TOSHIBA

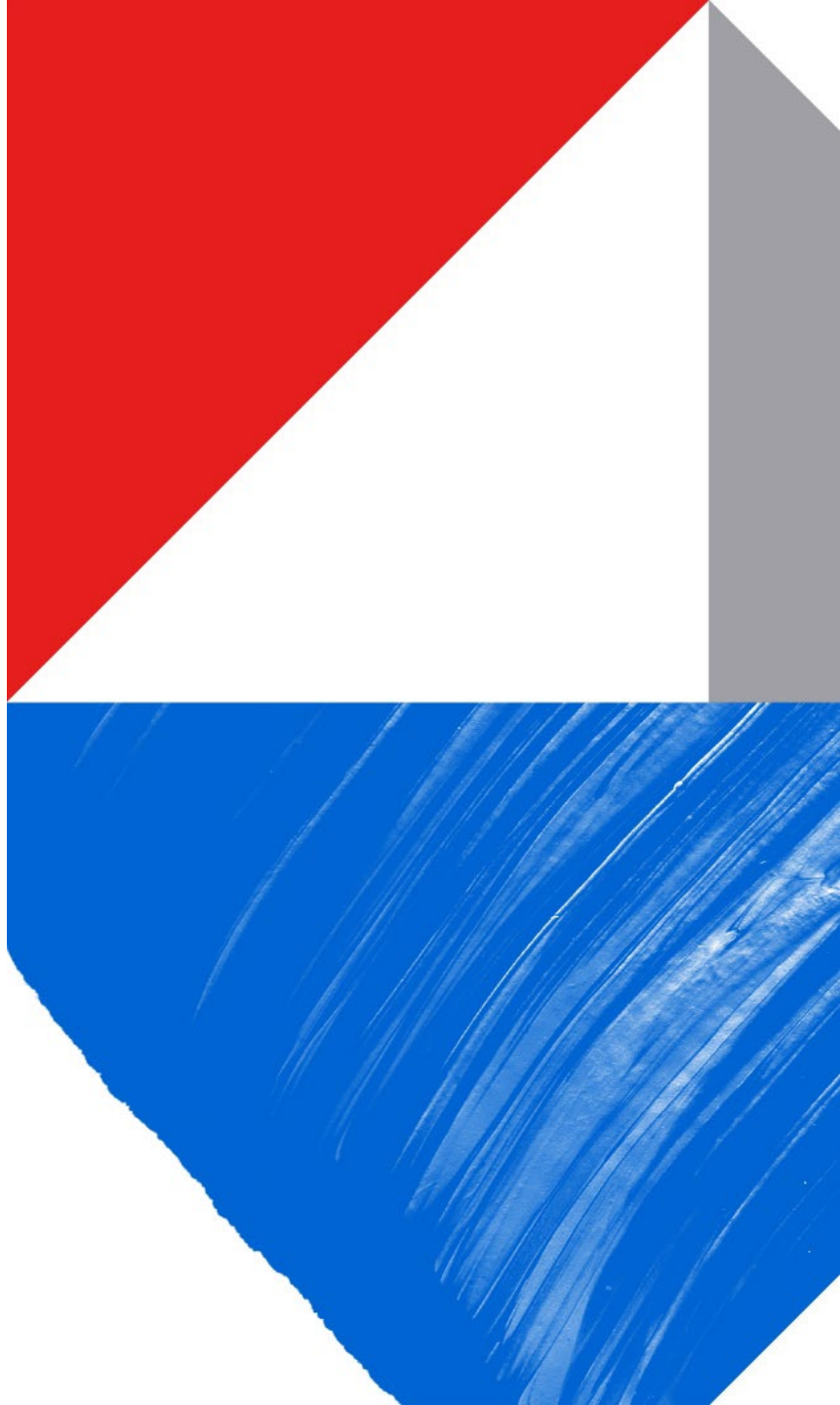
Toshiba Group Management Policy

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

Social Challenges	Toshiba Initiatives
Achieving sustainability of people and the planet	**Achieving carbon neutrality and a circular economy**

People

Safe, secure lifestyles for everyone

Poverty, human rights, disasters, disputes	**Building an infrastructure that everyone can enjoy**

Planet

Social and environmental stability

Education, equality & fairness, climate change, resource depletion	**Building a society connected by data**

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

Evolution of the Digital Economy and Changes in the Business Environment

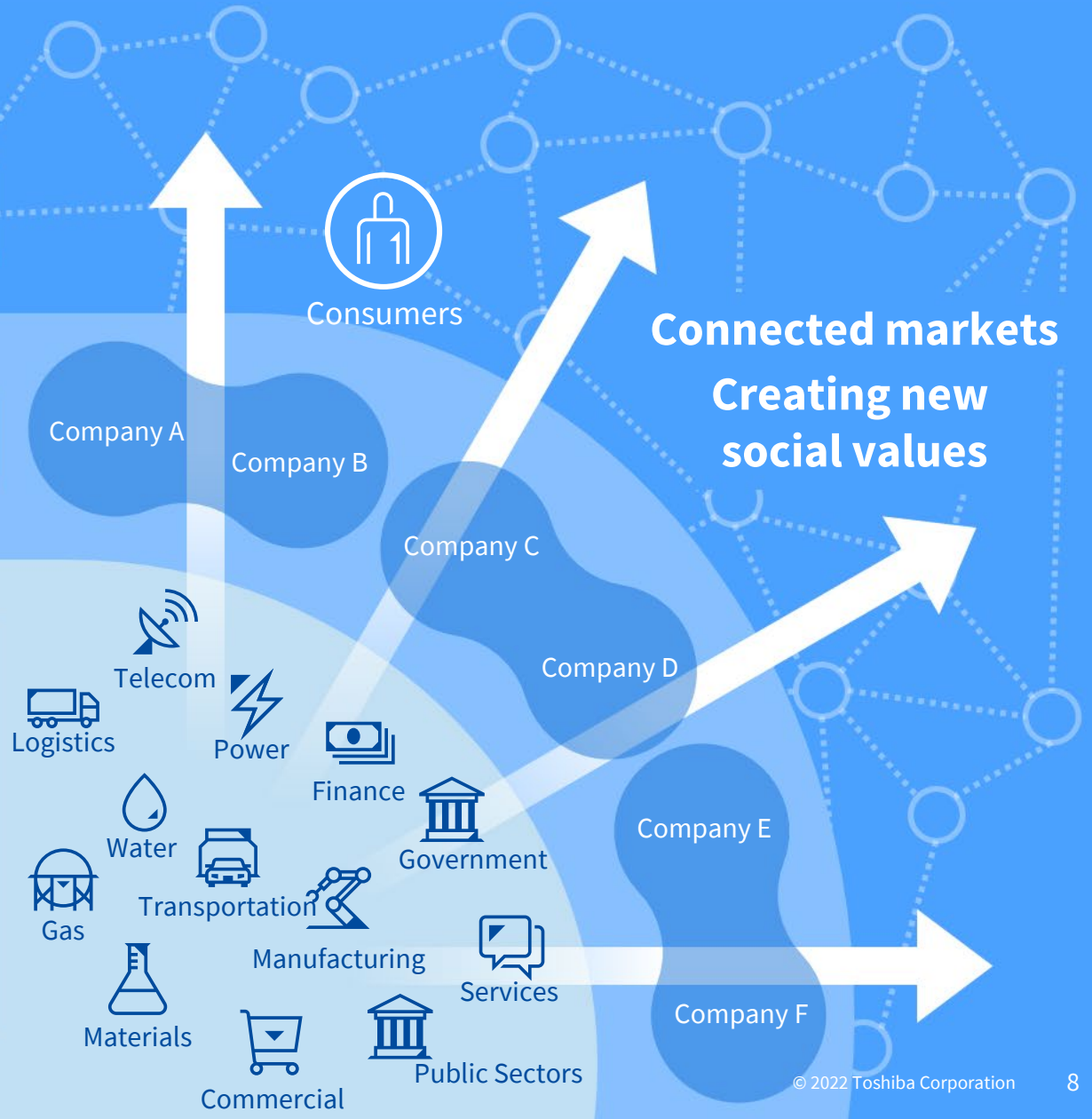
Evolution of the digital economy

QX Quantum Transformation
Creating the quantum industry

DX Digital Transformation
Data business
Matching business
Platform development

DE Digital Evolution
Shift to services and recurring businesses

Quantum + Data × CPS1.0



Toshiba Group Mid-to-Long Term Target

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

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

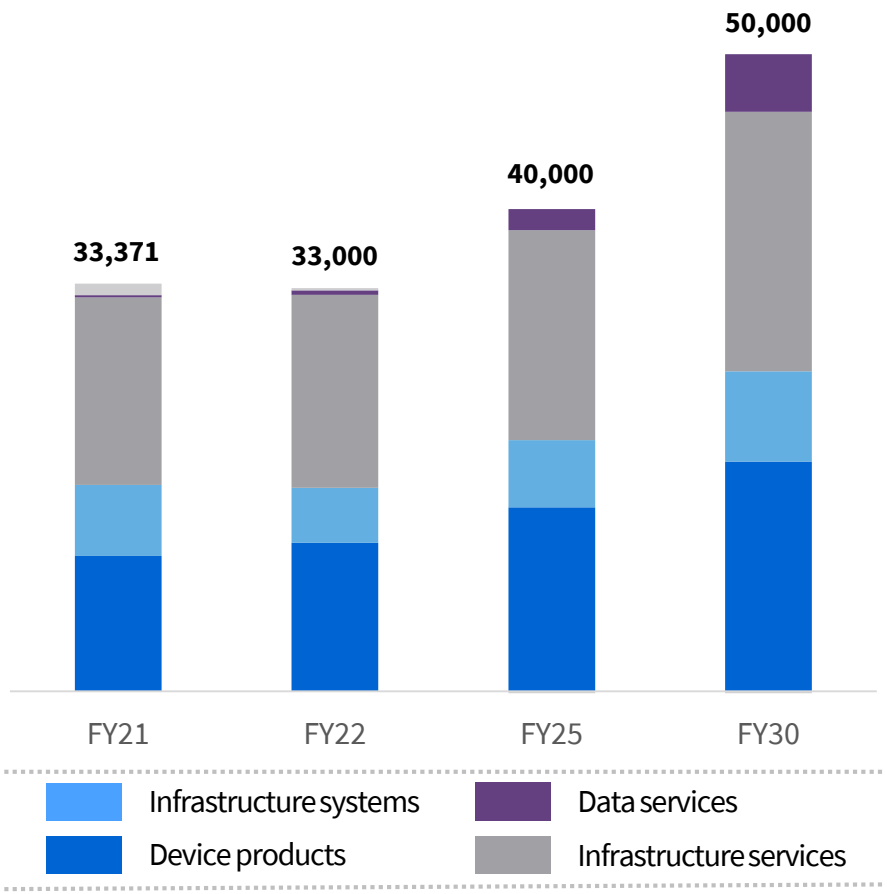
*1 FY21 results and FY22 forecast includes the results and forecast of Toshiba Carrier Corporation, *2 EBITDA = Operating income + Depreciation
*3 ROIC = (Net income - Non-controlling interest - Interest expense × (1 - tax rate))/ (Net interest - bearing debt + Net assets) *4 Free Cash Flow

Plan by Functional Classification

Forecasting growth in the highly profitable data service business toward FY30

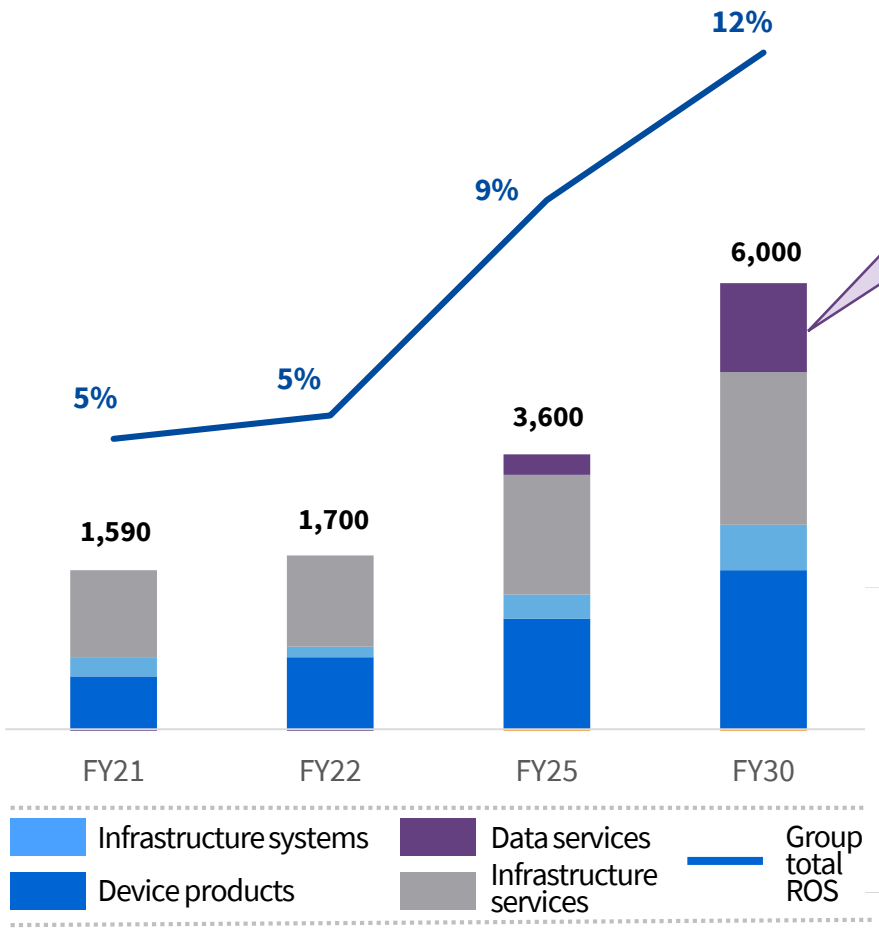
Net sales

(Unit: 100 million yen)



Operating income

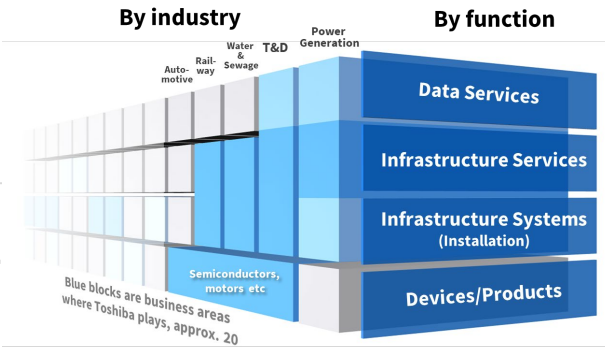
(Unit: 100 million yen)



Data services

ROS **26%**

% of group total **20%**

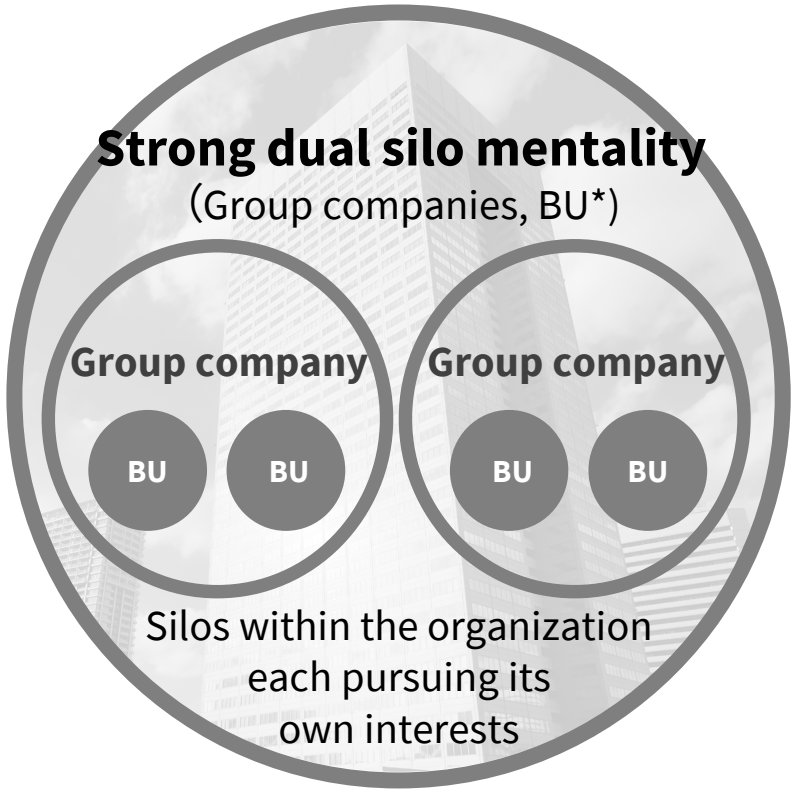


* Bar graph total include other businesses, and shared accounts, corporate elimination, etc

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

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

* BU: Business Units

02

Current Status of Toshiba Group

Businesses that Support Daily Lives and Social infrastructures

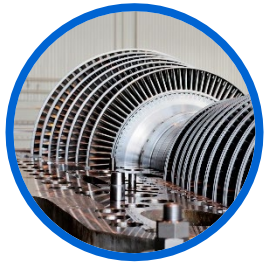
Many businesses contribute to economic security by supplying core infrastructure and key products that support industries

1900 1920 1970 2022

- **Power** Generation and transmission systems — 128 years
- **Water Supply & Sewerage** Electric Systems — 57 years
- **Broadcasting** Broadcasting systems — 103 years
- **Airport** Surveillance radar system — 59 years
- **Railway** Electrical equipment for domestic vehicles — 122 years
- **Factory** Industrial motors — 126 years
- **Store** Cash registers (predecessor of POS) — 96 years
- **Elevators** — 56 years
- **Lighting** — 132 years
- **Semiconductors and Storage** — 66 years

*Based on internal research


Water supply & sewerage


Energy


Broadcasting


Elevators


Railways


Infrastructure


Airports


Factory


Stores

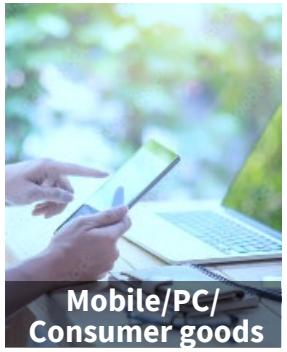
Devices

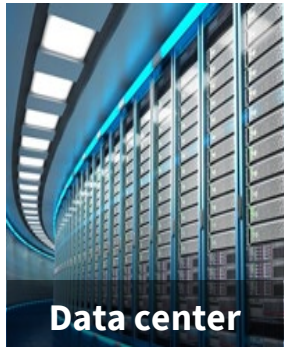

Lighting

Device Business (Power Semiconductors)

Toshiba's power semiconductors

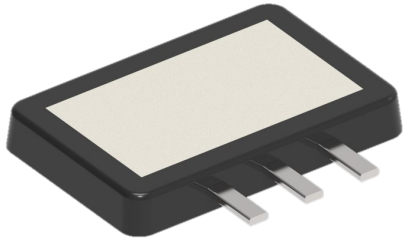
High efficiency, high quality, and high reliability





Technologies and products that support competitiveness

SiC-equipped module for electric railways



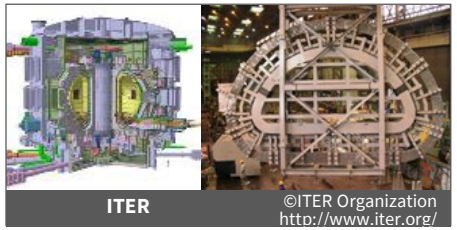
High-voltage multichip package for power converters
(under development)

Future investment and development strategy

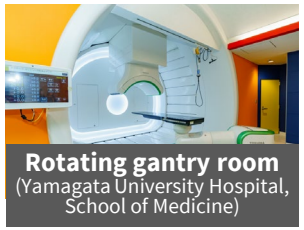
- Create a 300mm wafer manufacturing line in Kaga Toshiba (mass production will start in the second half of FY22) and build a 300mm manufacturing wing (scheduled to start operations in 2024)
- Accelerate the development and commercialization of compound semiconductors (SiC and GaN) that can achieve high 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 ray the foundation of the digital industry

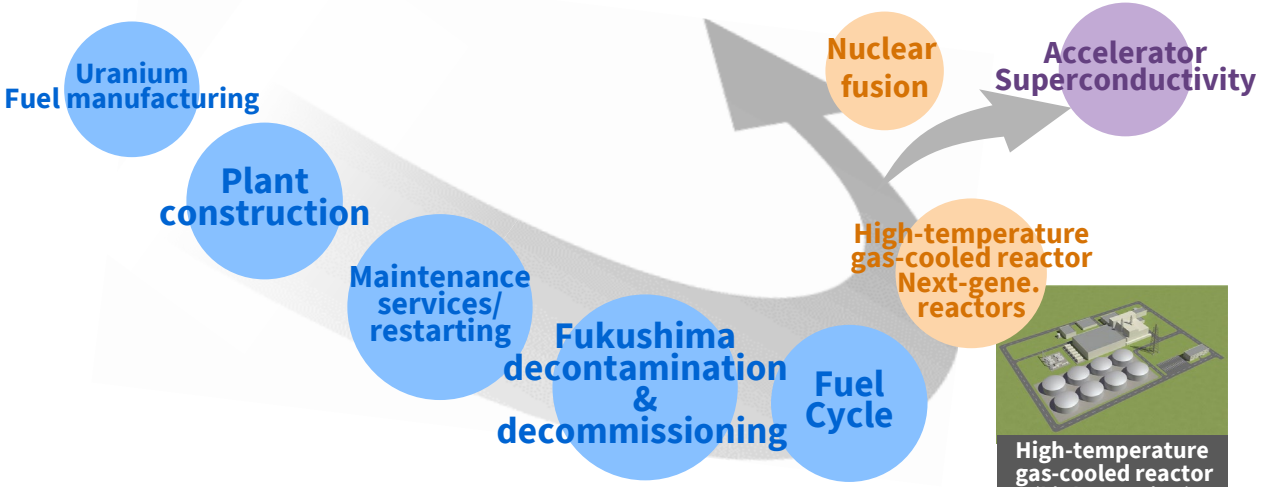
Energy Business (Nuclear Power)



ITER ©ITER Organization http://www.iter.org/



Rotating gantry room (Yamagata University Hospital, School of Medicine)



High-temperature gas-cooled reactor (bird's-eye view)

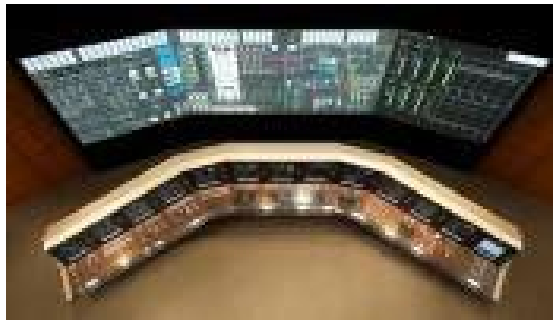
Kashiwazaki-Kariwa Nuclear Power Station Unit 6/7 (Tokyo Electric Power Company Holdings, Inc.)

Generator rewinding work

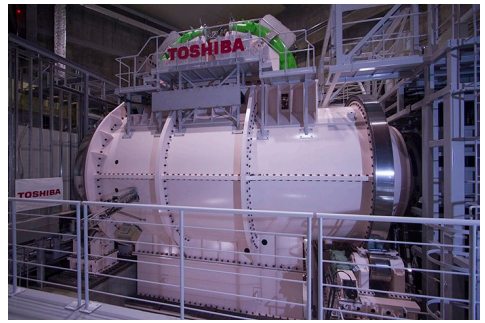
Remotely operated underwater vehicle (ROV) to investigate inside of PCV at Fukushima Dai-ichi NPS

Rokkasho Reprocessing Plant (Japan Nuclear Fuel Limited.)

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)

Air defence radar system

Air traffic control and navigation system

●: 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

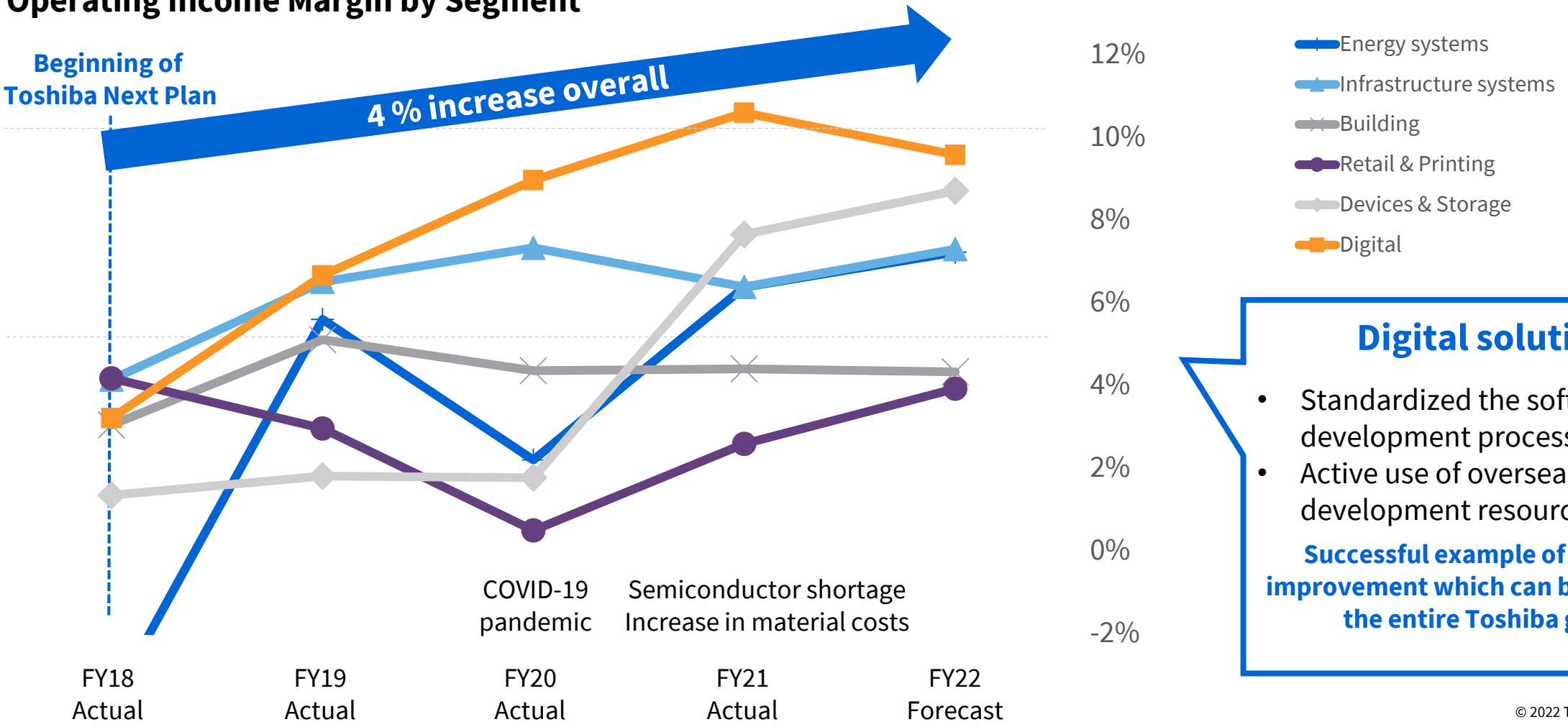
- Continue to focus on the development and production of defense equipment that protects the safety and security of society by leveraging the comprehensive strengths of the Toshiba Group
- Strengthen technological advantages by applying potentially game-changing cutting-edge consumer technologies such 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



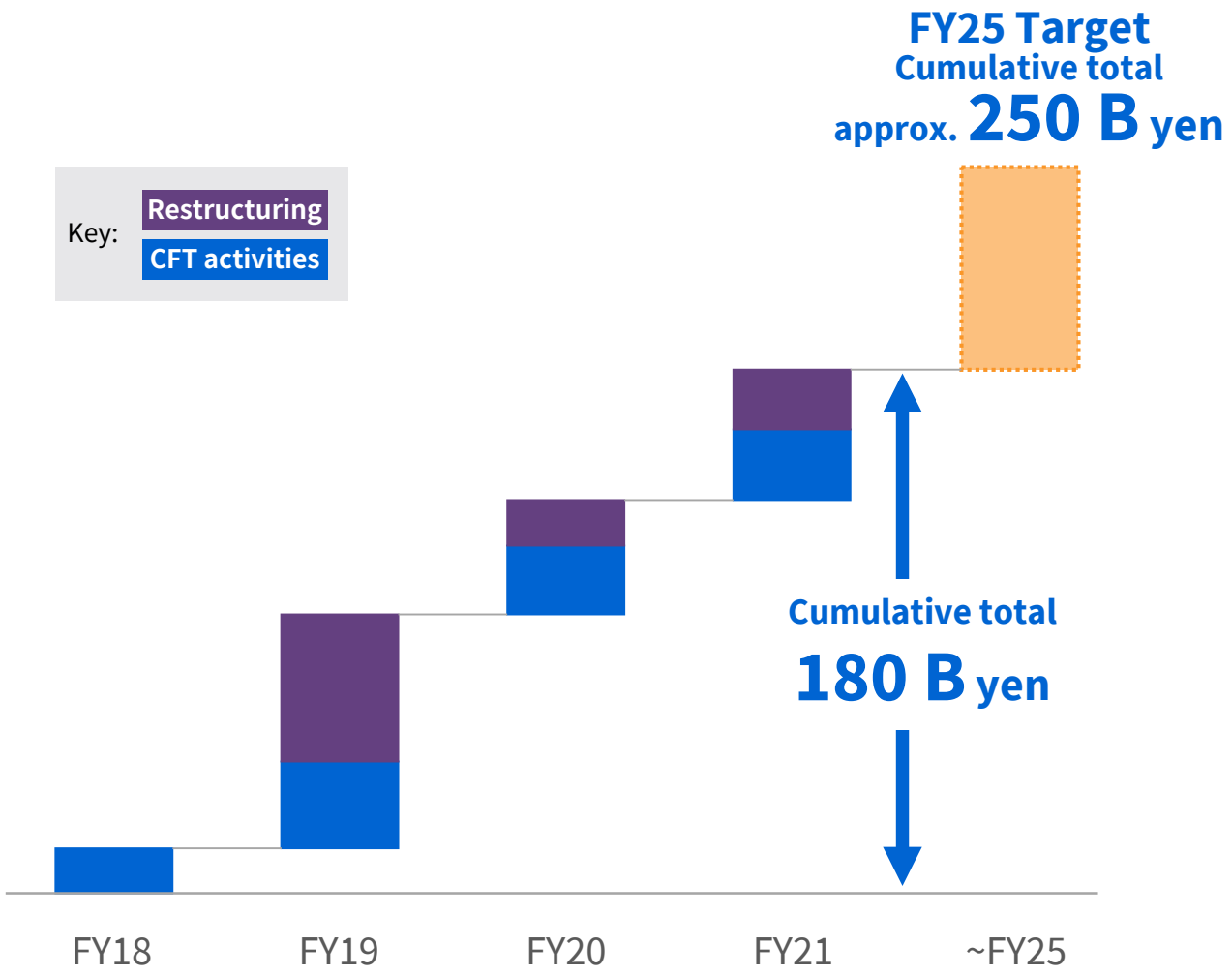
Digital solutions

- 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

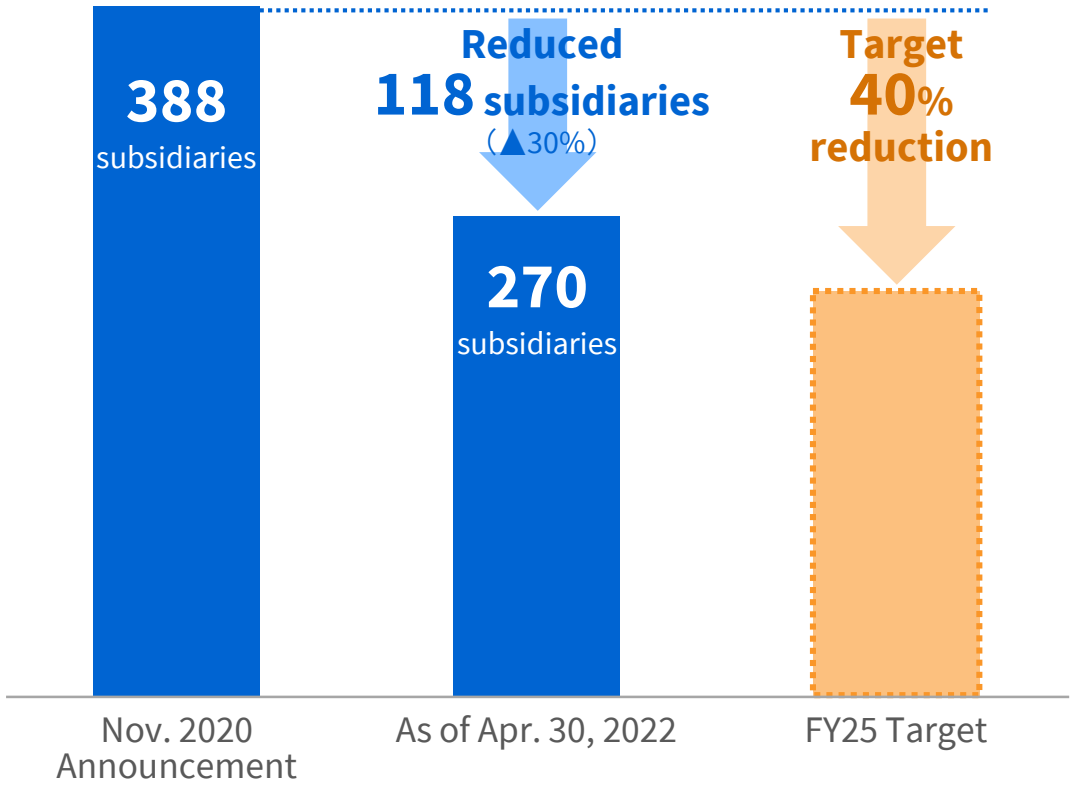
- ERP reform
- Strengthen PLM/MES
- Centralized management of Integrated DB

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.

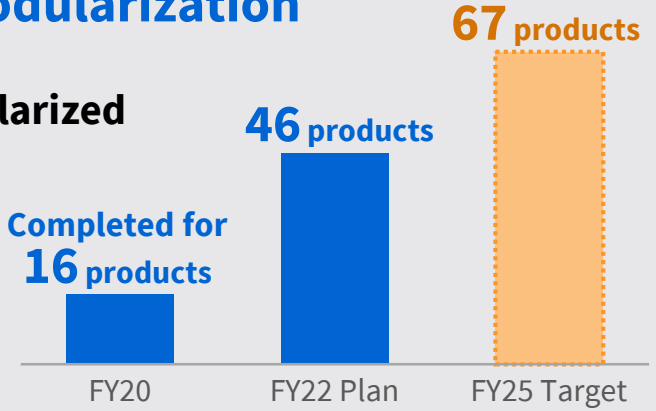


Value chain transformation

Design & product modularization

KPI: # of products modularized

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

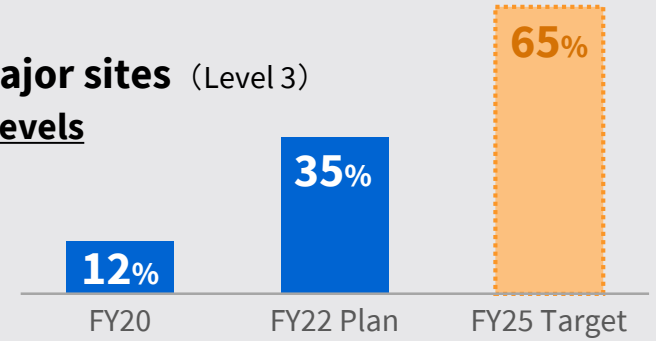


Smart factory

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

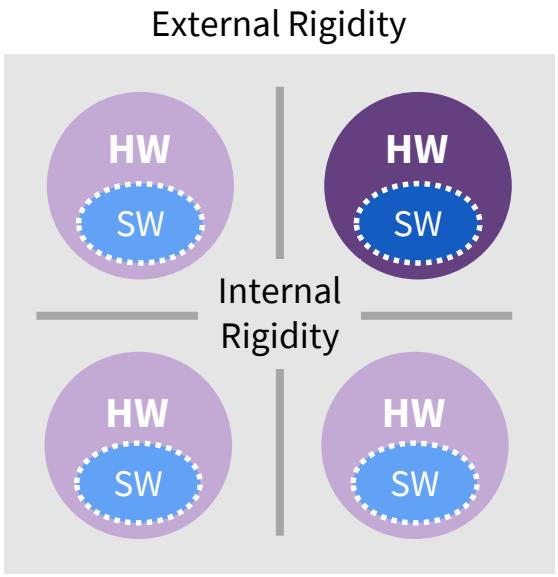
Realizing the value of potential technologies

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

Software Defined Transformation

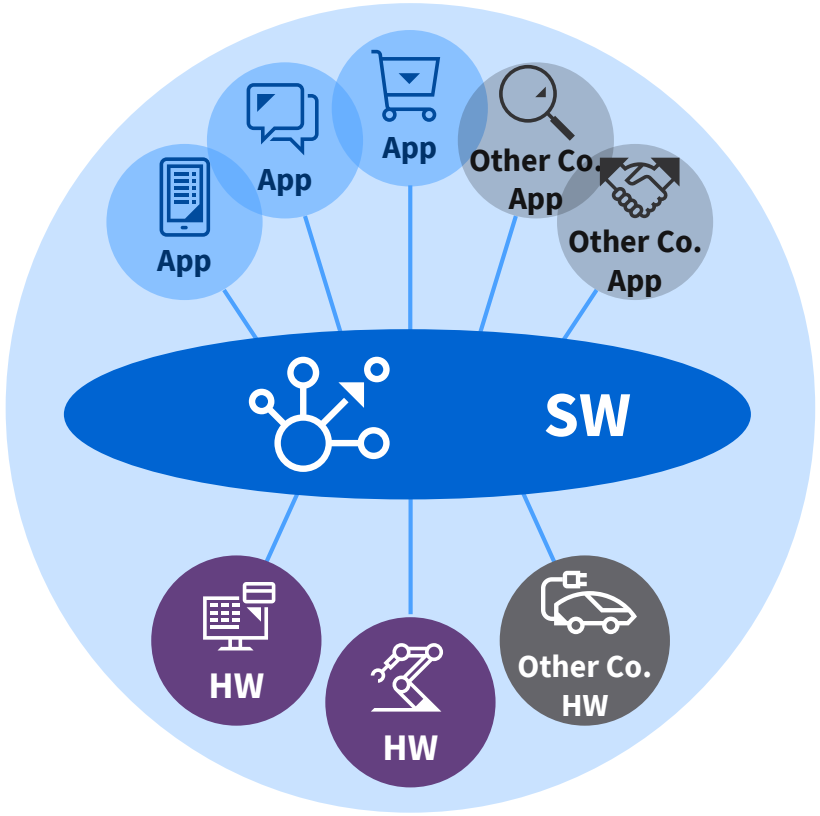
Create a platform after separating apps, software and hardware

Current status



DE: Digital Evolution

DX



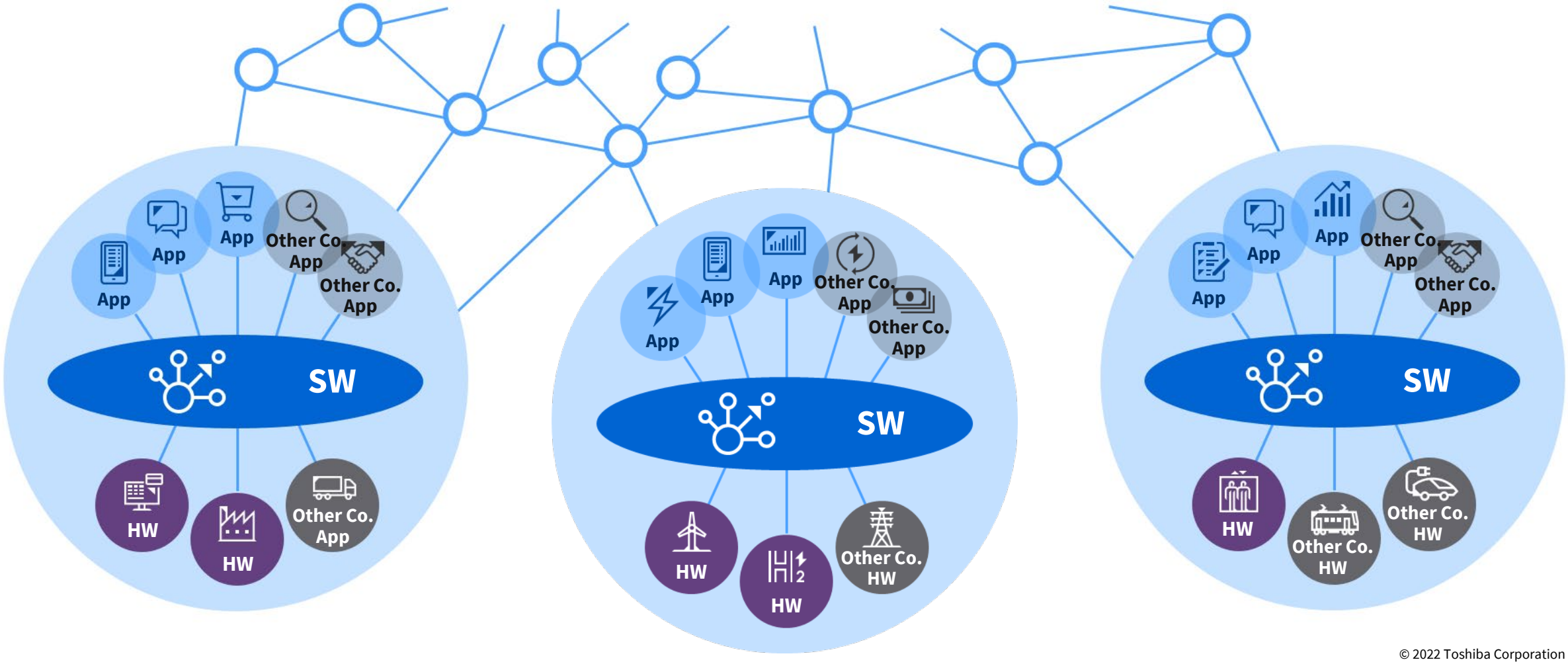
The key to change is “Software Defined”

Create a platform

The Future Created by Quantum Technologies (2030-)

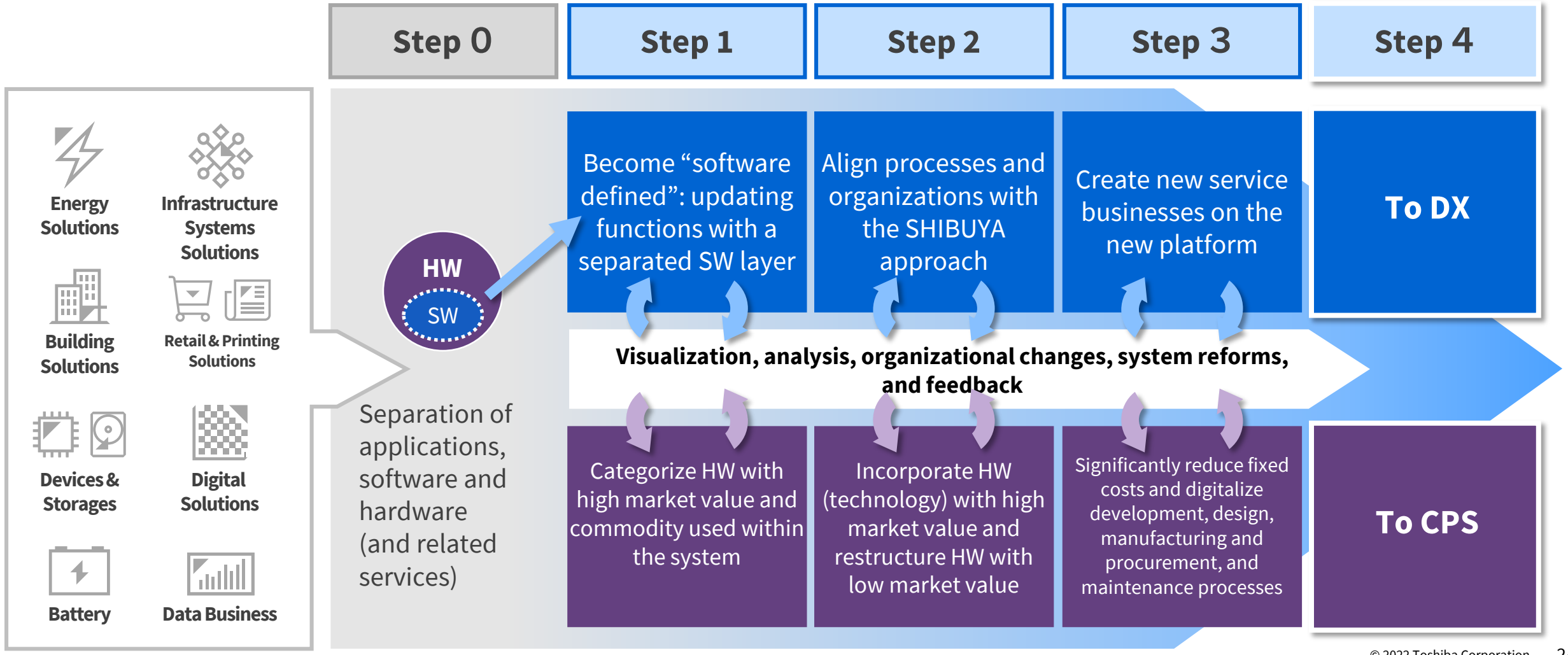
QX

A world optimized by quantum technologies



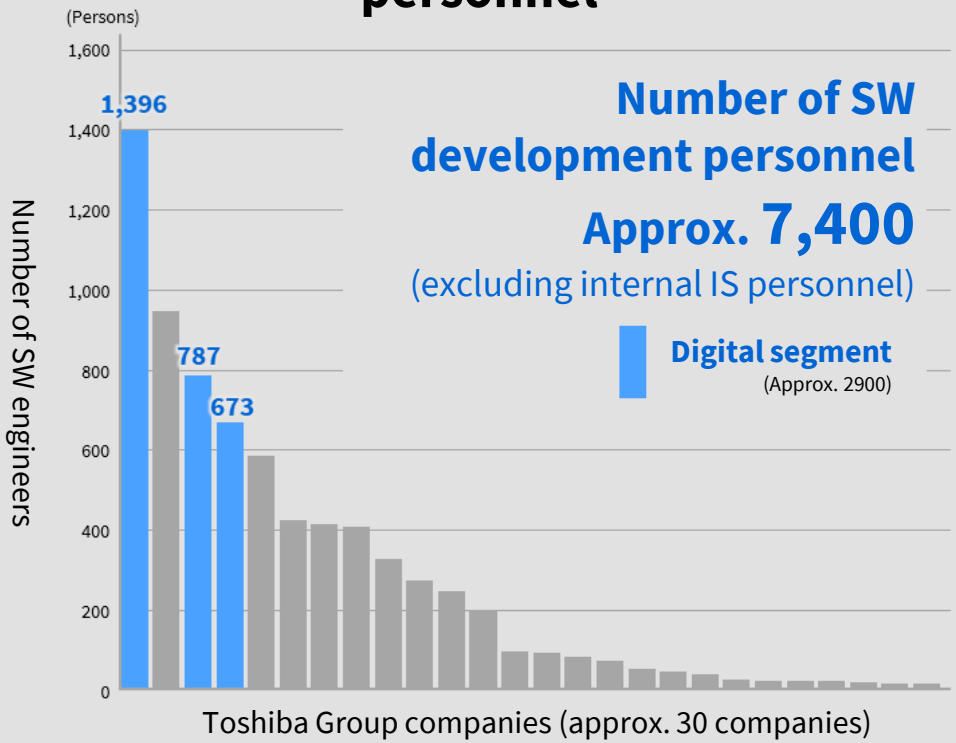
SHIBUYA Approach: Evolving Process from DE to DX

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



Integration and Optimization of Software Development

Toshiba Group's software development personnel



Challenges

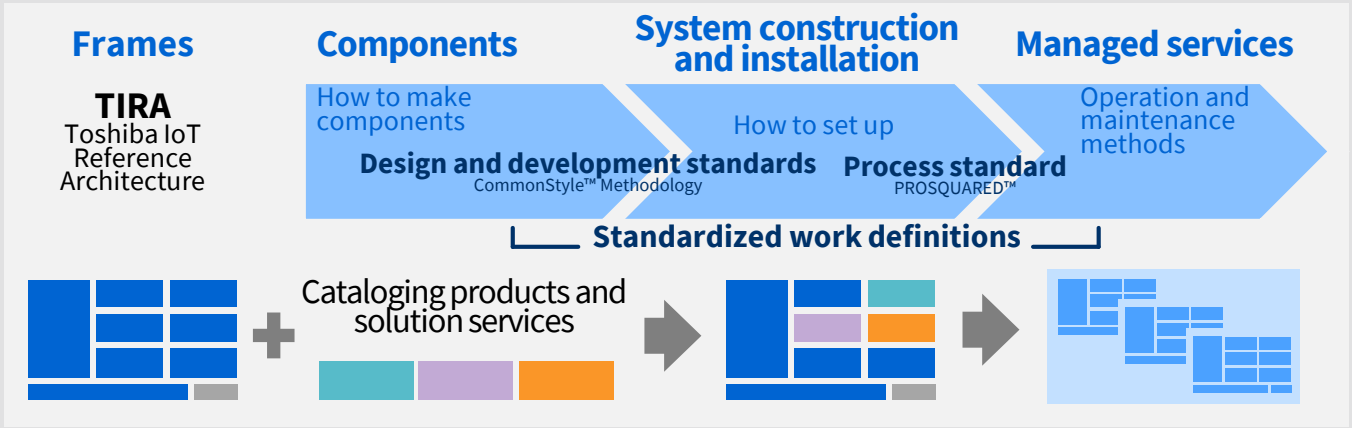
- Software development personnel are dispersed within the group
- Development processes and management metrics are not standardized across the organization, as each company engages in development separately
- Duplication of development efforts

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**

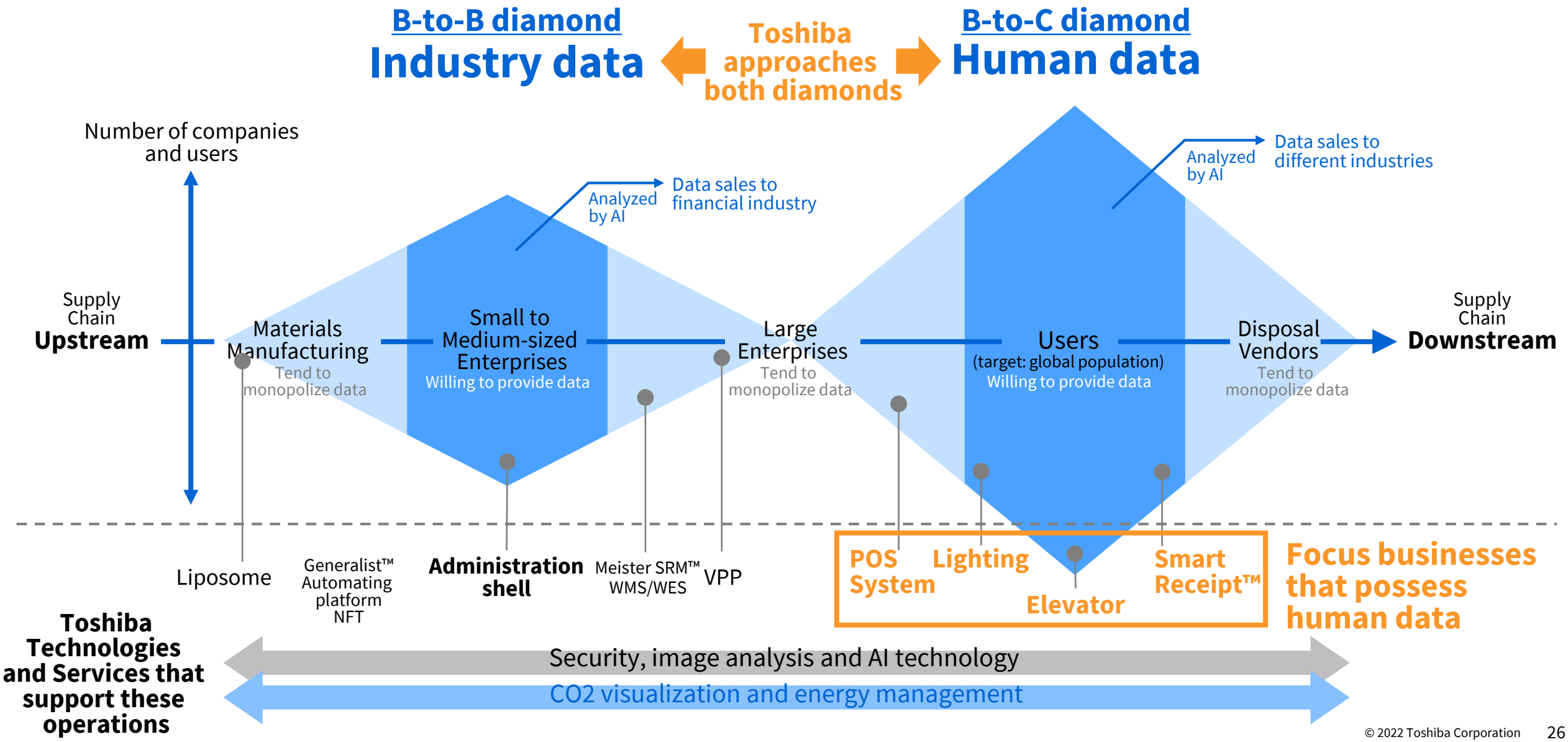
Potential benefits : 1. Reduction of development and operation costs
2. Reduction of quality losses



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

People Flow Data

Estimated market size*
20 T yen

Environmental control services (Buildings, public transportation)

Operation management services

Operation management services

Routing services

ETC services


Lighting


Elevators/ Escalators


Retail


Passenger railways


Freight trains


Roads

Buildings and Retail Facilities Platform

Dynamic Pricing Platform

Dynamic Scheduling Platform

Creating a platform from SW
separated in step 0

Data

Data

SW	ZEB system	Traffic control system	Smart Receipt™	Traffic platform	TrueLine™	Smart Receipt™
	Sharepo™	Destination floor system			Remote monitoring of electrical appliances	Toll collection system/ETC
HW	Lighting equipment					
	ViewLED™	Elevator escalator		TESS	Operation control room system	
	SMART EYE SENSOR	Elevator signage	POS system	Automatic ticket gates	Locomotive	Traffic control system

-SHIBUYA Approach-

Step 0: Separate HW and SW

Key: Existing HW or HW under consideration / Existing SW (apps) or SW (apps) under consideration

* Our estimate made based on the Facility Management Software market size and share (Faptos Global), etc.

Considering New Businesses Starting with Energy and CO2 Data

Energy and CO2 Data

Estimated market size*

20 T yen

- Services for power producers
- Renewable energy and energy conservation consulting
- Corporate activity analytical services
- CO2 emission budget control
- power retail data services
- Inter-individual power transaction services
- Provision evidence relating to CO2 emission
- Data services targeting financial institutions
- Demand-side trust services
- Product carbon footprint

Energy Market Data Platform

CO2 Visualization Data Platform

Data

Data

Creating a platform from SW

separated in step 0

SW	Business risk control	Demand response	Renewable energy output forecasts	Energy assessment	Energy matching (RE100)	Smart Receipt™
	Renewable energy balancing	EtaPRO™	Energy matching	Model services for quantitative evaluation of energy reseilience	Personnel matching	CO2 emission assessment
	Optimization of Insurance and other costs	High-precision prediction of renewables demand	Concierge for improvement		Quotation and assessment based on CO2 emissions	CO2 emission monitoring
HW	Power generation system	Transmission & distribution system	Power meter	Battery storage	CCU/CCS	SQBM+™(SBM)

-SHIBUYA Approach-

Step 0: Separate HW and SW

Key: Existing HW or HW under consideration / Existing SW (apps) or SW (apps) under consideration

* Our estimate made based on JEITA's "Survey on Trends in Focus Areas 2021" and others

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

Materializing the Value of Potential Technologies

Leveraging diverse technology development efforts to create valuable products

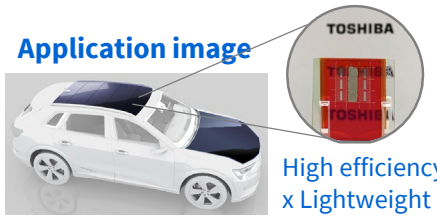
Cu_2O Tandem-type PV[*1]

Estimated market size[*2]: 2.5T yen (2030)

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

Achieved EVs recharged without plugs

Application image



High efficiency x Lightweight

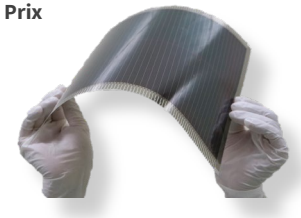
Core Techs : Cu_2O(material) x Semiconductor Process

Film-Based Perovskite PV

Estimated market size[*3]: 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**

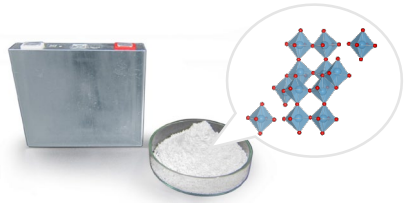


Core Techs : Coating x Nanomaterials

NTO[*4] Anode Batteries

Estimated market size[*5] : 0.7T yen (2030)

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

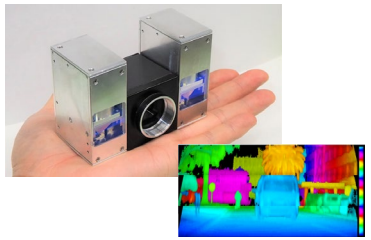


Core Techs : SCiB™ × Nb(material)

LiDAR (Light Detection And Ranging)

Estimated market size[*6] : 1.5T yen (2030)

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

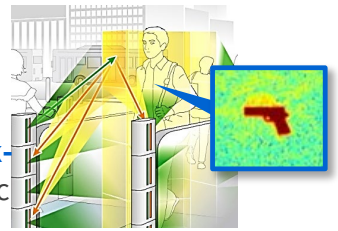


Core Techs : Sensor x Packaging x Signal Processing

Millimeter-wave Imaging

Estimated market size[*7]: 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.



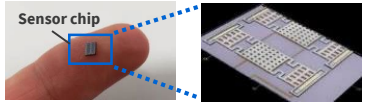
Core Techs : Radar x Signal Processing

MEMS Sensors

Estimated market size[*8] : 2.1T yen (2030)

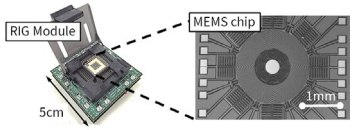
Hydrogen gas sensors

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



Gyro sensors

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



Core Techs : Semiconductor x MEMS

*1 Photovoltaics, *2 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), *3 Fuji-Keizai: Trends in advanced PV development and market outlook in future(FY2020 version), *4 Niobium Titanium Oxide , *5 Estimated by Fuji-Keizai Outlook of energy, large size rechargeable batteries and materials(2020) , *6 LiDAR module global market estimated by 3D LiDAR marketing analysis(TSR) etc., *7 Global market of security screening systems,*8 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

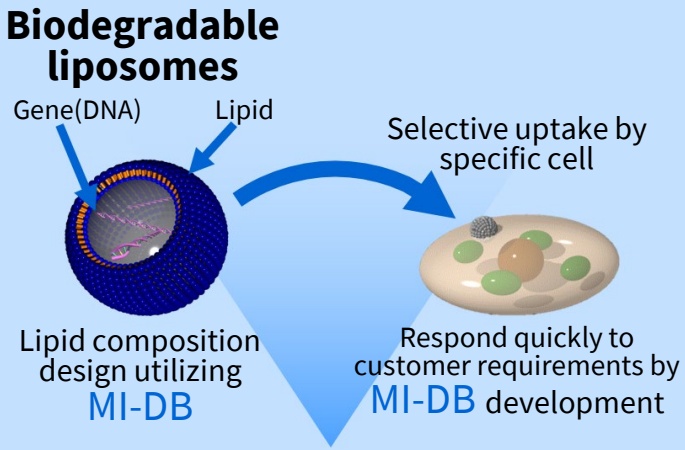
Biodegradable liposomes

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.



Manufacture of Liposomes

MI: Materials Informatics

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**

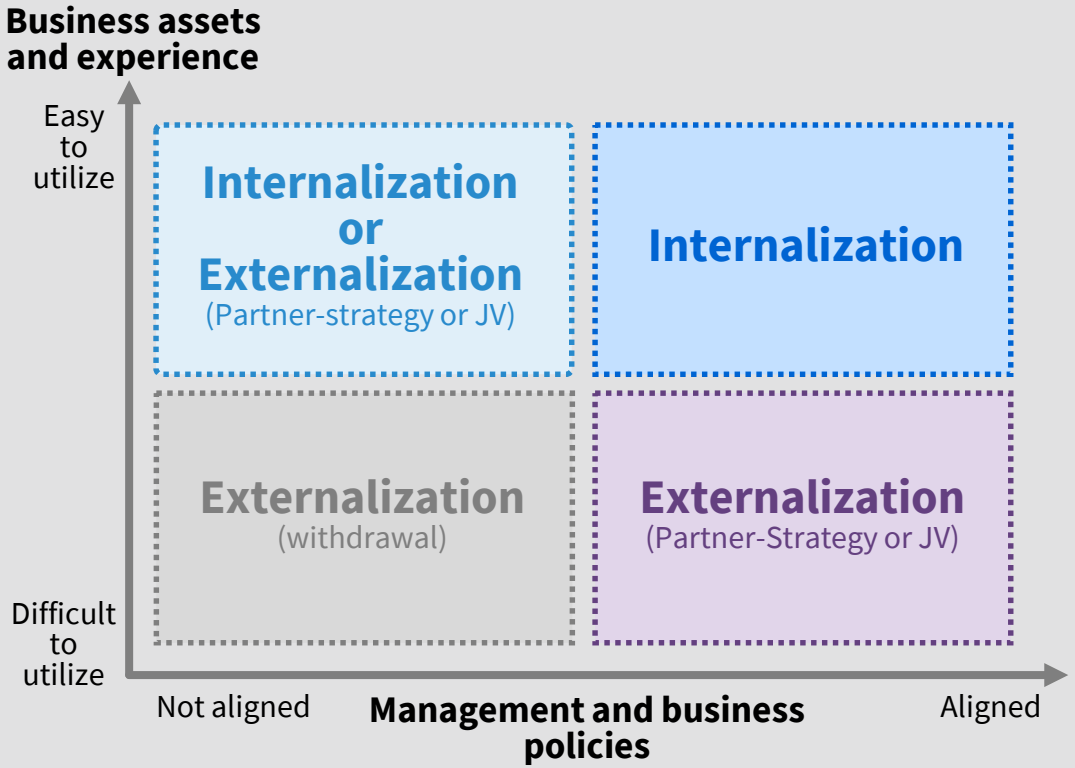
*1 Global market for regenerative medicine products etc. (METI estimate)

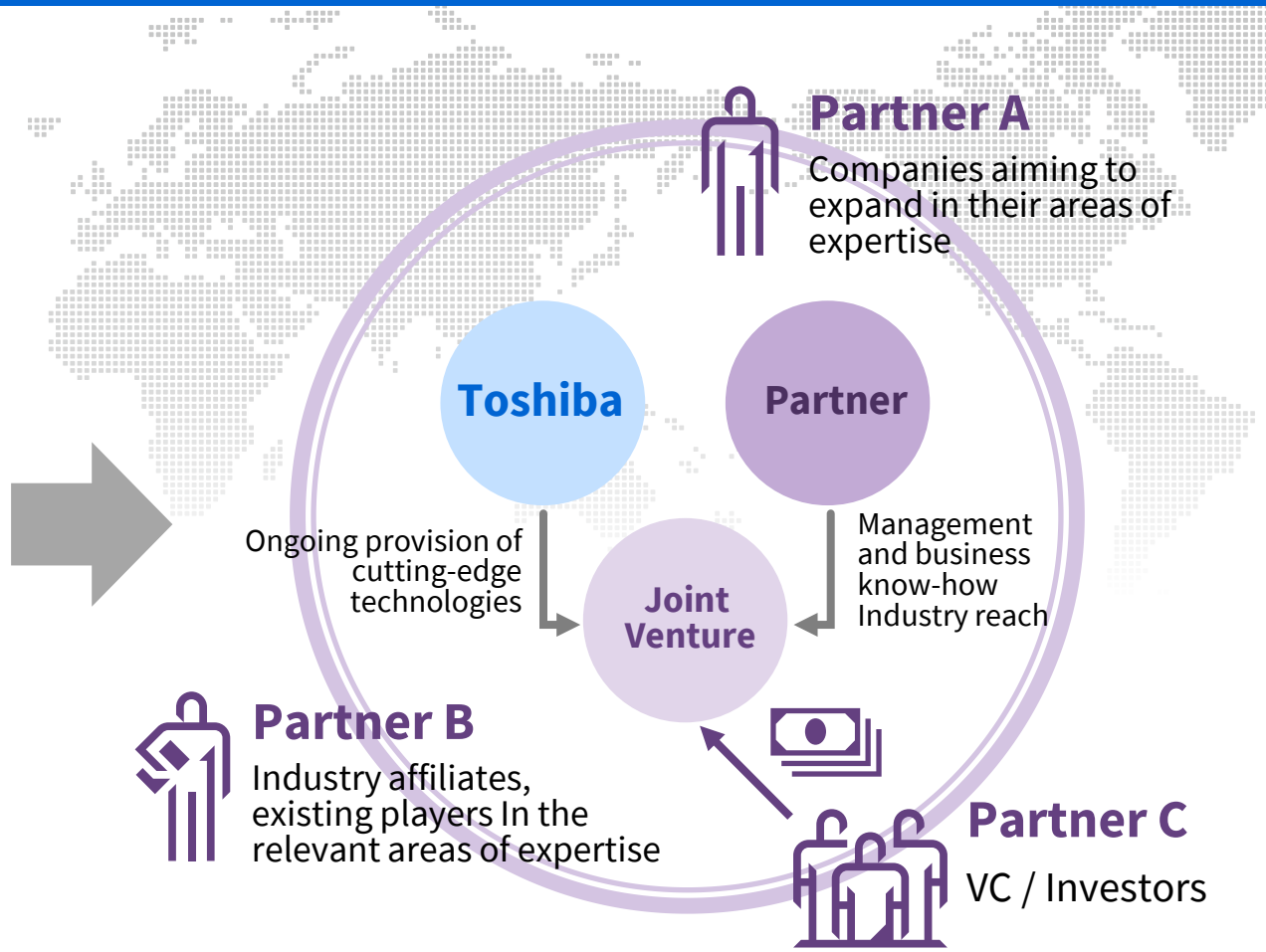
*2 SPEEDA (as of May 25, 2022)

Breaking through External Rigidity

Considering partnerships to realize the value of technologies with high potential

Framework for deciding between internalization or externalization





Value obtained:
Financial returns from equity, data utilization, etc.

04

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

QX

Creating the quantum industry

Quantum Transformation

DX

Data business
Matching business
Platform develpment

Digital Transformation

DE

Shift to services and recurring business

Digital Evolution

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

Initiatives toward DE

Initiatives to date

Elevator

- **People flow analysis AI** — 2019～
- **BIM cloud** — 2019
- **Smart doors** Visconti2™ — 2020
- **Digital signage** — 2021

App

Digitalization of building information
BIM* Cloud

App

Forecast intent to board and prevent getting caught
Smart doors

App

Customized base on user attributes
Digital signage

SW

Elevator control SW
People flow analysis AI

HW

Elevator

Provides new value to users and owners through analysis of people flow data and optimized control

Connects cameras to elevators to obtain image data

*Building Information Modeling

Generate various types of data

Shift toward DX

People flow and advertising
People flow analysis/support
Targeted advertising

Safety and security
Predictive diagnosis
Zero service disruption
Security

Transportation and logistics
Provision of optimal routes
Unmanned delivery

Environment and energy
Optimization with digital twin
Recycling loop

Link with external apps
Toward data businesses

Elevator cloud

- People flow data
- User attribute data
- Operation data
- Operation request data
- Equipment operation data
- Quality statistics
- Advertising data
- BIM data

DE Case Study #2: ViewLED™

Initiatives toward DE

Initiatives to date

ViewLED™ 2019.6
Person recognition AI 2020.12
Visualization and intrusion detection service 2020.12
People flow analysis service 2021.11
Work analysis service 2022.1Q

App
Intrusion detection Service

App
People flow analysis Service

App
Work analysis Service

SW
Proprietary person recognition AI

Provides new value through visualization of facilities using image data

HW
ViewLED™

Acquires digital data by connecting LED lighting to cameras and networks

Generate various types of data

Shift toward DX

Plants and warehouses
Safety management
Production management

Buildings, facilities, and stores
Building management (facility operation)
Work management (absence)
Energy management (power consumption)

Hygiene control (sanitization)
Air-conditioning equipment (space sanitization)
Building management (cleaning management)

Sports
Competition analysis

Link with external apps Toward data businesses

Database

People flow data
Work data
Lighting (on/off) data
Location data

Safety (absence) data
Energy consumption data
Competition data
Etc.

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

Initiatives toward DE

Initiatives to date

Control by HW PLC

Control with SW PLC & industrial computer

2017

Control with cloud PLC & remote I/O

2023.3Q

App

Material handling
Automated production line

App

Energy monitoring system

App

For steel plants
Energy saving control system

SW

SW PLC*1

HW

Controller

Software defined
Flexible SW installation regardless of HW to achieve optimized data acquisition and process configuration

Transition from PC controllers (SW PLC & industrial computer) to control with cloud PLC & remote I/O

Real-time uploading of various on-site data to the cloud

Shift toward DX

Plants and infrastructure
Linkage with cloud MES*2
Optimization and facility management with super real-time CPS

Safety and security
Predictive diagnosis for malfunctions
Remote maintenance/ CBM*3
Resilience

Food, textile and building material
Line automation with AI product flaw analysis

Environment and energy
Circular economy with super real-time CPS

Link with external apps Toward data businesses

Cloud controller

On-site I/O data
- Data from sensors (temperature, pressure, flow rate, current, voltage, vibration etc.)
- Control and operation data

Facility operation data
- Operational status data
- RAS*4 data (interior temperature of facilities, fan rotation speed, power voltage etc.)

*1 PLC (Programmatic 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

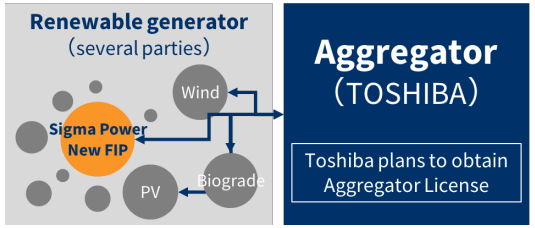
DX Case Study #1: Energy Solution Platform

Providing a platform that organically combines various energy solutions

VPP (Virtual Power Plant)

Distributed renewable energy source aggregation platform

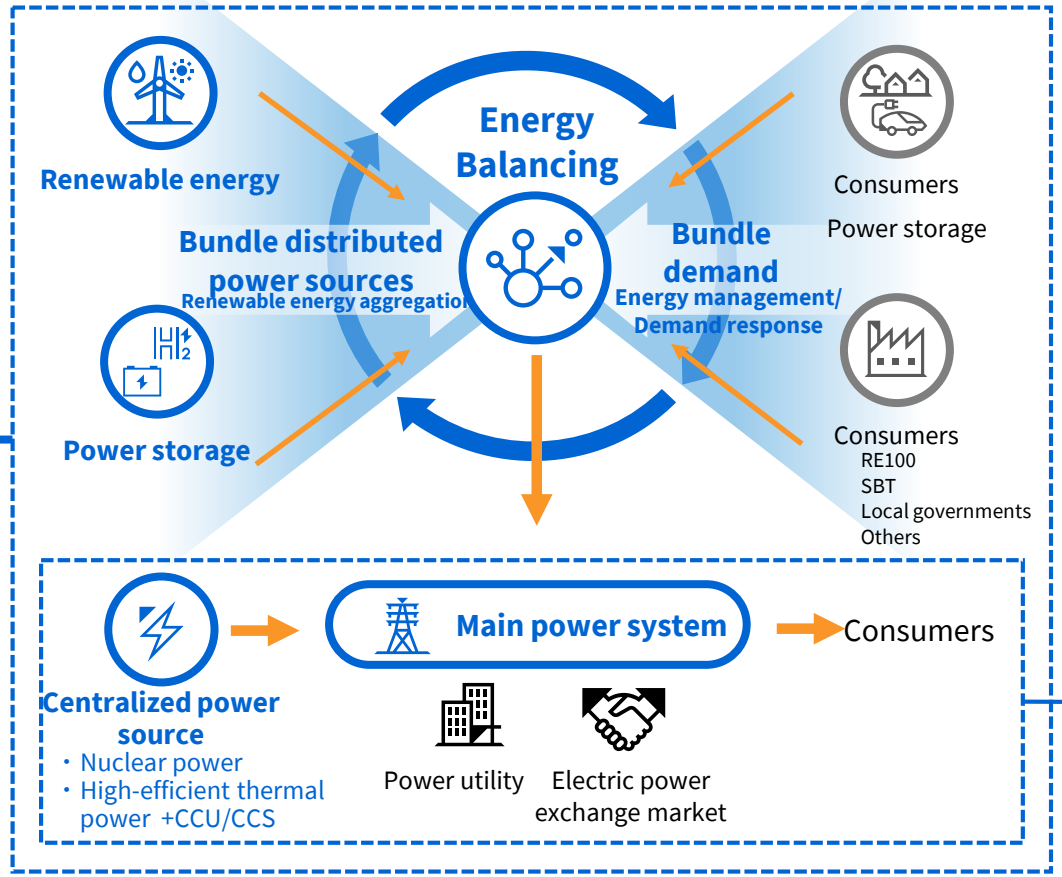
Renewables balancing group



- Supports the operation of the renewable energy balancing group
- Optimal control of charge/discharge, and forecasting of power generation and demand

Provides required functions to renewable energy providers and aggregators in the form of SaaS

Power generation / Demand



O&M solutions package

EtaPRO™ Plant monitoring software

Provides plant performance evaluation and rapidly detects abnormalities

Expansion to power generators and transmission utilities through sharing and utilization of Toshiba's global network & customer channels

- **TBM** (Time Based Maintenance)
- EtaPRO®
- **CBM** (Condition Based Maintenance)

Provides solutions to improve customer's asset performance through data analysis

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

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

Partner companies and organizations

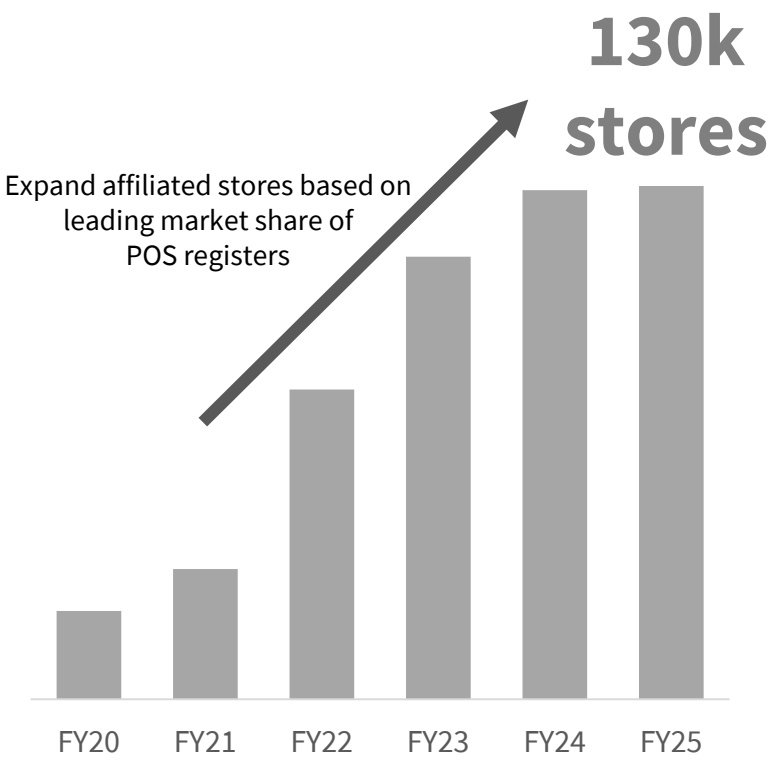
Ubiregi | TIS INTEC Group | Mizuho Bank | TANITA Health Link | ITOCHU | GMO RESEARCH | NEOBANK SBI Sumishin Net Bank | 一般社団法人 スーパーシティAiCTコンソーシアム Super City AiCT Consortium

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

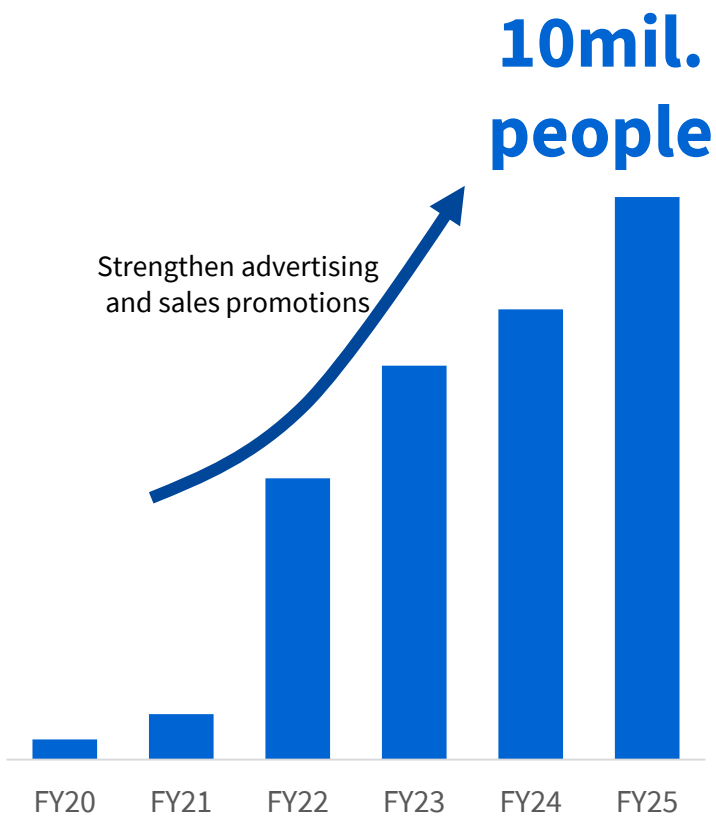
Goal for Purchase Data Collection

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

Number of affiliated stores

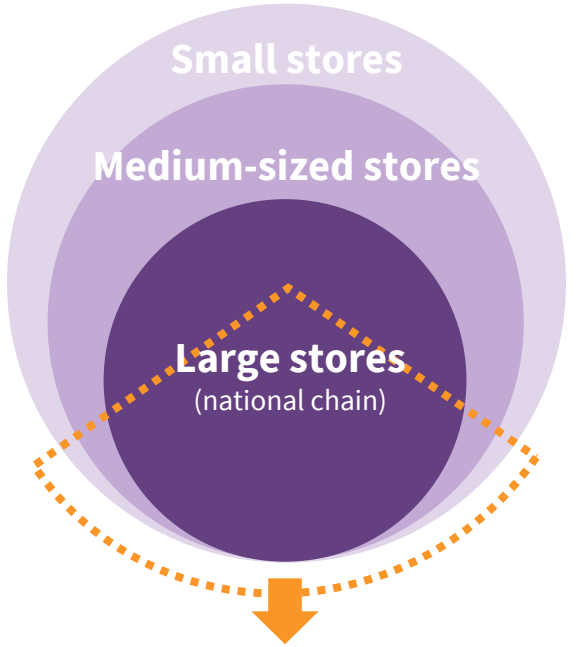


Number of members



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™**

Services

SRM users

Buyer
Primary suppliers

SRM indirect users

Secondary suppliers

Other users

Toshiba group
Procurement system

Non-Toshiba group
Meister SRM™

Primary suppliers
Approx. 10,000

Suppliers
Approx. 4,000

Suppliers
Approx. 9,000

Common suppliers
Approx. 3,000

Supplier data

Supply chain platform *Meister SRM™*

Supplier portal

Company data
Quotation data
Production data
CO2 data

Supply chain data

企業F
企業C
企業D
企業E

Cloud

API

External services

zeroboard

- Company matching
- CO2 emissions calculation
- Supply chain financing
- Supply chain insurance
- Supply chain BCP
- Digital ledger

Data users

Financial institutions

Supply chain financing
ESG financing

Insurance companies

Risk financing
Recall management

Corporate research companies

Data provision service
Credit checks

Supply chain network risk

Enterprise matching service

Reduce cost for meeting technology needs

Matched enterprises

CO2 emission calculation service

CO2

* *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

Present	2025-2035	2035~

Quantum key distribution

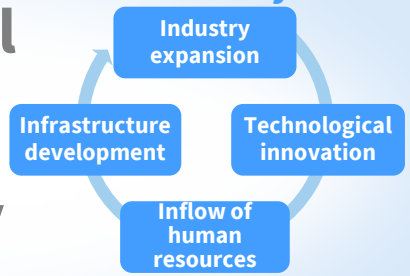
Quantum cryptographic network

Quantum repeater

Quantum satellite communication

General purpose Quantum computer (Quantum Gate Machine)

Virtuous cycle of industry



NISQ

Commercial use of quantum technology

Quantum hybrid cloud
Quantum applications

Quantum annealer
Quantum simulator

Quantum memory

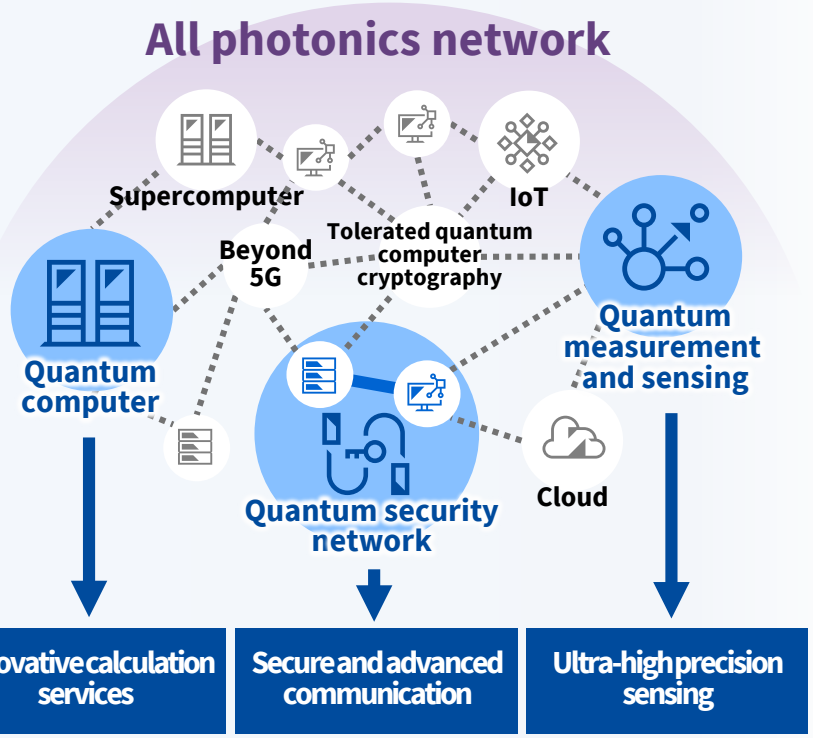
Photoelectric fusion device (Silicon Photonics)

Quantum device

Quantum internet

Hybrid of quantum + conventional technologies

All photonics network



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**

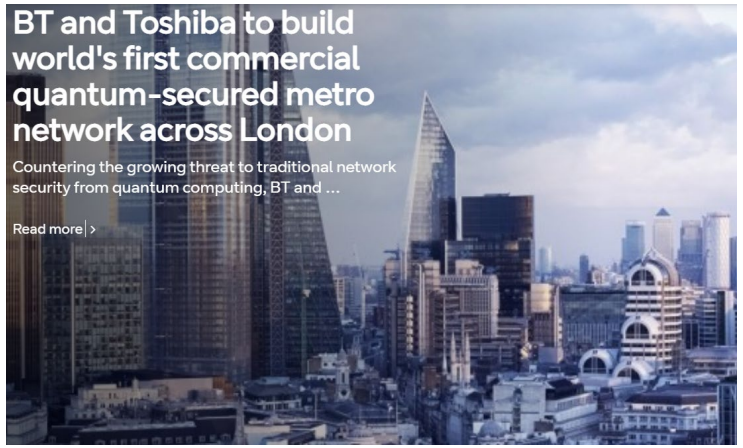
Jointly constructed a quantum test bed with the US Quantum Technology Community **CQE**

(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)



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)

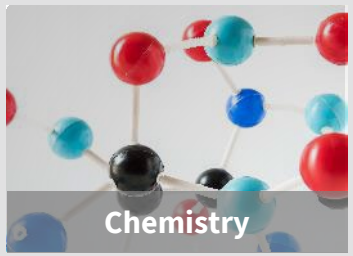
SPEQTRAL TOSHIBA

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

SQBM+™

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



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

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

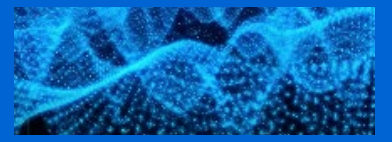
Quasi-quantum computer

Provided by TOSHIBA

TOSHIBA

Quasi-quantum computer

SQBM+™



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

Association for Creating New Industries by Quantum Technologies

Quantum STrategic industry Alliance for Revolution

Q-STAR

Objective: To create quantum-related industries and businesses

Auditor | Advisor

Board of Directors

Representative Director	Taro Shimada, President and CEO, Toshiba Corporation
Vice President	Nobuhiro Endo, Chairman of the Board, NEC Corporation
Vice President	Hiromichi Shinohara, Chairman of the Board, Nihon Telegraph and Telephone Corporation
Vice President	Toshiaki Higashihara, Representative Executive Officer, Hitachi, Ltd.
Vice President	Takahito Tokita, Representative Director, Fujitsu Ltd.
Executive Directors	Yasuji Nagaya, Chairman, Chodai Corporation
Executive Directors	Hideharu Maro, President & Representative Director, Toppan Inc.
Executive Directors	Takeshi Uchiyamada Chairman of the Board of Directors, Toyota Motor Corporation
Executive Directors	Satoshi Miki, Representative President and CEO, Fixstars Corporation

Deliberations and reports

Appointment and Resolution

Executive Committee

- Policy recommendation WG
- Standardization collaboration/proposal WG
- Test bed collaboration WG
- R&D collaboration WG
- Overseas industrial partnership WG
- Long-term roadmap development WG

Use case, etc.

Information FB
Discuss topics for subcommittees

Report on activities by subcommittee chairs

Set up Sub-committee

Subcommittee

- Quantum wave and quantum probability theory applications subcommittee
- Quantum superposition applications subcommittee
- Subcommittee on optimization and combination issues
- Quantum cryptography and quantum communications subcommittee
- ○○○ (to be established in line with quantum technology trends, etc.)

Secretariat

Held workshops with overseas industrial associations to discuss on the possibility of future collaboration

- **QUTAC** (Germany) — Quantum Technology & Application Consortium
- **QED-C** (US) — The Quantum Economic Development Consortium
- **QuIC** (Europe) — European Quantum Industry Consortium
- **Future Quantum Convergence Forum** (Korea)
- **UKQuantum** (UK)

Conducted leader meetings particularly between QED-C, QuIC, QIC, and Q-STAR to discuss 4-way collaboration

- Create a global supply chain map
- Initiatives relating to laws, standardization, etc.
- Host international symposiums

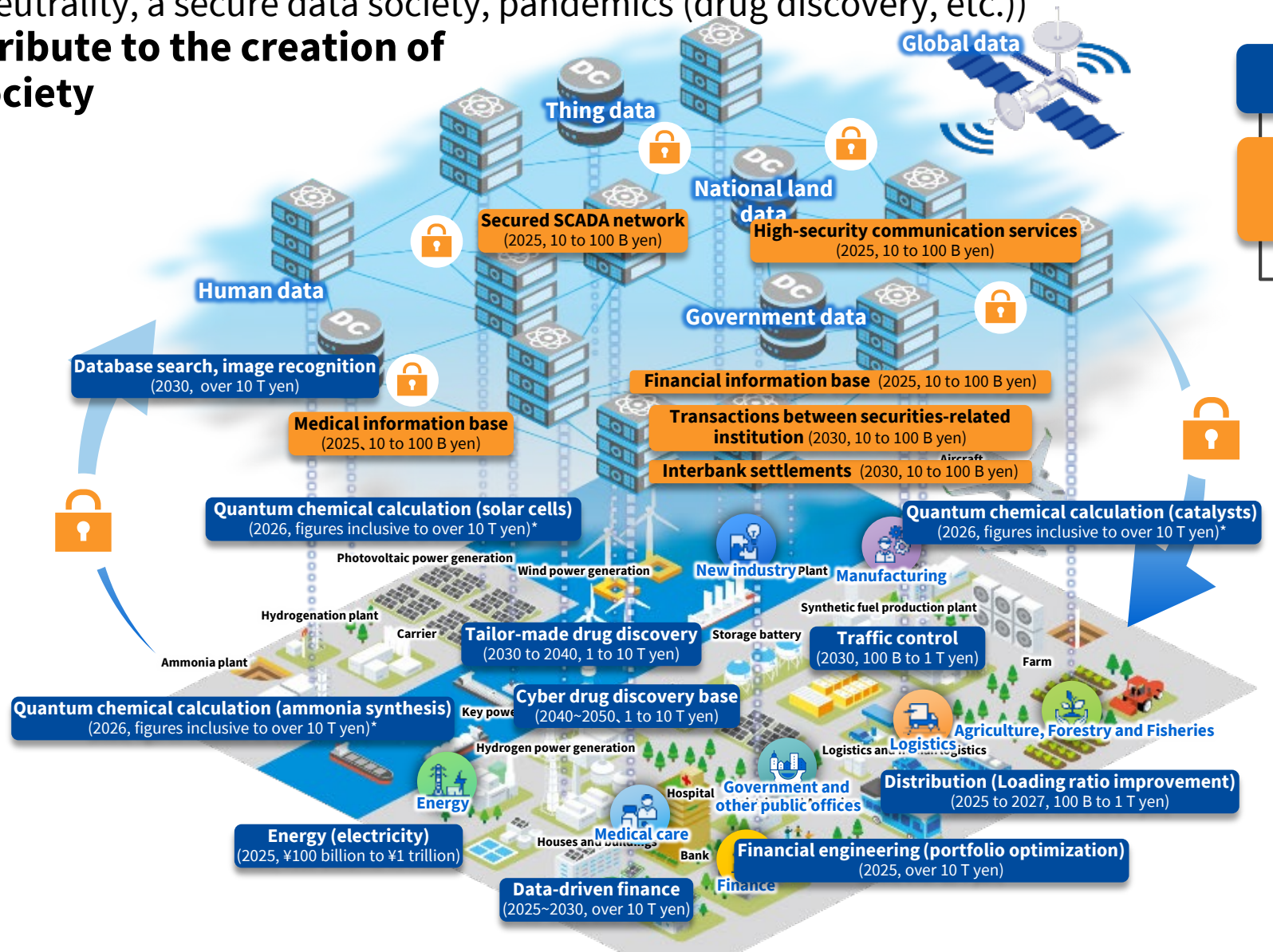
QED-C | **Q-STAR** | **QIC** | **QuIC**

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

TOSHIBA