

**TOSHIBA**

Toshiba IR Day 2019

# **Infrastructure Systems & Solutions**

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**Toshiba Infrastructure Systems & Solutions Corporation**

**November 14, 2019**

# Forward-looking Statements

- This presentation contains forward-looking statements concerning future plans, strategies, and the performance of Toshiba Group.
- These statements are not historical facts; rather, they are based on assumptions and judgments formed by the management of Toshiba Group in light of currently available information. They include items that have not been finally decided at this point and future plans that are yet to be confirmed or that require further consideration.
- Since Toshiba Group promotes business in various market environments in many countries and regions, its activities are subject to a number of risks and uncertainties that are, without limitation, related to economic conditions, worldwide mega-competition in the electronics business, customer demand, foreign currency exchange rates, tax rules, regulations, geopolitical risk, natural disasters and other factors. Toshiba therefore wishes to caution readers that actual results might differ from expectations. Please refer to the annual securities report (*Yuukashoken houkokusho*) for FY2018 and the quarterly securities report (*shihanki houkokusho*) for the second quarter of FY2019 (both issued in Japanese only) for detailed information on Toshiba Group's business risk.
- Toshiba's fiscal year (FY) runs from April 1 to March 31. All figures are consolidated totals for 12 months, unless otherwise stated.
- Results in segments have been reclassified to reflect the current organizational structure, unless otherwise stated.

# Today's Agenda

01 Financial Targets

02 Initiatives for Growth

03 Realizing the SDGs in our Value Chain

# 01

## Financial Targets

Update from Toshiba Next Plan



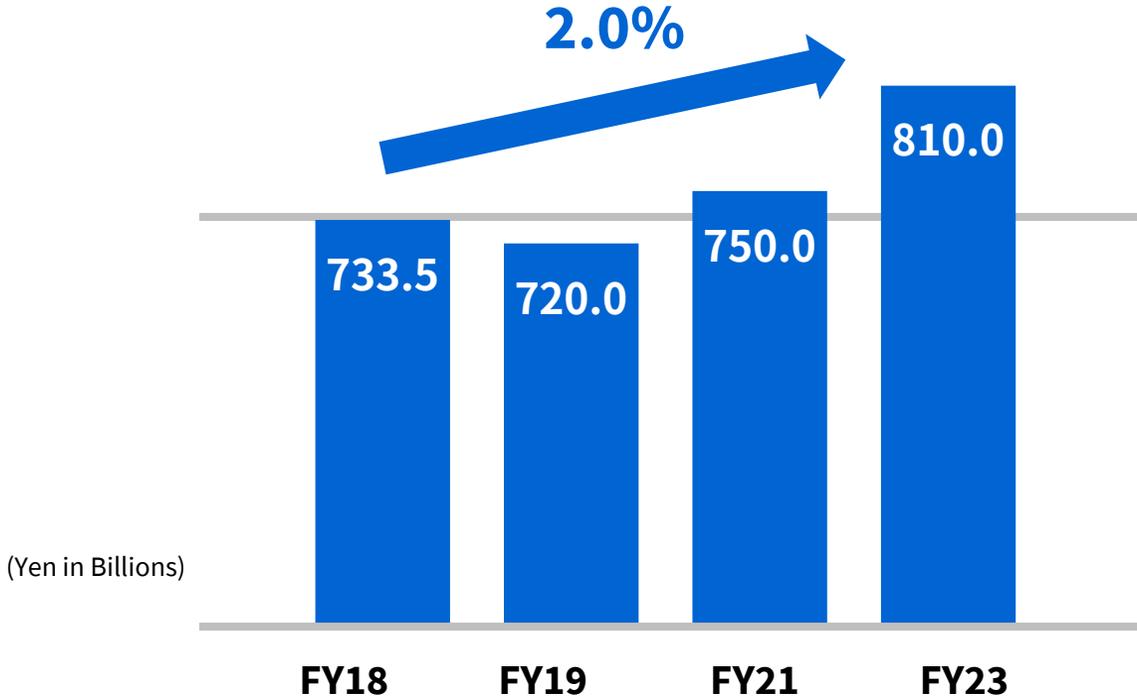
## Continually Improve Profitability with Enhanced Core Earning Power and Investments in Growth

### Focus Initiatives

- **In the public infrastructure business, secure stable profit in existing fields and expand revenue through the solutions business**
- **In the railway and industrial systems businesses, expand through differentiated technologies and investments in growth**
- **Improve core earning power**

# Infrastructure Systems & Solutions Financial Targets

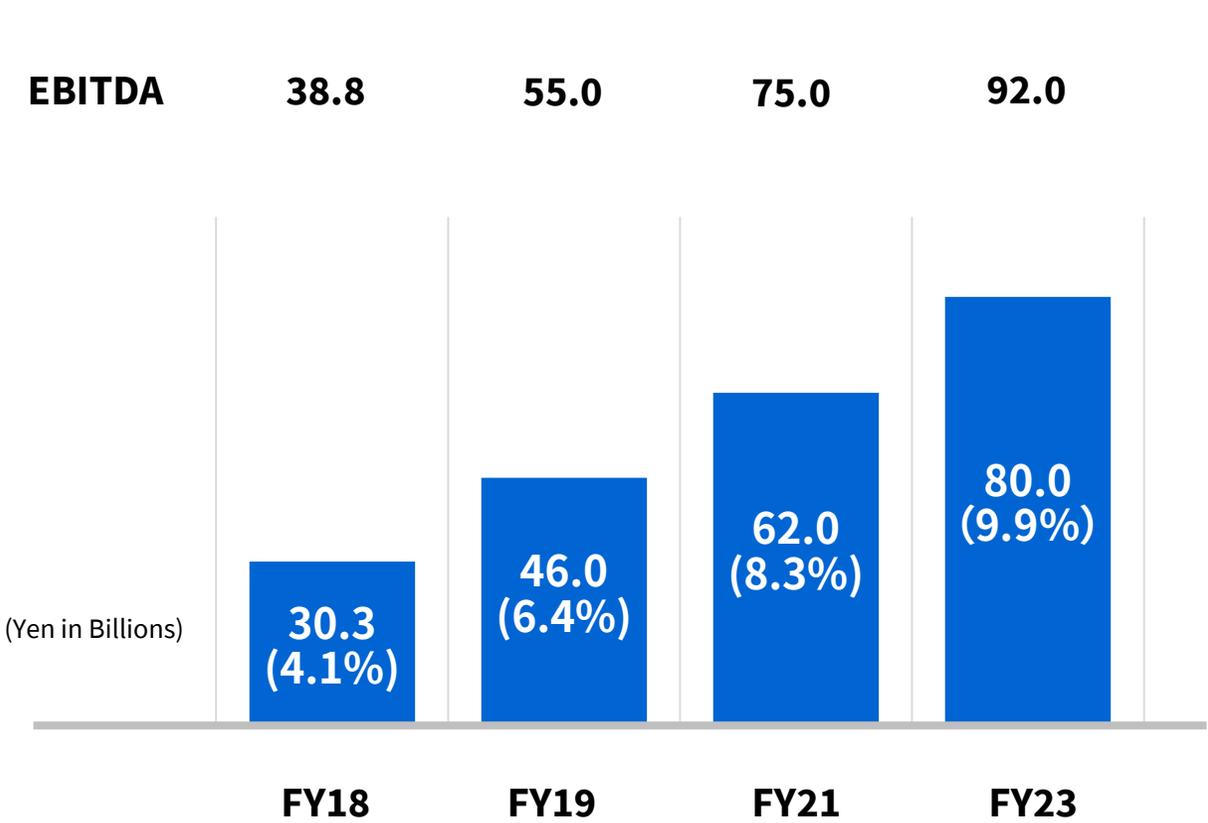
Although Net Sales Decreased in FY19, the FY18→FY23 CAGR will be 2.0%



**FY23**  
**Net Sales Target**  
**810** Billion Yen

# Infrastructure Systems & Solutions Financial Targets

**Continually Improve Profitability  
with Enhanced Core Earning Power and Investments in Growth**



**FY23**

**Operating Income Target**

**80** Billion Yen

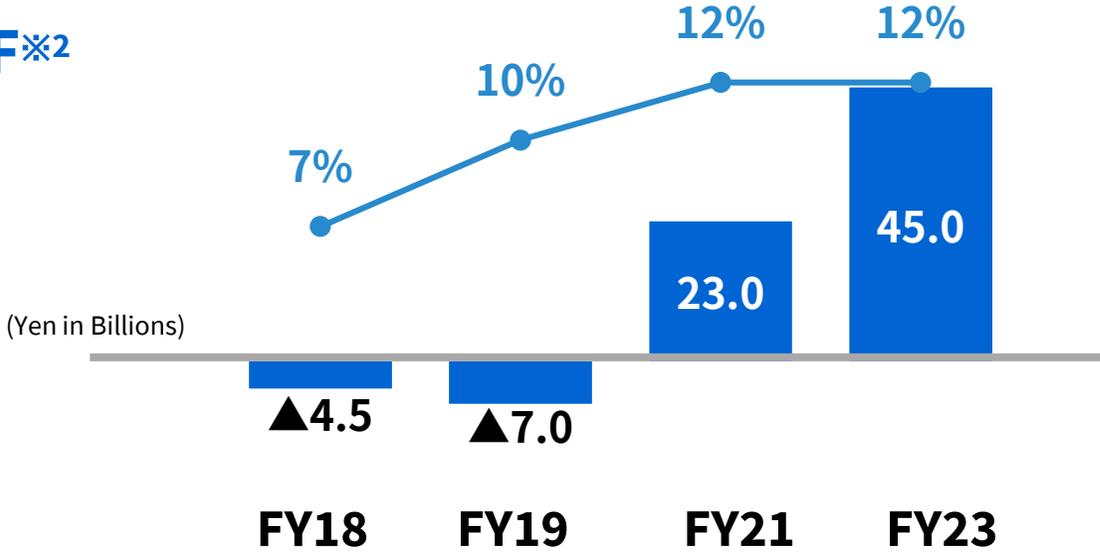
**ROS**

**9.9** %

# Infrastructure Systems & Solutions Financial Targets

Negative FCF due to Growth Investments in FY18-19 will Realize a Positive Return on Investment from FY21

ROIC※1  
FCF※2



FY23

ROIC

12 %

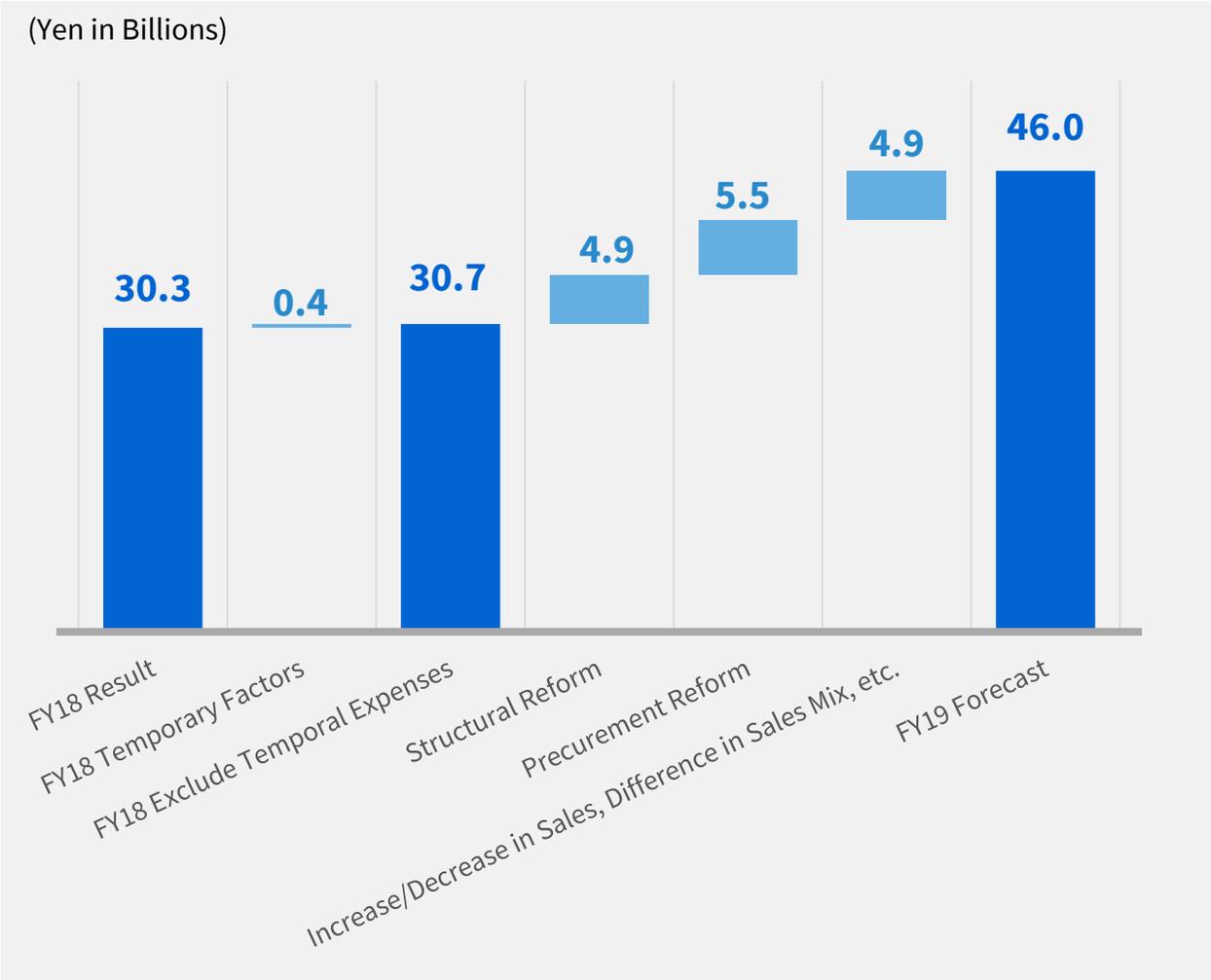
FCF

45 Billion Yen

※1 Return on Invested Capital ※2 Free Cash Flow

# Operating Income Improvement Plan (FY18→FY19)

## Reform Procurement and Business Structure to Secure Higher Earnings



**FY19** Forecast

**46** Billion Yen

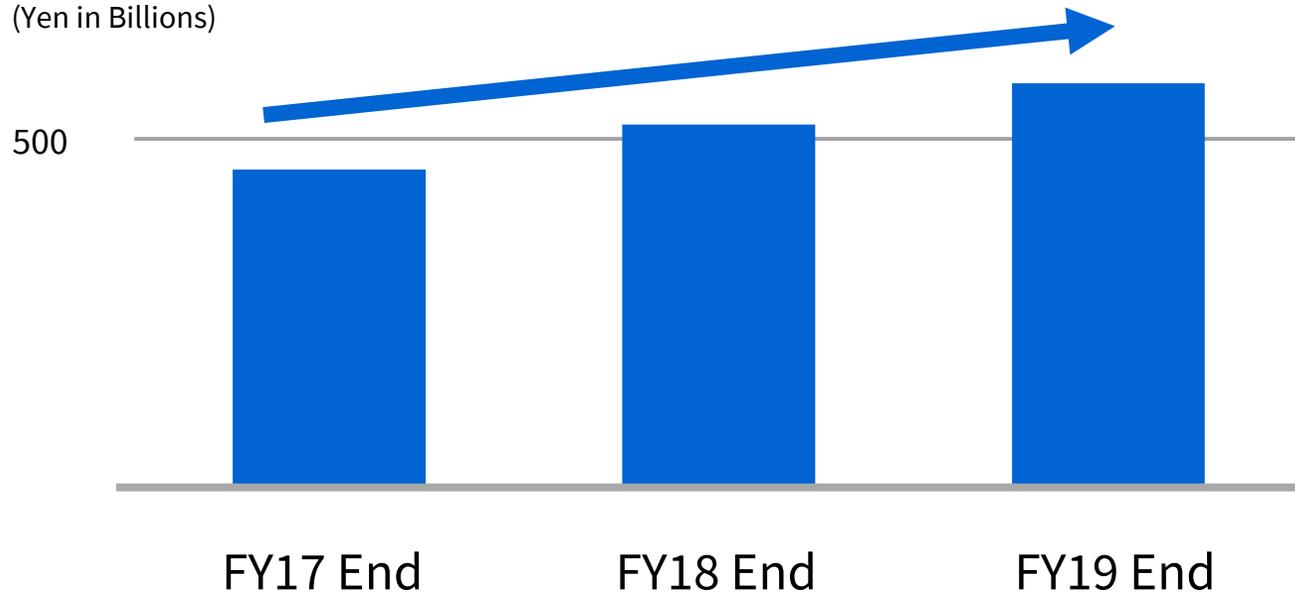
FY19 Forecast

- Structural reform and procurement reform are implemented as per Next Plan
- 4.9 billion yen improvement due to net sales increasing in public infrastructure business and profitability improvement in railway and industrial systems business
- In FY19, operating income surpassed the Next Plan target of 39.6 billion by 6.2 billion yen.

# Trend in Order Backlog

## The Order Backlog is Expanding due to Increases in Orders for Railway Projects

(Yen in Billions)

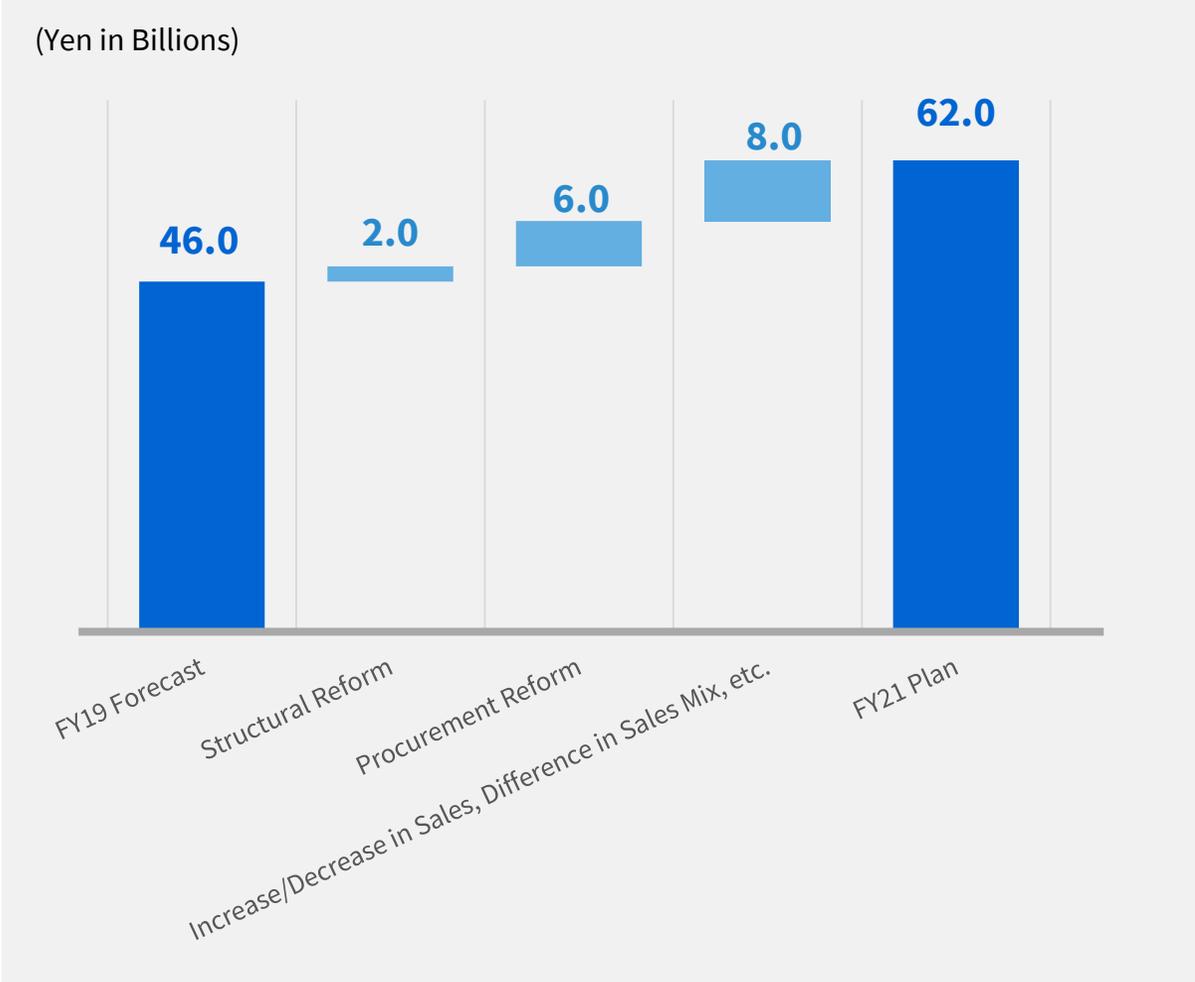


### FY17 End→FY19 End

- **Public infrastructure business remains strong**
- **Expansion due to increased orders for railway projects**
  - Japan: Robust demand
  - Overseas: Increase due to order for large-scale project in Taiwan, etc.  
(commuter train/shinkansen electrical parts, 68 electric locomotives)

# Operating Income Improvement Plan (FY19→FY21)

## Reform Procurement and Invest in Growth to Secure Higher Earnings



**FY21 Plan**

**62 Billion Yen**

**Procurement Reform**

- Introduce management tools to visualize progress.
- Appoint procurement reform agent to hold workshops on measures creation.

**Increase/Decrease in Sales, etc.**

- With a net sales increase of 30 billion yen from FY19, operating income is expected to increase by 8.2 billion yen.
- <Factors behind net sales increase>
- Net sales increase in railway business due to sales timing of projects in Taiwan and large projects in domestic market.
  - Net sales increase in industrial systems business due to expanded sales of electric vehicles motor and generator rapid market growth.

# Breakdown of Net Sales/Operating Income /EBITDA

		FY18	FY19	FY21	(Yen in Billions)
<b>Infrastructure Systems &amp; Solutions</b>	Net Sales	733.5	720.0	750.0	
	<b>Operating Income</b>	30.3	46.0	<b>62.0</b>	
	EBITDA	38.8	55.0	75.0	
<b>Public Infrastructure</b>	Net Sales	409.1	421.9	440.0	
	<b>Operating Income</b>	27.3	34.5	<b>34.0</b>	
	EBITDA	30.7	38.5	39.0	
<b>Railway and Industrial Systems</b>	Net Sales	395.1	387.9	450.0	
	<b>Operating Income</b>	3.0	11.3	<b>28.0</b>	
	EBITDA	8.1	16.5	36.0	

# 02

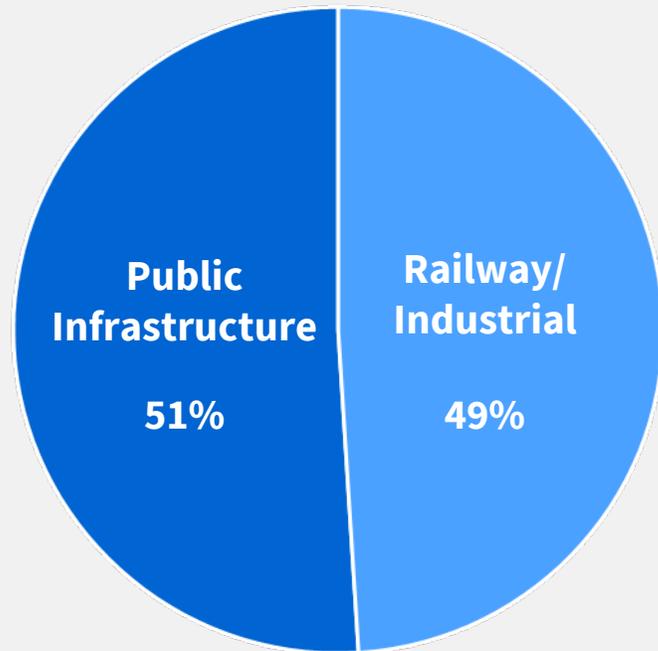
## Initiatives for Growth



# Overview of Infrastructure Systems & Solutions Business

**Contribute to Customers Who Support Society and Industry through Our Technologies and Partnerships**

**Composition of Sales** (FY18 Results)

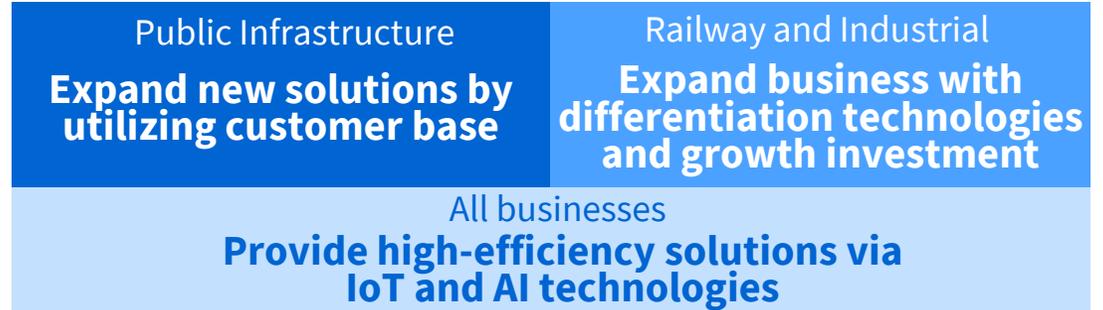


■ **Public Infrastructure Business**

- Social Systems
- Defense & Electronic Systems
- Security & Automation Systems

■ **Railway and Industrial System Business**

- Railway Systems
- Industrial Systems



**For infrastructure such as Water Supply and Wastewater, Building/Airport, Highway, Telecommunications/Broadcasting, Defense, Postal, Railway, etc.**

**Provide Products and Systems With High Market Share**

**By providing Products, Systems and Maintenance**

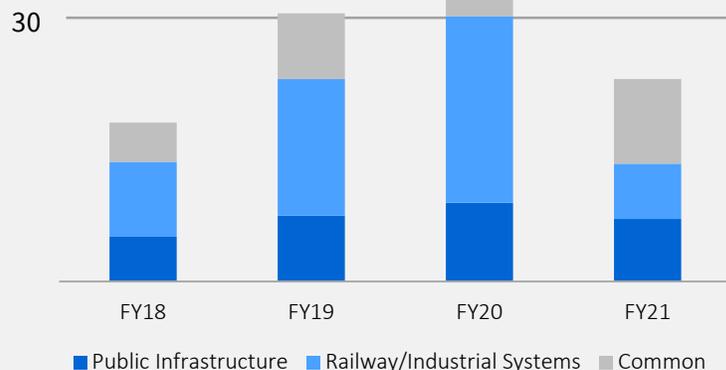
**Support the Entire Lifecycle**

# Concept of Resource Investment (Capital Expenditure/R&D)

## Increase Investment in FY19-20 Steady Investment in R&D for Major Business Fields

### Capital Expenditure

(Yen in Billions)

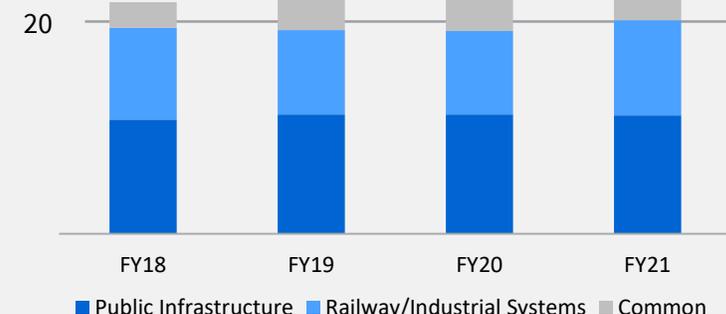


#### <Main Investments>

- Increase Railway business production capacity
- Expand automotive motor and generator manufacturing capacity
- Improve Fuchu Complex productivity

### R&D Investment

(Yen in Billions)



#### <Main Investments>

- Compact/high-efficiency automotive motor and generator
- SCiB™ applications for Social Infrastructure market
- IoT/AI
- Labor saving robots for the logistics industry

## Capital Expenditure (FY19-21)

**90** Billion Yen

## R&D Expense (FY19-21)

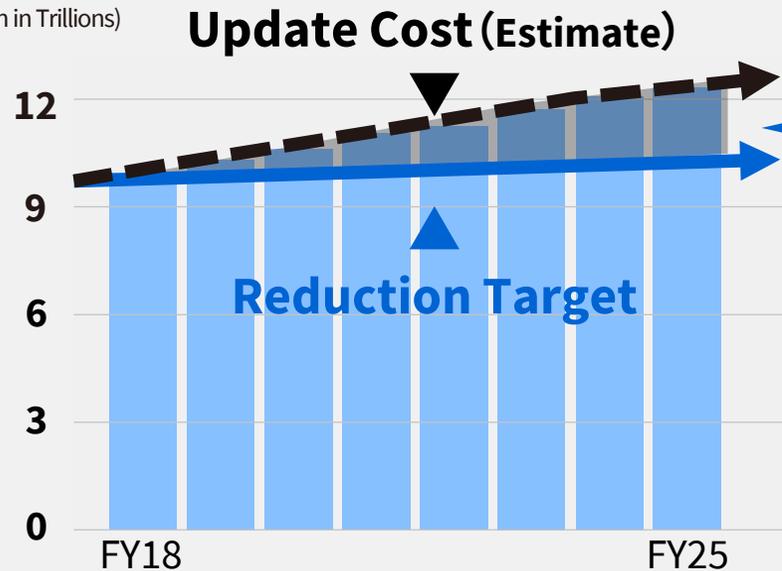
**70** Billion Yen

# Market Environment of Public Infrastructure Business

## Strengthen IoT Solutions to Meet Increasing Demands for Efficient Social Capital

**Predicted Trend in Maintenance/  
Repair/Update Costs for Social Capital\***

(Yen in Trillions)



### Cost Reduction Measures

- Longer Product Life
- Strengthen IoT
- Utilize Private sector

Infrastructure deterioration, Disaster prevention, EC logistics increase, International urbanization

**Growing trends in the social infrastructure market**

Reduced tax income, Lack of engineers, Facility operation efficiency

**Expanding implementation of IoT and technologies provided by private companies**

Improve Customer's Business Value by  
**Providing IoT Solutions**

\*Traffic, Harbor, Air Traffic, Railway, Water Supply and Wastewater, Industrial Water Treatment, Flood Control, Waste Disposal, etc.

Source: Medium to Long-Term Outlook of Infrastructure Maintenance/Management/Repair/Update Costs by the Cabinet Office (March 2018)

# Initiatives for Growth in the Public Infrastructure Business (Water)

\*1 PPP (Public Private Partnership)  
 \*2 According to in-company investigation  
 \*3 DBO (Design-Build-Operate): A system where a public entity procures capital and a private contractor is entrusted with the design, construction, and administration, etc. of the facility  
 \*4 A pump facility with a drainage function for wastewater and rainwater

## Utilize Our Technological Expertise to Participate in the PPP※<sup>1</sup> Business

Expertise based on achievements

- Supporting water supply and wastewater systems in Japan for half a century (products delivered to more than 1,000 locations)
- Experience as O&M contractor (30 locations)



Strengths of Toshiba technologies

- Top share※<sup>2</sup> in water supply and wastewater electrical equipment
- Plant control technology combining optimization, visualization and diagnosis
- Various IoT solution technologies verified at plant where we are the O&M contractor

### Water Supply

Planning to provide chemical injection assistance to Enable the stable supply of good quality water even when there is variation in the quality of the original water



#### Adoption example:

Fukuoka City Otagana Water Purification Plant

- Maintenance project for the largest basic amenity in Fukuoka City
- Planning to adopt automatic control assistance tool to handle variation in water
- The construction period is February 2019 to March 2025

### Sewerage

Applying higher precision IoT control to inflow prediction reduce the risk of inundation in the event of localized heavy rainfall



#### Adoption example:

Tamagawa Pump Facility, Ube City, Yamaguchi Prefecture

- First DBO※<sup>3</sup> project in Japan for a combined system stormwater pump facility※<sup>4</sup>
- Adopt optimal stormwater/drainage pump control via rainfall/stormwater inflow prediction
- 20 year operation and management contract from 2024

# Initiatives for Growth in the Public Infrastructure Business (Energy Solution)

## Strengthen Power Supply Infrastructure Business by Making Nishishiba Electric a Wholly Owned Subsidiary

### Environment of energy supply infrastructure



- Frequent natural disasters
- Government energy policy
- Importance of BCP※1
- Countermeasures to long term power outage
- Demand for distributed energy resources

### Utilize technology/ management resource / business know-how in Toshiba group

Nishishiba business

Provide power generation systems to marine and power generation/ industry market for more than 70 years.



Toshiba energy solution business

Provide energy supply systems to buildings, airports and public facilities.



### Strengthen coverage of renewable energy & distributed energy resources solution



Power Generator



Power Converter



Renewable Energy



Battery

Strengthen power supply solution, which have excellent disaster prevention/ mitigation performance, by combining Toshiba battery/ power semiconductor and Nishishiba power generator businesses.

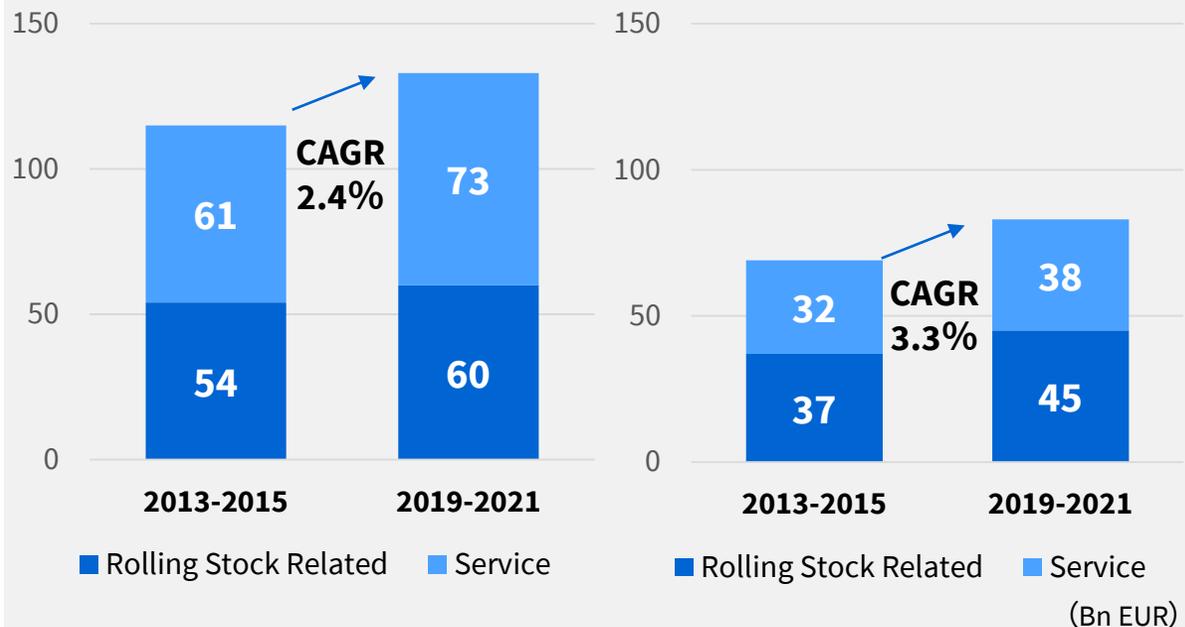
# Market Environment of Railway and Industrial System Business (Railway Systems)

## Achieve Sales Growth by Contributing to Safe, Secure, Comfortable and Energy-Saving Railway Systems

### Railway and Railway Related Service Market

(World Market)

(Accessible Market\*)



\*Accessible markets: Markets conducting public bidding where bids can be made regardless of nationality.

Source: UNIFE

High expectations for new technology despite stable domestic market

**Expand investments in high added value operation**

Railway investment in overseas market is expanding due to population and logistics growth

**Demands for reducing environmental loading and life cycle cost increase**



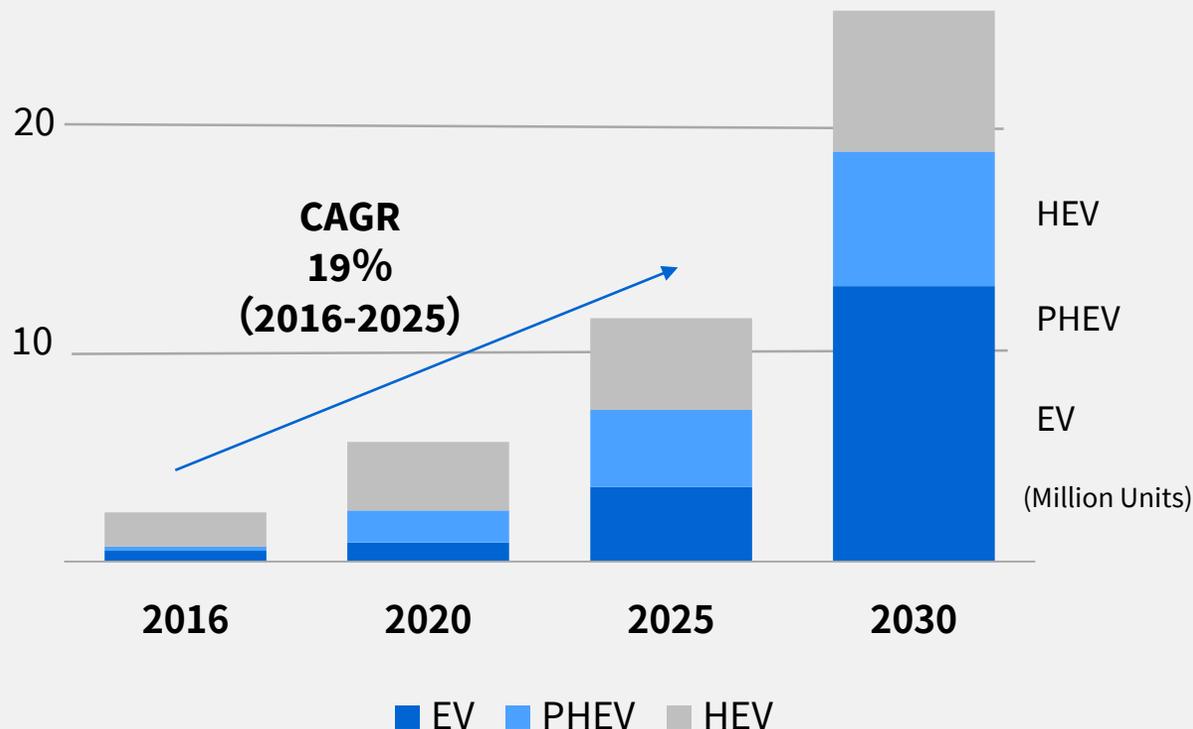
**Provide Differentiated Solutions and Services**

Focus on electrical products and locomotives that do not compete with other companies

# Market Environment of Railway/Industrial Systems Business (Industrial Systems)

## Achieve Sales Growth by Focusing on the Rapid Grow Electric Vehicles Motor and Generator Market

Annual Sales Forecast for Electric Vehicles



Source: Mizuho Bank Industry Research Division prediction

Due to national environmental measures and enhanced regulations, the HEV/EV market is

**Expected to see a 20% CAGR to 2025**

Due to rapid market growth, automobile manufacturers are

**Expected to expand external procurement of motors and generators**



Reinforce Production Capacity  
Enhance Design and Manufacturing Technology to

**Provide High-Efficiency Motor and Generator**

# Initiatives for Growth in the Railway/Industrial System Business

※1 RAMS(Reliability, Availability, Maintainability, Safety) ※2 PMSM(Permanent Magnet Synchronous Motor)

## Providing High Efficient/Differentiated Solutions with Systematized Unique Components

Expertise based on Achievements

- Delivering railway electrical products / locomotives, etc. to railway companies all over the world for 120 years
- Major clients: JR/private railways in Japan, railway companies in China, Asia, Europe, etc.



Strengths of Toshiba Technologies

- Onboard and stationary SCiB™ batteries (Conforms with SIL4 safety level of RAMS ※1 standard)
- PMSM※2
- SiC inverters
- Locomotives (Hybrid Type)

### Energy Efficient Components for Rolling Stocks

Providing energy efficient solutions with combined components such as PMSM, SCiB™, etc.



Tokyo Metro (Marunouchi Line)  
Propulsion system with All SiC Inverter, Totally-Enclosed PMSM and SCiB™



Shinkansen (N700S)  
Emergency Operation System with SCiB™



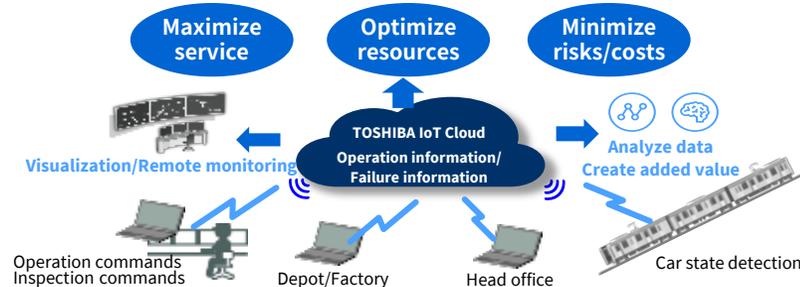
### Hybrid Locomotives

Install SCiB™ in locomotive to achieve energy saving and reduce CO2 emissions



Hybrid locomotive complying with European standards(Drive system combining SCiB™ and PMSM)

### Railway IoT



The expertise accumulated over long years by Toshiba regarding remote monitoring is gathered together to achieve realtime visualization of various data regarding running cars. We aim to maximize service, optimize resources, and minimize risks/costs based on accumulated big data.

### Ground Batteries



Regenerated power storage system for Okinawa Monorail  
Surplus regenerated power is stored in ground charging system, which achieves energy-saving, compensates for voltage drops, and provides an emergency power source.

# 03

## SDGs Against the Value Chain



# Realizing the SDGs in Our Value Chain



We use Our Technology, and Work with Our Partners to Realize Sustainable Cities and Safe and Secure Lifestyles, and Provide Support that Transforms Social and Industrial Infrastructure.

## INCREASING POSITIVE IMPACT on SDGs



Mitigating damage from natural disasters such as torrential rain (Weather radars, disaster prevention communication systems)



Improving living conditions through infrastructure development (Various kinds of infrastructure facilities/plants)



Stable supply of safe, clean water/improving water sanitation management (Water supply and sewerage solutions)



Eliminating labor shortages (Logistics robots/postal automation systems)



Safe and secure transportation systems (Railway systems, railway vehicle electrical equipment, Intelligent Transport Systems)

Raw material Development

Suppliers

Inbound logistics

Company operations

Distribution

Product use

Product end life

## Scarce Resources



Making effective use of scarce resources by reducing use of rare metals in design, development and manufacturing (motor development)



Respect for human rights, such as in the conflict minerals issue, occupational safety and health, Promotion of green procurement



Investing in energy-saving facilities, implementing appropriate energy management etc. at manufacturing bases

## Climate Change



Curbing CO<sub>2</sub> emitted during use through reducing product energy consumption (Providing high-efficiency motors, energy-saving railway systems)



## Resource Circulation



Driving resource circulation through reuse/recycling technology (Recycling of solar cell modules)



## MINIMIZING NEGATIVE IMPACT on SDGs

# Care for People and Contribute to Society

We Realize safe, secure lives through our technologies and partnerships.

We are passionate and committed, determined to transform social and industrial infrastructure,  
to make it more productive and enriching.

**Toshiba Infrastructure Systems & Solutions Corporation**





**Committed to People,  
Committed to the Future.**

**TOSHIBA**