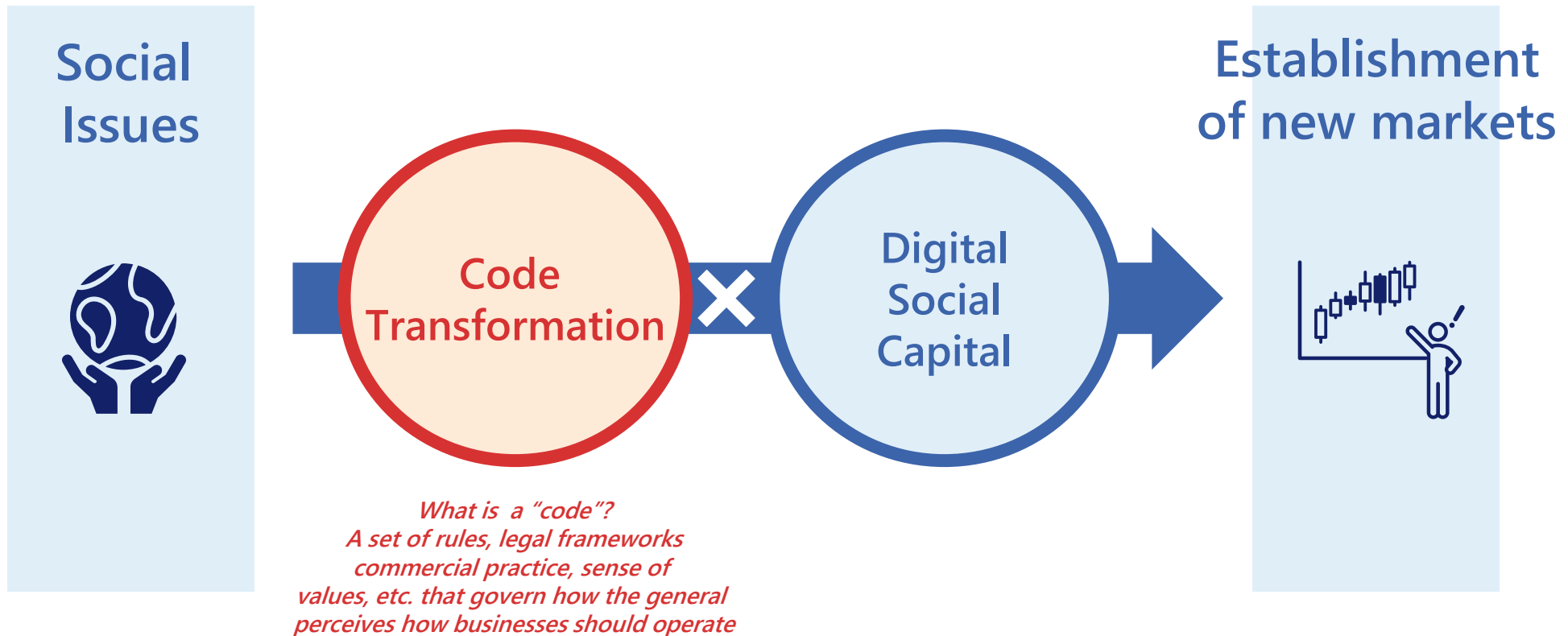
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What is Code Transformation?




Markets cannot be launched simply by developing Digital Social Capital;  
Code Transformation is required to nurture new markets






# Airbnb creates new markets while actively engaging in Code Transformation

### Social issues involving the private lodging market

-  Increased inbound volume
-  Increased vacant houses and rooms
-  Diversified lodging experience needs

### New market creation ("Peer-to-peer lodging" market)

	2018	→	2022
 Certified Facilities	1,915	→	3,300
 Certified Rooms	5,735	→	9,725
 Certified Operators	1,237	→	2,008

### Examples of Code Transformation by Airbnb

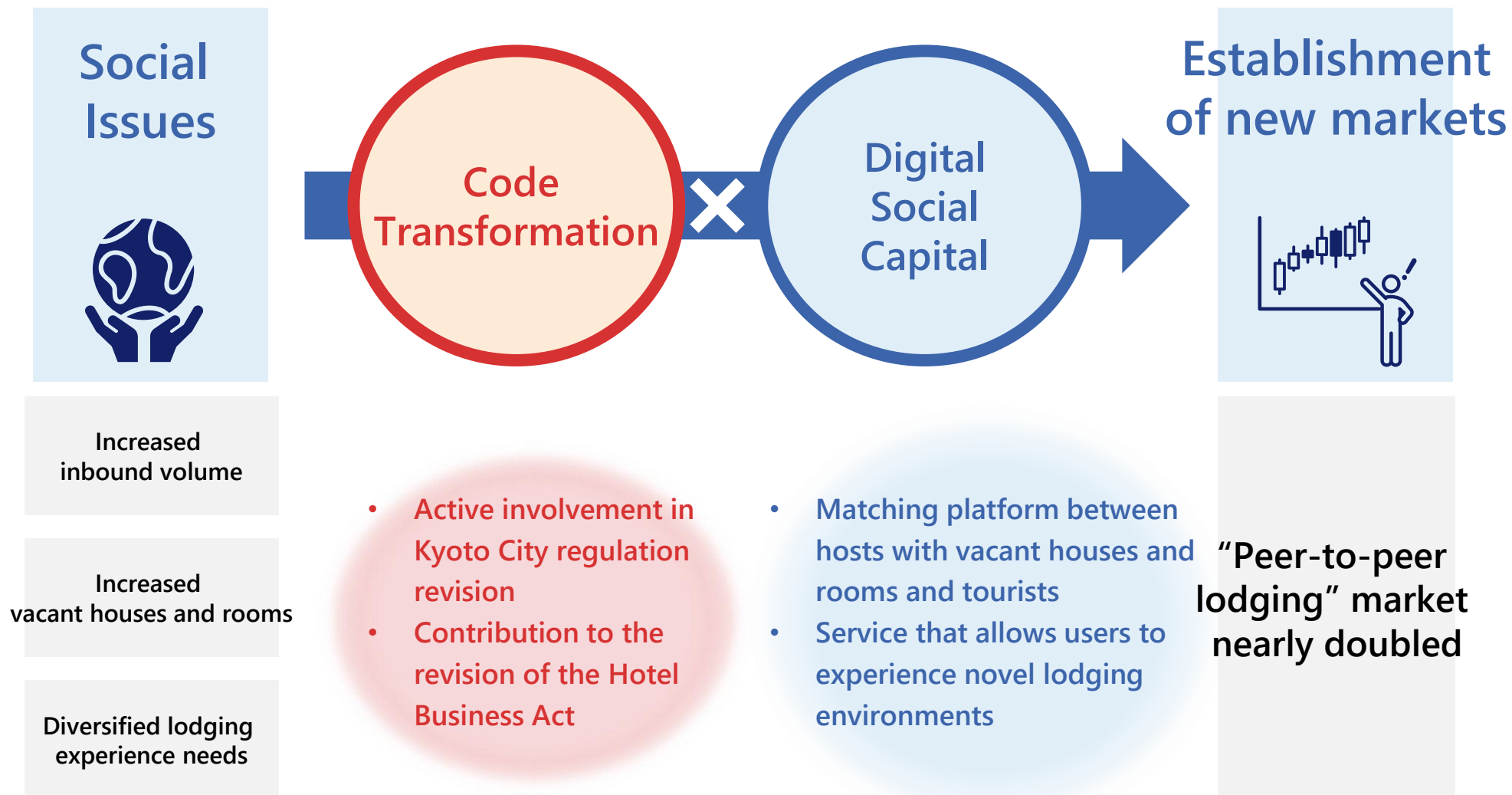
- Facilities for private lodging are limited due to the requirement for **personnel to be stationed 24 hours** in the lodging facility.
- Airbnb implements a **harmonized approach** with both hosts and government simultaneously.
  - Coordination of briefing sessions for hosts
  - Proposal of amendments to municipalities regulations

### Amendment of the Hotel Business Act

- Enforcement of special measures for exemption from the application of the Hotel Business Act, which requires the establishment of a front desk and on-site inspections at lodging facilities, if the local government approves.**
- Ability to provide accommodations that meet diversifying lodging needs**

## Examples of Code Transformation

# Code Transformation and the use of Digital Social Capital has doubled the “peer-to-peer lodging” market



※Peer-to-peer lodging includes vacation rentals, short- and long-term homestays and experiences, or short-term housing rentals

Source: Prepared by NRI based on "Examples of Utilization of National Strategic Special Zones" (2023 edition), Cabinet Office, etc.

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Areas in which NRI is engaged

## NRI is focused on 4 areas to tackle the challenge of Code Transformation

### ① Declining population and labor force

Code Transformation to promote industrial development in a society with a declining workforce



### ② Sustaining the global environment

Code Transformation that converts maintaining environmental sustainability into economic development



### ③ Reforming the social systems

Code Transformation to improve convenience, safety and security of citizens' lives



### ④ Innovating urban & regional infrastructure

Code Transformation to improve infrastructure sustainability and services



Source: AI image generation by Chat GPT (DALL-E3)

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# DX3.0 Initiatives = Digital Social Capital x Code Transformation

		Code Transformation			
		① Declining population and labor force	② Sustaining the global environment	③ Reforming the social systems	④ Innovating urban & regional infrastructure
Digital Social Capital	Social DX	<ul style="list-style-type: none"> <li>Support enhancement package for the "annual income barrier"</li> </ul> <p>※ <b>Annual income barrier:</b> The threshold where the income tax rates are increased</p>	<ul style="list-style-type: none"> <li>Marketing of decarbonization values</li> </ul>	<ul style="list-style-type: none"> <li>State-of-the-art and efficient private sector services through "My Number"</li> </ul> <p>※ <b>My Number:</b> A unified ID unified across various government agencies in Japan, e.g. taxes and pensions</p>	<ul style="list-style-type: none"> <li>Regional industrial development partnerships with regional banks</li> </ul>
	Value chain DX	<ul style="list-style-type: none"> <li>Logistics &amp; labor optimization</li> <li>Promotion of DX to focus on improving customer contact services</li> </ul>	<ul style="list-style-type: none"> <li>Promoting the creation and distribution of forest carbon credits</li> <li>Realization of a circular economy</li> </ul>	<ul style="list-style-type: none"> <li>Social implementation of digital collaboration infrastructure for business operators</li> </ul>	<ul style="list-style-type: none"> <li>Securing supply chains for daily necessities in sparsely populated areas</li> </ul>
	Infrastructure DX	<ul style="list-style-type: none"> <li>Labor-optimization in social infrastructure maintenance and management</li> </ul>	<ul style="list-style-type: none"> <li>Promotion of a platform that ensures transparency and promotion of decarbonization</li> </ul>	<ul style="list-style-type: none"> <li>State-of-the-art and efficient administrative services through "My Number"</li> </ul>	<ul style="list-style-type: none"> <li>Realization of an age-free mobility society</li> </ul>

Source: Prepared by NRI

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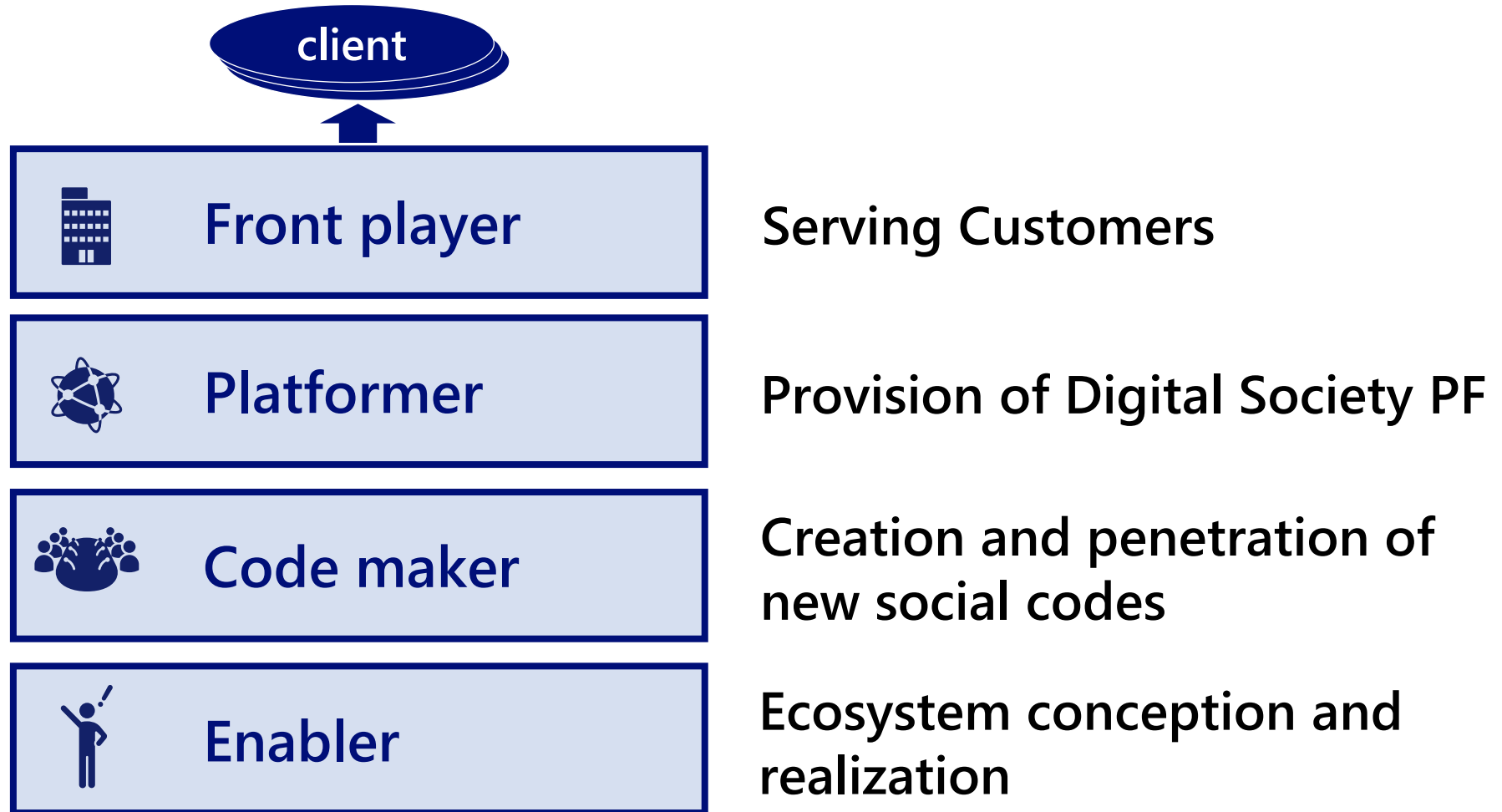
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# Commercialization in an ecosystem that unites multiple players

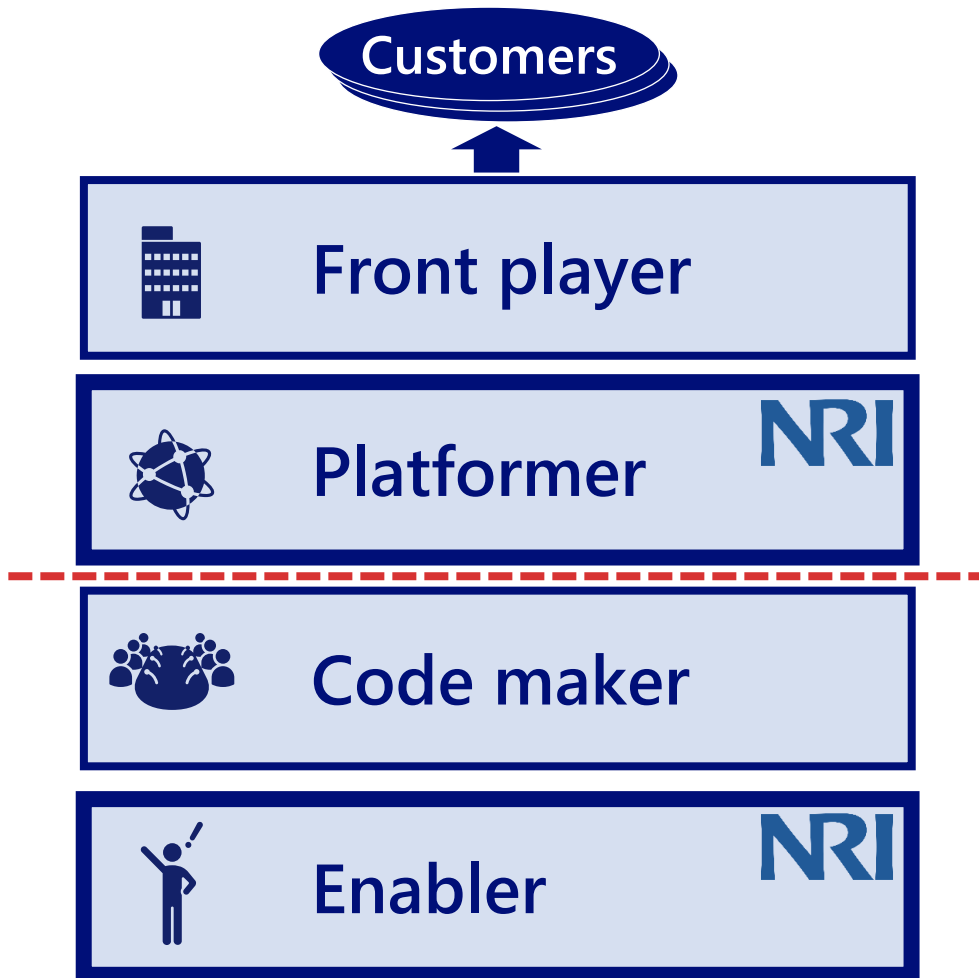
## Four-tier ecosystem



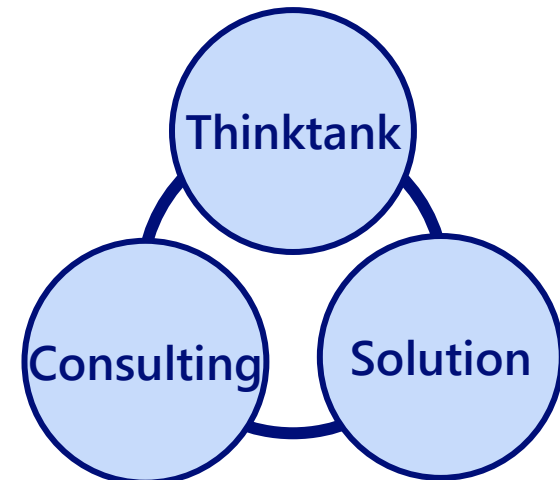
NRI's characteristic function

NRI leads a four-tier ecosystem with "platformers" and "enablers".

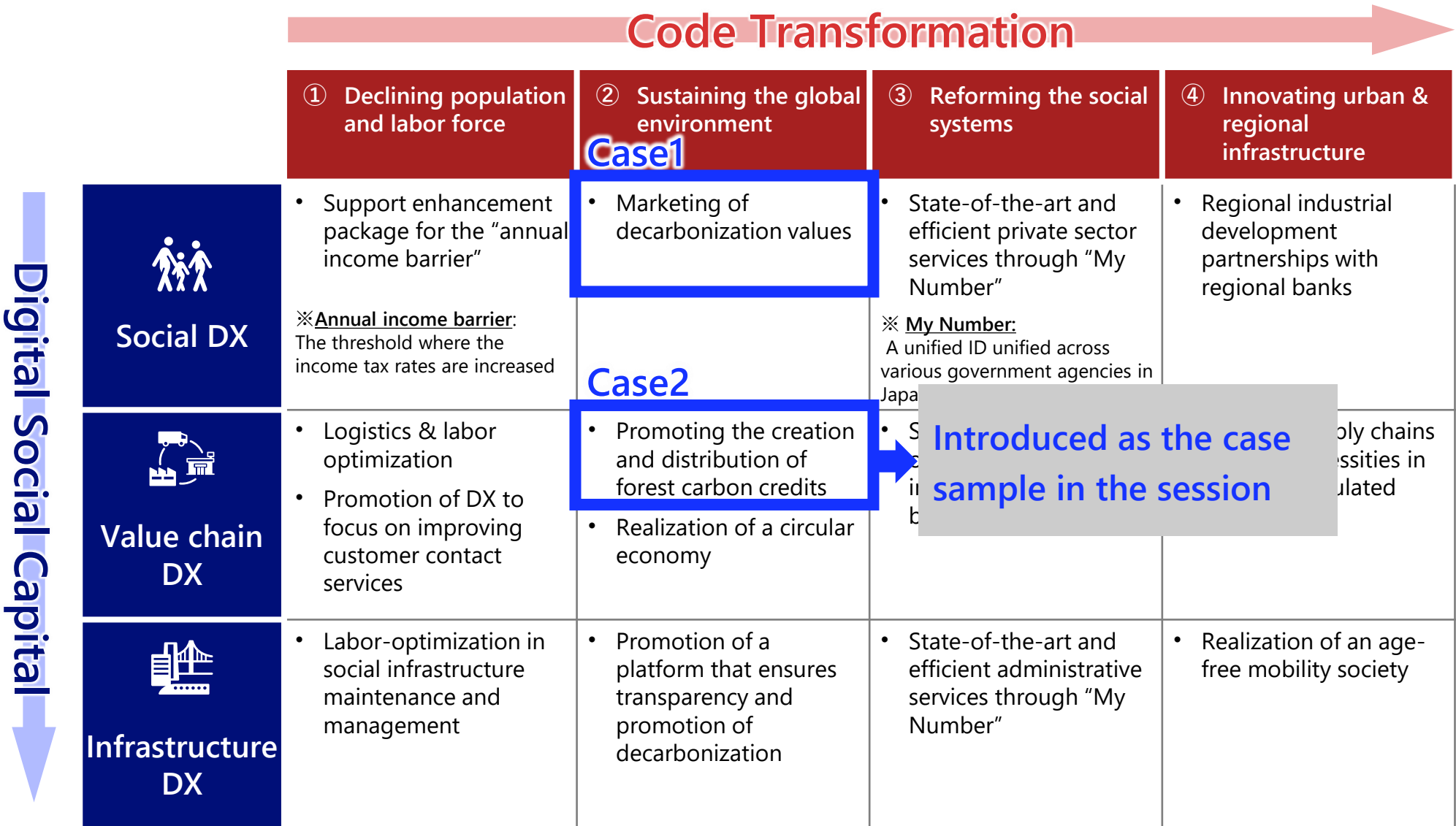
NRI's four-tier ecosystem



**NRI**  
Characteristic function



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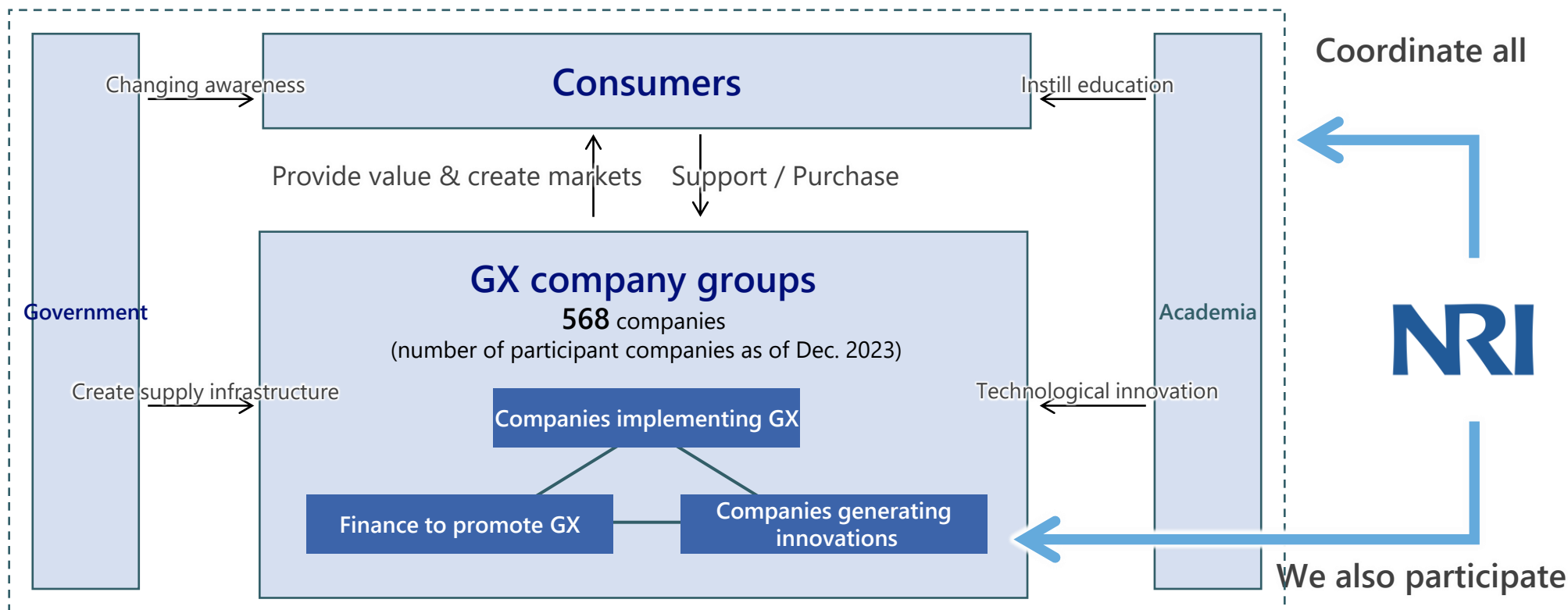


# NRI plays a central role as coordinator in the GX※ league

※Green transformation

- GX League: A framework to encourage a group of companies to engage in GX under the leadership of METI.
- NRI serves as **the secretariat of the GX League & the overall coordinator**, reflects the diverse needs of companies in its policies (as of FY2023).

## GX League Framework



# GX League showcases NRI's strengths as a platformer and enabler

## Initiatives in **the GX League**

Solving social issues: Promote decarbonization of the domestic economy and industry

**Consumer+ business partners**



**Front player**

**GX League Participating Companies**

- Realization of own decarbonization
- Provision of decarbonization products and services



**Platformer**

**METI+ NRI**  
(Ministry of Economy, Trade and Industry)

- Emissions trading platform
- Database of decarbonization strategies of GX participating companies



**Code maker**

**METI + GX League participating companies**

- Public-private collaborative rule formation



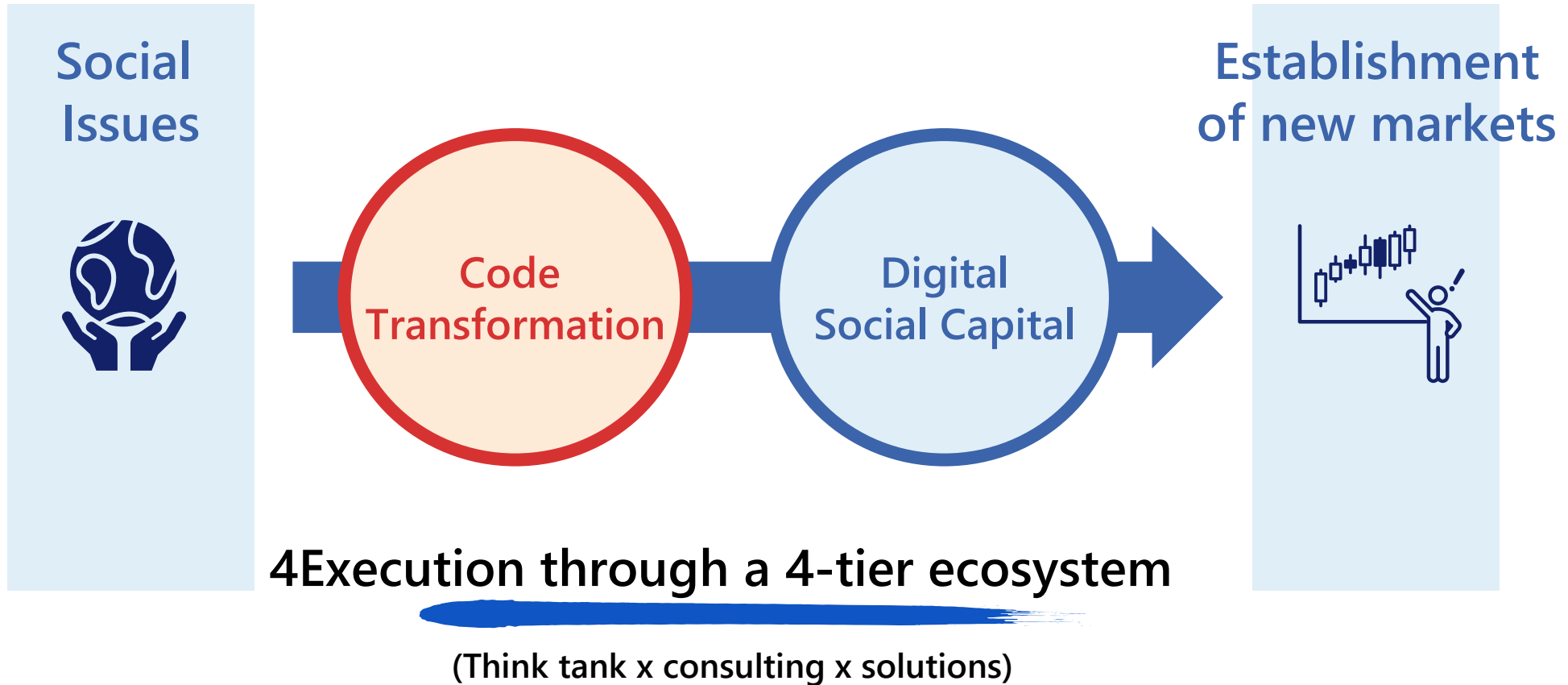
**Enabler**

**METI+ NRI**  
(Ministry of Economy, Trade and Industry)

- Establishment of the GX League framework
- Involvement and traction of companies participating in the GX League

## Summary

DX3.0: Business for solving issues by "Code transformation" and "Digital social capital"  
NRI's "four-tier ecosystem": Realize this project with a high level of reproducibility





**Envision the value,  
Empower the change**