

**Nippon Signal Group  
28 Medium-term Management Plan**

**Realize-EV100**

Toward the 100th Anniversary of Foundation



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**日本信号株式会社**  
**NIPPON SIGNAL CO., LTD.**

## Nippon Signal Group Philosophy



### Our Mission

**We help realize a more secure and comfortable society through superior technologies that provide safety and reliability.**

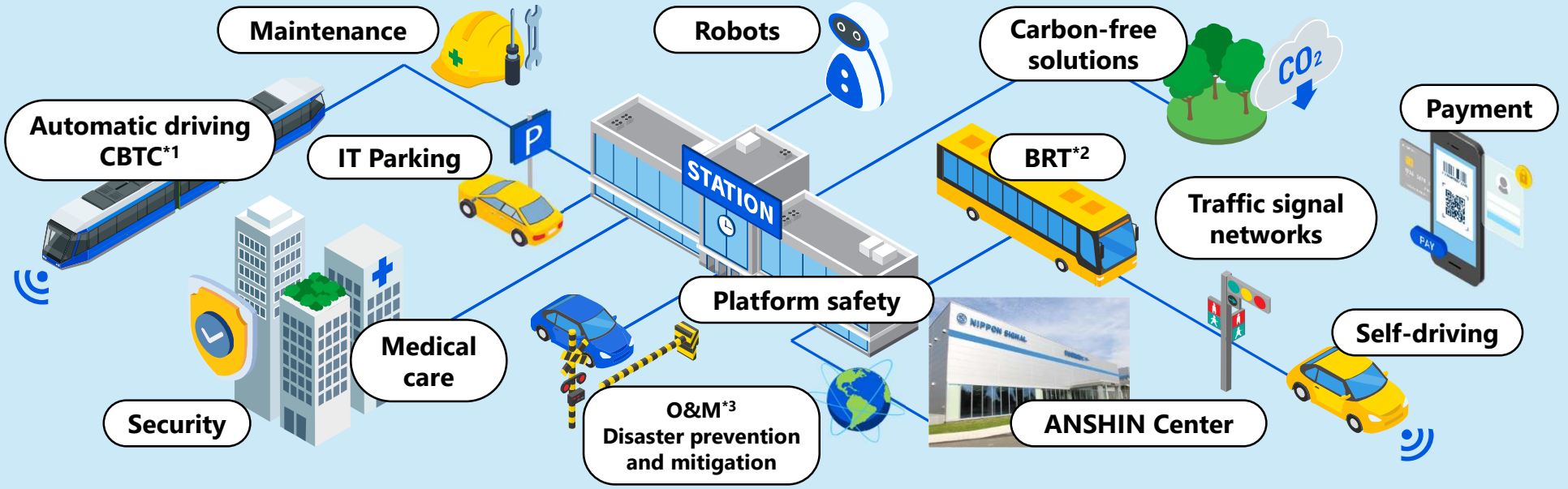
### Our Vision

**We strive to become a global company by pursuing world-leading technologies with ingenuity and passion to inspire our customers.**

# Businesses supported by Nippon Signal Group

On our mission to "help realize a more secure and comfortable society through superior technologies that provide safety and reliability," we strive to provide products and solutions involved in the next generation society and living infrastructure.

"One-stop solution provider" connected through networks



Cooperation, merger and working across borders of businesses and Group companies

Safer and more comfortable

Total support of transportation

## Realizing MaaS to support transformation of public transportation

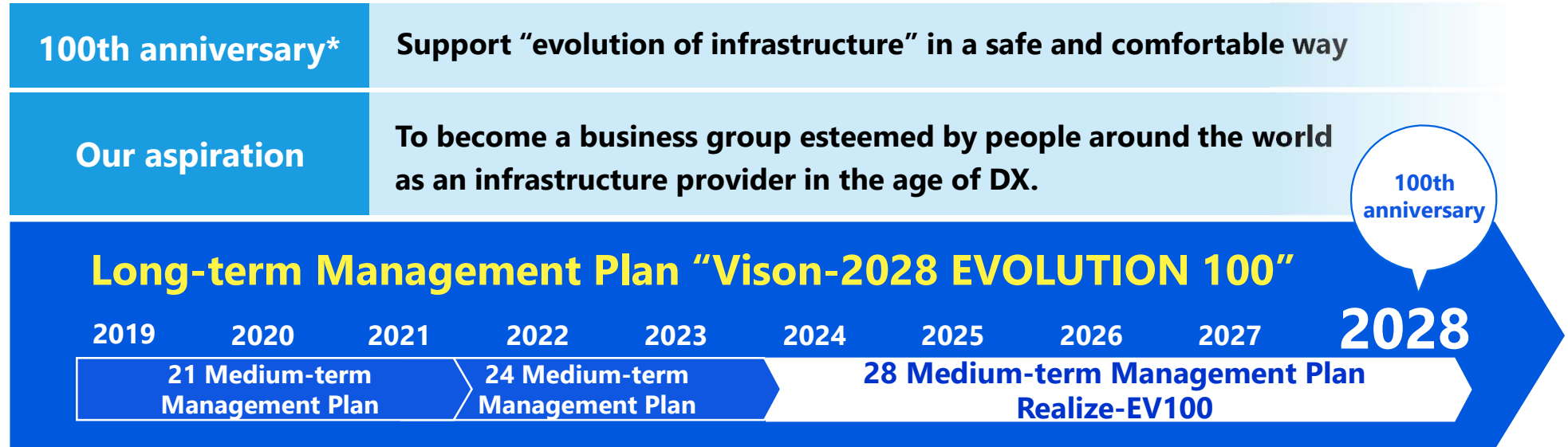
\*1 CBTC: Communication based train control system, \*2 BRT: Bus rapid transit system, \*3 O&M: Operation and maintenance management

01 In establishing Medium-term Management Plan

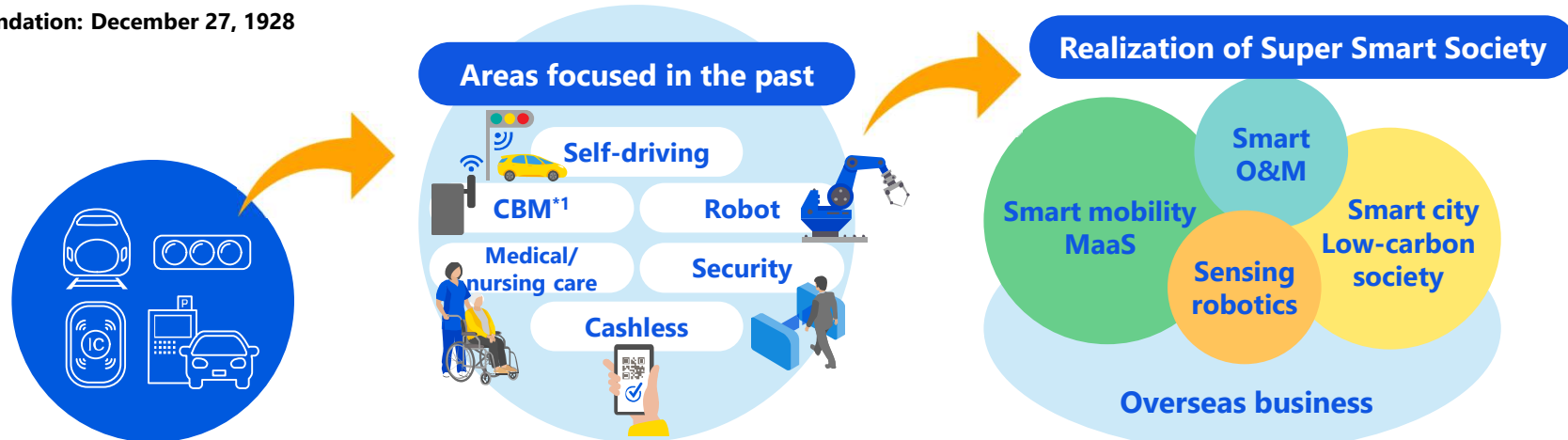
02 "Realize-EV100"

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## Whole frame



\* Date of foundation: December 27, 1928



**Safety Security Comfort Reliability**

\*1 CBM: Condition Based Maintenance, where maintenance is carried out based on condition criteria

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# History of Innovation

## 1928-1950s

Founding of the company and road to the modernization of railway signals



- 1906 Nationalized the nationwide main trunk lines.
- 1928 Founded Nippon Signal Co., Ltd. by merging three companies towards the modernization of railway signals.

## 1960s-1980s

With the blossoming of electronic technology, launching of new businesses towards the next generation



- 1964 Opened Tokaido Shinkansen. Nippon Signal produced ATC\*1, CTC\*2 and so on
- \*1 ATC: Automatic Train Control  
\*2 CTC: Centralized Train Control

## 1990s-2010s

Sophistication of technologies and nurturing of the network business



- Shifted the focus from analog technology to digital technology – shift from hardware to software.
- Contributed to the realization of high-density, complex railway inter-connection that supports the mobilization of 40 million passengers in metropolitan areas.

## 2011 - Present

Acceleration of overseas business and starting a new long-term management plan



- Accelerated overseas business mainly in developing countries including Asia.
- Focused on the system development corresponding to the MaaS mobility Revolution and DX.

- 1931 Produced locally-made signals



Installed at Nihonbashi, Gofukubashi, and Sakurabashi intersections

- 1958 Commenced the production of parking meters



- 1972 Produced automatic ticket gates as Japan's first integrated system.



Commenced operation between Kita-Nijuyonjo and Makomanai stations within Sapporo City Transportation Bureau

- 2009 Commenced the order receiving and production of platform doors in full scale.



- 2011 Developed Japan's first CBTC system "SPARCS", Simple-structure and high-Performance ATC by Radio Communication System.



Commenced operation for Beijing Subway Line 15.

Issues railway operators are facing (60 years since the opening of the Shinkansen)

**Change of lifestyle**

Increase of work from home



Decline of regular (fixed) railway revenue



**Approach of Nippon Signal**

- Supply of new materials that contributes to reduction of fixed cost



**Promotion of transition to DX**

Transition to networking and cashless transactions

Transition from on-site equipment to cloud

**Approach of Nippon Signal**

- Labor saving by applying O&M
- Cloud type settlement/parking station
- Automatic ticket gates applying diverse authentication methods



**Revitalization of regions**

Declining birth rate and aging population/declining population

Braking the trend/avoidance of population concentration in metropolitan areas

**Approach of Nippon Signal**

- Sale of digital tickets linked with ticket sites
- Facility streamlining through transition of local railway lines to BRT



**Addressing de-carbonization**

Declaration of CO2 zero emission by 2050

Transition to power-saving and wireless modes by equipment downsizing



**Approach of Nippon Signal**

- Market expansion of CBTC and MVNO by transition to wireless mode
- Sales expansion of solar power generation business

**Decline of working (production) population**

Expected number of birth in 2024: 720,000

Population decline and aging population

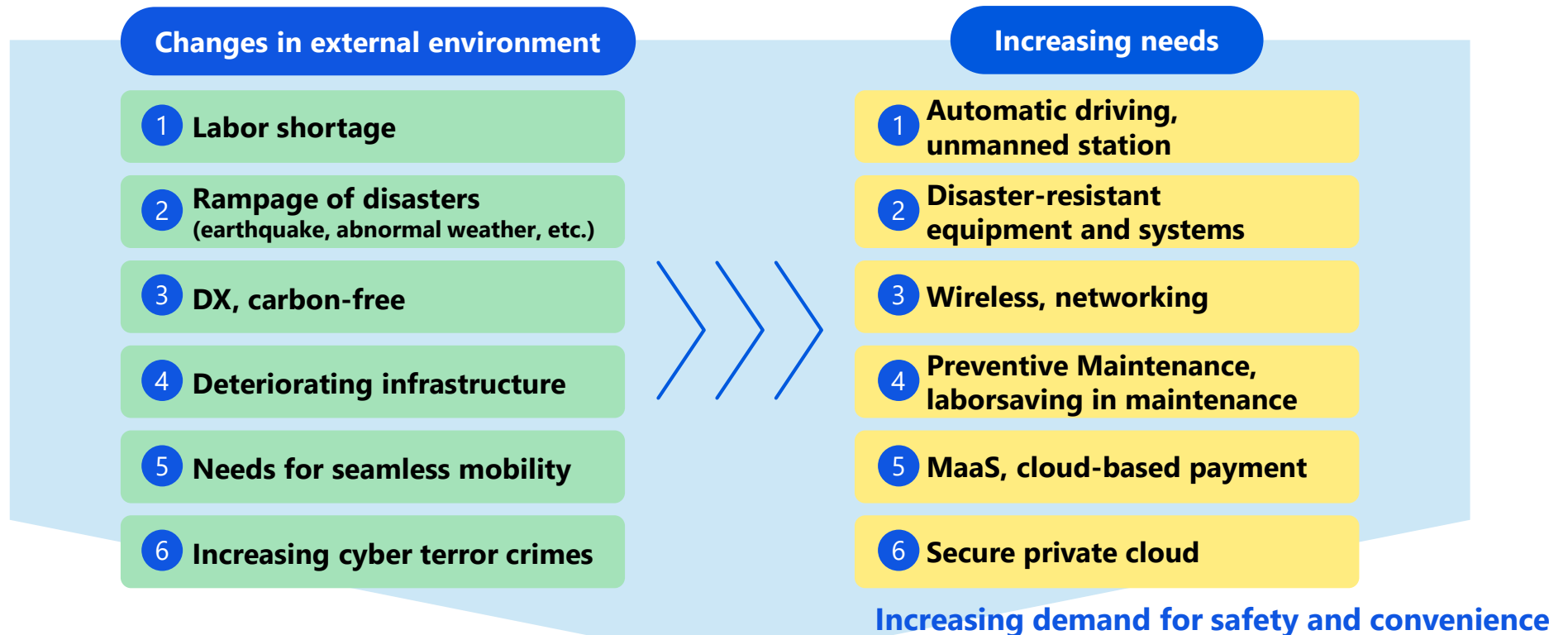


**Approach of Nippon Signal**

- Expansion of introduction of automatic operation technology into the society
- Automation of station surveillance
- Development of heavy machinery robot

## ○ In establishing a new Medium-term Management Plan (28 Medium-term Management Plan)

Nippon Signal Group Medium-term Management Plan "Next Stage 24" announced in May 2022 has been implemented. Now we **establish a new Medium-term Management Plan targeted for FY2028, the year marking the 100th anniversary of the company foundation**, taking into account the rapid changes in business circumstances and customer needs occurred during the coronavirus pandemic.



# 28 Mid-term Management Plan Realize-EV100



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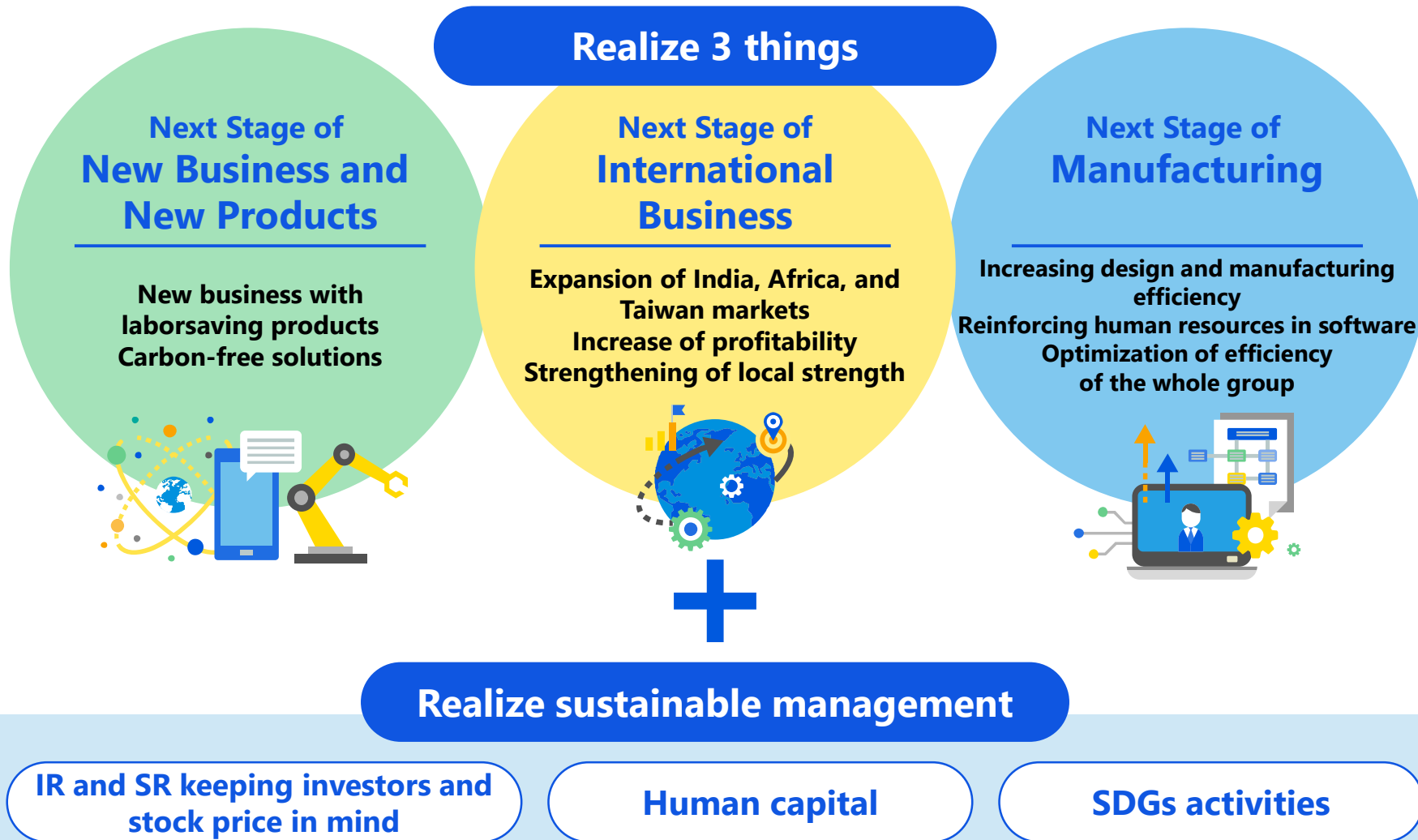
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**28 Mid-term Management Plan "Realize EV-100" -- Toward the 100th Anniversary of Foundation --  
Basic concept**



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## Management target

	2024/3 (Result)	2025/3 (Forecast)	2029/3 (Mid-term Plan target)
Sales	98.5 B yen	100.0 B yen	150.0 B yen
ROE	5.7%	5.8%	10% or more
ROIC	4.6%	5.0%	9% or more

		2024/3 (Result)	2025/3 (Forecast)	2029/3 (Mid-term Plan target)	
Sales by segment	Transport	Railway signal	46.6 B yen	47.0 B yen	67.0 B yen
		Smart mobility	7.3 B yen	8.0 B yen	15.0 B yen
		Overseas portion of transport	10.8 B yen	11.7 B yen	25.0 B yen
	ICT solutions	AFC	34.6 B yen	35.0 B yen	46.0 B yen
		R&S	9.9 B yen	10.0 B yen	22.0 B yen
		Overseas portion of ICT solutions	0.6 B yen	0.8 B yen	5.0 B yen

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# Realize. 1

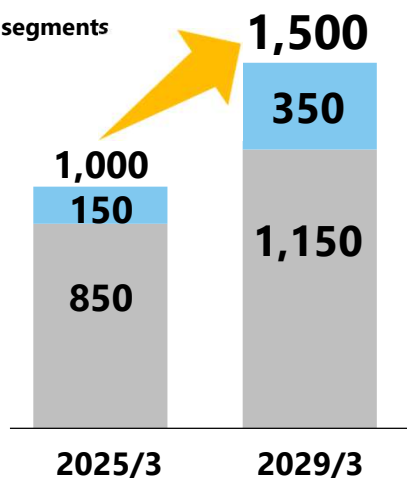
## Next Stage of New Business and New Products

## Image of sales by increasing sales volume of new business and new products in 28 Med-term Management Plan

We will strive to develop core technologies and implement new products in society targeting new markets which are expected to grow in the future to gain market share with the aim of ensuring our business growth.

### Image of sales in new business and new products in 28 Med-term Management Plan

■ Sales of new business and new products (B yen)  
■ Sales of existing segments



Percentage  
of sales in  
new business

15%

**23%**

Segment	Product	Market size*
Railway system	O&M service, etc.	25.0 (B yen)
Smart mobility	Automatic driving, Infrastructure To Vehicle , MVNO, etc.	25.0 (B yen)
AFC	Cloud-based payment, Cloud-based parking space, etc.	50.0 (B yen)
R&S	3D sensor market	20.0 (B yen)
	Market of heavy machinery-type robot	10.0 (B yen)

\*Market size in FY2028 (estimated by Nippon Signal)

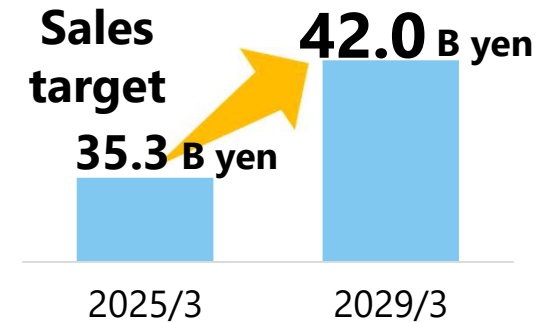
## Railway system business

### Our vision

Co-creation partners beyond the relationship with customers

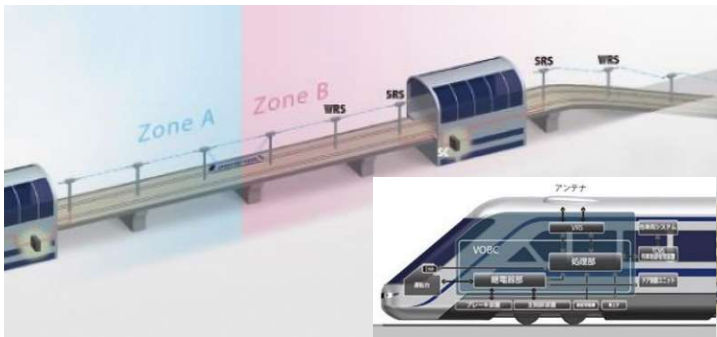
### Primary measures

- <1> Expanding markets of next generation traffic signal safety system  
Expansion for communications-based train Control (CBTC), automatic driving, O&M solutions, etc.
- <2> Product strategy for co-creation of customer's structural reform
- <3> Development of a system for continuation of local public transportation



### Strategic product "Next generation railway signal safety system"

#### CBTC



#### Automatic driving



#### O&M Solution



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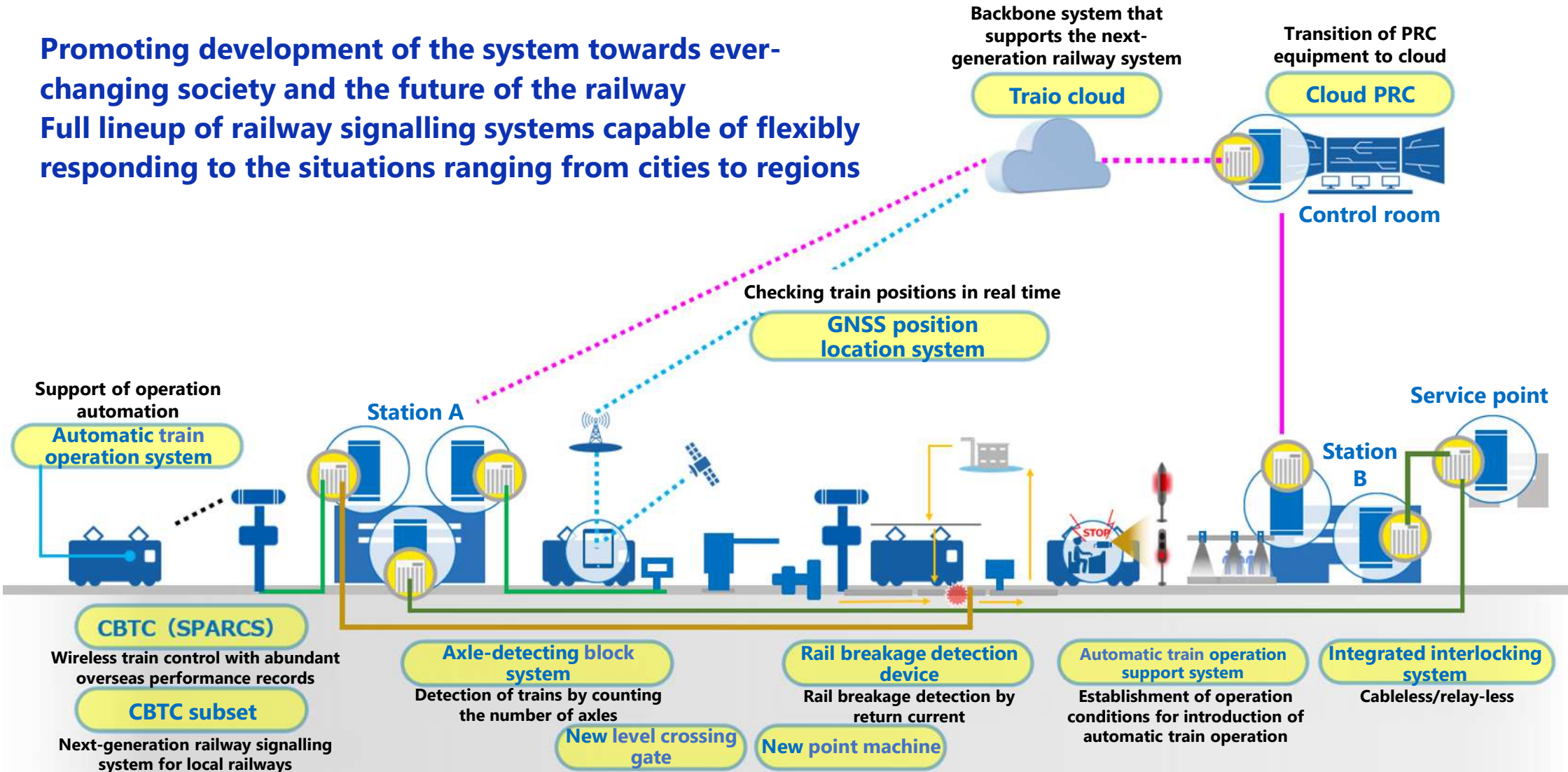
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# Next-Generation Railway System

Promoting development of the system towards ever-changing society and the future of the railway  
Full lineup of railway signalling systems capable of flexibly responding to the situations ranging from cities to regions





## Smart mobility business

### Our vision

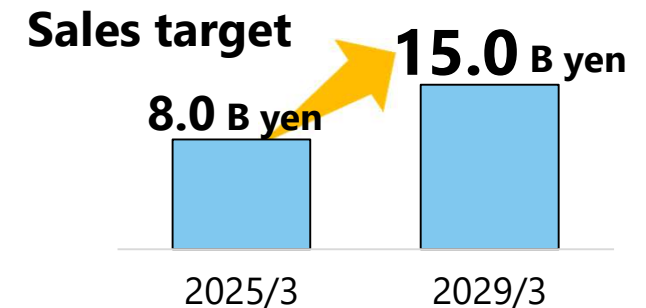
One-stop solution provider for road traffic to solve issues of business operators

### Primary measures

#### <1> Activities for dissemination of automatic driving

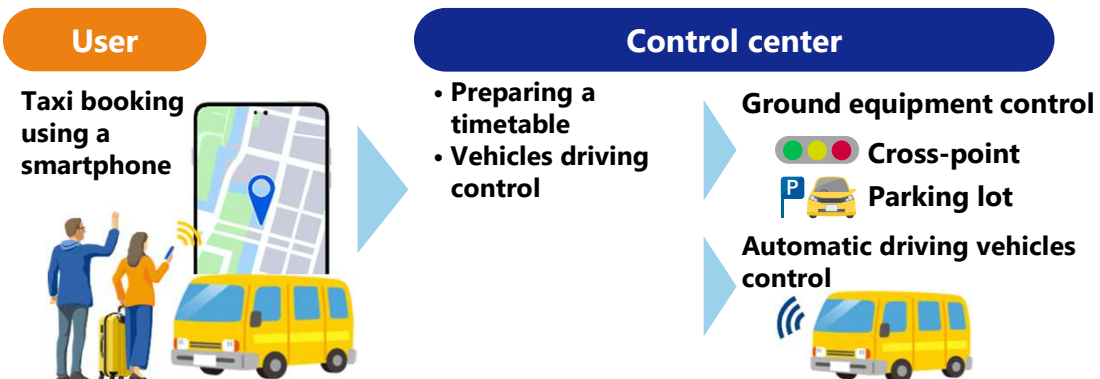
Promoting the dissemination of automatic driving and solving issues faced by local governments and business operators through its implementation in society.

#### <2> Building an environment for easier mobility through MaaS-related services.



### Strategic product "Kuru Link (automatic driving system)," "I2X (Infrastructure To Vehicle)"

#### Kuru Link



#### I2X Coordination with the transport infrastructure through road-vehicle coordinated driving



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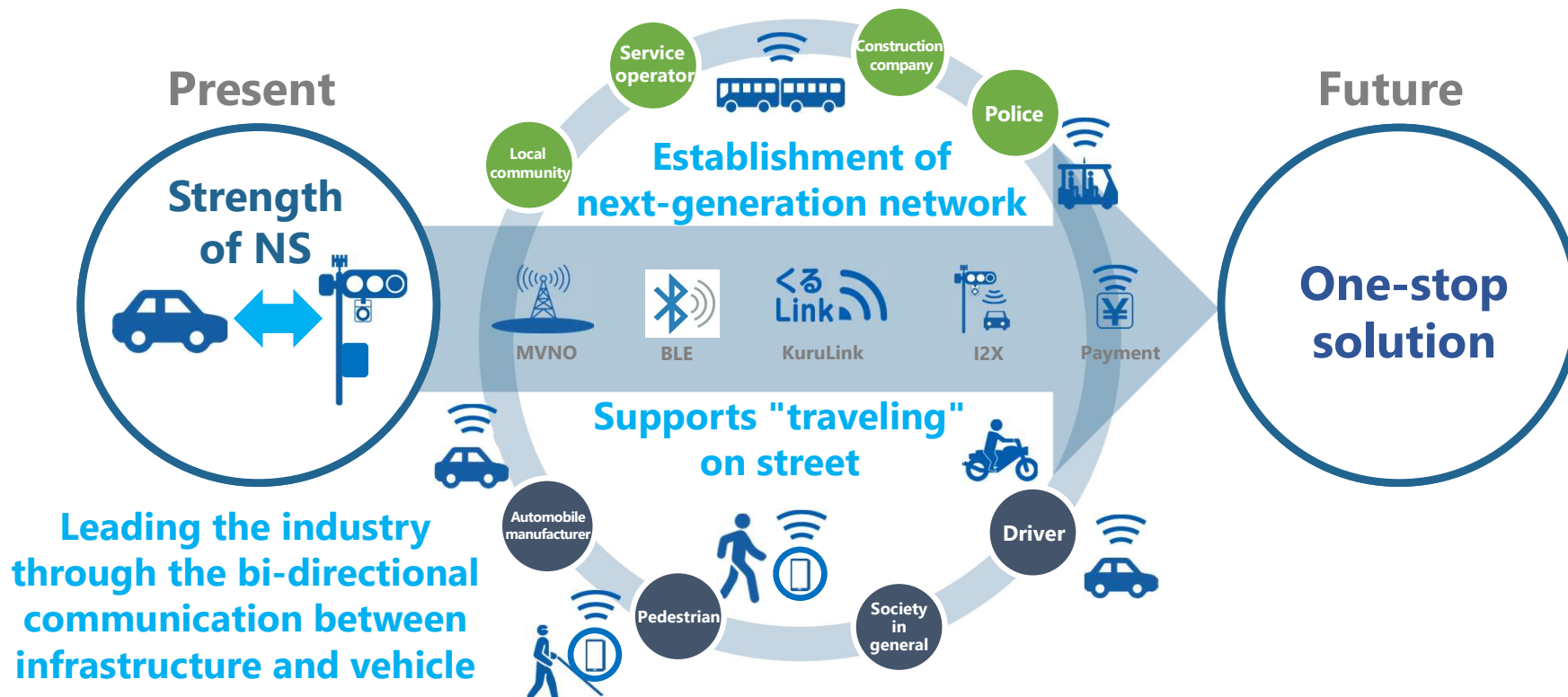
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# Future vision for Social Implementation of Smart Mobility

Contributes to the "reduction of operator fixed cost" and "reduction of social loss of traffic accidents" through the Smart Mobility Platform



# AFC business

## Our vision

Real (facilities/services) innovation to "Realize motivation for mobility"

## Primary measures

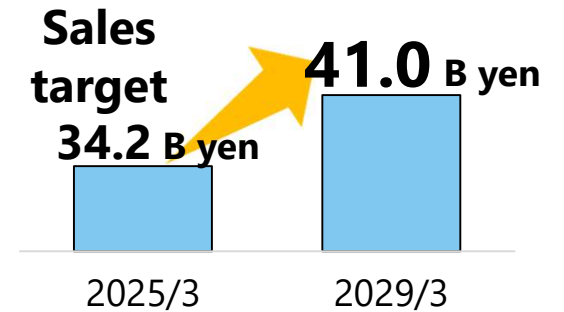
<1> Expansion of ABT\* solution which leads user/business operator services

High-value-added ticket gate that supports various authentication methods such as credit card, QR, and facial recognition

<2> Provision of a system for safe and unmanned (laborsaving) station

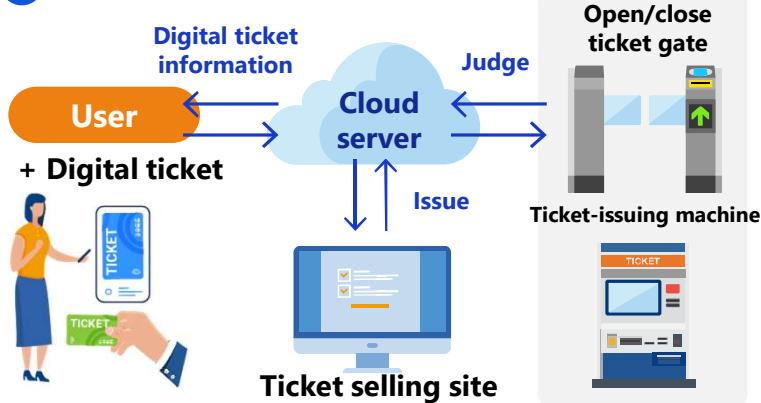
<3> Provision of a cloud-based parking space system

\*ABT: Account Based Ticketing, which is a ticket system using unique IDs

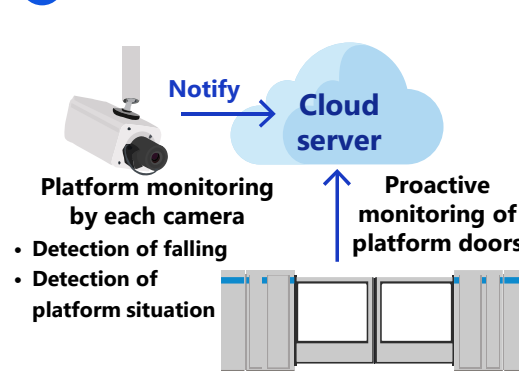


## Strategic products "cloud-based payment system," "station monitoring system" and "cloud-based parking space system"

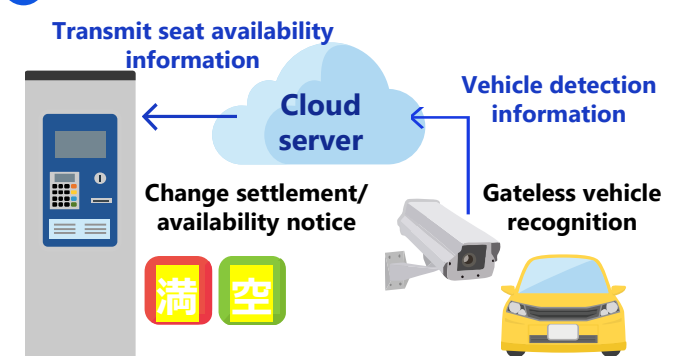
### Cloud-based payment system



### Station monitoring system



### Cloud-based parking space system

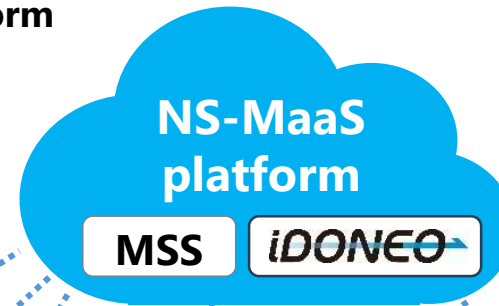


## Smart AFC System

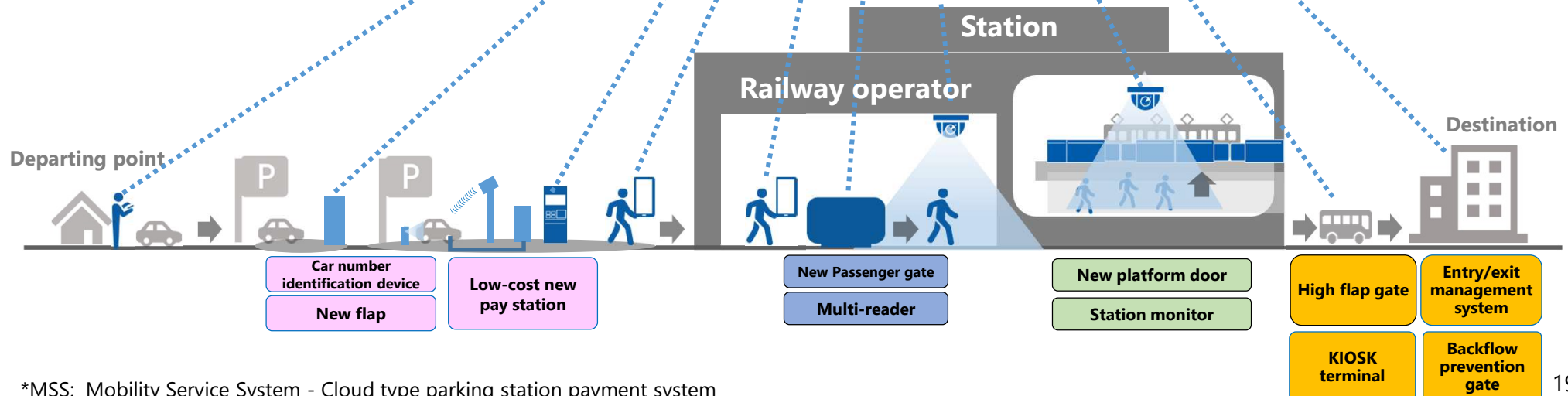
By promoting the development of both "cloud" and "terminal", establish the absolute advantage and accelerate the implementation of the system within the society.

### Major services made available by the NS-MaaS platform

Use of points	Credit card authorization	Sales site coordination
Use of digital tickets	Face recognition	Digital ticket registration/issuance
Remote operation	Sales consolidation	Visualization of ticket sales/utilization status
CBM (Remote monitoring/operation)	Disaster prevention/Security detection	



By establishing a platform and connecting them with various terminals, improve the competitive strength of the "sites (terminals)" owned by Nippon Signal.



\*MSS: Mobility Service System - Cloud type parking station payment system

iDONEO: Brand name of the digital ticketing service of Nippon Signal that realizes people mobilization suitable for the new age with "One ID"

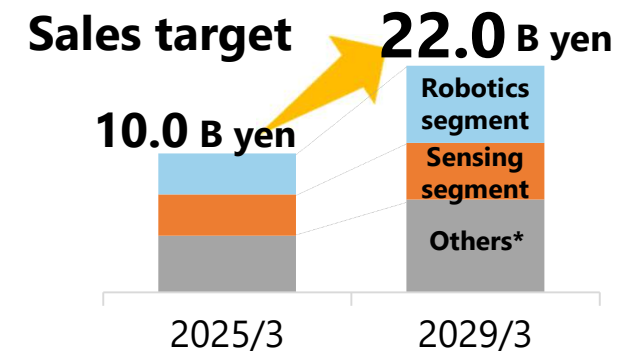
## R&S business

### Our vision

Create products having overwhelming competitiveness in robotics and sensing segments to win the position of market leader

### Primary measures

- <1> Strive to establish our robots as de facto standard for work at height
- <2> Expand service robot market by launching promotion activities
- <3> Win the position of market leader with cutting-edge technology in sensing segment



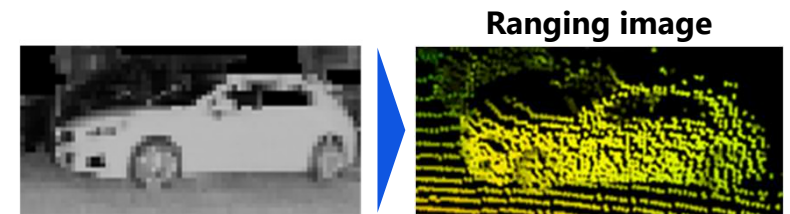
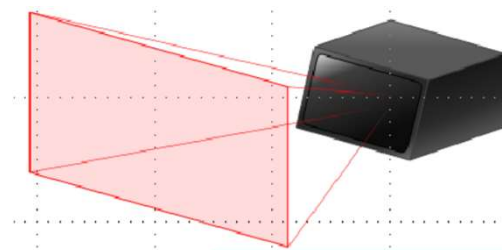
\* Others include sales operations outside the Group including medical equipment and solar power generation business.

### Strategic products "heavy machinery robot," "next generation 3DLiDAR," etc.

#### Heavy machinery robot



#### Next generation 3DLiDAR



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# Realize. 2

## Next Stage of International Business

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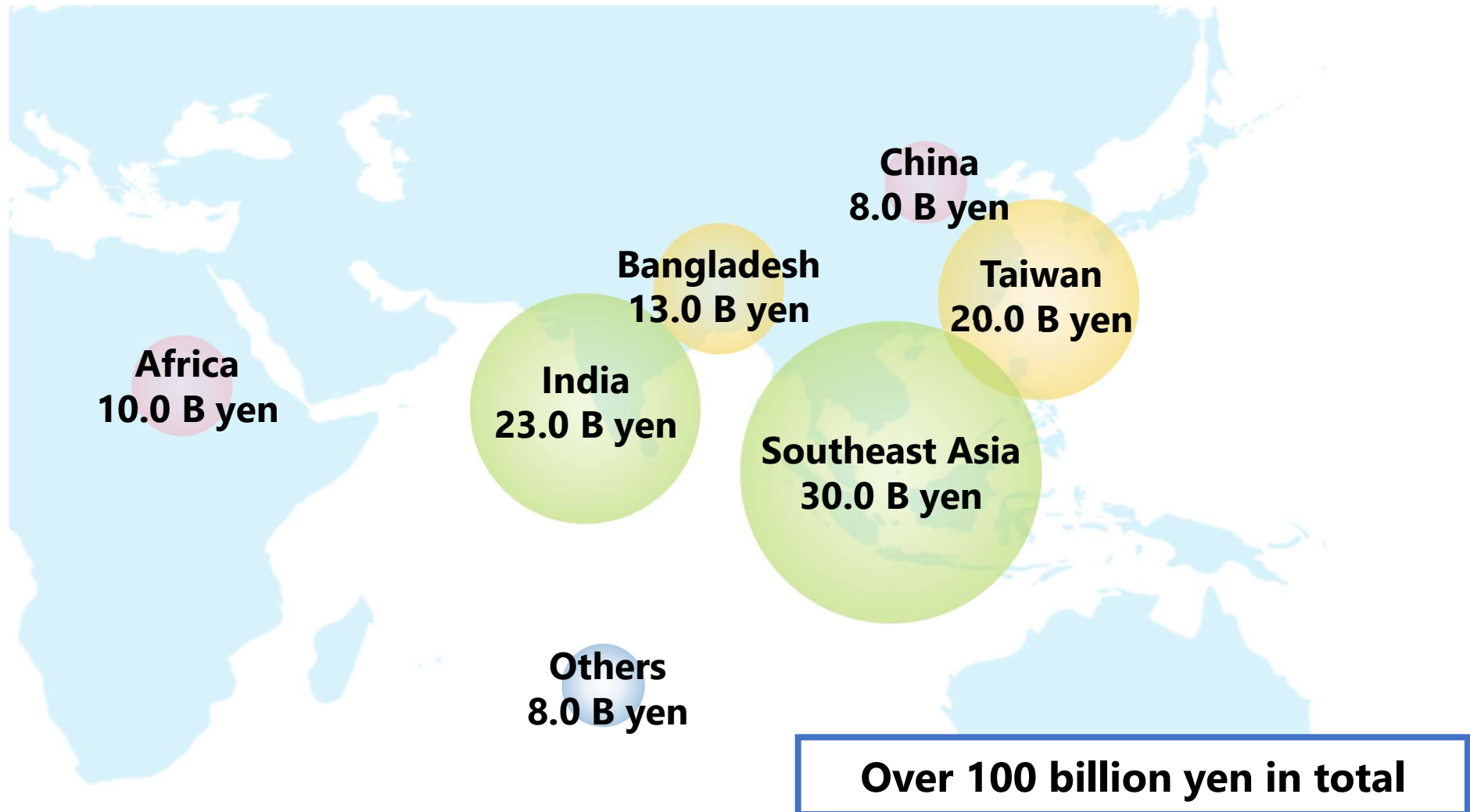
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## ○ Targets by region for overseas business\*1



\*1 Image of sales of our overseas business by region during the period of 28 Medium-term Management Plan (FY2024 to FY2028)

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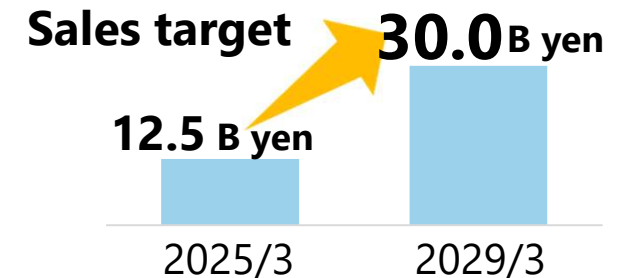
## Overseas business

### Our vision

To be a global company that contributes to de-carbonized society and infrastructure development, and inspires people in the world

### Primary measures

- <1> Realize world-class competitiveness by using digital technologies
- <2> Provide smart maintenance services through O&M services
- <3> Increase earnings through business development rooted in strategic countries and regions
- <4> Establish new overseas branches in new markets to conduct activities to enter the rail and transportation markets



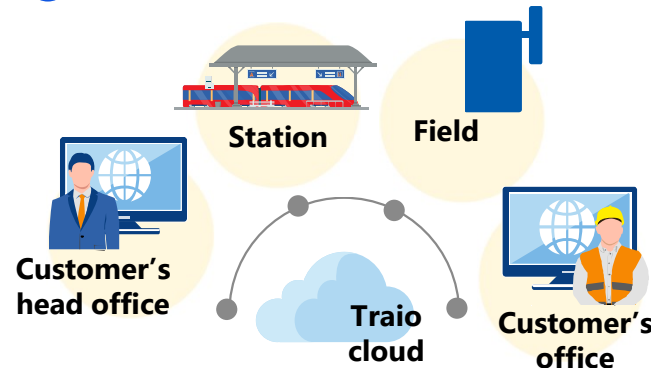
### Strategic countries and regions

Focus our efforts on the following countries and regions where our company has branches:

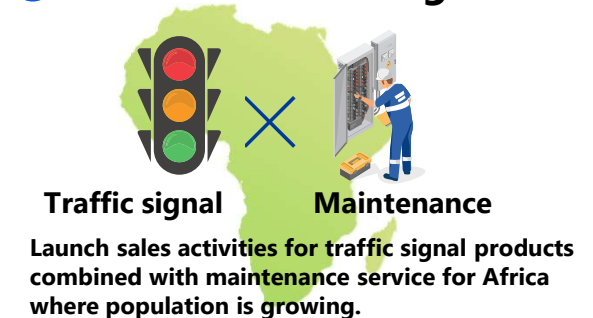
India, Bangladesh, Southeast Asia, Taiwan, China, Africa, etc.

### Strategic products "CBTC," "overseas O&M service," "overseas traffic signals," etc.

#### Overseas O&M service



#### Overseas traffic signals





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**Realize. 3**

**Next Stage of Manufacturing**

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## Manufacturing for traffic and transportation

## Manufacturing for ICT

Traffic infrastructure in the world supported with DX

Software-first manufacturing



Visualization and increasing efficiency  
using data

Development of human resources in  
design and manufacturing

In-house production of core technology  
within the Group

Group-wide optimization of  
manufacturing

**Aim to ensure stable supply and quality and an increase of profitability  
at each plant**

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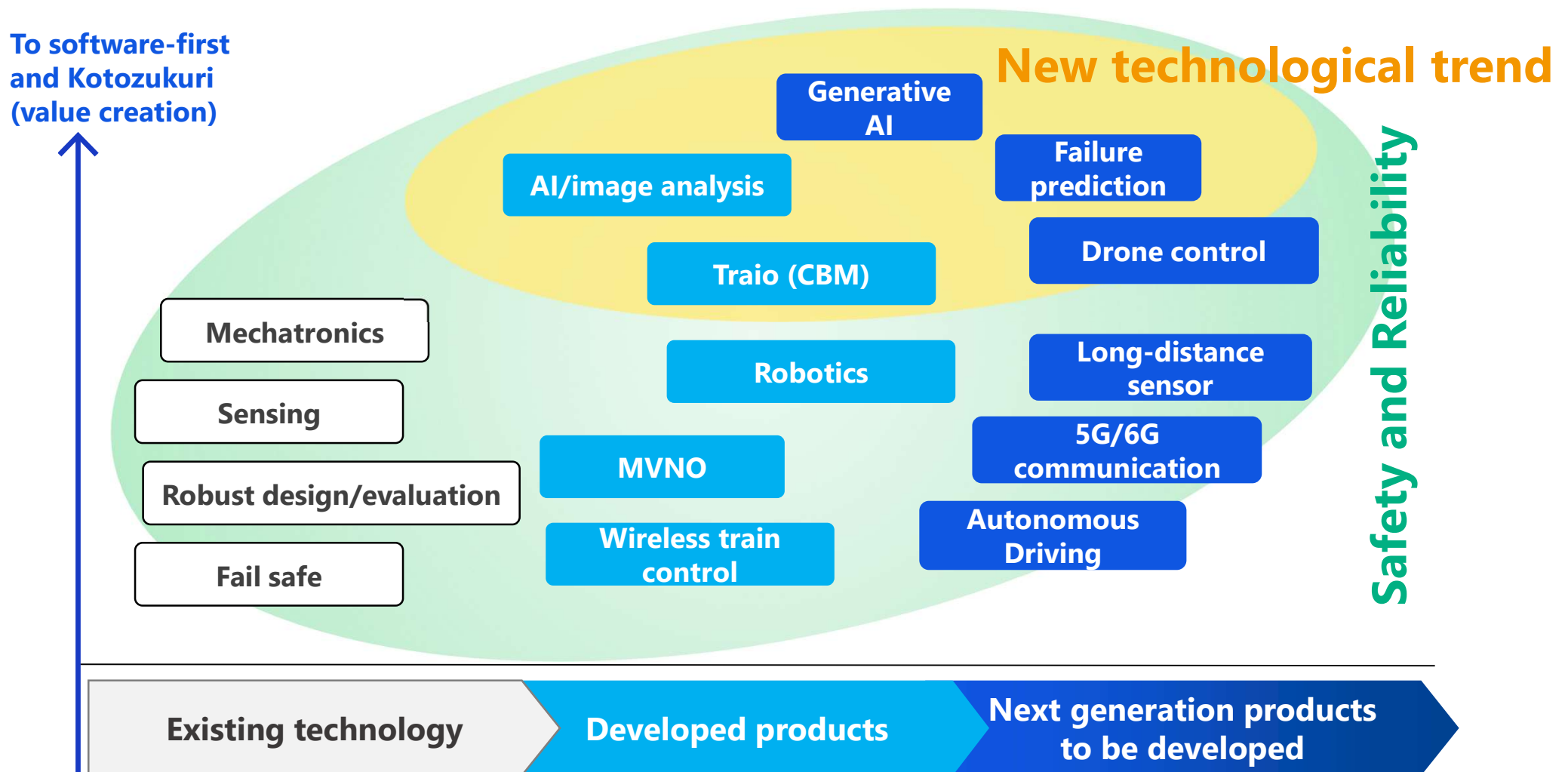
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## Core technology evolution

Capture core technology evolution and new technology trend based on "Safety and Reliability"



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# To Realize Sustainable Management

# Management keeping investors and stock price in mind

## (1) PBR, ROIC

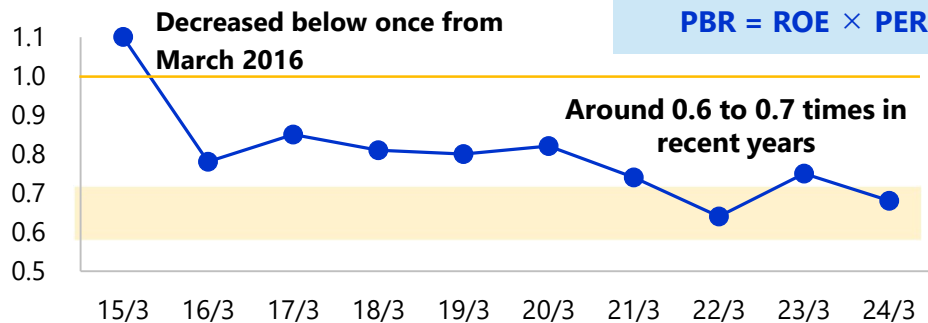
### PBR

ROE 10.0% or more is set as the target as an index to achieve 1.0 times or more PBR.  
 (Current state) PBR is around 0.6 to 0.7 times due to sluggish ROE.

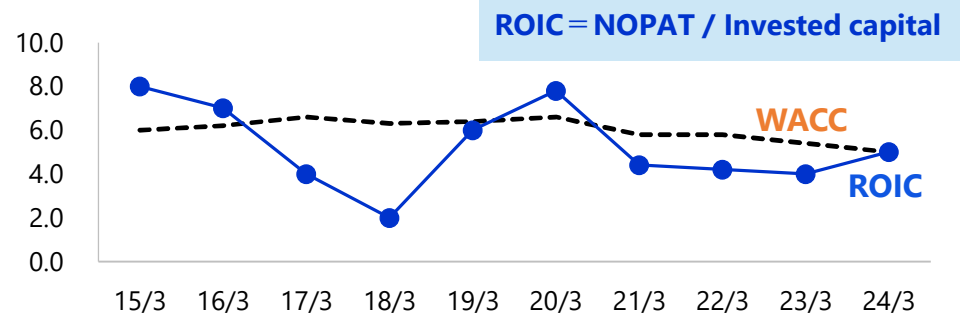
### ROIC

ROIC 9.0% or more is set as the target against assumed WACC 6.0%.  
 (Current state) ROIC is below WACC due to sluggish NOPAT for an increase of capital invested.

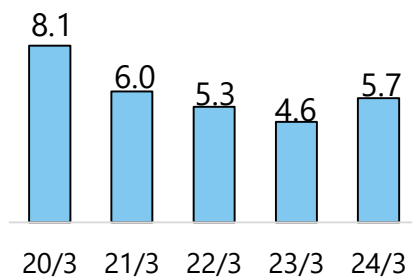
PBR change (Unit: times)



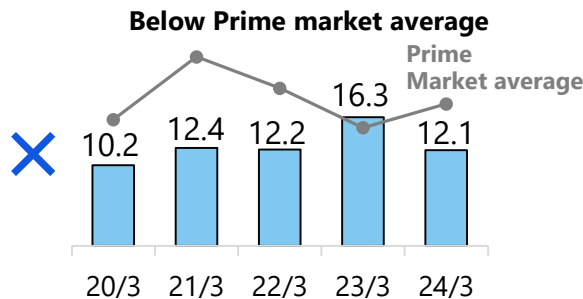
ROIC / WACC change (Unit: %)



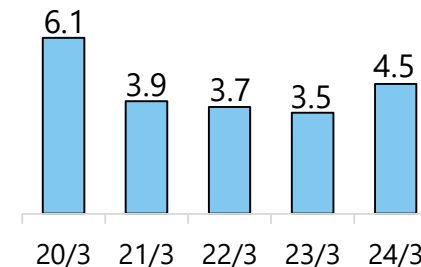
ROE change (Unit: %)



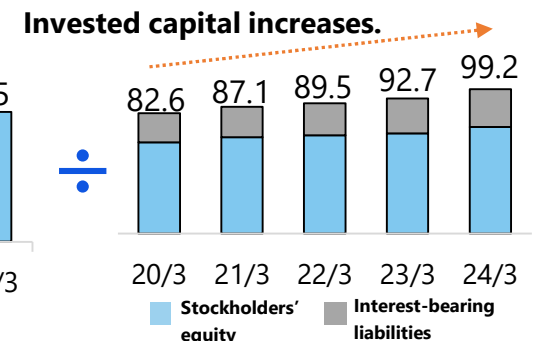
PER change (Unit: times)



NOPAT change (Unit: 1 B yen)



Invested capital change (Unit: 1 B yen)

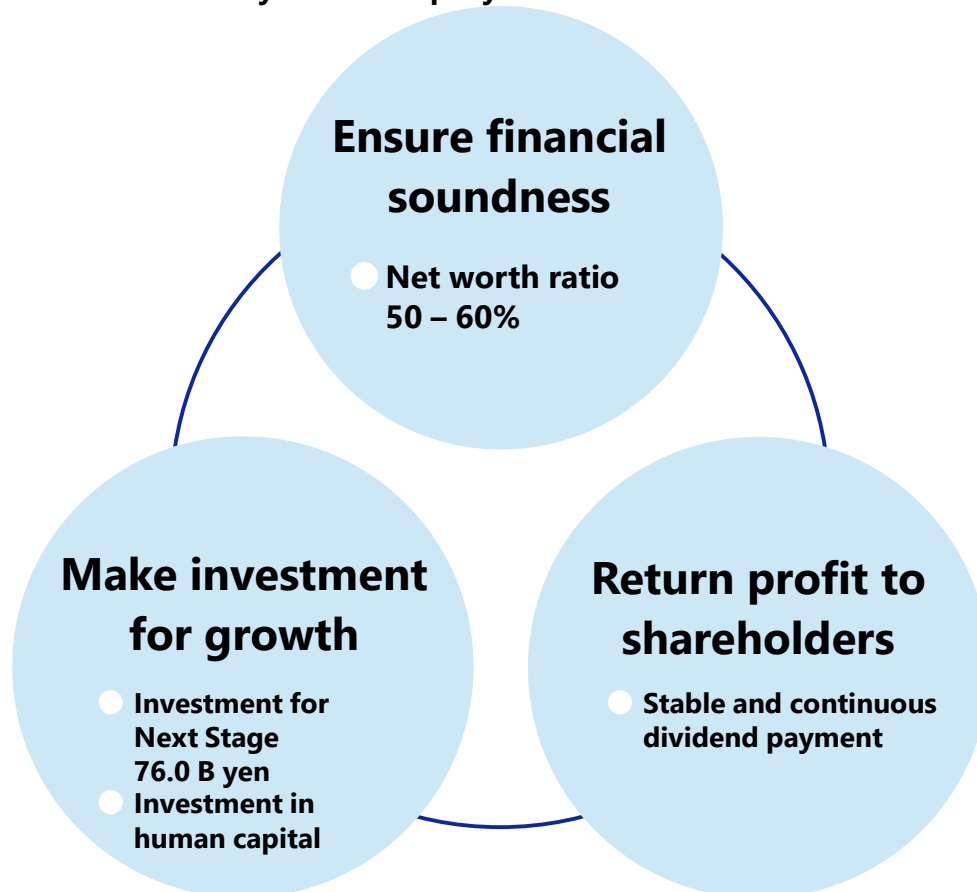


PBR: Price book-value ratio ROE: Return on equity PER: Price earning ratio  
 ROIC: Return on invested capital NOPAT: Net operating profit after tax  
 WACC: Weighted average cost of capital

## (2) Capital/financial strategy

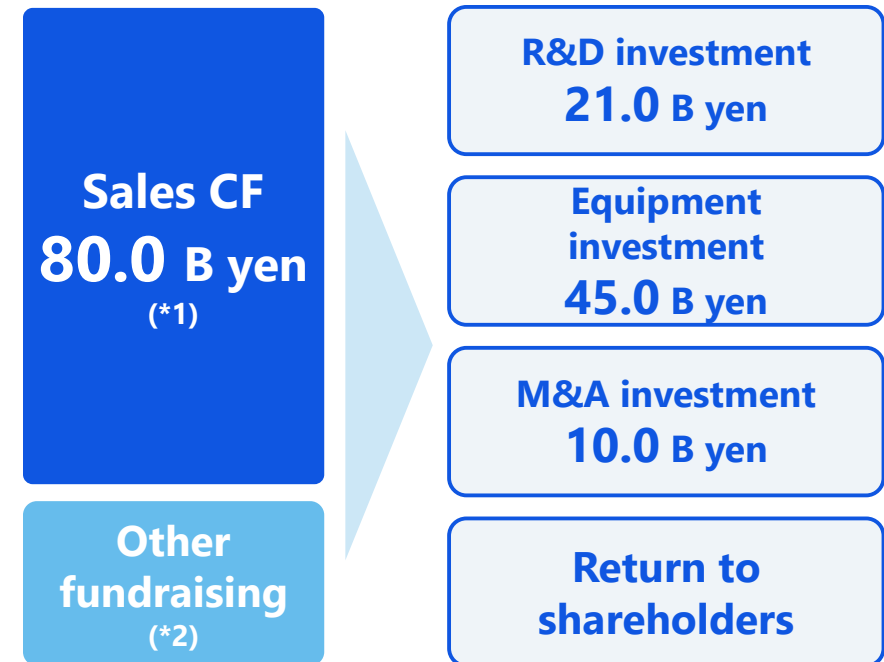
### Basic policy

We perform well-balanced management between investment for growth and return of profit to shareholders while maintaining financial soundness to ensure sustainability of the company.



### Cash allocation plan (accumulation during the Mid-term Management Plan period)

We actively make investment in growth areas on a capital of sales cashflow during the Mid-term Management Plan period.

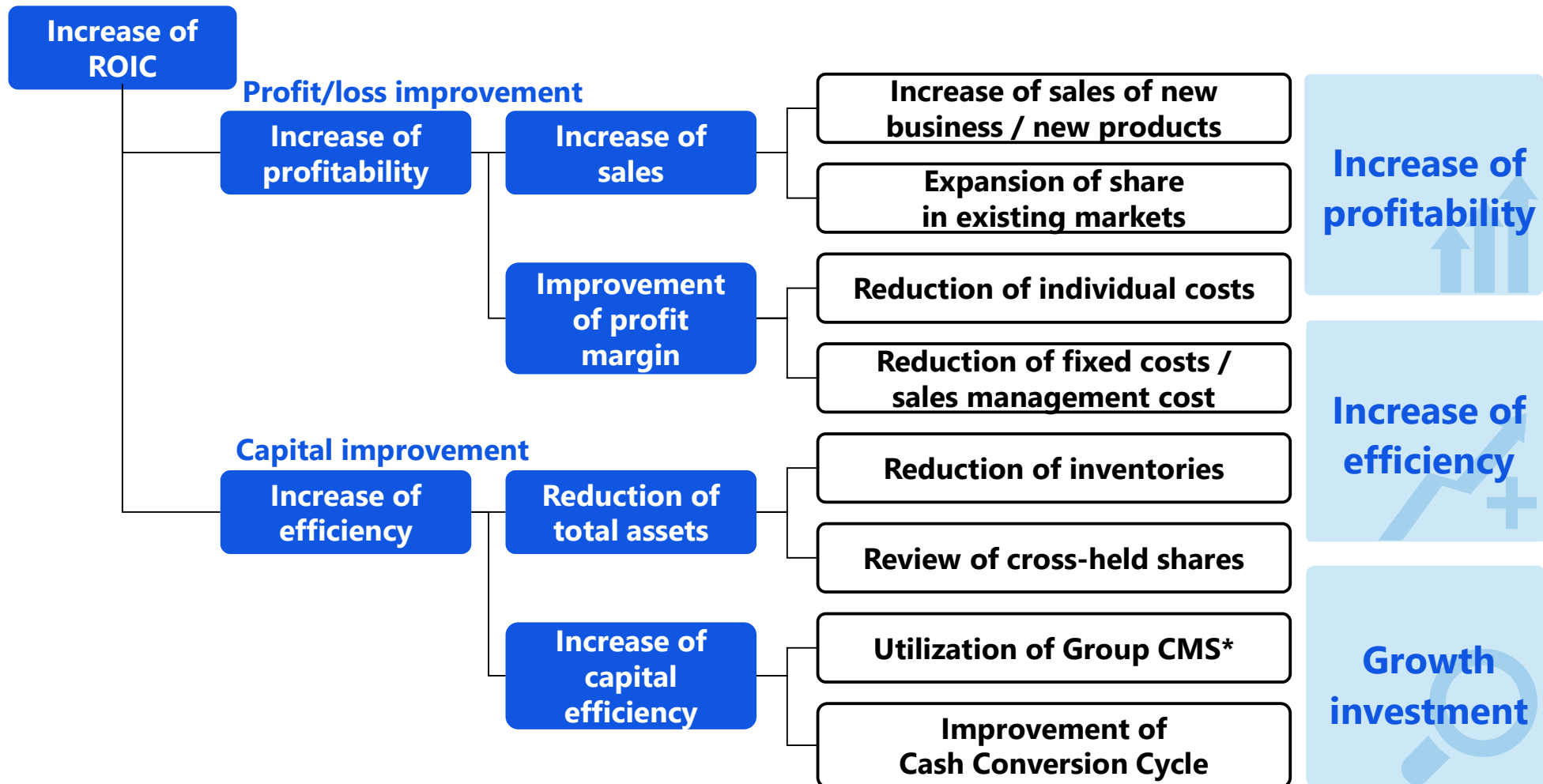


\*1: Before deduction of R&D cost

\*2: Borrowing and sale of cross-held shares

### (3) Activities to increase ROIC

Strive to increase ROIC through improvements in both aspects of profit/loss and capital.

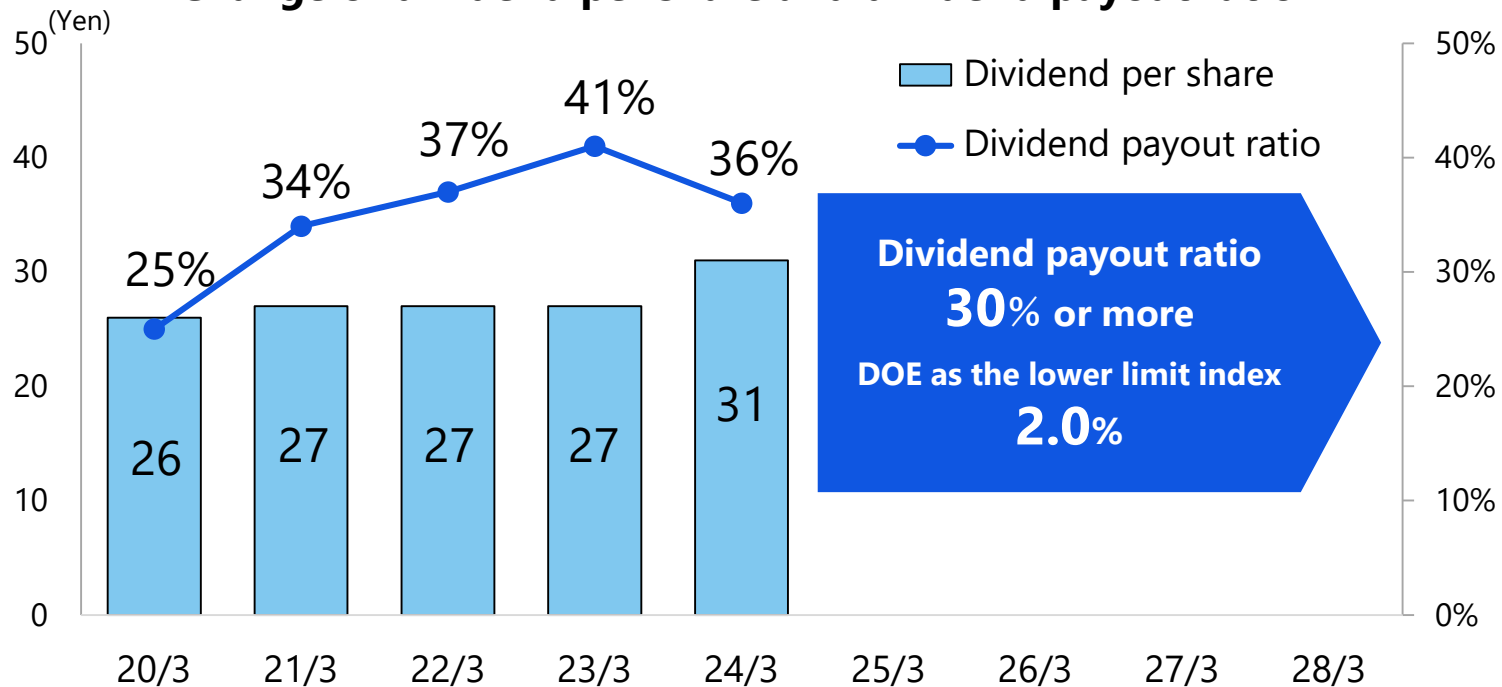


\* CMS: A system to centrally manage financing conditions in the Group aimed to increase the financial accommodations efficiency within the Group.  
(Cash Management System)

## (4) Dividend policy for surplus

In principle, the consolidated payout ratio of 30% or more and DOE of 2.0% as the lower limit index are our current targets.

### Change of dividend per share and dividend payout ratio



<b>DOE (%) *</b>	2.0	2.0	2.0	1.9	2.1
<b>Total amount of dividend</b>	16.3	16.8	16.8	16.8	19.3

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\* DOE (Dividend on Equity)  
= Annual total of dividend / Consolidated average amount of net assets for the period



## Non-financial information (ESG initiatives)

E

**Environment-  
related targets**

Participate in TCFD and endeavor to achieve 50% reduction of greenhouse effect gas emission (compared to the level in 2013) by 2030 and substantially zero emission by 2050.

### Decarbonization efforts in Nippon Signal Group (image)

Reduction of  
emission from  
products

1) Products of lower power consumption,  
2) Increased maintainability of products,  
3) Provision of energy saving solutions, etc.

Clean electric power  
procurement, introduction of  
solar power generation, etc.

Emission control in  
business activities

Labor saving  
Streamlining



CBM



Autonomous  
Driving



Robot



Carbon-free  
solution



Plant



Office

Toward  
zero carbon

S

### Continue and strengthen community-based efforts of contribution to society

HR system reform and  
promoting diverse  
working styles

Increasing digital literacy  
through reskilling

Systematic and continual  
training of model skills  
and engineers

Business development  
taking root in overseas  
regions and job creation

Increasing engagement of employees and improving the ratio of male employees who take childcare leave

G

- Business management using ROIC, evaluation and review of business portfolio to achieve once or more PBR
- Communications with shareholders and investors, review of cross-held shares, establishment of BCP and risk management

## Human capital strategy

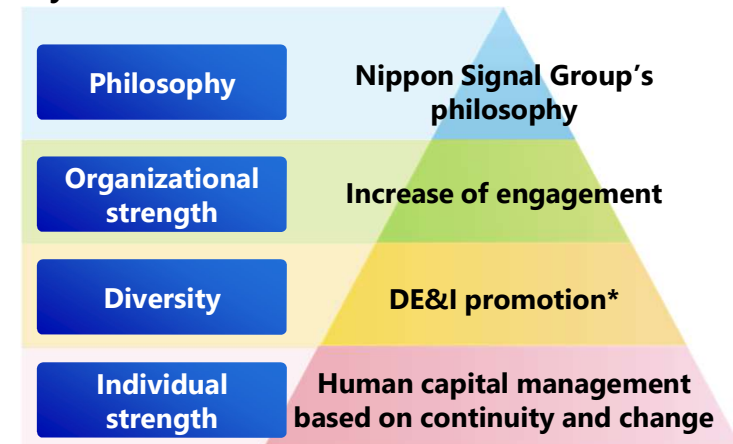
### 1 Human capital envisioned by Nippon Signal Group

Promote recruitment and development of human capital centering around fail-safe technology to adapt to the drastically changing external environment and realize global business development.



### 2 Basic concept of human capital strategy

Address issues to find solutions through coordination of efforts in each layer.



\* DE&I: Diversity, Equity and Inclusion

### 3 Primary measures of human capital strategy

#### Increase of engagement

- Ensuring quality and volume of employees
- Maintaining physical and mental health
- Activating organization through common objectives, better communications and increased motivation

#### DE&I promotion

- Offering diverse opportunities to show great performance
- Flexible work style
- Participation of women
- Participation of global talent

#### Human capital management based on continuity and change

- Inheritance of technologies including fail safe
- Inheritance of manufacturing technologies
- Recruitment and development of DX human resources



## Precautions

Earnings forecasts and the like are based on information currently available to us and certain assumptions that we believe reasonable. Actual results may differ due to various factors such as risks and uncertainties.