

June 2, 2022  
Toshiba Corporation

FOR IMMEDIATE RELEASE

**Notice on Toshiba Group Management Policy**

TOKYO—Taro Shimada was appointed Representative Executive Officer, President and CEO of Toshiba Corporation (TOKYO: 6502) at the Board of Directors meeting held on March 1, 2022. Following on from this change of management, Toshiba has released the attached Management Policy for today's press briefing

# # #

**TOSHIBA**

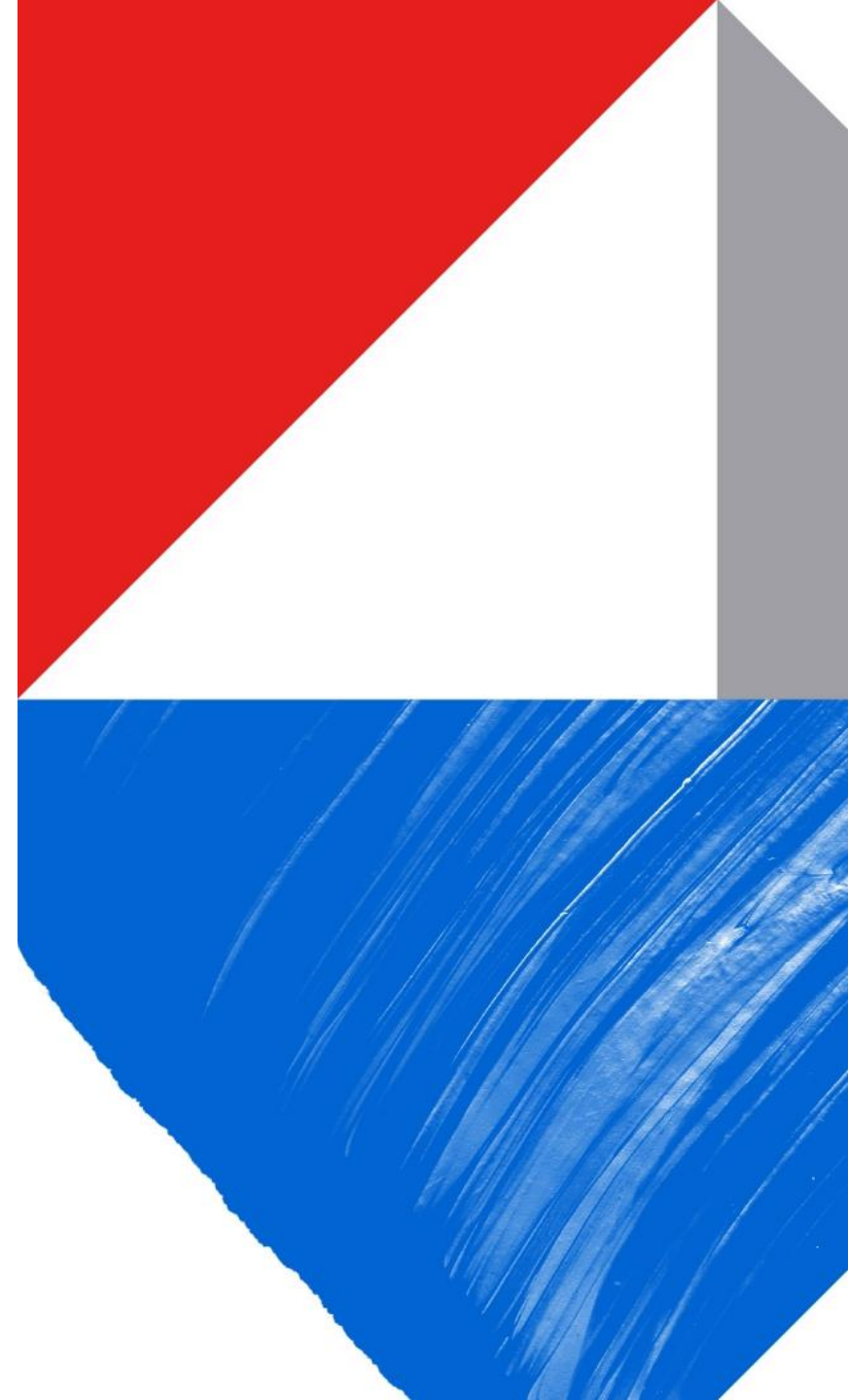
# **Toshiba Group Management Policy**

June 2, 2022

**Toshiba Corporation**

Representative Executive Officer,  
President and CEO

**Taro Shimada**



# Forward-looking Statements and Other Cautionary

- This document has been translated from the Japanese-language original document for reference purposes only. In the event of any conflict or discrepancy between this document and the Japanese-language original, the Japanese-language original shall prevail in all respects.
- This document contains forward-looking statements, prospects and targets concerning the future plans, strategies, and 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 which have not been finalized at this point and future plans which have yet to be confirmed or require further consideration. Toshiba therefore cautions readers that actual results may differ from such statements.
- 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 which include, but are not limited to, those related to economic conditions, worldwide competition in the electronics business, customer demand, foreign currency exchange rates, tax and other regulations, geopolitical risk, and natural disasters. Toshiba therefore cautions readers that actual results may differ from those expressed or implied by any forward-looking statements. Please refer to the annual securities report (yuukashoken houkokusho) and the quarterly securities report (shihanki houkokusho) (both issued in Japanese only) for detailed information on Toshiba group's business risks.
- Unless otherwise noted, all figures are 12-month totals on a consolidated basis.
- Results in segments have been reclassified to reflect the current organizational structure, unless stated otherwise.
- Since Toshiba is not involved in the management of Kioxia Holdings Corporation (formerly Toshiba Memory Holdings; hereinafter "Kioxia") and is not provided with any forecasted business results for Kioxia, Toshiba group's forward-looking statements concerning financial conditions, results of operations, and cash flows do not include the impact of Kioxia.

# Today's Agenda

- 01 Toshiba Group's Vision
- 02 Current Status of Toshiba Group
- 03 Resolving Corporate Challenges
- 04 Toshiba Group's Vision for Evolution: DE→DX→QX



# Committed to People, Committed to the Future.

At Toshiba, we commit to raising  
the quality of life for people around  
the world, ensuring progress that is  
in harmony with our planet.



## Our Purpose

We are Toshiba. We have an unwavering drive to make and do things that lead to a better world.

A planet that's safer and cleaner.  
A society that's both sustainable and dynamic.  
A life as comfortable as it is exciting.

That's the future we believe in.  
We see its possibilities, and work every day to deliver answers that will bring on a brilliant new day.

By combining the power of invention with our expertise and desire for a better world, we imagine things that have never been – and make them a reality.

That is our potential. Working together, we inspire a belief in each other and our customers that no challenge is too great, and there's no promise we can't fulfill.

**We turn on the promise of a new day.**

# 01

## Toshiba Group's Vision

# Toshiba Group's Vision

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

At Toshiba, we commit to raising the quality of life for people around the world, ensuring progress that is in harmony with our planet.

## Future

**For our children**



## People

**Safe, secure lifestyles for everyone**



## Planet

**Social and environmental stability**

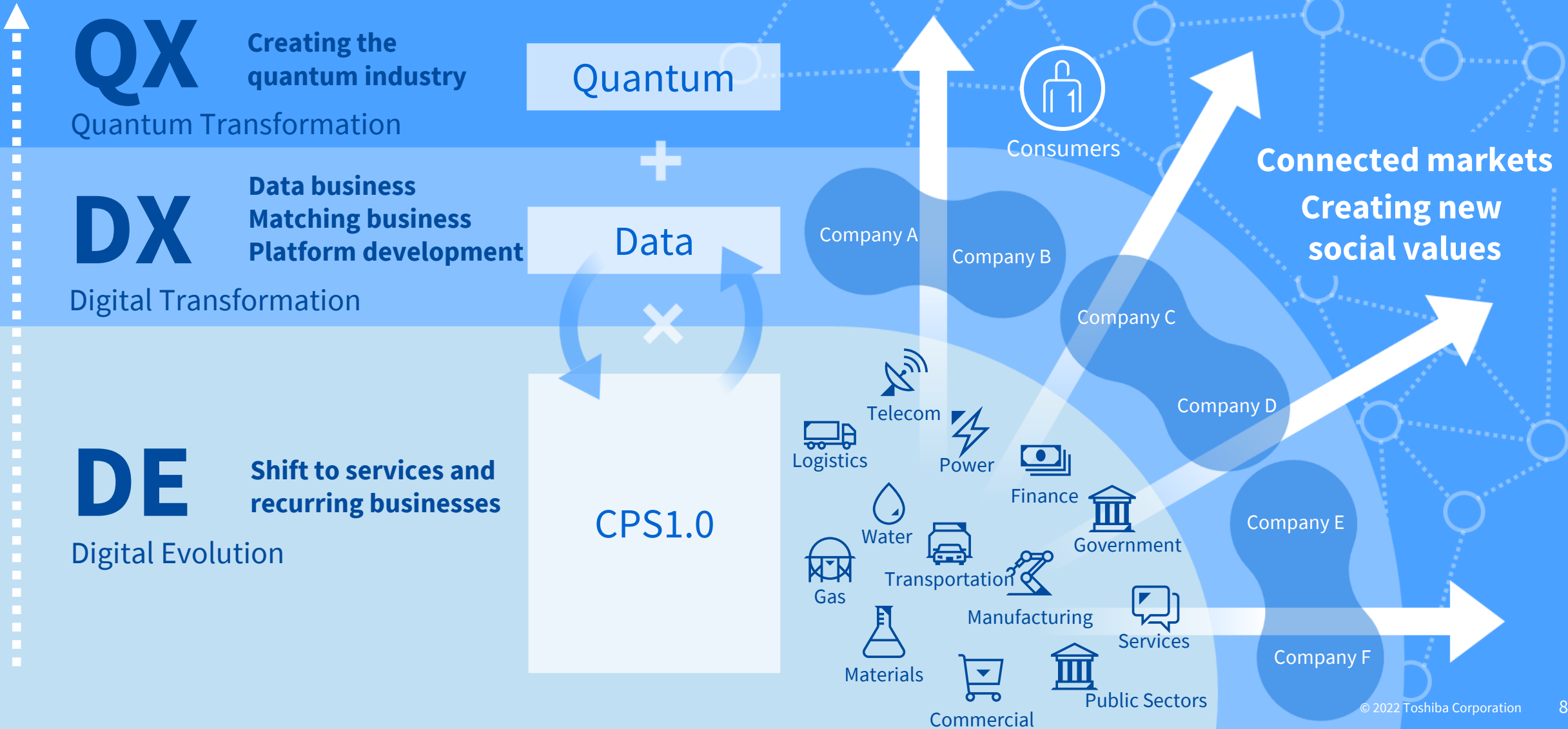


**Contribute to the achievement of carbon neutrality & circular economy through digitization**



# Evolution of the Digital Economy and Changes in the Business Environment

## Evolution of the digital economy



# Toshiba Group Mid-to-Long Term Target

**FY 30 Target: Net sales 5.0 T yen, ROS 12.0%, Operating Income 600 B yen**

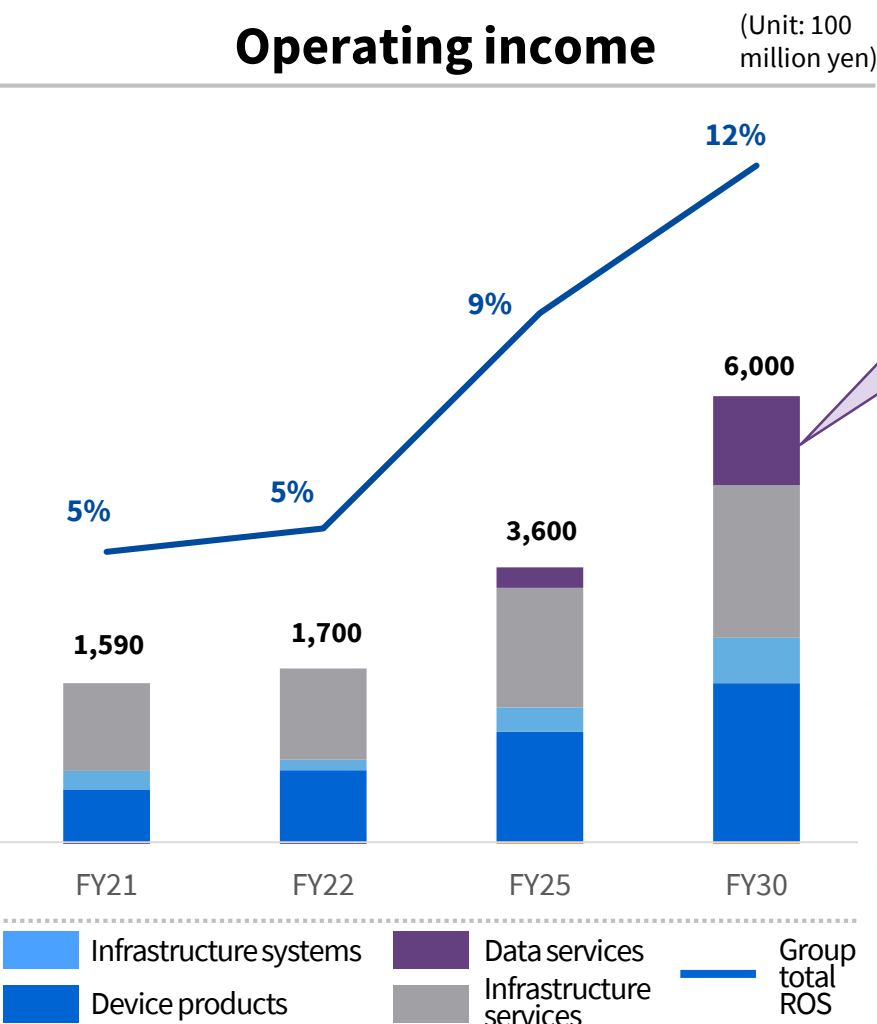
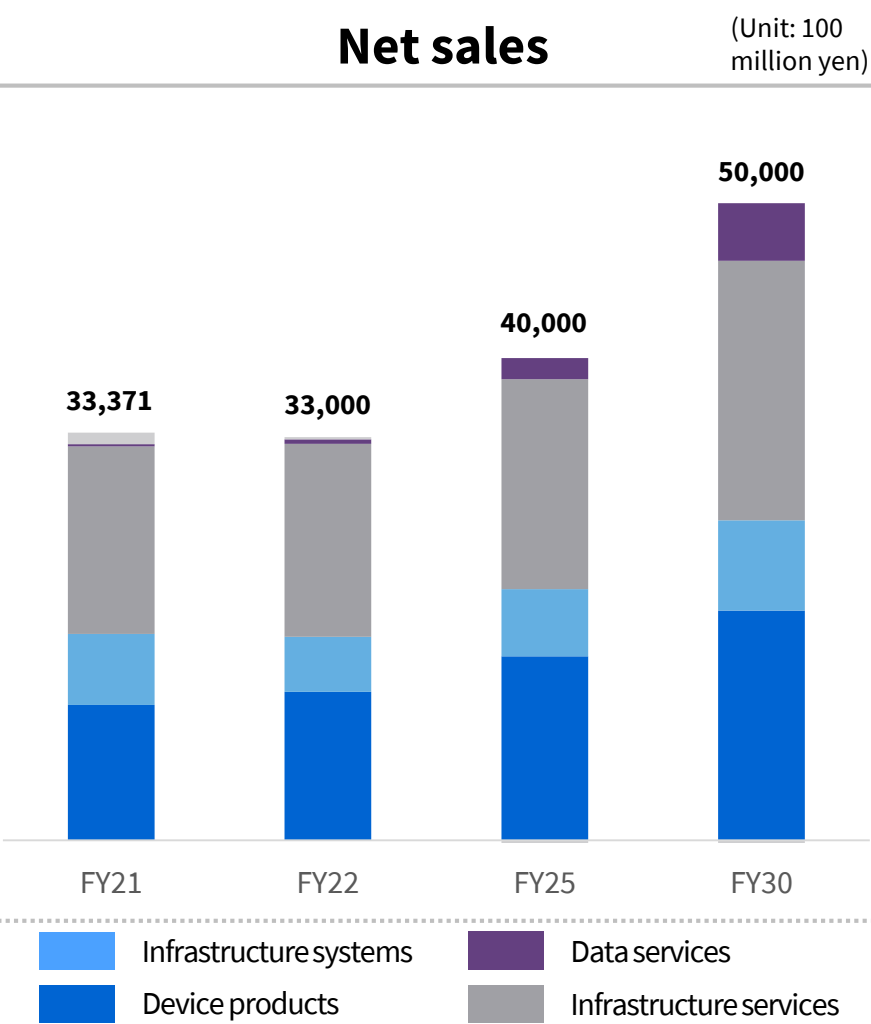
	<b>FY 21 Results<sup>*1</sup></b>	<b>FY 22 Forecast<sup>*1</sup></b>	<b>FY 25 Target</b>	<b>FY 30 Target</b>
<b>Net sales</b>	<b>3.34</b> T yen	<b>3.30</b> T yen	<b>4.00</b> T yen	<b>5.00</b> T yen
<b>Operating income</b> (ROS%)	<b>159</b> B yen (4.8%)	<b>170</b> B yen (5.2%)	<b>360</b> B yen (9.0%)	<b>600</b> B yen (12.0%)
<b>EBITDA<sup>*2</sup></b>	<b>244</b> B yen	<b>270</b> B yen	<b>500</b> B yen	
<b>ROIC<sup>*3</sup></b>	<b>15.8</b> %	<b>13.8</b> %	<b>17.0</b> %	
<b>FCF<sup>*4</sup></b>	<b>125</b> B yen	<b>100</b> B yen	<b>250</b> B yen	

<sup>\*1</sup> FY21 results and FY22 forecast includes the results and forecast of Toshiba Carrier Corporation, <sup>\*2</sup> EBITDA = Operating income + Depreciation

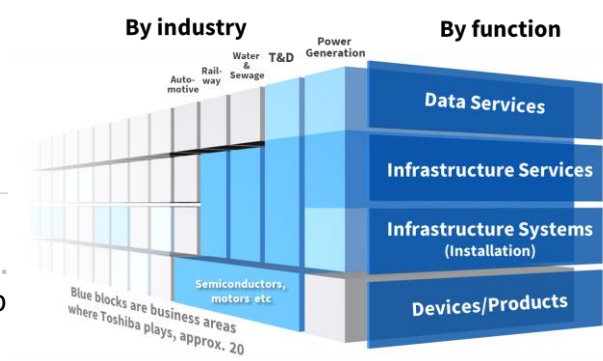
<sup>\*3</sup> ROIC = (Net income - Non-controlling interest - Interest expense × (1 - tax rate)) / (Net interest - bearing debt + Net assets) <sup>\*4</sup> Free Cash Flow

# Plan by Functional Classification

## Forecasting growth in the highly profitable data service business toward FY30



**Data services**  
ROS **26%**  
% of group total **20%**



\* Bar graph total include other businesses, and shared accounts, corporate elimination, etc



# Toshiba Group's Challenges

## Internal rigidity

Organization-related issues



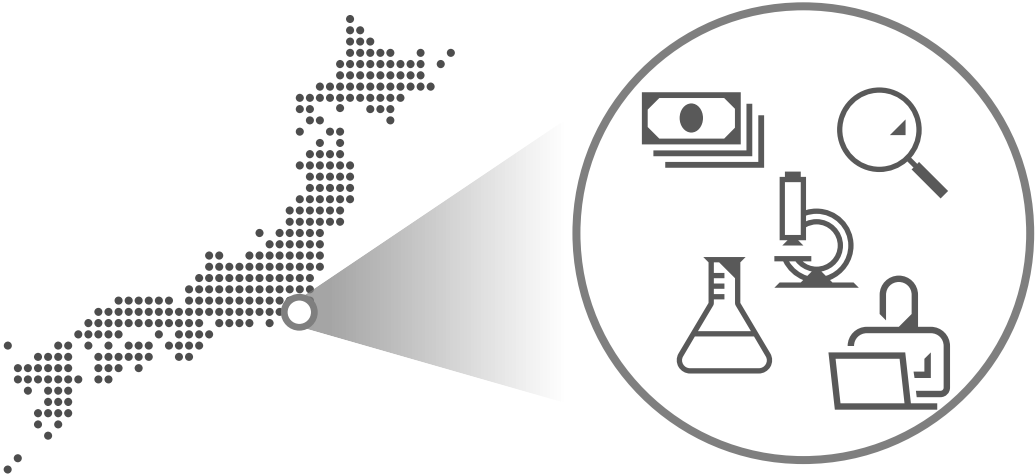
### Challenges

Improvement achieved by one company or BU not shared with others due to the silo mentality under the current framework

\* BU: Business Units

## External rigidity

Methodology-related issues



### Issues in market selection (focus on domestic market)

- Small size and slow growth
- Limited R&D network

### Not-invented-here syndrome

- Commitment to in-house, proprietary technologies
- No business foundation (Lack of industry connections and business know-how)

### Obsession with full or majority ownership

### Challenges

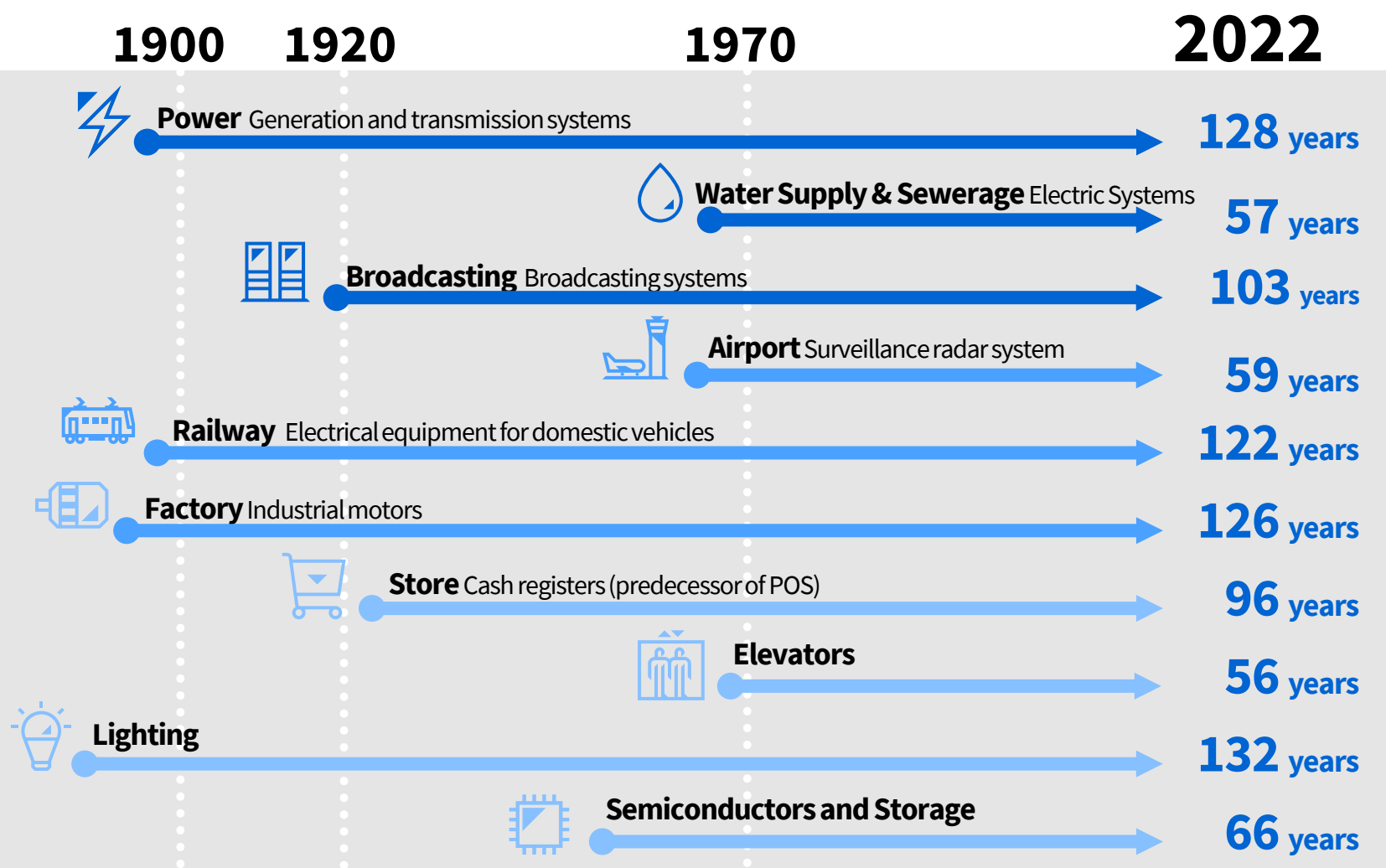
Inability to leverage R&D diversity and convert achievements into business value

# 02

## Current Status of Toshiba Group

# Businesses that Support Daily Lives and Social infrastructures

Many businesses contribute to economic security by supplying core infrastructure and key products that support industries



\*Based on internal research



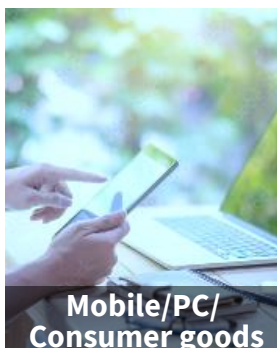


# Device Business (Power Semiconductors)



## Toshiba's power semiconductors

High efficiency, high quality, and high reliability



## Technologies and products that support competitiveness



**SiC-equipped module  
for electric railways**



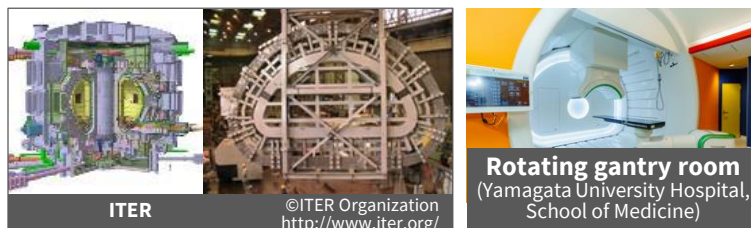
**High-voltage multichip package  
for power converters**  
(under development)

## Future investment and development strategy

- Create a 300mm wafer manufacturing line in Kaga Toshiba (mass production will start in the second half of FY22) and build a 300mm manufacturing wing (scheduled to start operations in 2024)
- Accelerate the development and commercialization of compound semiconductors (SiC and GaN) that can achieve high power, high efficiency, and miniaturization
- Expand product lineup including control ICs and promote R&D investments in high-efficiency package development

**Supporting the economy with semiconductors that lay the foundation of the digital industry**

# Energy Business (Nuclear Power)



## Technologies and products that support competitiveness



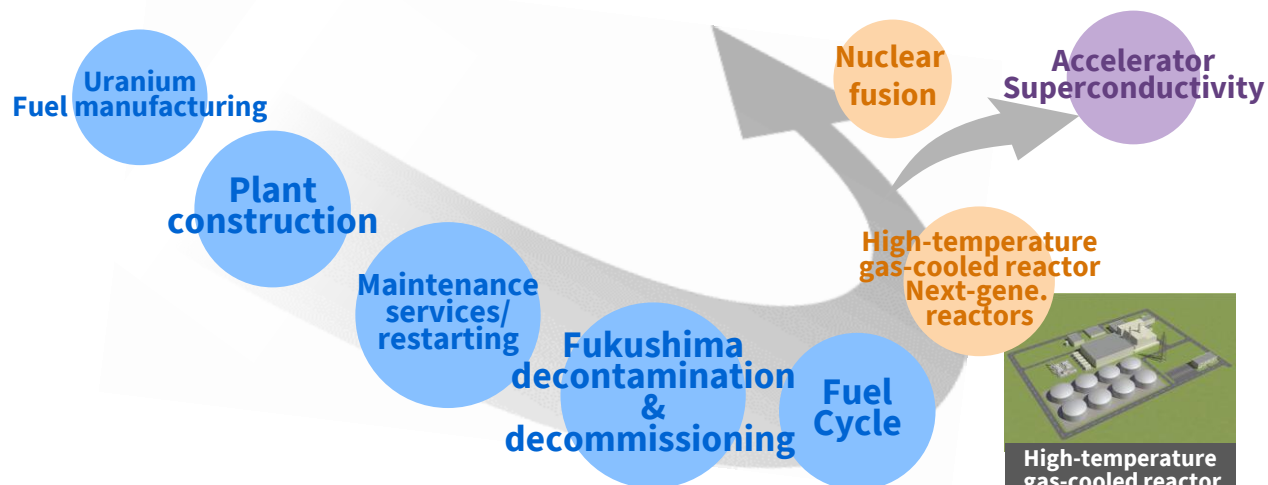
Digital I&C:  
monitors and controls plant systems



Superconducting rotating gantry:  
contributing to precision medicine

## Future investment and development strategy

- Create reactors with excellent safety features, etc.
  - Develop accident tolerant fuel
  - Innovative light water reactors and high-temperature gas-cooled reactors
- Contribute to stable storage of radioactive waste
  - Provide support to resolve the situation at the Fukushima Dai-ichi Nuclear Power Station
  - Focus on supporting completion of reprocessing plant
- Secure baseload power supply and adjust supply and demand with next-generation reactors
  - Use high temperature for heat storage and hydrogen production



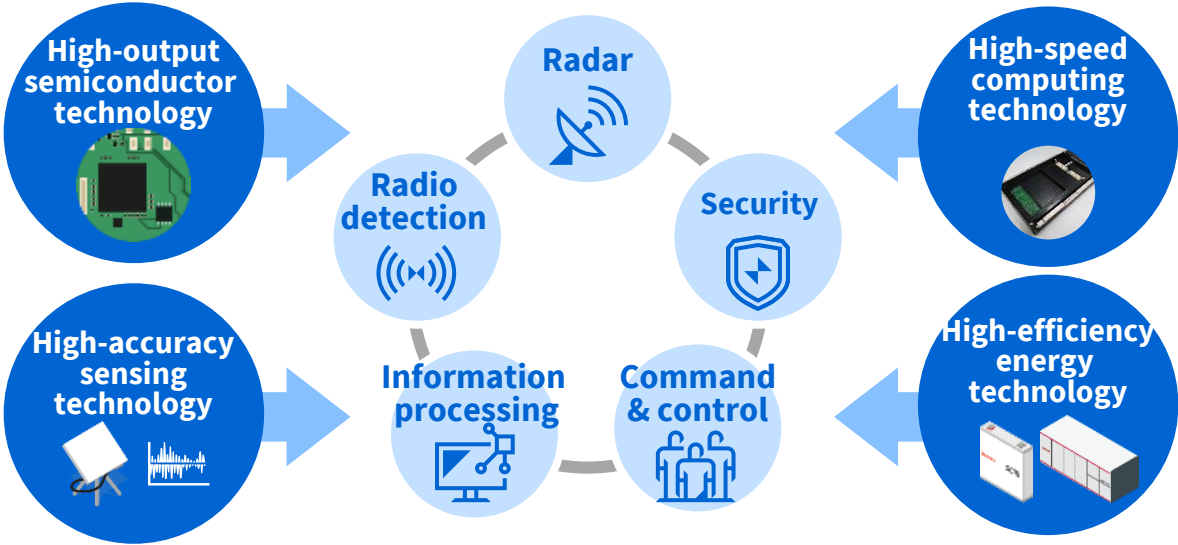
Contributing to stable supply of energy that supports economic activities and lifestyles




# Infrastructure Business (Defense & Electronic Systems)




● : Toshiba Group's cutting-edge consumer technology



Technologies and products that support competitiveness



**Multiparameter phased array weather radar (MP-PAWR)**



**Counter-drone security systems**

Future investment and development strategy

- Continue to focus on the development and production of defense equipment that protects the safety and security of society by leveraging the comprehensive strengths of the Toshiba Group
- Strengthen technological advantages by applying potentially game-changing cutting-edge consumer technologies such as artificial intelligence technologies, simulated bifurcation machines (SQBM+™), and quantum cryptography communications technologies
- Contribute to achieving infrastructure resilience by expanding new businesses, such as MP-PAWR and counter-drone security systems, utilizing the technologies cultivated in defense equipment development

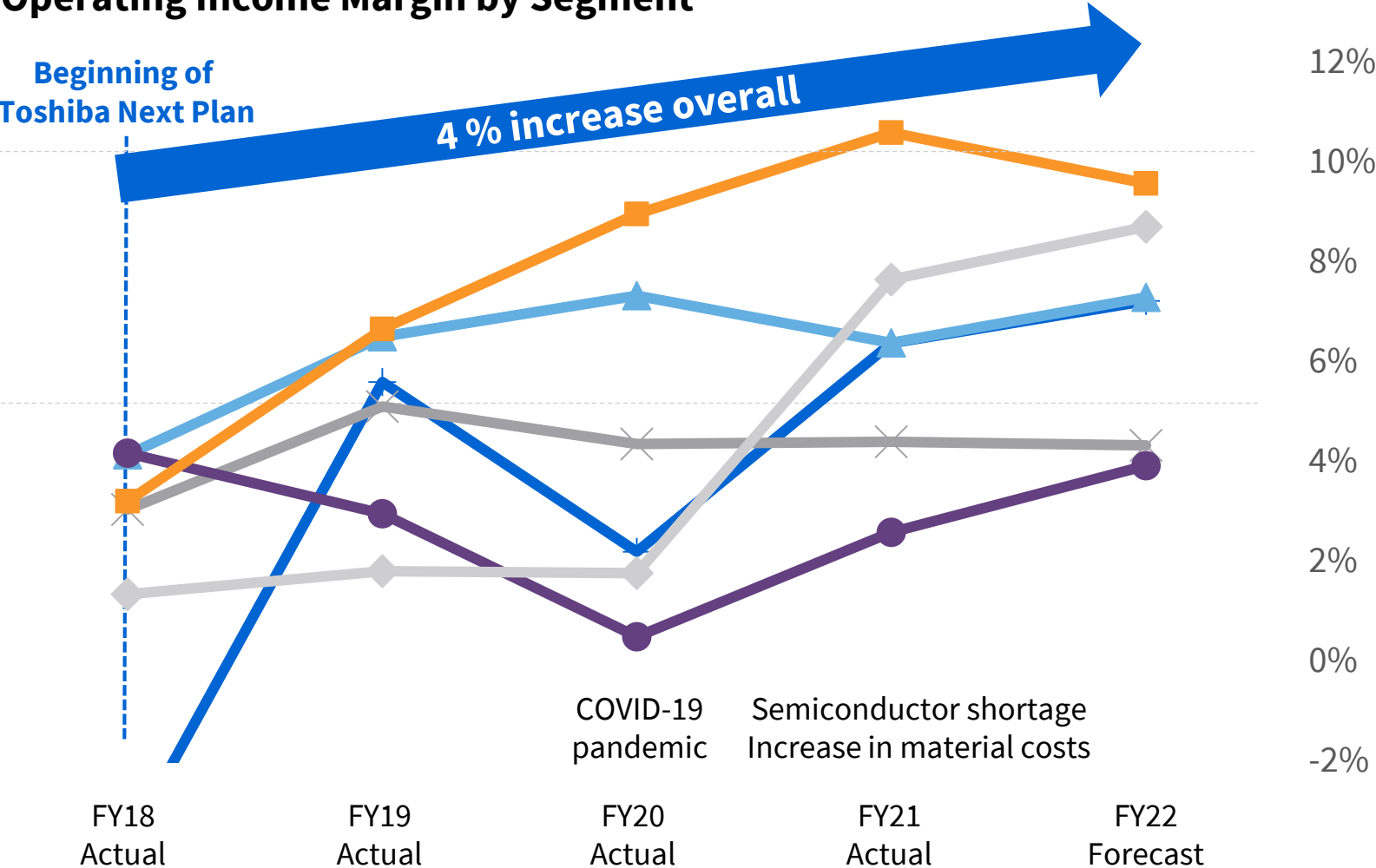
Leveraging our comprehensive strengths to promote social safety and security



# Impact of the Toshiba Next Plan

## Steady improvement in core profitability at each segment

### Operating Income Margin by Segment



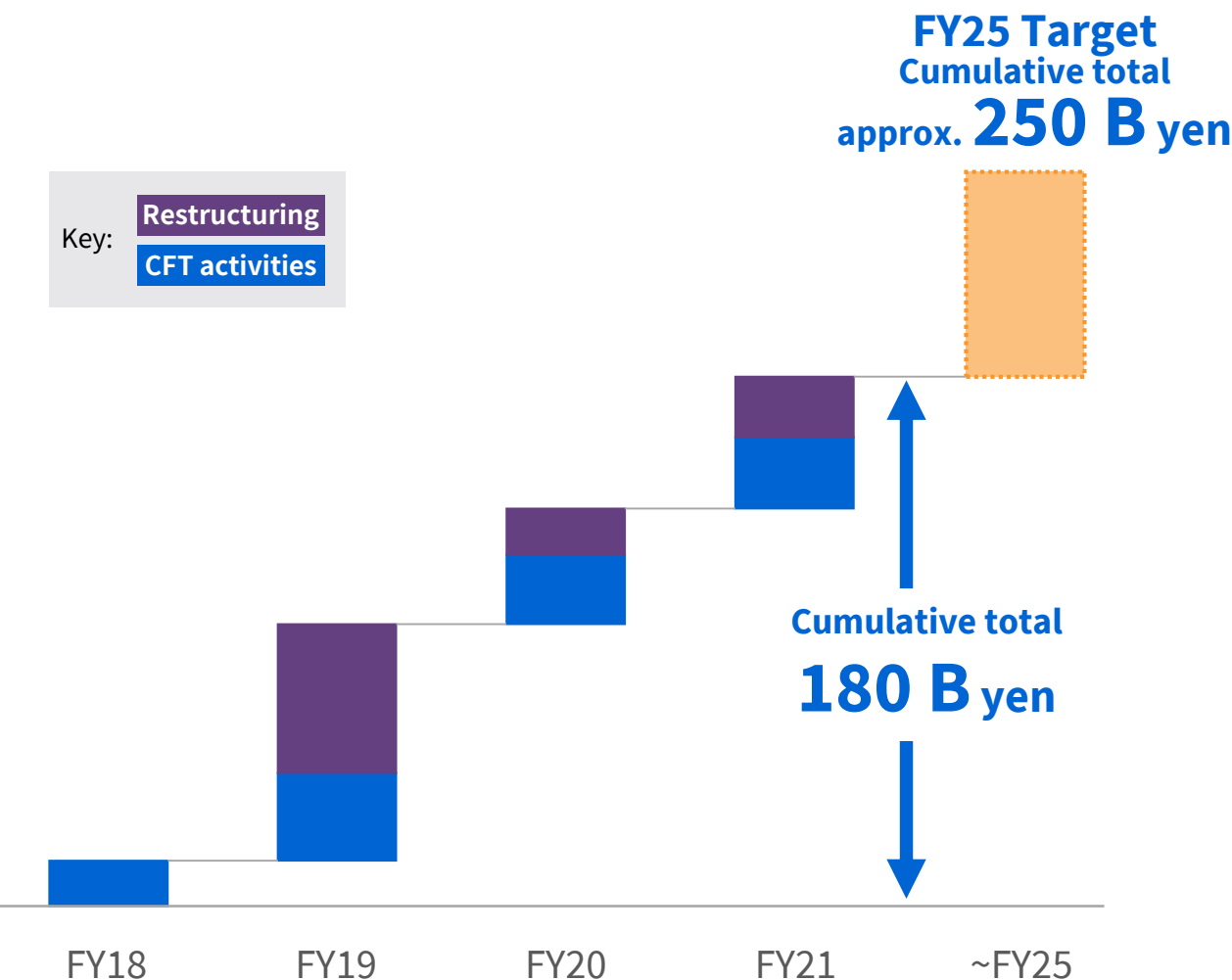
### Digital solutions

- Standardized the software development process
- Active use of overseas software development resources

**Successful example of earnings improvement which can be applied to the entire Toshiba group**

# Efforts toward Further Enhancement of Core Profitability

## Expanding from CFT activities and restructuring efforts to value chain transformation



### Restructuring

- Mitigate future risks through thorough portfolio management
- Streamline fixed costs by optimizing personnel
- Strengthen governance through reorganization of subsidiaries

### CFT activities

- Reduce the cost of sales ratio through engineering, procurement, and manufacturing transformation
- Strengthen overhead cost control through spend management
- Improve operating returns through sales transformation

### Continuous improvement of core profitability through two reforms in value chain transformation

Two reforms in value chain transformation

#### Operational process reform

- Design & product modularization
- Smart factory
- Strengthen sales and procurement capabilities

#### IT system reform

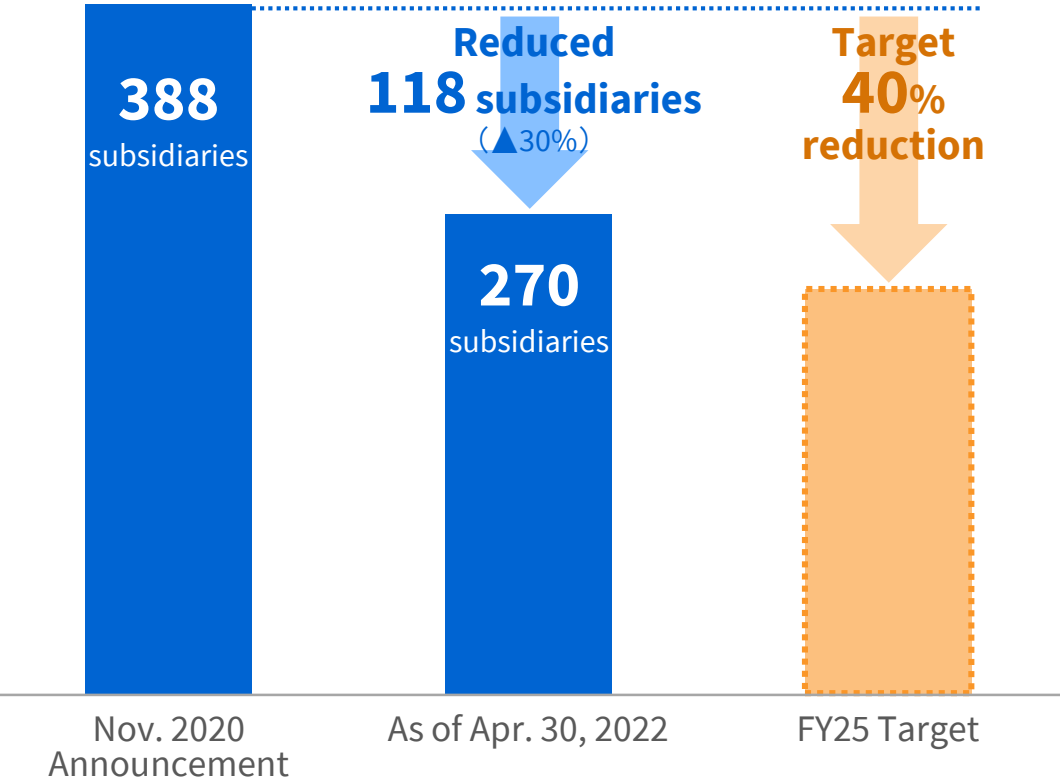
- ERP reform
- Strengthen PLM/MES
- Centralized management of Integrated DB

# Update on Activities Aimed at Further Enhancing of Core Profitability

## Achieving steady progress in KPIs set for each initiative

### Subsidiary consolidation

Achieved 30% reduction from the 388 targeted subsidiaries announced in November 2020.  
Aiming to achieve 40% reduction by FY25.

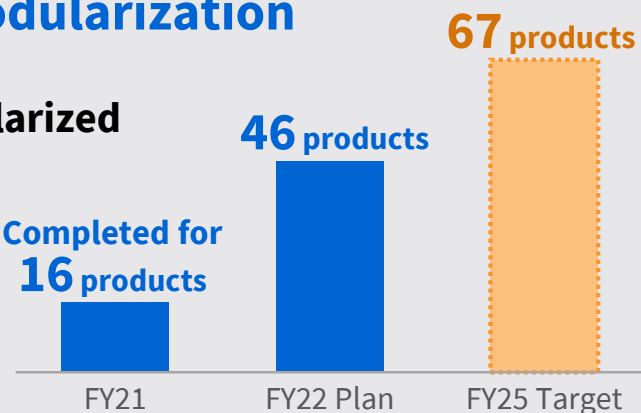


### Value chain transformation

#### Design & product modularization

**KPI: # of products modularized**

Anticipating approx. 70% completion during FY22 for the 67 targeted products.

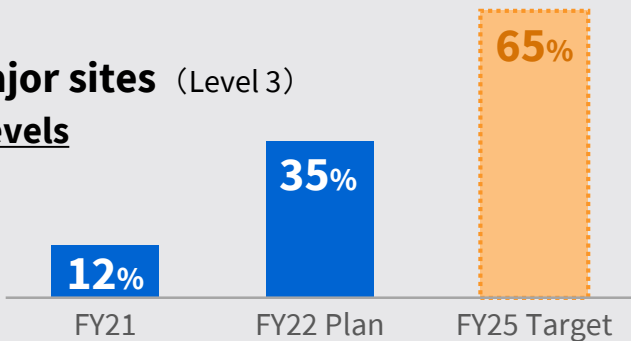


#### Smart factory

**KPI: % deployment to major sites (Level 3)**

**Definition of smart factory levels**

- Level 5: Optimization
- Level 4: Prediction & forecasting
- Level 3: Cause Analysis**
- Level 2: Data visualization
- Level 1: Data collection



\*Target to reach 100% in FY28



# 03

## Resolving Corporate Challenges

# Approach to Resolving Corporate Challenges

## Internal Rigidity

Organization-related issues

### Software Defined Transformation

Transform businesses through “DE → DX → QX” evolution and discover new business potential from a data-oriented perspective

#### Integration and optimization of software development

- Aggregate software personnel dispersed throughout Toshiba group
- Improve efficiency through standardized processes

## External Rigidity

Methodology-related issues

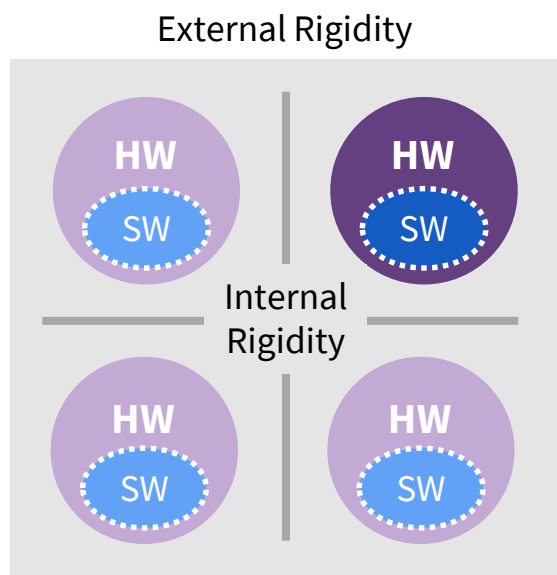
### Realizing the value of potential technologies

Consider working with external partners in order to realize value from high potential technologies with large expected target markets

# Software Defined Transformation

Create a platform after separating apps, software and hardware

## Current status

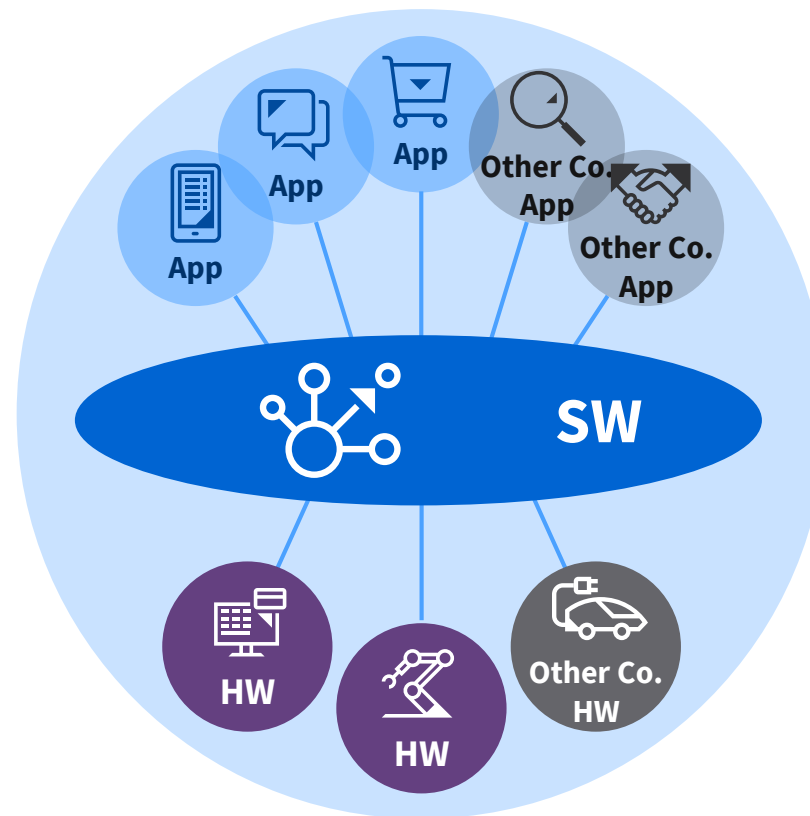


## DE: Digital Evolution



The key to change is  
“Software Defined”

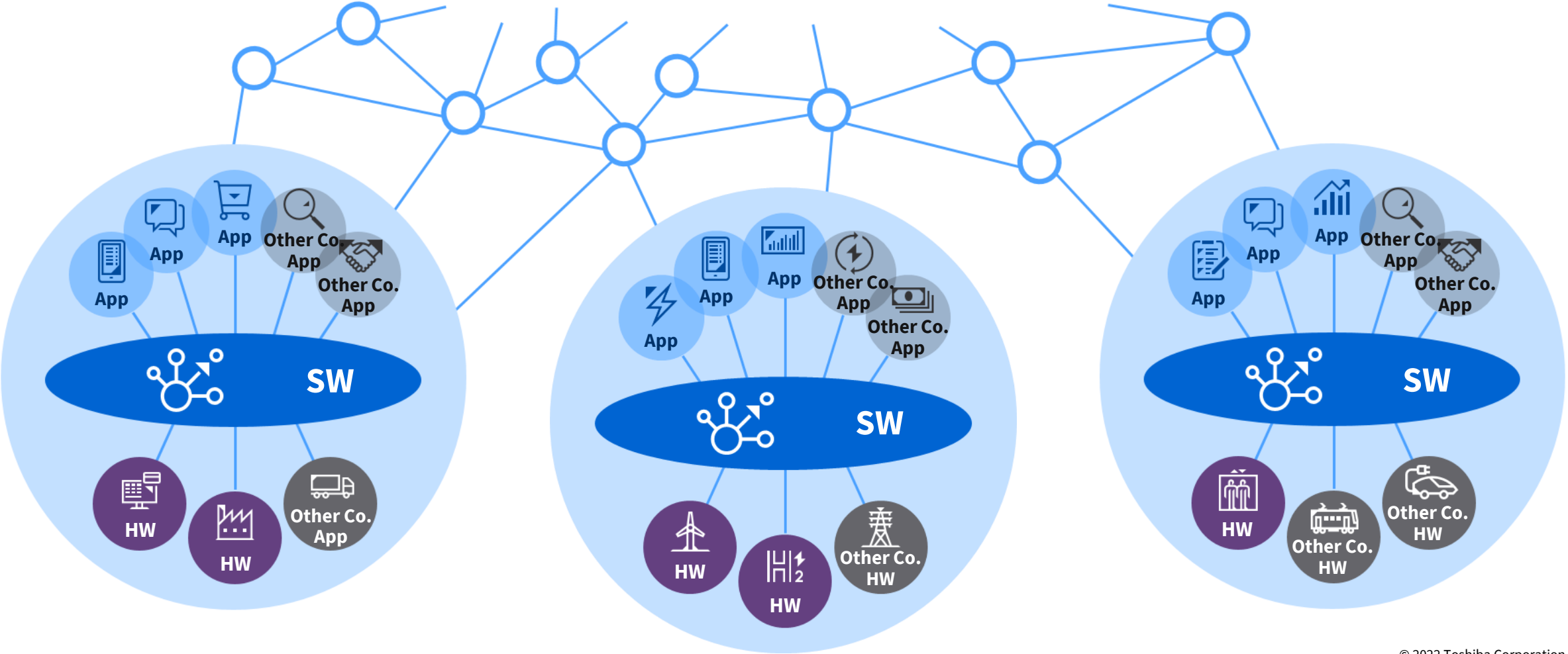
## DX



Create a platform

QX

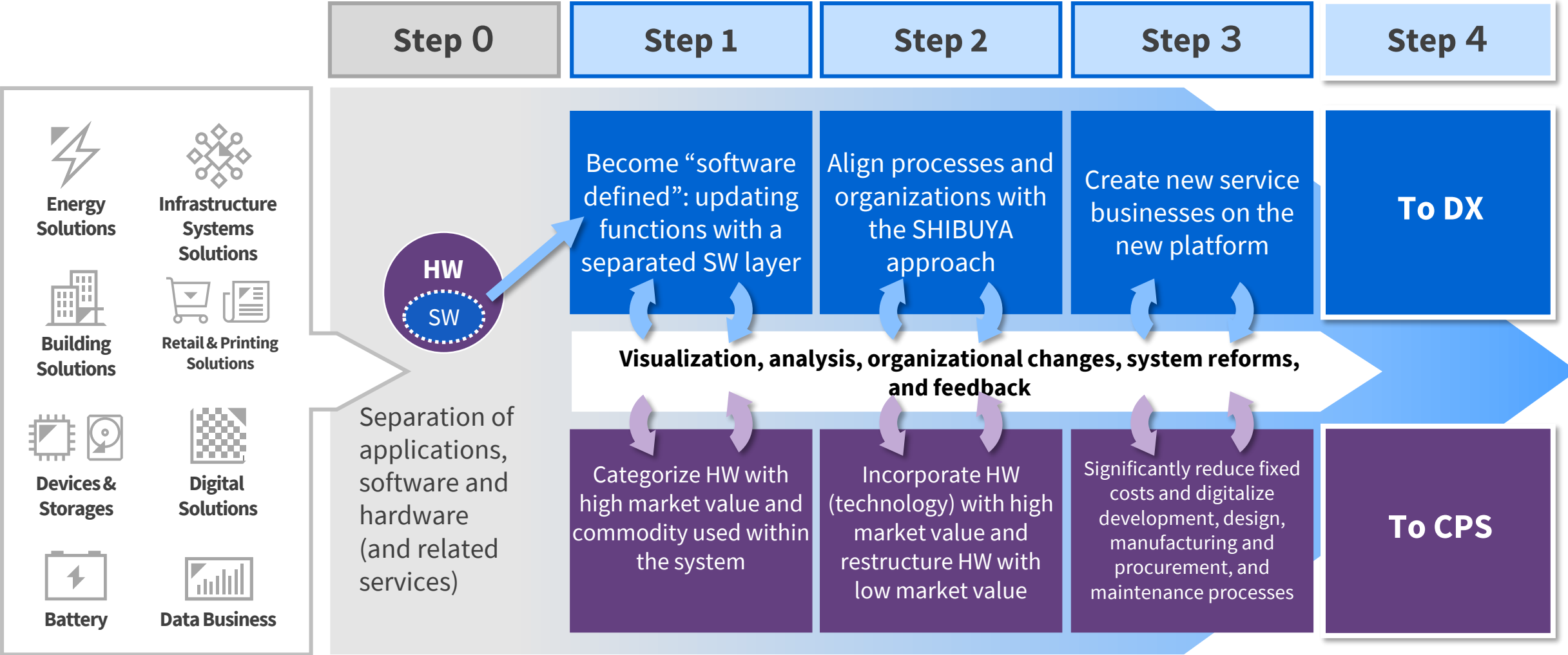
A world optimized by quantum technologies





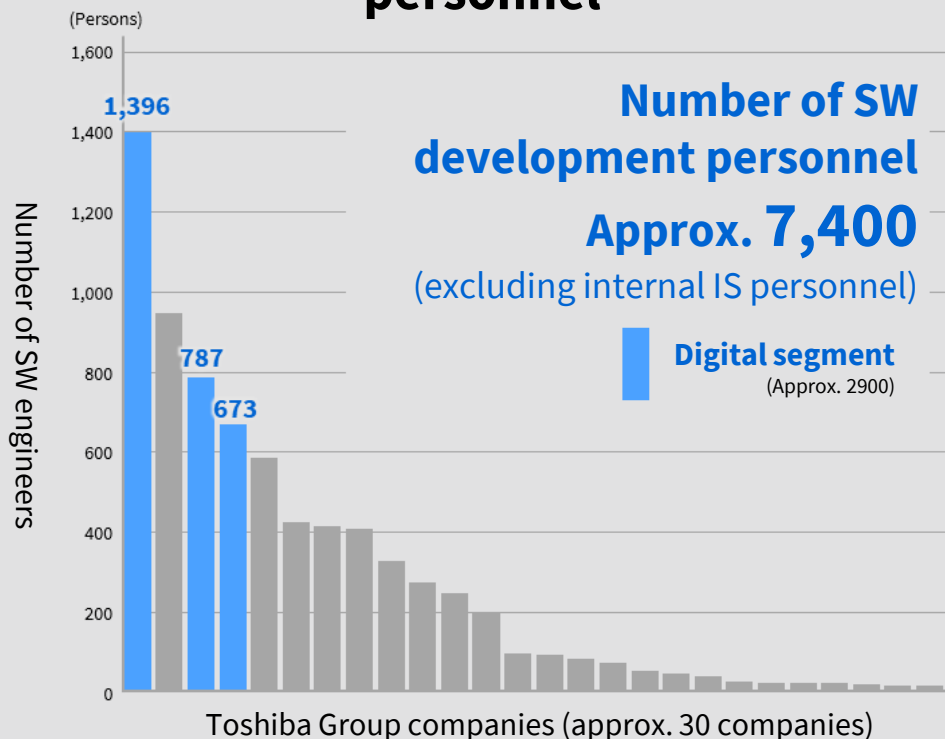
# SHIBUYA Approach: Evolving Process from DE to DX

Reviving the company (city) without stopping the business (train)



# Integration and Optimization of Software Development

## Toshiba Group's software development personnel



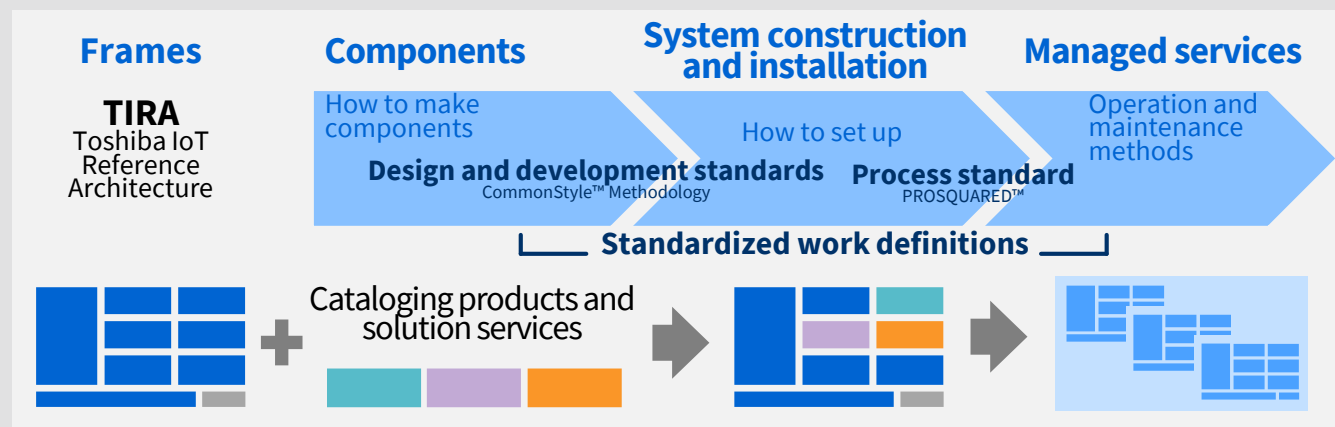
### Challenges

- Software development personnel are dispersed within the group
- Development processes and management metrics are not standardized across the organization, as each company engages in development separately
- Duplication of development efforts

## Steps to optimize software development that leads to evolution from DE to DX

- 1 Visualization of development maturity using the same metrics
- 2 Company-wide application of methodologies of the leading digital solutions segment

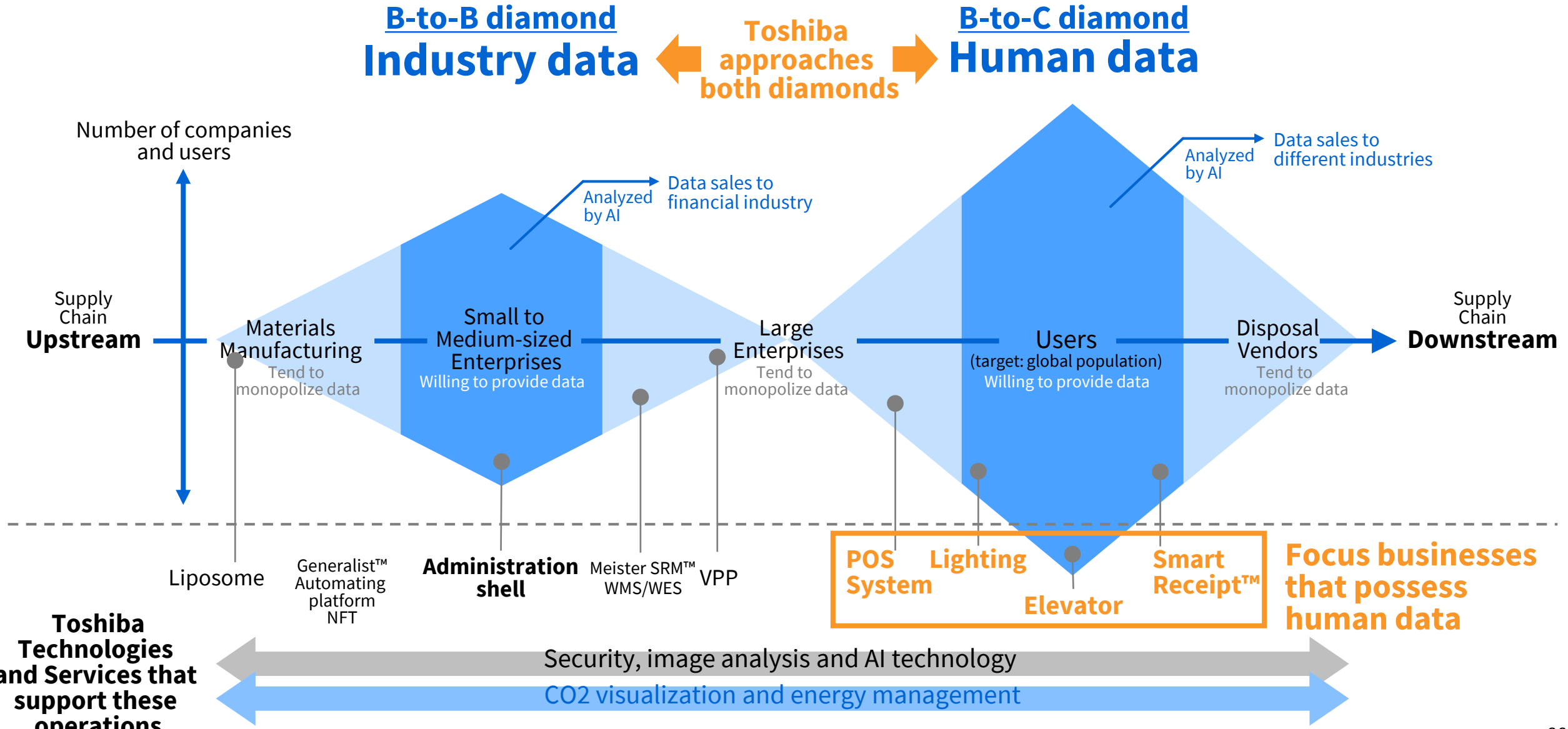
Potential benefits : 1. Reduction of development and operation costs  
2. Reduction of quality losses



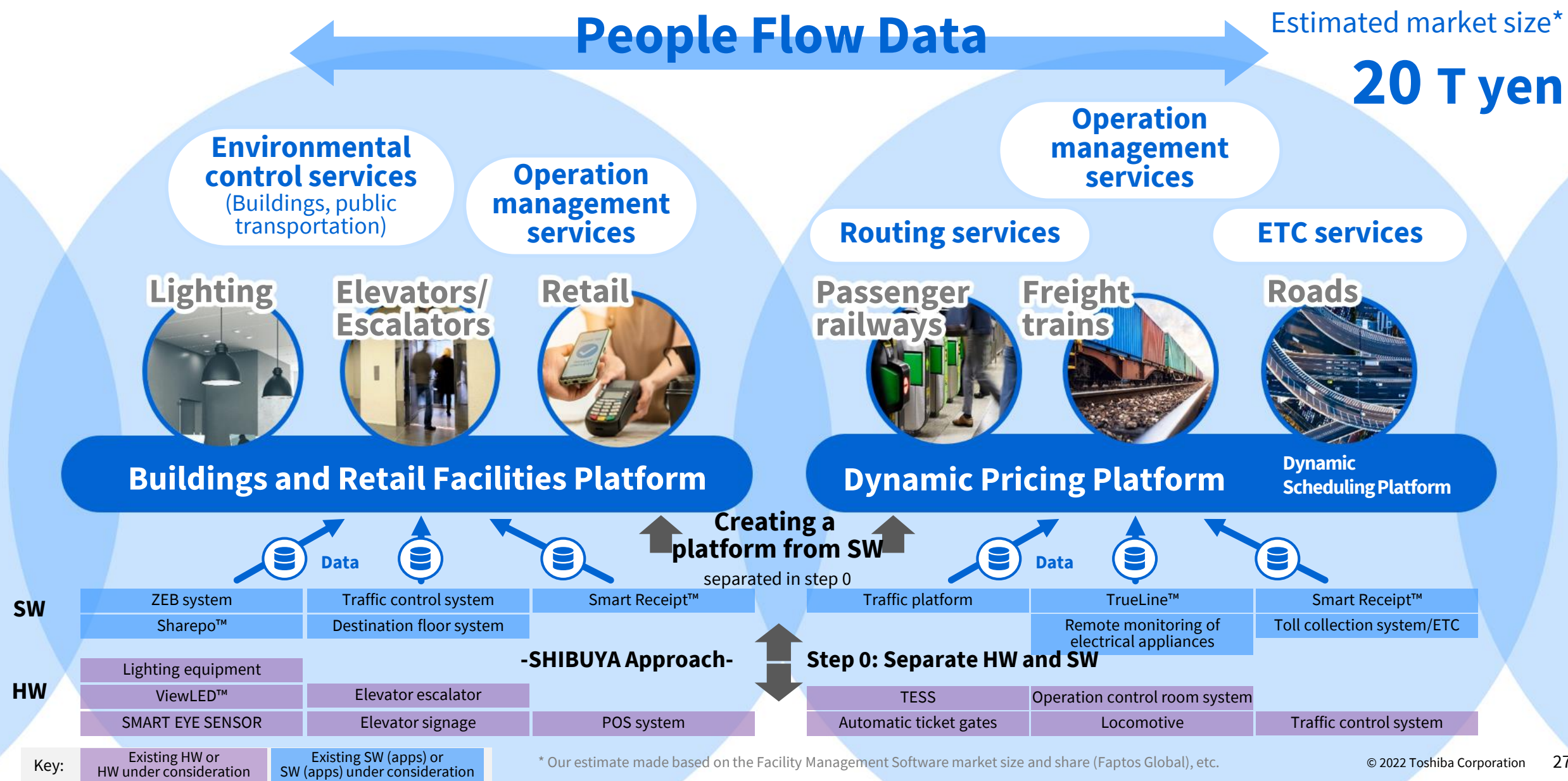
## 3 Consolidation of divisions

Potential benefits : 1. Strengthening governance of software development  
2. Flexible resource allocation  
3. Sharing development and maintenance environments

# Double Diamond Model: Approach to Data Business

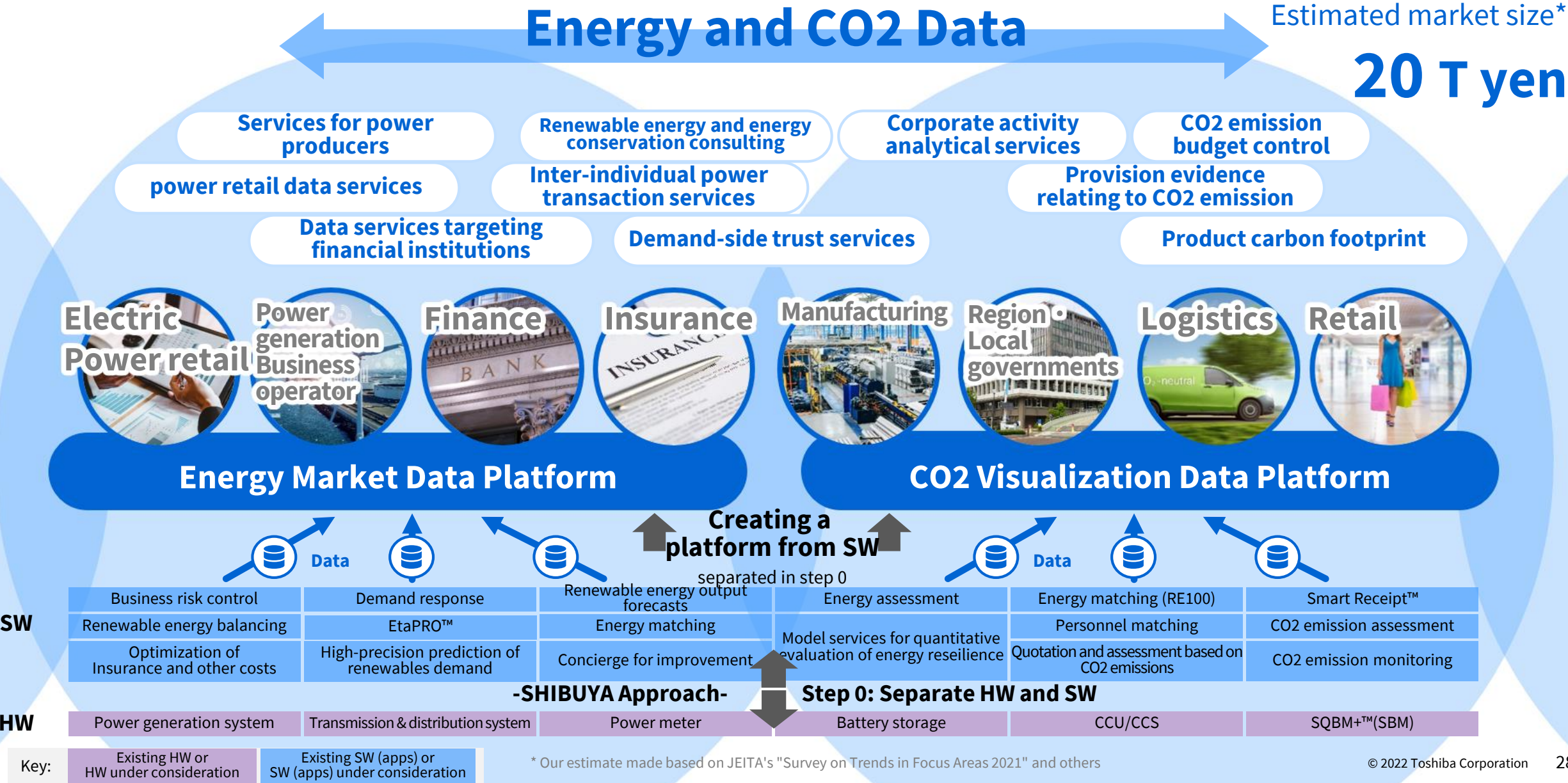


# Considering New Businesses based on People Flow Data





# Considering New Businesses Starting with Energy and CO2 Data



# Approach to Resolving Corporate Challenges

## Internal Rigidity

Organization-related issues

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Transform businesses through “DE → DX → QX” evolution and discover new business potential from a data-oriented perspective

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Methodology-related issues

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Consider working with external partners in order to realize value from high potential technologies with large expected target markets

# Materializing the Value of Potential Technologies

## Leveraging diverse technology development efforts to create valuable products

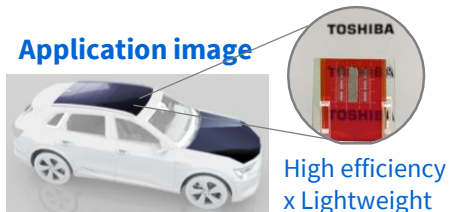
### $\text{Cu}_2\text{O}$ Tandem-type PV<sup>\*1</sup>

Estimated market size<sup>\*2</sup>: 2.5T yen (2030)

- Tandem cell estimated **Efficiency : 27.4%**
- \*Target : 30% or more

**Achieved EVs recharged without plugs**

Core Techs :  $\text{Cu}_2\text{O}$ (material) x Semiconductor Process

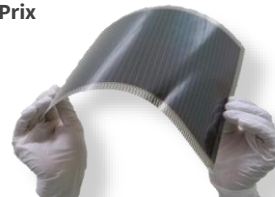


### Film-Based Perovskite PV

Estimated market size<sup>\*3</sup>: 0.5T yen (2030)

CEATEC AWARD 2021 Minister of Economy, Trade and Industry Award Carbon Neutral category Grand Prix

- Lightweight and flexible: **can be installed where current products can not be installed**

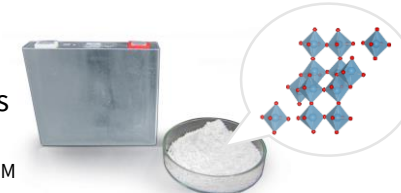


Core Techs : Coating x Nanomaterials

### NTO<sup>\*4</sup> Anode Batteries

Estimated market size<sup>\*5</sup>: 0.7T yen (2030)

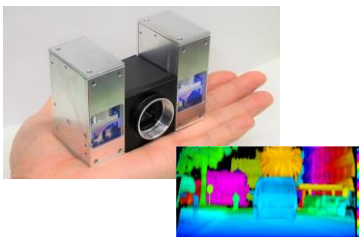
- High energy, power density, and safety
- Prototype cell achieves more than **1.5 times capacity** for 20Ah SCiB™



### LiDAR (Light Detection And Ranging)

Estimated market size<sup>\*6</sup>: 1.5T yen (2030)

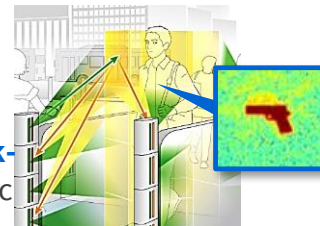
- **300m detection range** with palm-sized device with world-class image resolution



### Millimeter-wave Imaging

Estimated market size<sup>\*7</sup>: 1.3T yen (2027)

- Identifies object shapes precisely **with 2mm resolution**
- Detects dangerous objects hidden under clothes in **walk-through** inspections at public areas, buildings etc.

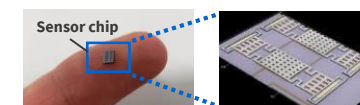


### MEMS Sensors

Estimated market size<sup>\*8</sup>: 2.1T yen (2030)

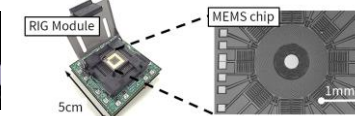
#### Hydrogen gas sensors

- **High-speed detection of gas leakage**, contributing to a safe hydrogen-based society



#### Gyro sensors

- **Small size, accurate sensing**, contributing to autonomous mobility



<sup>\*1</sup> Photovoltaics, <sup>\*2</sup> Estimated global market of PV panels for EV based on the expected number of EVs in 2030 (<https://www.nedo.go.jp/content/100873452.pdf>), <sup>\*3</sup> Fuji-Keizai: Trends in advanced PV development and market outlook in future(FY2020 version), <sup>\*4</sup> Niobium Titanium Oxide, <sup>\*5</sup> Estimated by Fuji-Keizai Outlook of energy, large size rechargeable batteries and materials(2020), <sup>\*6</sup> LiDAR module global market estimated by 3D LiDAR marketing analysis(TSR) etc., <sup>\*7</sup> Global market of security screening systems, <sup>\*8</sup> MEMS sensor global market in global forecast in 2030(SDKI Inc.)

# Case Study: Materialized Value

Rapid-changing business environment where significant enterprise value can be created through disruptive innovation and by demonstrating future potential in growth areas

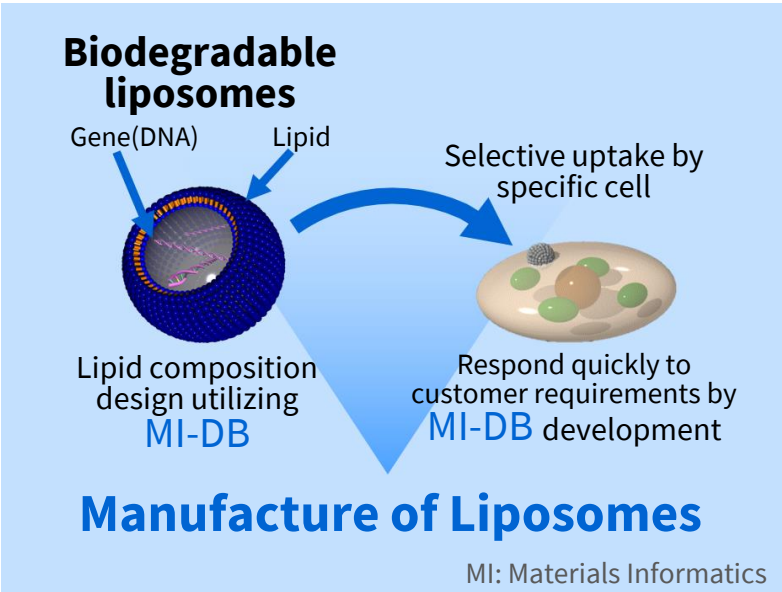
## Biodegradable liposomes

Estimated market size\*1: 12T yen (2030)

- The lipid composition design allows **genes to be delivered to specific target cells**, such as cancer cells
- Focus on gene delivery providing a **material platform** that meets individualized customer needs

### Alliances

Shinshu University	Tumor-tropic gene therapy
Other univ. & companies	Gene therapy, regenerative medicine, drug delivery applications etc.



Core Technologies : New designed materials x MI\*(AI)

## Biotechnology Sector Averages\*2

Sales growth rate 51.7%

Operating profit margin -402.0%

Enterprise Value / Sales x 16.9

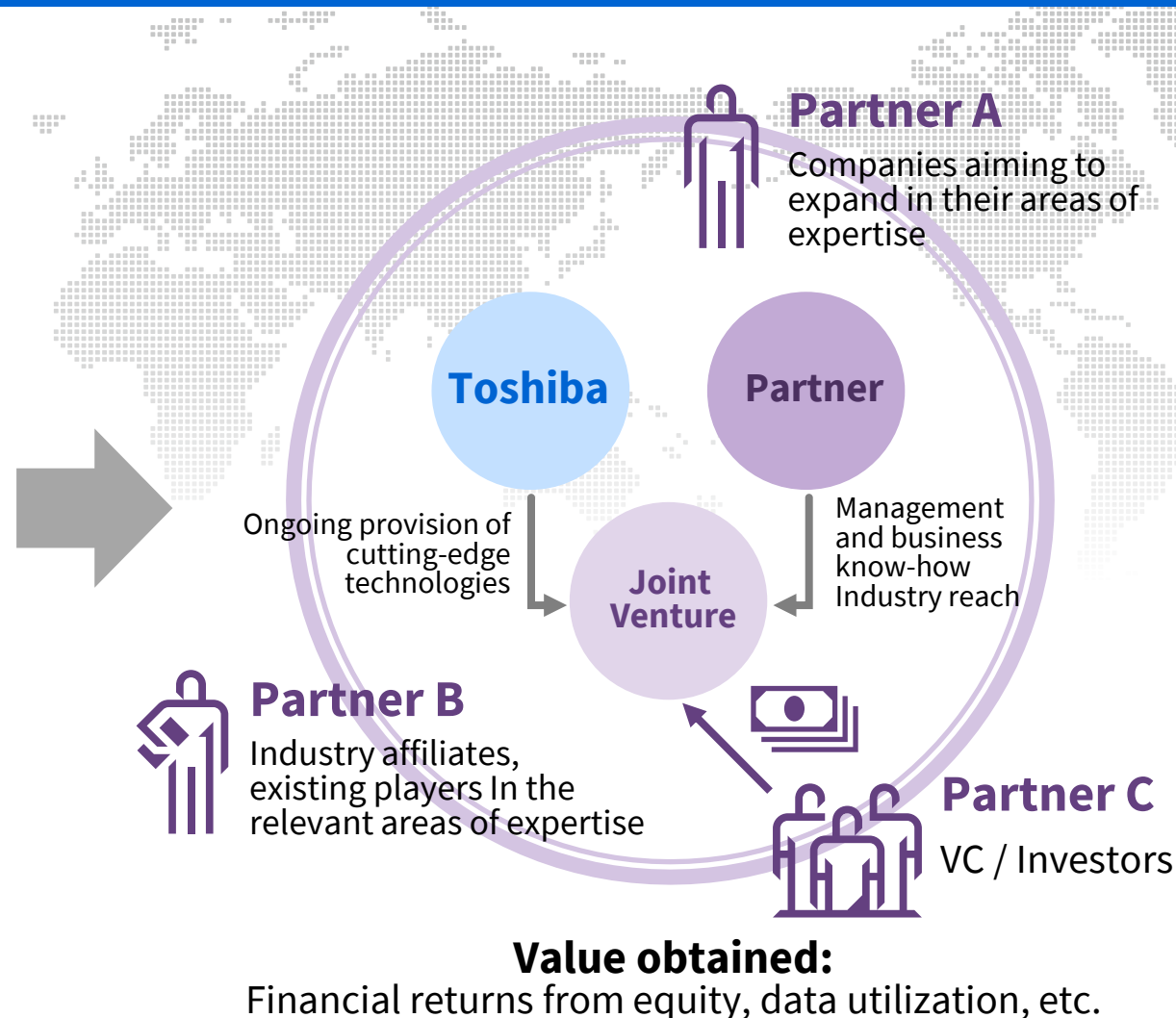
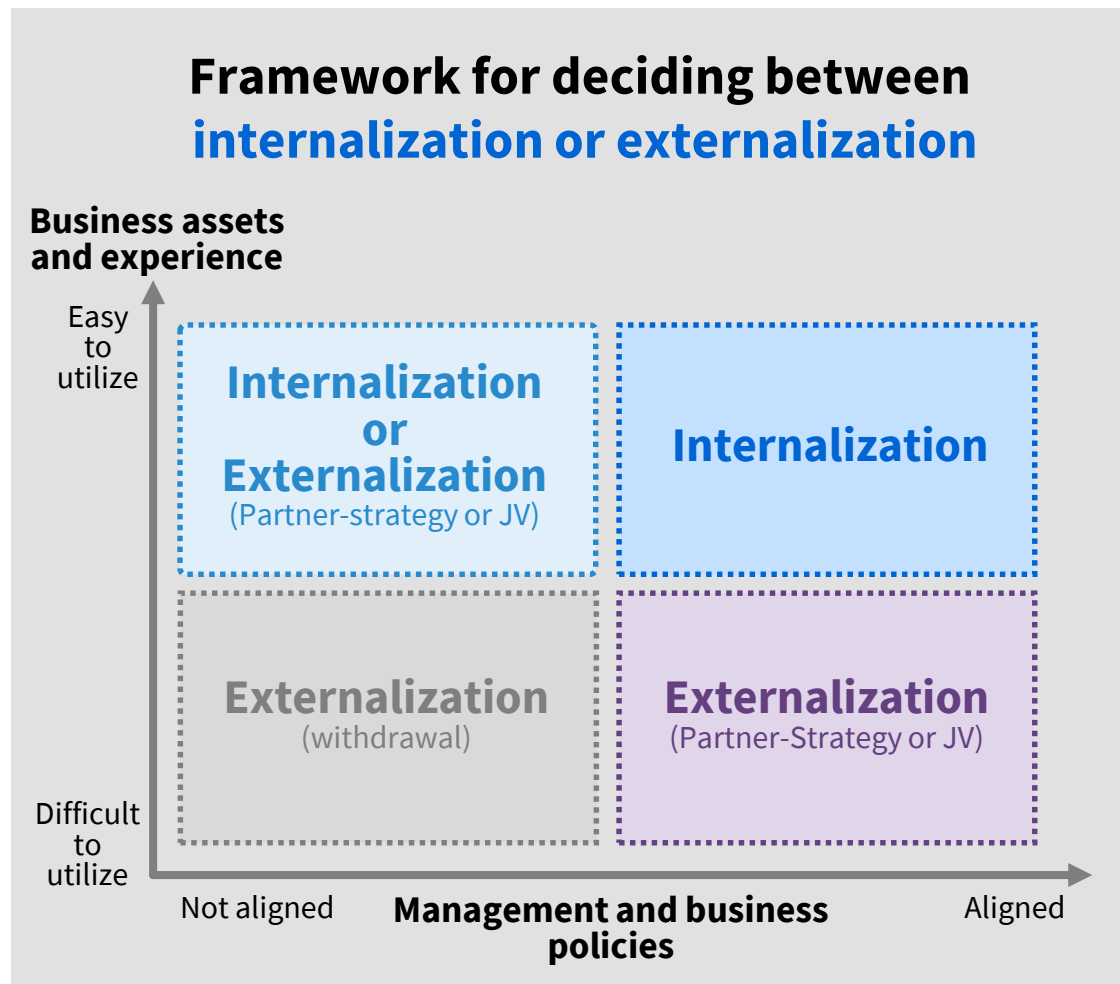
\*1 Global market for regenerative medicine products etc. (METI estimate)

\*2 SPEEDA (as of May 25, 2022)



# Breaking through External Rigidity

## Considering partnerships to realize the value of technologies with high potential



# 04

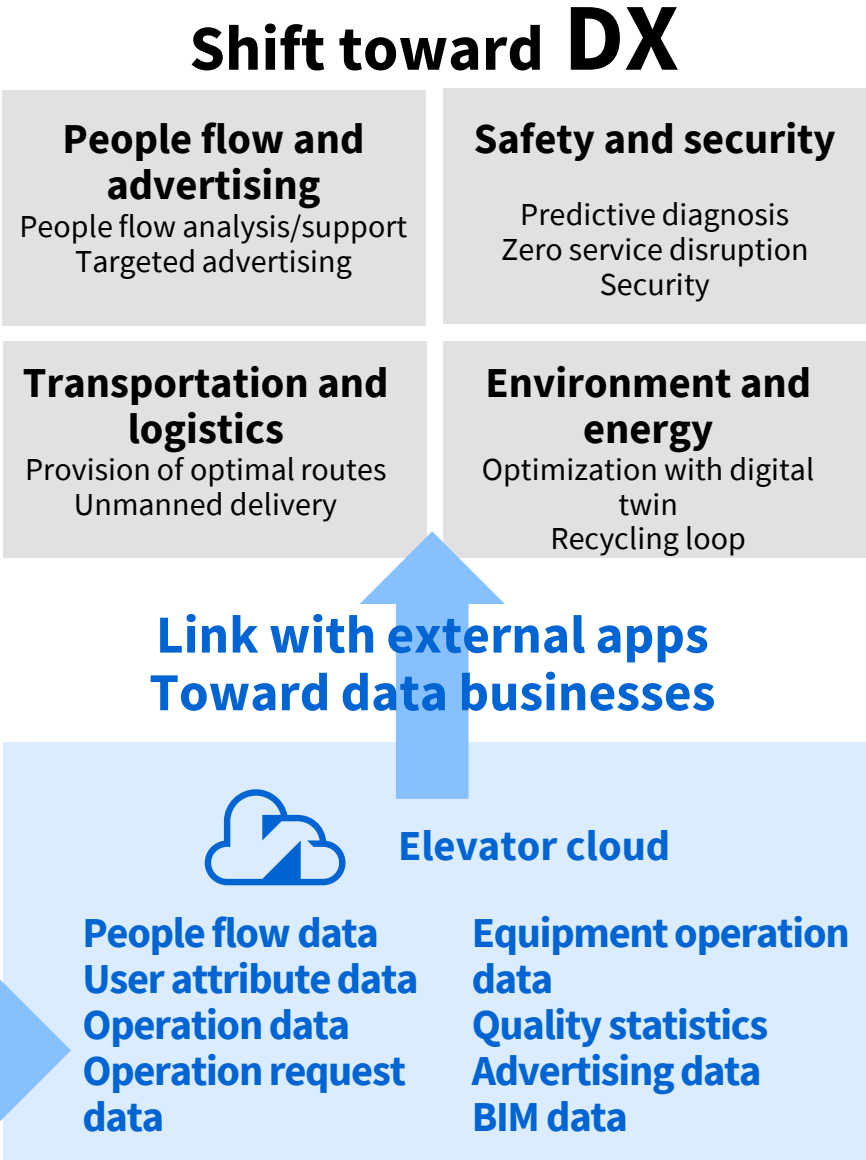
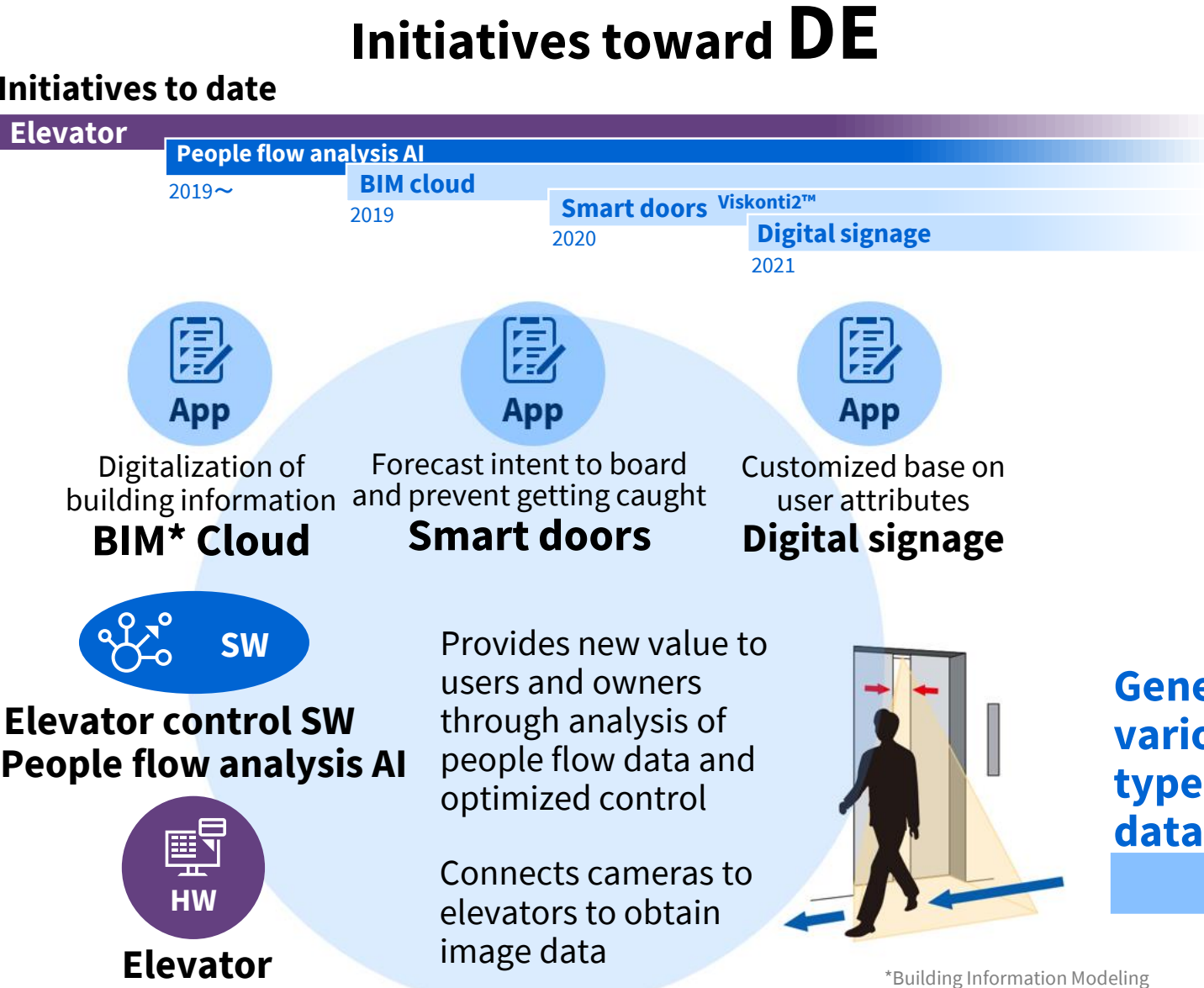
Toshiba Group's Vision for Evolution: DE→DX→QX

**QX** **Creating the quantum industry**  
Quantum Transformation

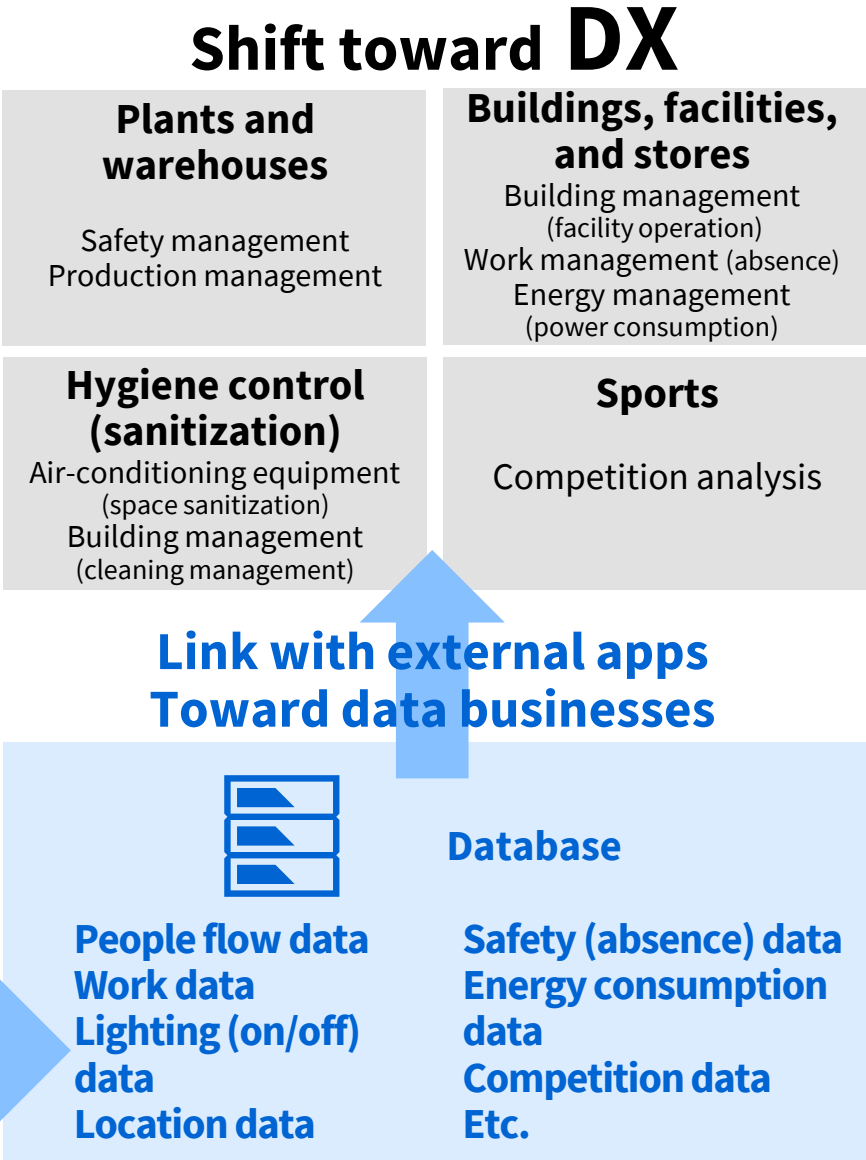
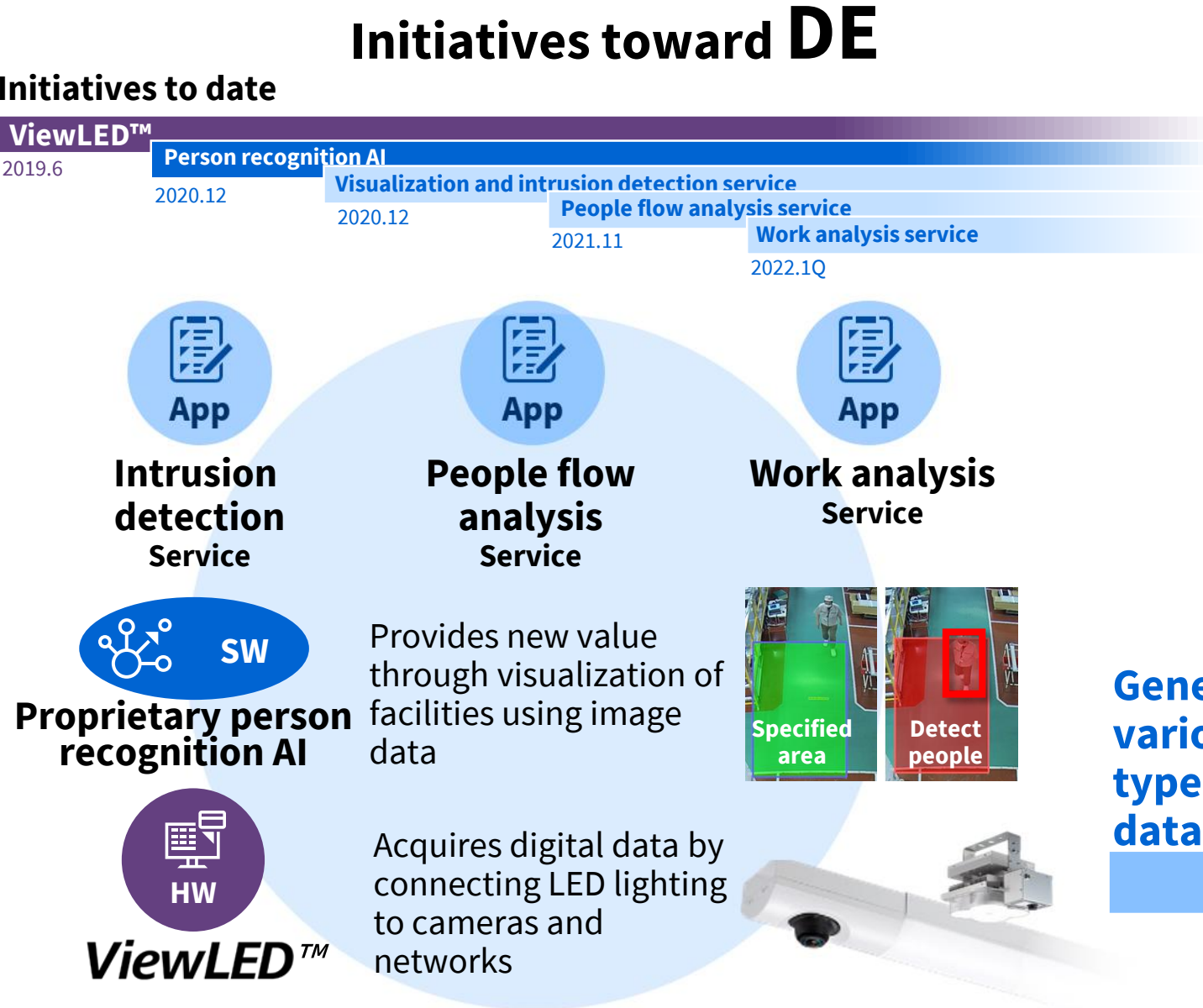
**DX** **Data business**  
**Matching business**  
**Platform development**  
Digital Transformation

**DE** **Shift to services and**  
**recurring business**  
Digital Evolution

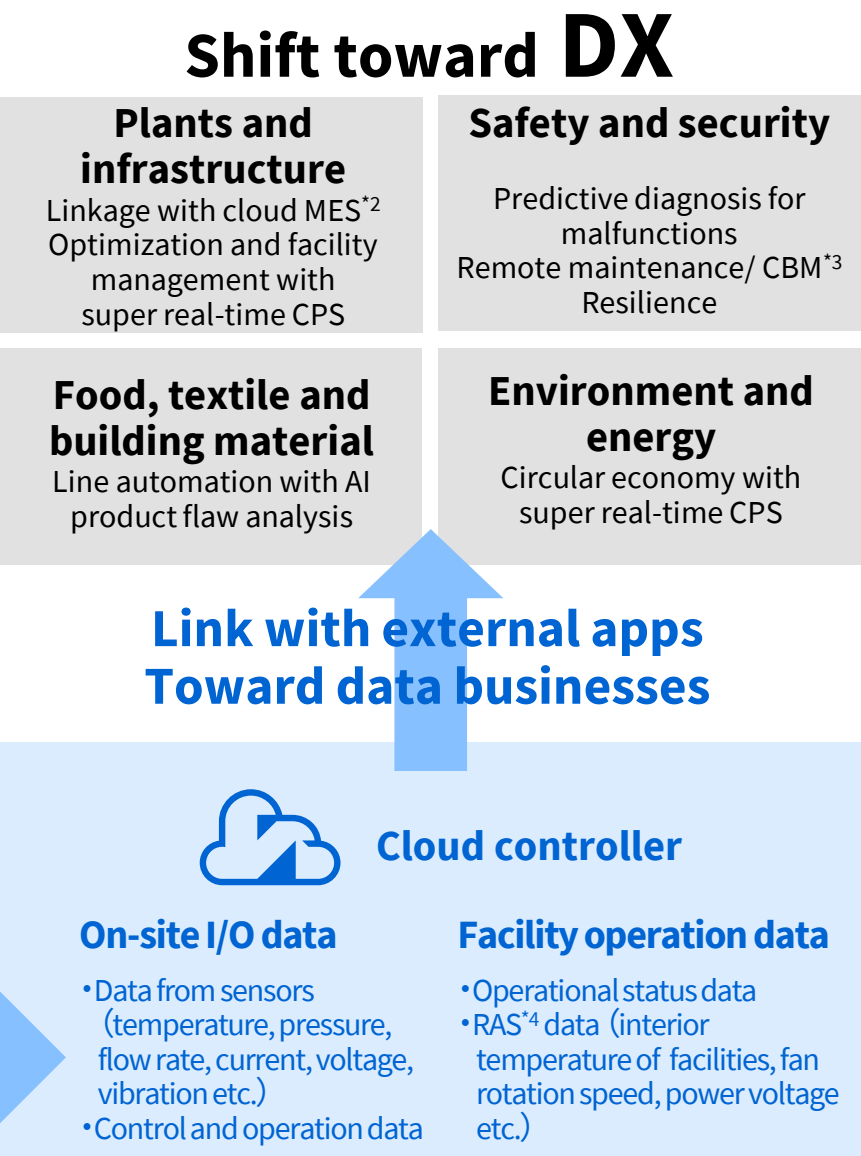
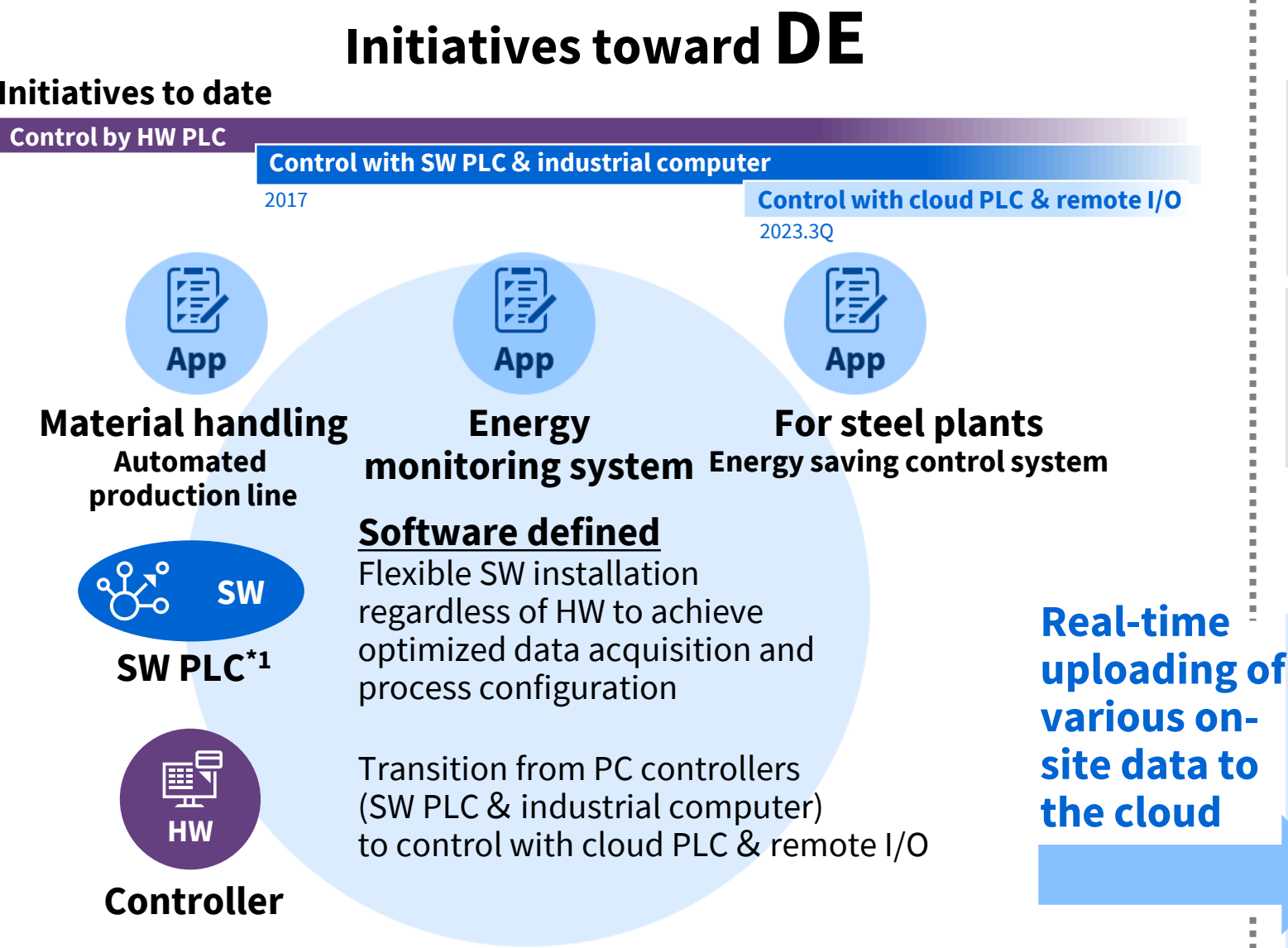
# DE Case Study #1: Elevator as a Service (EaaS)







# DE Case Study #3: Software Defined and Cloud-based Controller



\*1 PLC (Programmable Logic Controller): device which automatically control manufacturing equipment  
\*2 MES (Manufacturing Execution System): manufacturing execution system

\*3 CBM (Condition Based Maintenance): Predictive diagnosis based on the status of manufacturing equipment and facility  
\*4 RAS (Reliability, Availability and Serviceability)

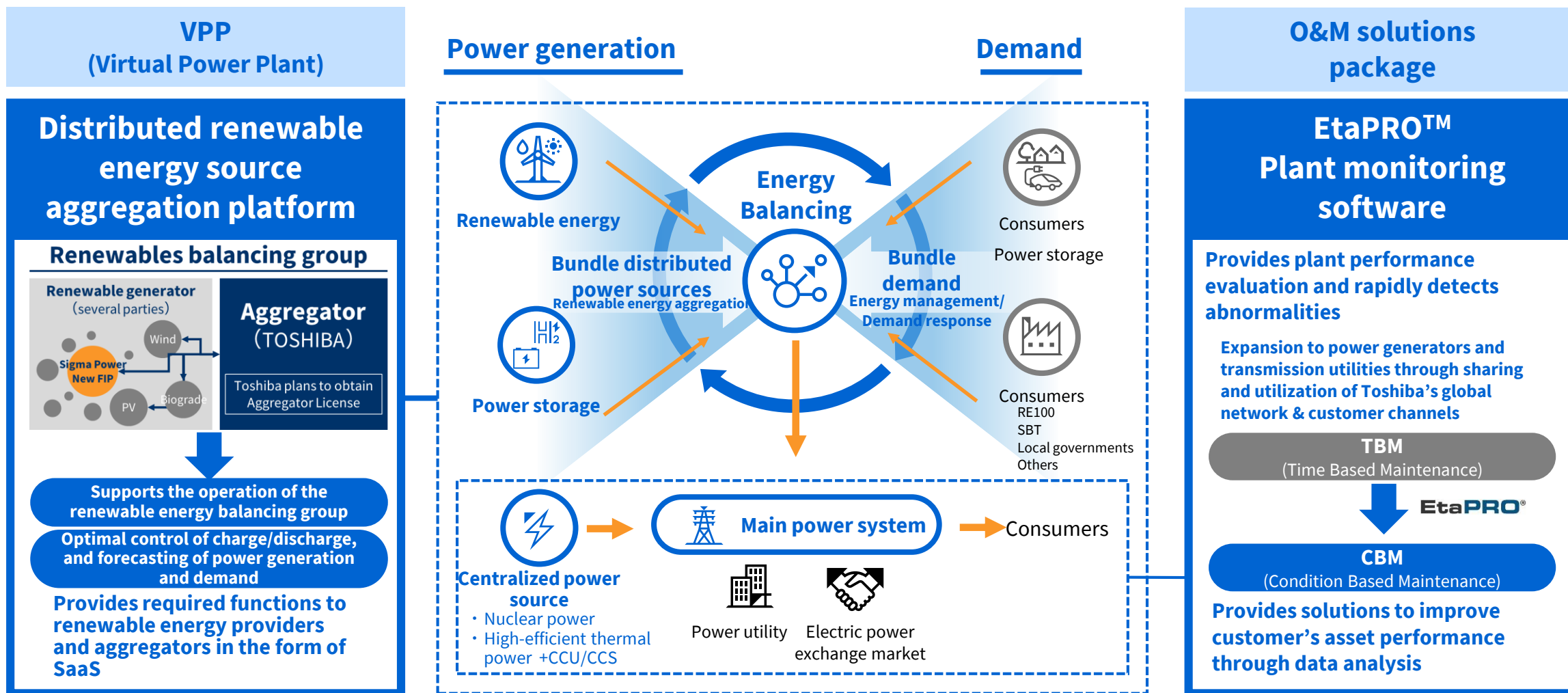
**QX** Creating the quantum industry  
Quantum Transformation

**DX** Data business  
Matching business  
Platform development  
Digital Transformation

**DE** Shift to services and  
recurring business  
Digital Evolution

# DX Case Study #1: Energy Solution Platform

## Providing a platform that organically combines various energy solutions



# DX Case Study #2: Purchase Data Platform

## Data acquisition

Collects and manages data of "individuals"

### Number of Smart Receipt™ member stores\*2

End of FY21 30k stores  
Year-on-year  
**+32%**

Large to medium-sized stores

Domestic market share **No.1**

TOSHIBA TEC POS registers

API supported

Other companies' POS registers

Small stores

API supported

Cloud POS

### Number of Receipt Scan members

Nov. 2021  
6 months from release

**40k**



Paper receipts

### Smart Receipt™ Members

End of FY21 840k  
Year-on-year  
**+135%**



Receipt Management App  
**Smart Receipt™ \*1**

**Link between apps**

- Store Member app
- Reward point app
- Regional wallet Etc.

**Paper Receipt OCR App**  
Receipt scan

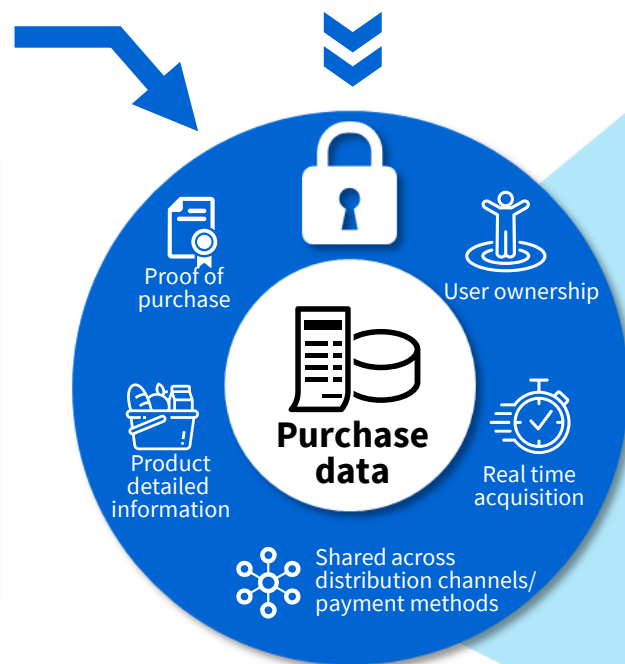
## Data utilization

Provide data-controlled environment based on "individual consent"

Robust data security



Data analysis and  
utilization technology



### Five Characteristics of Data

Partner companies and organizations

### Service linkage of personal purchase data

Personal use of data



App service providers

Providing personalized services

Good value

Improve convenience

Safety and comfort

### Linkage of statistical data

Use of data by the entire society



Media and advertising agencies

Advertising promotion/research



Manufacturers and service companies

Marketing/product development



Government and municipalities

Revitalization of the regional economy



一般社団法人  
スーパーシティAiCTコンソーシアム  
Super City AiCT Consortium

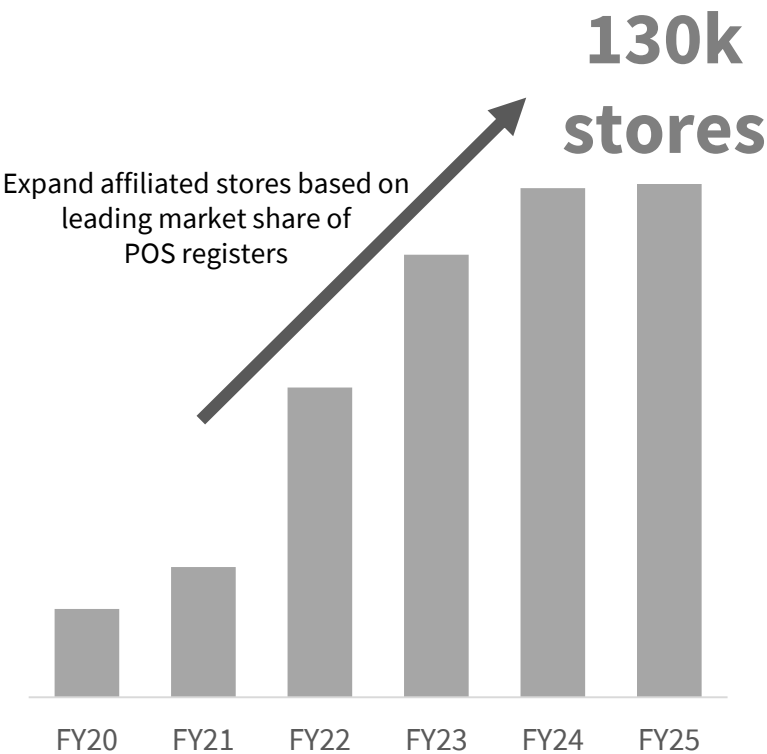
\*1 Smart Receipt™ is registered trademarks of TOSHIBA TEC CORPORATION. \*2 Includes stores which provided notifications on their installation of Smart Receipt™



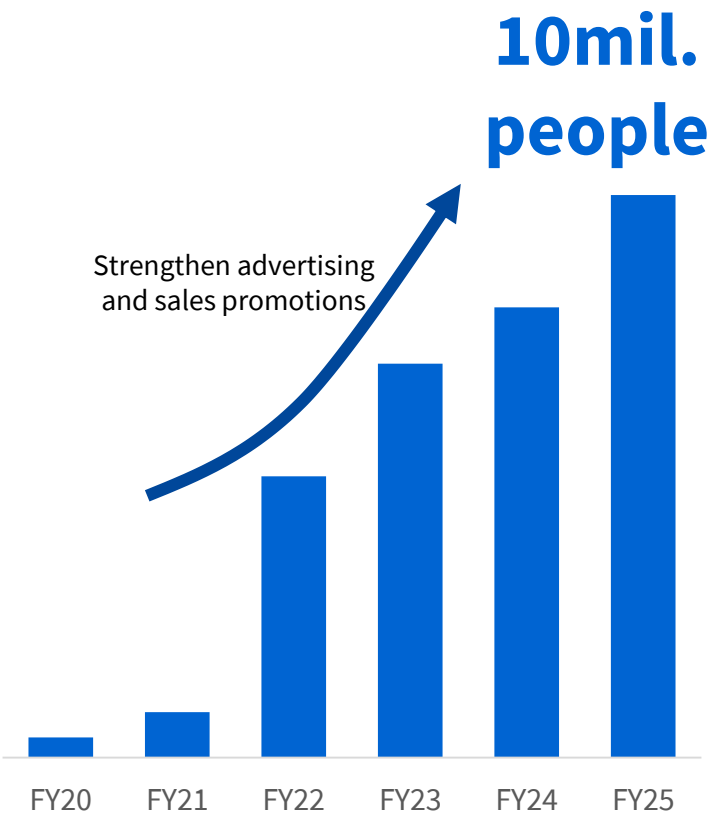
# Goal for Purchase Data Collection

Expand Smart Receipt™ by 2025 to establish a foundation for collecting purchase data

Number of affiliated stores

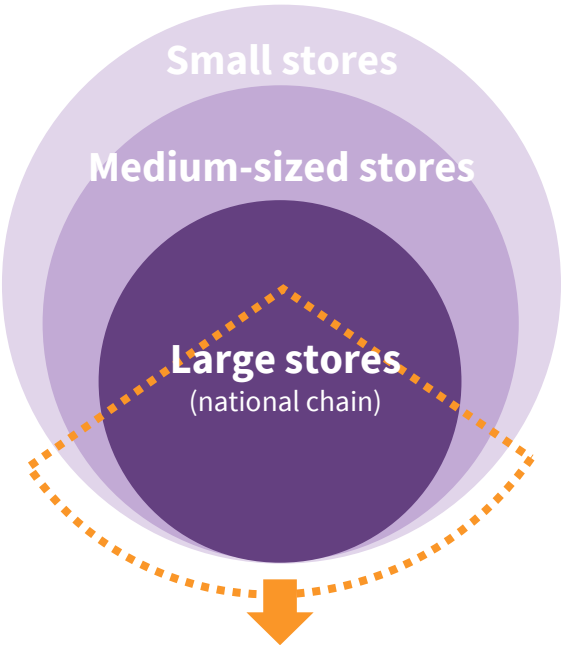


Number of members



Total transaction value

FY21 Retail Sales\* **150 T yen**

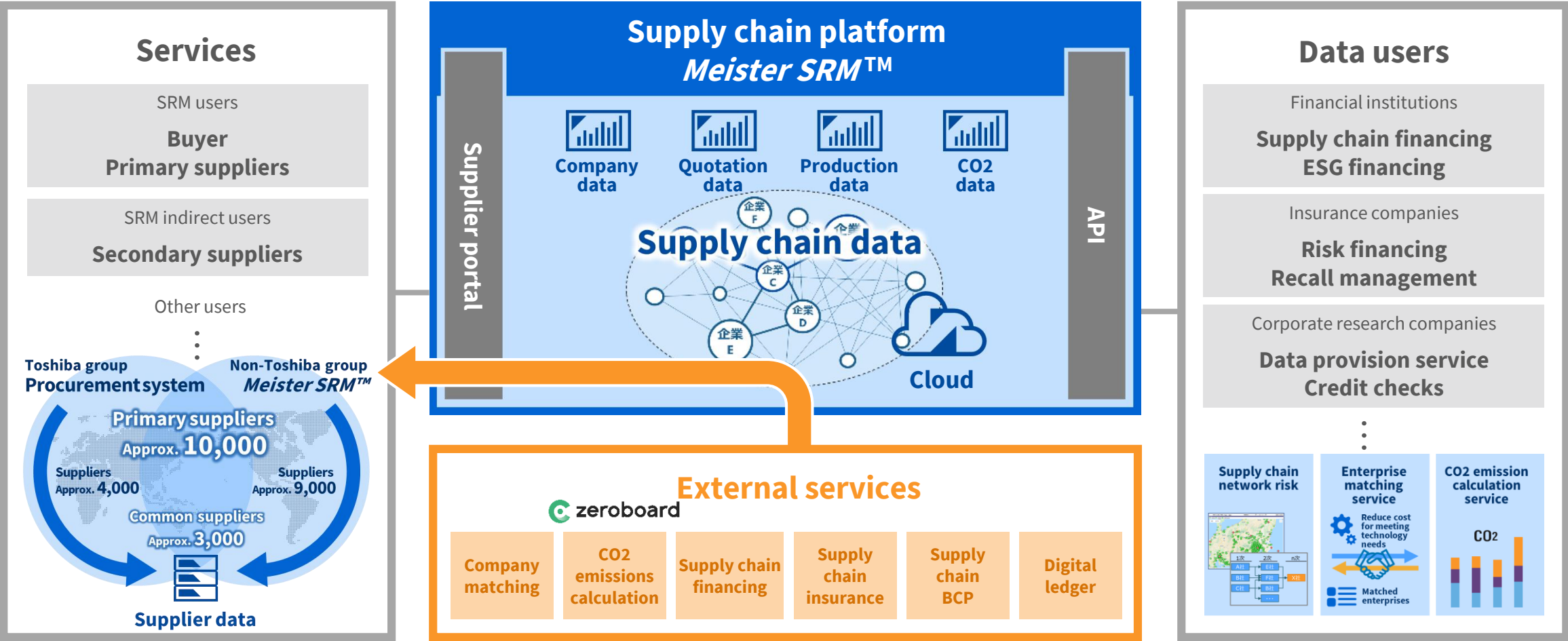


Distributing data for purchases totaling **4 T yen** among brick-and-mortar retail sales

\* Source: Ministry of Economy, Trade and Industry, Vital Statistics of Commerce.

# DX Case Study #3: Supply Chain Platform

Expand an open ecosystem from a supply chain network connecting with *Meister SRM™*\*



\* Meister SRM™ is cloud service provided by Toshiba Digital Solutions which provides a supplier communication platform

# QX

**Creating the quantum industry**

Quantum Transformation

# DX

**Data business  
Matching business  
Platform development**

Digital Transformation

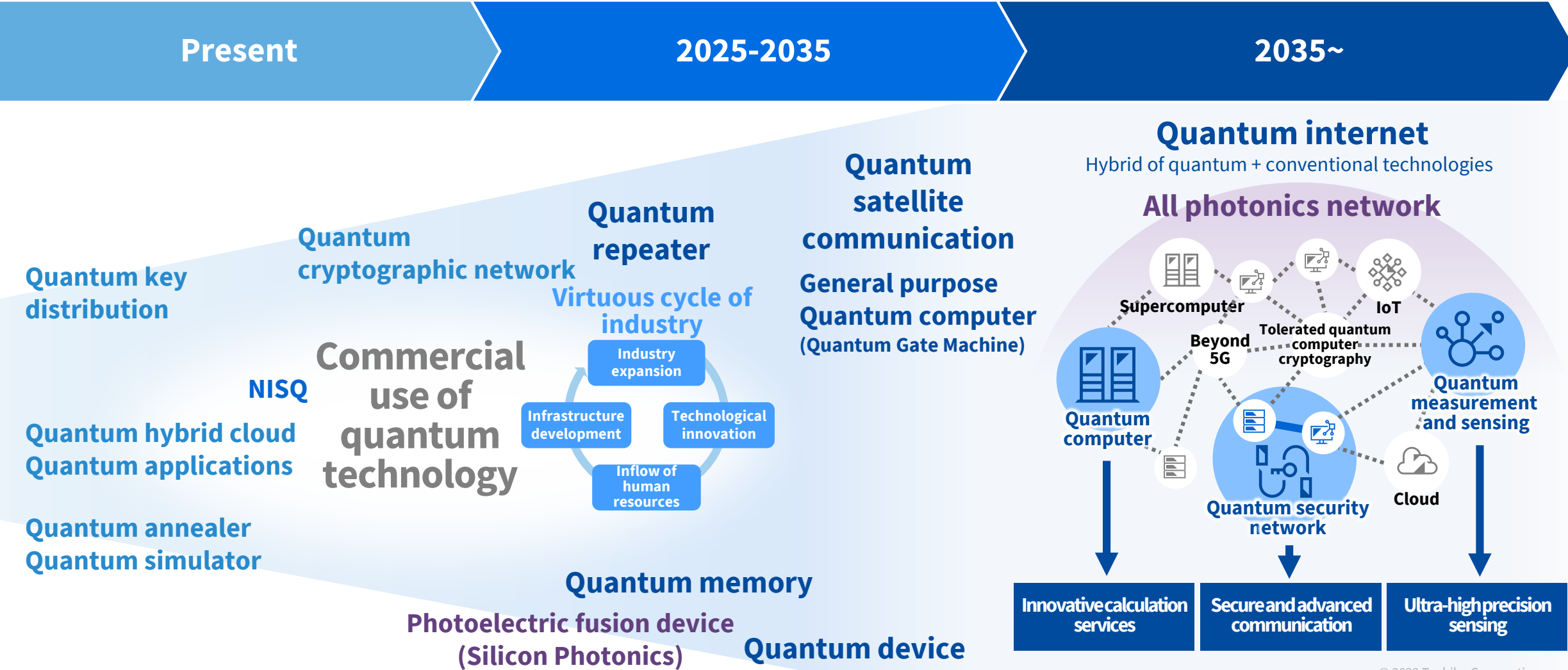
# DE

**Shift to services and  
recurring business**

Digital Evolution

# Quantum Technology to Create a New Digital World

## Accelerating R&D and commercialization of quantum technology for the quantum society to come



# Validation of, and Collaborations in, Quantum Cryptographic Communications

Implemented PoC for financial blockchain with US-based **J.P. Morgan Chase & Co.**

(February 2022)

Implemented trials in industrial networks with UK-based **BT**

(October 2020)

Participating in trials in six countries for the pan-European project **Open QKD**

Succeeded in validating the large-capacity, low-delay IOWN Secure Optical Transport Network with **NTT**

(November 2021)

Continuing trial with US-based **Verizon**

Jointly constructed a quantum test bed with the US Quantum Technology Community **CQE**

(April 2022)



CHICAGO  
QUANTUM  
EXCHANGE

Launched trial services for the world's first commercial quantum-secured metro network in London with UK-based **BT**

(April 2022)

BT and Toshiba to build world's first commercial quantum-secured metro network across London

Countering the growing threat to traditional network security from quantum computing, BT and ...

[Read more >](#)



Implemented the world's first quality-of-service assessment measurements based on ITU standards in a long-range hybrid quantum cryptographic communication network with Korea-based **KT**

(March 2022)

Launched collaboration in the quantum cryptographic communications business in Southeast Asia with Singapore-based **SpeQtral**

(August 2021)





# Practical Application of Advanced Quantum Technology: Quantum-inspired Optimization Solution

**SQBM+**<sup>TM</sup>

Toshiba's original algorithms derived from its research in quantum computing can solve combinatorial optimization issues at the world-leading speed/scale and contribute to the resolution of various social issues

## Various social challenges



Finance



Manufacturing



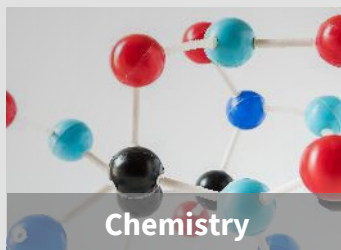
Transportation / logistics



Management



Drug discovery



Chemistry

## The world's first challenge to various combinatorial optimization issues

Commence validation of the effectiveness of high-speed, high-frequency trading strategy jointly with Dharma Capital, the only Japan-based high-speed trader

### Tokyo Stock Exchange

#### Market system



#### Collocation area

Dharma Capital's trading system

OIOOIO  
dharmacapital

Quasi-quantum  
computer

Provided by  
TOSHIBA

Provide platforms for new drug discovery and development through collaborations with computational drug discovery startups

#### Bioinformatics



#### Drug discovery startups

Quasi-quantum  
computer

Provided by  
TOSHIBA

**TOSHIBA**

Quasi-quantum  
computer

**SQBM+**<sup>TM</sup>

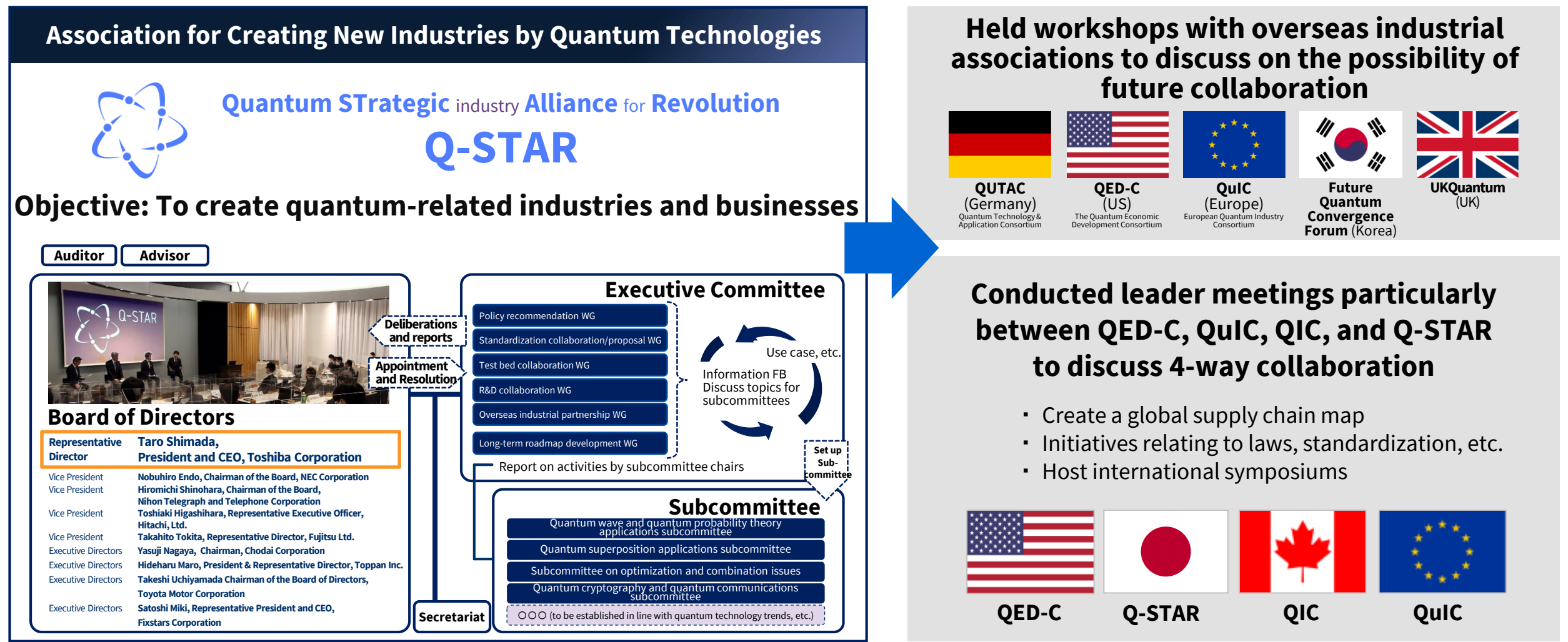


High speed and low delay      Available immediately

Provides cloud services to AWS, Azure Quantum

# New Industry Creation through Quantum Technology

## Strengthen coordination with local organizations through active Q-STAR efforts and R&D

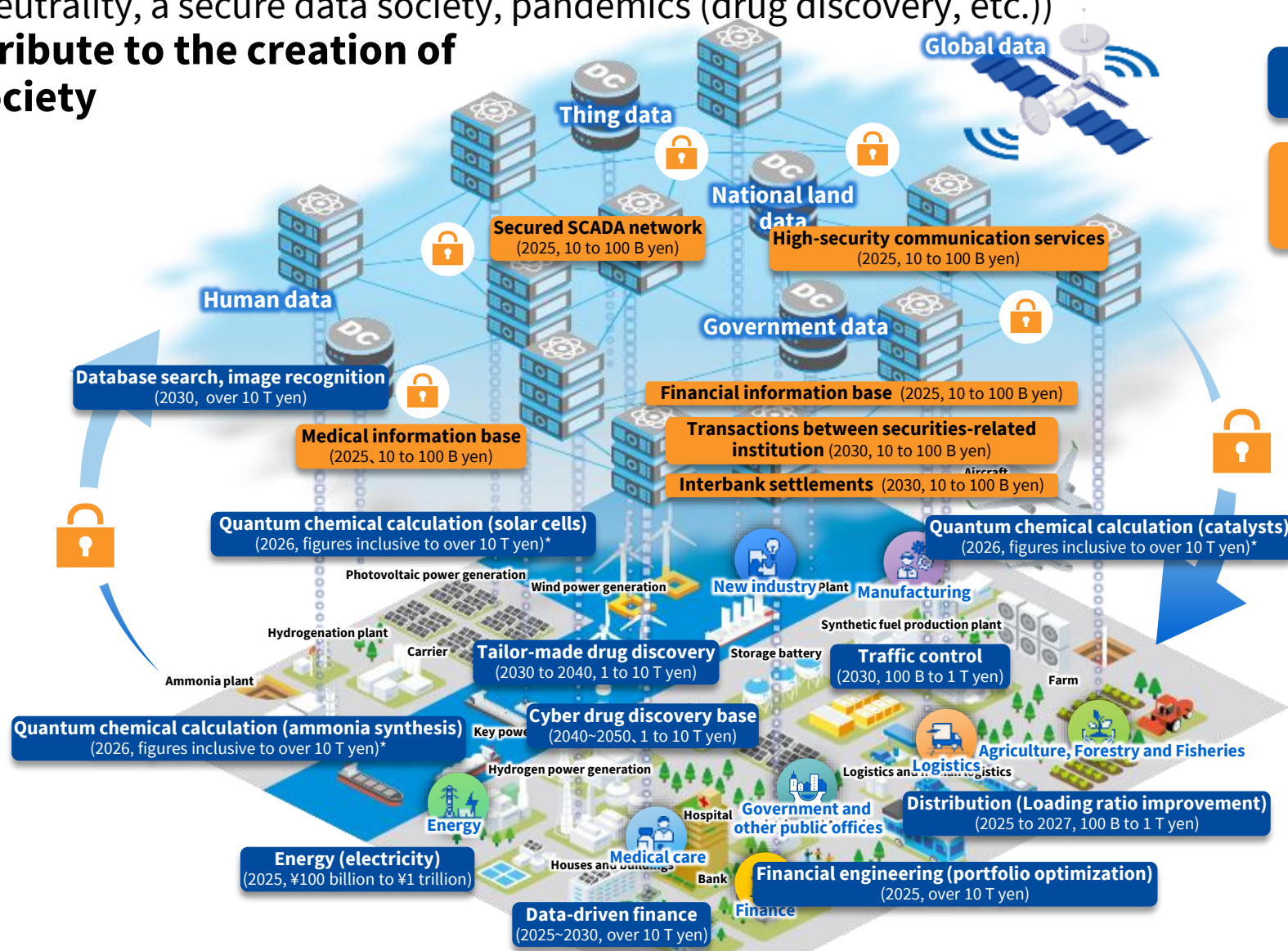


# Toward the Future Society that Quantum Technology will Create

## Quantum technology will have social value in the resolution of future mega-issues

(carbon neutrality, a secure data society, pandemics (drug discovery, etc.))

## and contribute to the creation of future society



### Quantum computer technology

(Year achieved, market size (both forecasts))

### Quantum cryptography and quantum communication-related technologies

(Year achieved, market size (both forecasts))

### Photoelectric fusion devices (silicon photonics)

are expected to be used in both "quantum computers" and "quantum cryptography and quantum communication" (figures inclusive)

\* The earliest year for implemented use case of quantum science calculation and the overall size of the product are provided.  
(solar cells/ammonia synthesis/catalysts constitute portions of overall market size)

Reference: Q-STAR, Quantum STRategic industry Alliance for Revolution

"Industrial Image of Carbon Neutral" (Ministry of Economy, Trade and Industry)

<https://www.meti.go.jp/press/2020/12/20201225012/20201225012-4.pdf>

Modified to accommodate Q-STAR use cases



# Today's Key Messages

## What remains unchanged

“Committed to People, Committed to the Future”

Continue to support daily lives of people and the society, and to contribute for the economic security assurance

## What we aim to achieve with the evolving digital economy

Our business: Transformation through “DE→DX→QX” to develop data service as a primary source of revenue

Our challenges: Break through both the internal and the external rigidity

Our action: SHIBUYA Approach → Being “software defined” is key



**Contribute to the achievement of  
carbon neutrality and a circular economy  
through digitization**





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



**TOSHIBA**