

Management Plan

Kaneka Corporation

May 19, 2022



1 Awareness of the Time



Challenges of an unknown new frontier with unlimited potential

Toward an Era of Unpredictability

Strengthen
“Adaptability”

Sustainability

Global economy on
a new growth trajectory

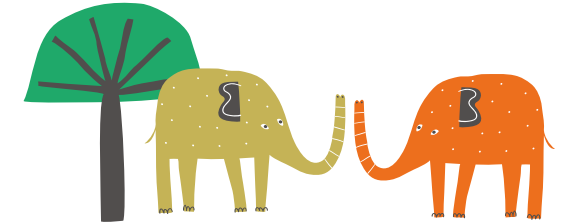
With
COVID-19

Ukraine Crisis

Technology Innovation

Chemistry's Power
of Transformation

Our true global business expansion and
innovation capabilities will be tested



2 Management Policy

“Wellness First” Healthy Management for a Healthier World

Hybrid Management

Human Driven Management



The Dreamology Company
- Make your dreams come true -

Chemistry saves the world.

→ Reduce environmental impact and prove useful to people's lives

Declaration of KANEKA UNITED

→ Accelerate “transformation and growth” of **hybrid management** based on the long-term vision

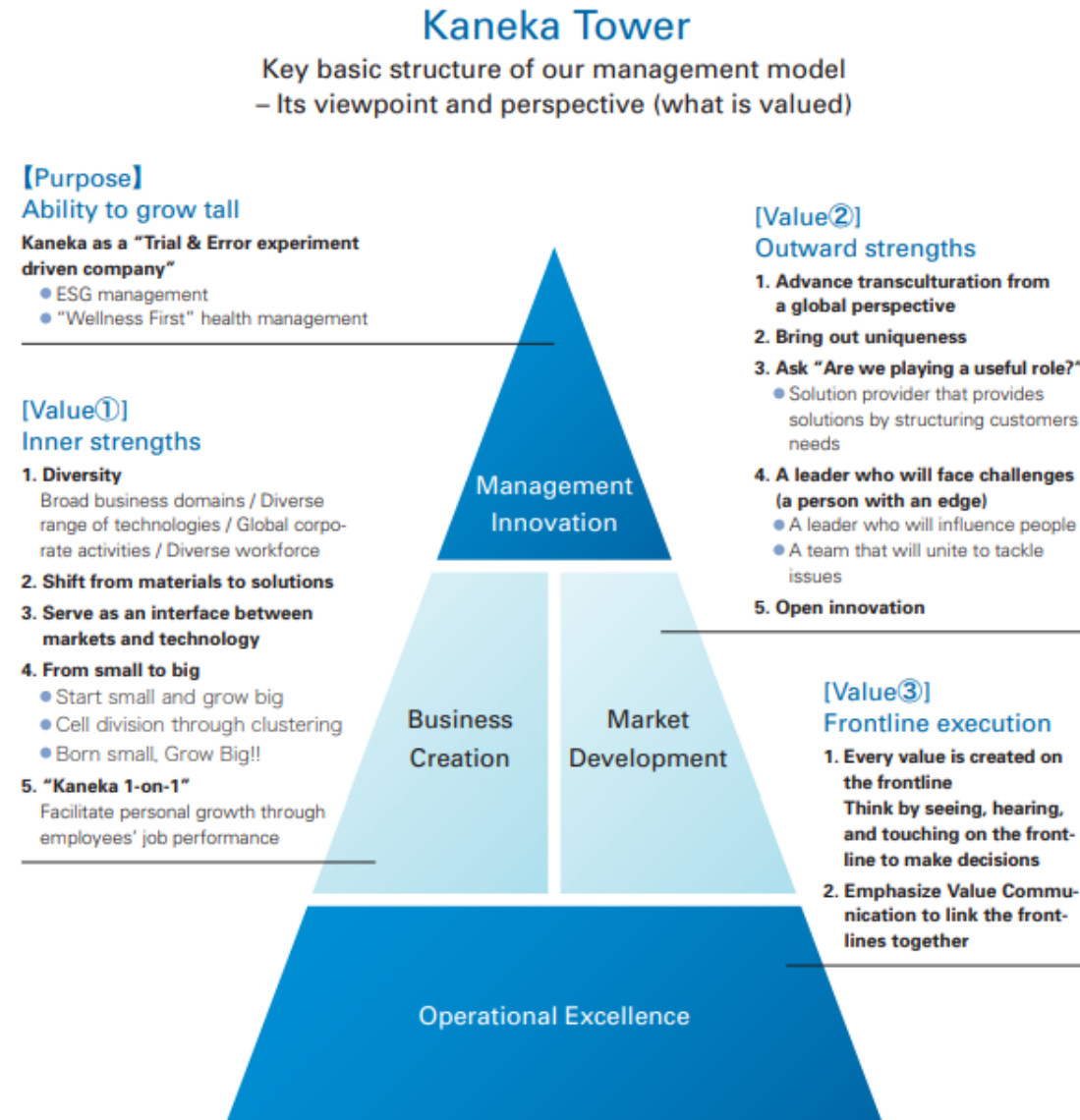
Management System Transformation

→ Transformation into a solution provider

Value Creating Company

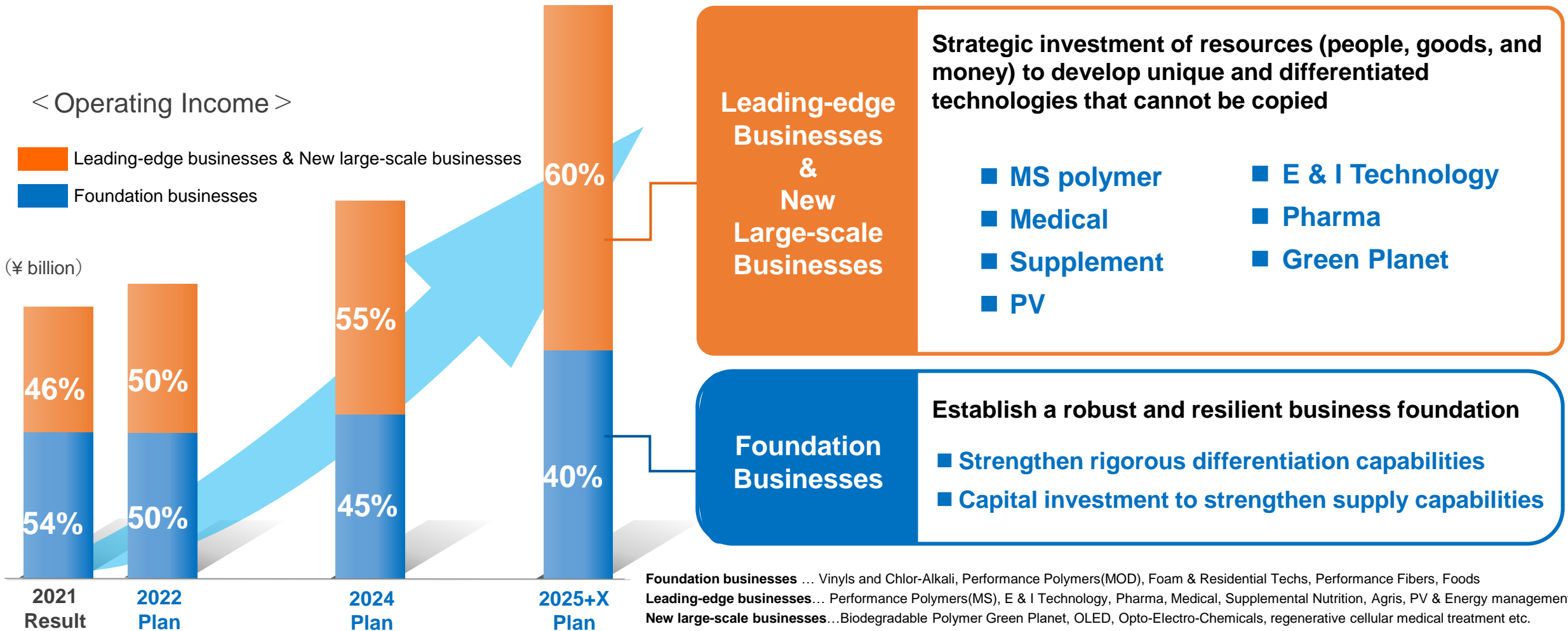
→ A passionate “Trial & Error experiment driven company”

Kaneka's Purpose and 3 Value Drivers



Path to Hybrid Management: Promoting Portfolio Transformation

Accelerate “Selection and Concentration” of investments and aim for leading-edge businesses to account for over 60% of income



Kaneka becomes a “Wellness First” **hybrid company** by making 3 strategic fields into business domains.

3 Crises of Sustainability

“Crisis of Environment & Energy”

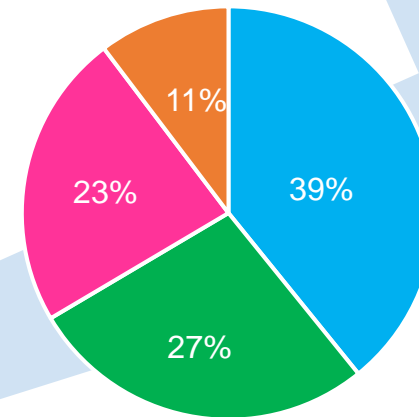
”Crisis of Food”

“Crisis of Wellness”

► Environment & Energy Field

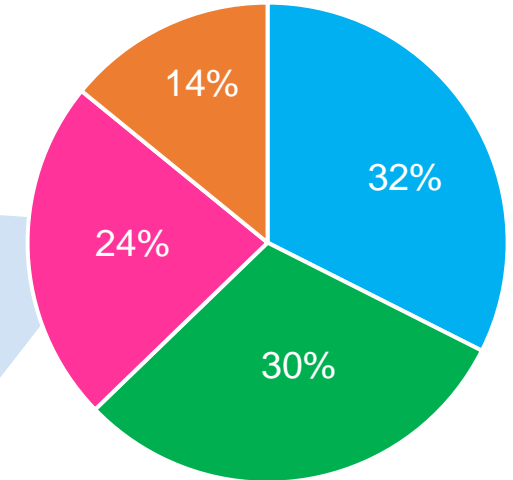
- Solve environmental pollution problems through the social implementation of **Green Planet™**
- **Solar cells**: Contribute to a decarbonized society through the implementation of **high-efficiency solar cells** (heterojunction & perovskite)

< SU Operating Income >



2024 Plan

Total ¥65.0 billion



2025+X year

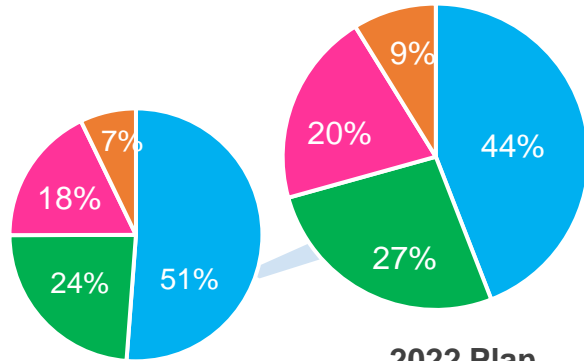
Total ¥100.0 billion

► Wellness Field

- Provide **high-performance materials** to the **digital and communications fields**
- Contribute to future society through **advanced materials and solutions**
- Expand **biopharmaceuticals**
- Provide **solutions for infectious diseases**
- Global expansion of **catheter and blood purification product**
- Enhance and globally expand **the probiotics lineup in the supplement business, etc.**

► “Food” Field

- Expand the dairy product business, organic and recycling-oriented dairy farming
- Expand supplement materials into the food field (**Healthy Foods**)
- Contribute to addressing food production issues through market development in **the seed business**



2022 Plan

Total ¥48.0 billion

2021 Results

Total ¥43.6 billion

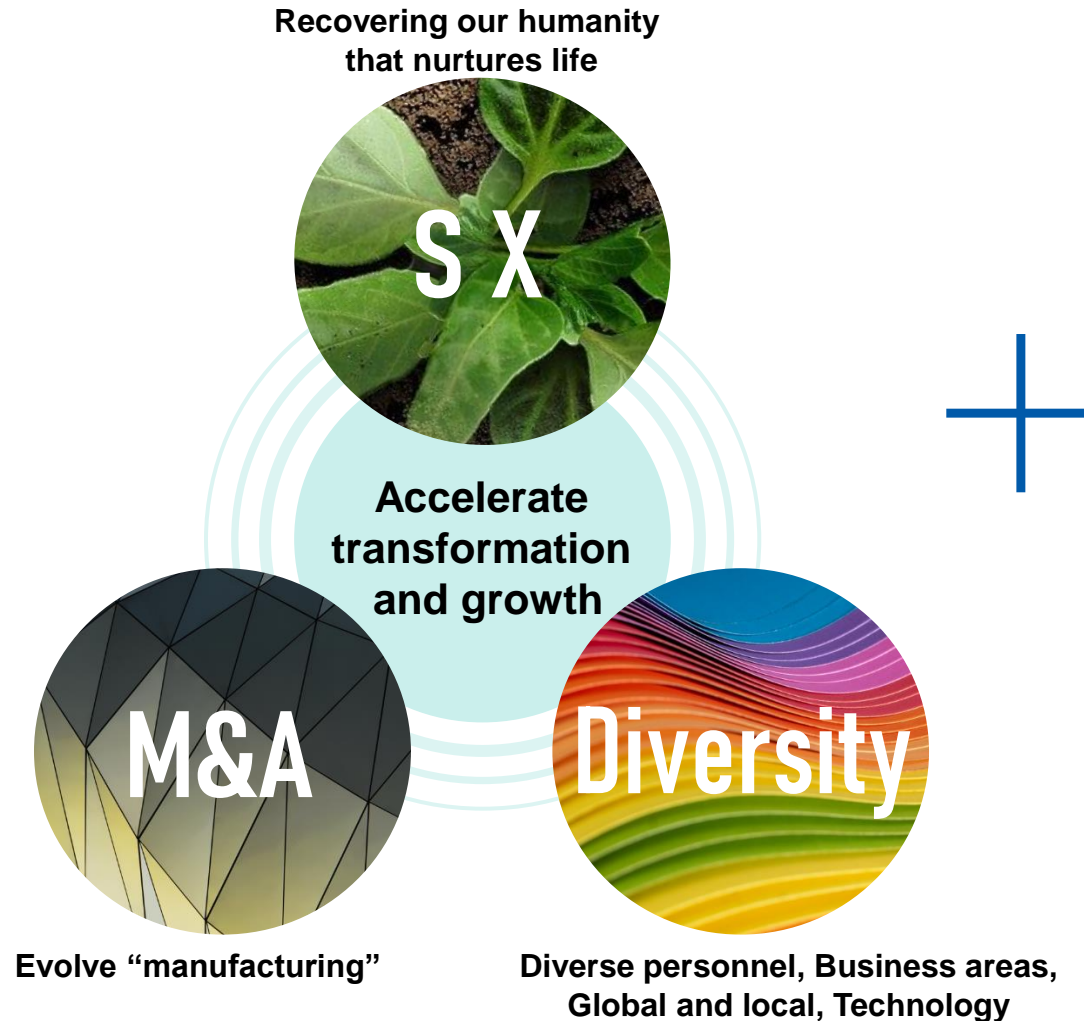
■ Material ■ Quality of Life
■ Health Care ■ Nutrition

3 Mid-term Management Plan



“3+5” Strategy

3 Focal Points



5 Initiatives

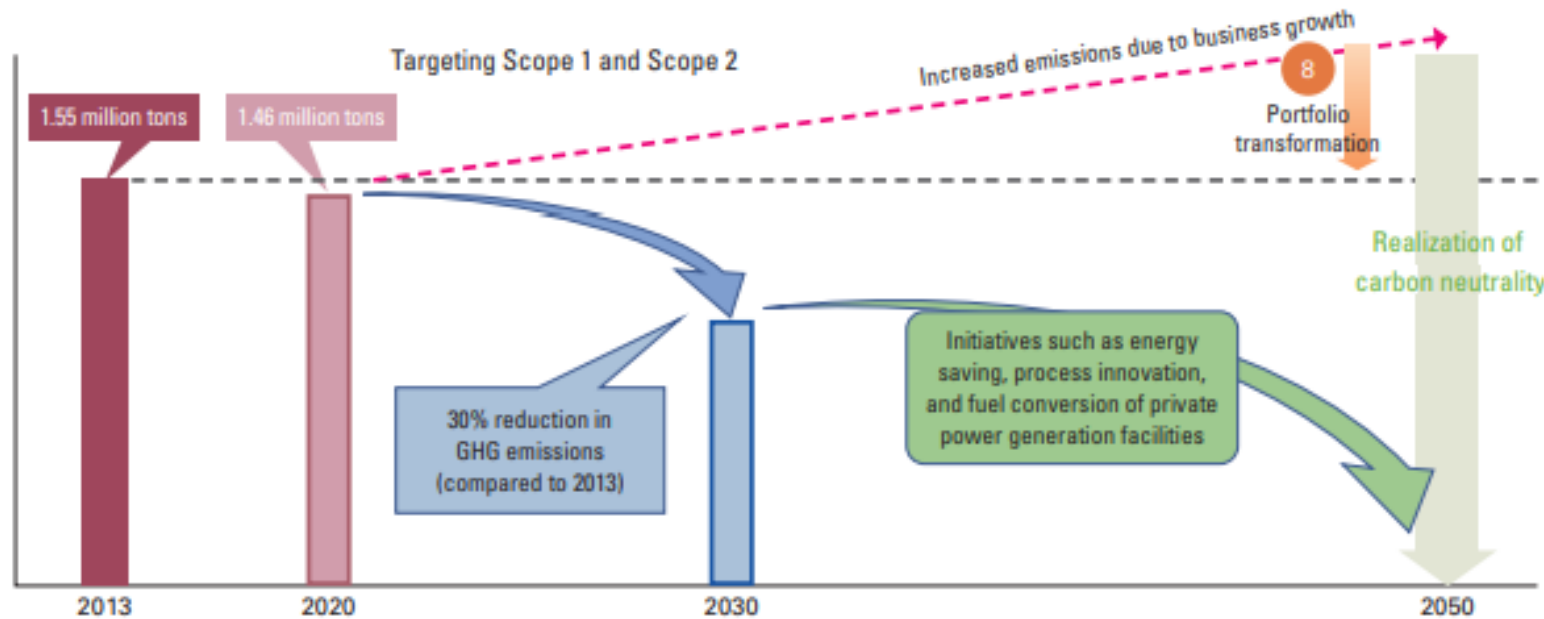
(Focus Points)

- 1 Strengthen Asian Strategy
- 2 DX Strategic Unit
- 3 Carbon Neutral Technology Committee
- 4 Investment Planning Committee
- 5 Diversity Committee

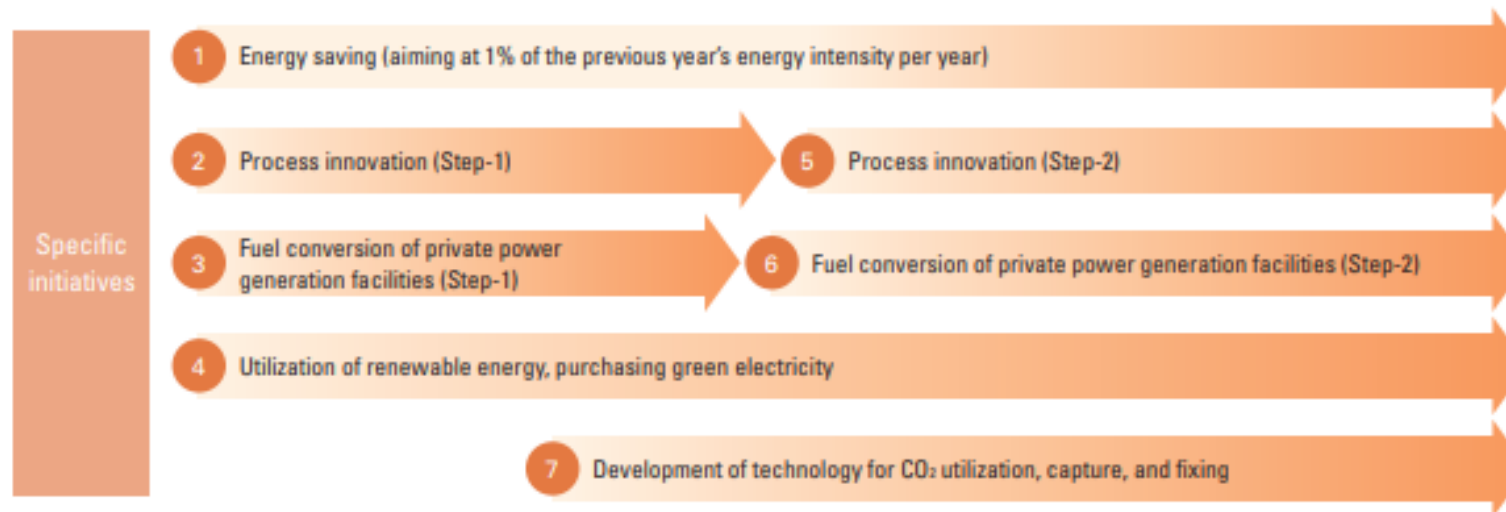
April, 2022

Established “The Engine of Sustainability Management”

➡ Accelerate ESG Management Initiatives



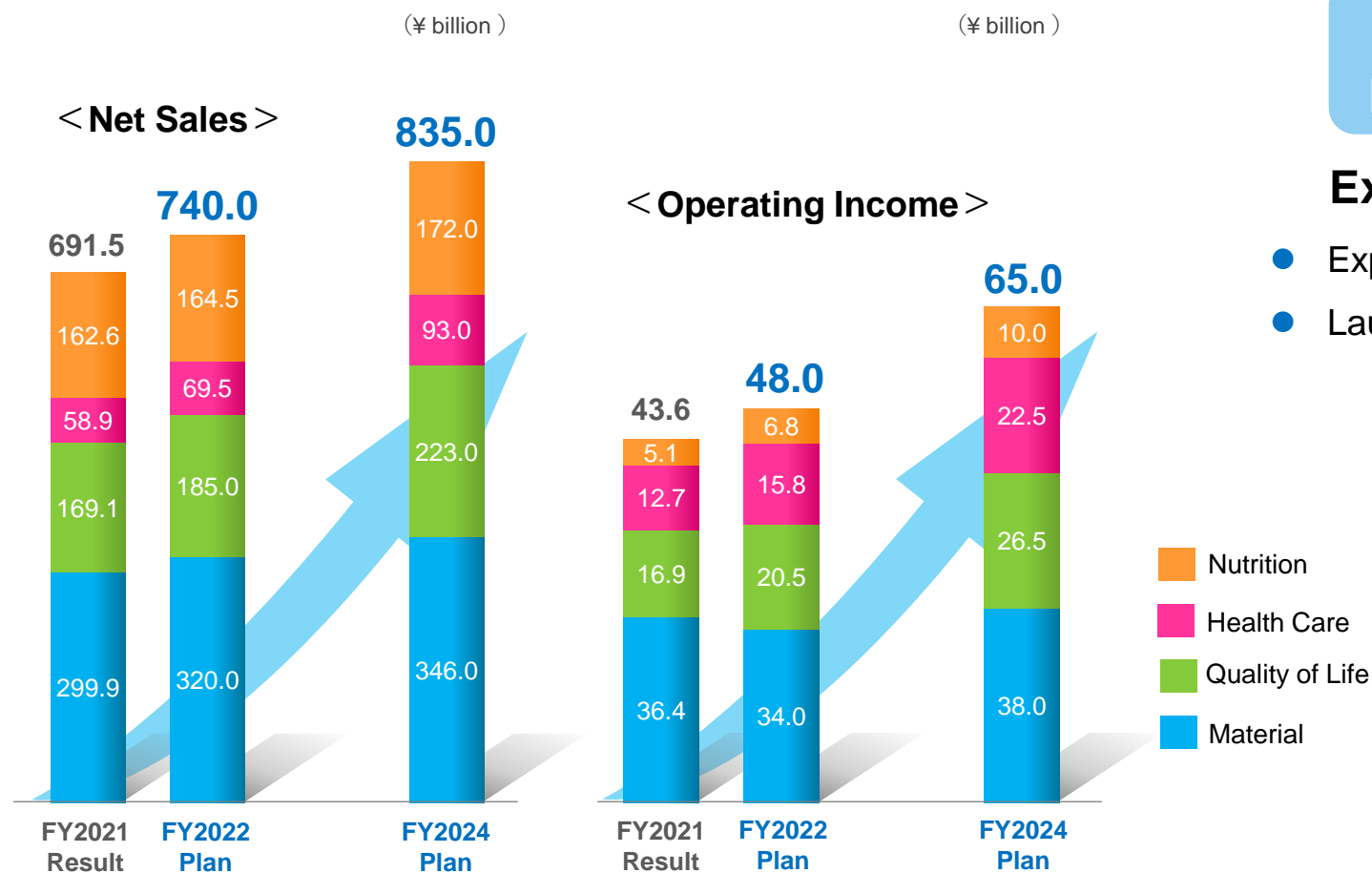
DX & Carbon Neutrality



I. 30% Reduction in GHG Emissions (Compared to 2013) by 2030

II. Realizing Carbon Neutrality by 2050

New Mid-term Management Plan (As of May 19, 2022)



Improve adaptability to respond promptly to environmental changes

Expand net sales and operating income

- Expand sales proactively and increase production capacity
- Launch new products, shift to high-value-added products

Investment Plan
Based on investment decisions
FY2022 - 2024 **¥300 billion**
(Including M&A)

**Invest about 60% in aggressive investment
(capacity increase, new products), and over 5% on DX**

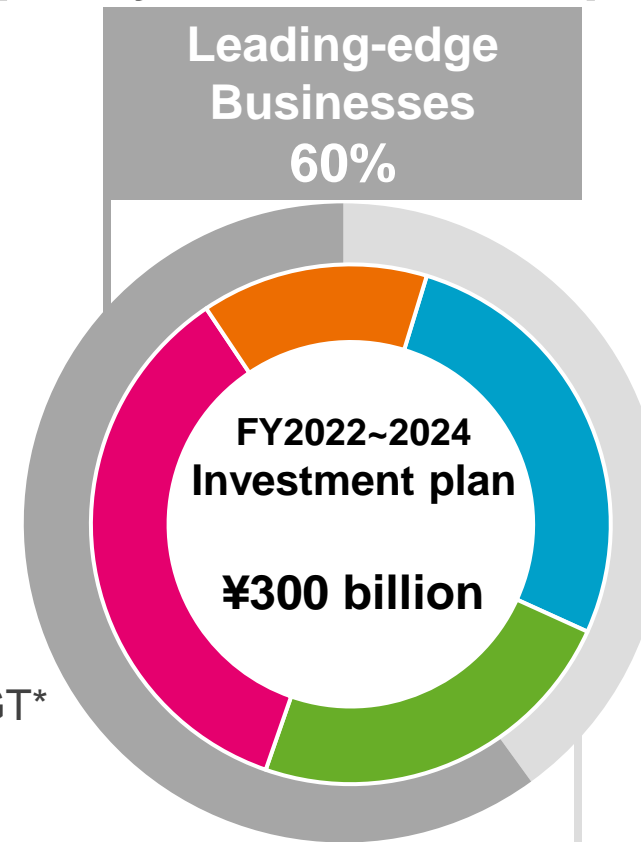
Nutrition

- Construct new dairy product plant
- Construct new probiotics product plant

Health Care

- Increase biopharmaceutical capacity at KEGT*
- Increase API capacity
- Construct blood purification system plant
- Construct new catheter plant

*KEGT=Kaneka Eurogentec S.A.



Material

- Increase biodegradable polymer capacity
- Increase MS capacity
- Increase PVC capacity
- Increase MOD capacity

Quality of Life

- Construct additional high-performance polyimide film and optical film facilities
- Increase PV heterojunction cell capacity
- Construct additional modacrylic fiber facilities

Foundation Businesses & Infrastructure
40%

Earthology Chemical Solution

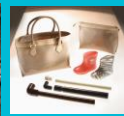
We bring innovation to lifestyles and the environment by harnessing the unlimited potential of chemical materials to help communities achieve sustainability.

Material SU

Vinyls and Chlor-Alkali SV



[Chemicals]
Caustic soda,
sodium hypochlorite,
hydrochloric acid



[Polyvinyl chloride]
Kanevinyl™



[Cross-linked PVC]
Kane XEL™,
Kanevinyl™



[PVC-PVAc polymers]
Kanevinyl™

Performance Polymers (MOD) SV



[Impact modifiers]
Kane Ace™ B,
Kane Ace™ M



[Processing aids/
specialty additives]
Kane Ace™ PA

Performance Polymers (MS) SV



[Silyl-terminated
polyether]
Kane MS Polymer™,
Silyl™



[Acrylic silicon polymer]
Kane Gemitac™

- Strengthen “global and local” supply system for local production, local consumption
- Develop new products and provide solutions according to the needs of each market

[Vinyls and Chlor-Alkali]

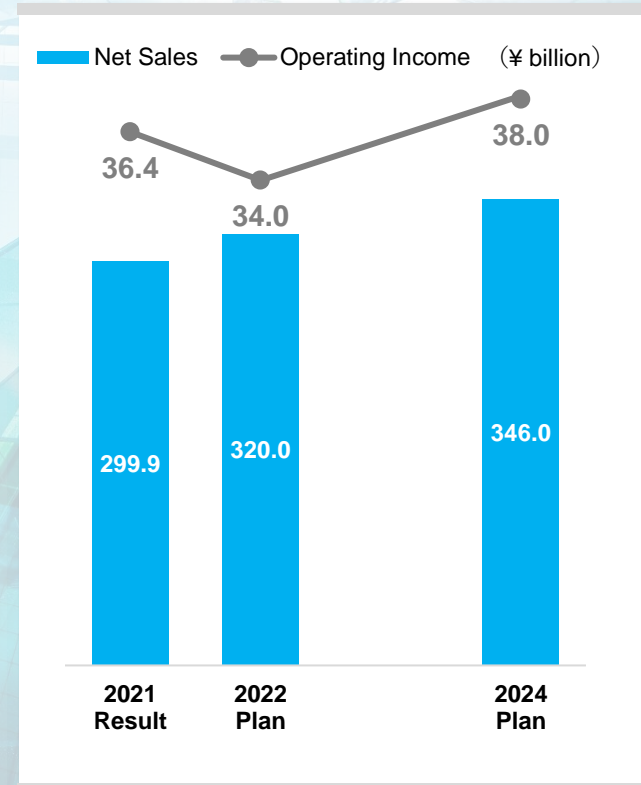
- Strengthen the Chlor-Alkali global business foundation
- Develop new markets and applications for specialty polymers

[Performance Polymers (MOD)]

- Globally expand uses for engineering plastics (for niche specialty polymers)
- Expand the epoxy master batch market

[Performance Polymers (MS)]

- Create new markets in Asian, European and U.S. markets, increase sales and capacity
- Expand the Cemedine business



Earthology Chemical Solution

We bring innovation to lifestyles and the environment by harnessing the unlimited potential of chemical materials to help communities achieve sustainability.

Quality of Life SU

Foam & Residential Techs SV



[Polypropylene foam made with the bead method] Eperan-PP™
[Polystyrene foam made with the bead method] Kanepearl™

E & I Technology SV



[Polyimide film] Pixeo™, Apical™
[Extremely high thermal conductivity graphite sheet] Graphinity™, others

PV & Energy management SV



[Roof tile-integrated photovoltaic modules] VISOLA™
[Photovoltaic power generation systems for public & industrial] GRANSOLA™

Performance Fibers SV



[Materials for hair accessory] Kanekaion™
[Eco fur] Kanecaron™

- Provide a wide range of solutions armed with the power of outstanding materials and original service
- Expand business by leveraging breakthrough technologies

[E&I Technology]

- Expand capacity for resins for Pixeo™ and optical film, develop markets for leading-edge electronic materials

[Foam & Residential Techs]

- Develop and provide ultrahigh insulation materials, globally expand sales of polyolefin foam

[PV & Energy Management]

- Strengthen the supply base, reduce costs, incorporate ZEB/ZEH demand, develop the automotive and non-housing fields

[Performance Fibers]

- Capture more demand in the African hair accessory market, strengthen production capacity of modacryl

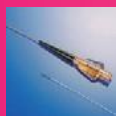


Active Human Life Solution

By adopting a unified approach to food and medicine that is defined by a focus on chemistry, we provide innovative solutions that empower people to live healthier lives.

Health Care SU

Medical SV



[Medical device]
Balloon catheter for
vessel stenosis
dilatation



[Adsorption Type Blood
Purification Device]
Rheocarna™



[Regenerative medicine
& cell therapy]
Cell washing concentra-
tion system



Genetic diagnostic
products

Pharma & Supplemental Nutrition SV (Pharma)



APIs & intermediates
for small molecule
pharmaceuticals



Affinity chromatography
resin for purification of
monoclonal antibody
KANEKA Kan-Cap™
series



Products and services
for Bio-pharmaceuticals



Transdermal medicine

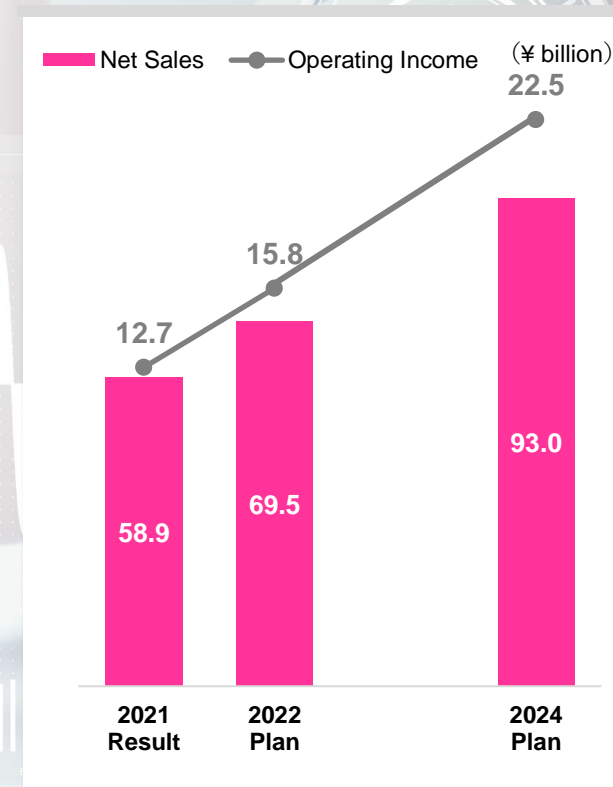
- Accelerate R&B, promote use of external resources such as M&A, open innovation
- Provide unique, leading-edge medical solutions to global markets

[Medical]

- Expand applications and develop globally for blood purification products, enhance strength of Hokkaido plant
- Develop on full-scale for the U.S. market, develop high-value-added new products and new businesses

[Pharma]

- Develop and increase production capacity of innovative technologies in the biopharmaceutical domain, expand globally in the small molecule pharmaceutical domain



Active Human Life Solution

By adopting a unified approach to food and medicine that is defined by a focus on chemistry, we provide innovative solutions that empower people to live healthier lives.

Nutrition SU

Pharma & Supplemental Nutrition SV (Supplemental Nutrition)



[Dietary ingredients] Kaneka Ubiquinol™
 [Dietary Supplements] Watashi no Chikara™ Supplement products
 [Plant-derived probiotics] Lactobacillus brevis ssp. Coagulans
 [Licorice glabra polyphenol] Licorice glabra Kaneka Glavonoid™

Foods & Agris SV



[Milk/Milk beverages] "Milk for Bread" series
 [Yogurt] Watashi no Chikara Q10 yogurt
 [Round block margarine/Sheet margarine] NOVATMEMPEROR™
 [Whipping cream/Cream for kneading& other uses] LACHENTE™ / FRANJE™

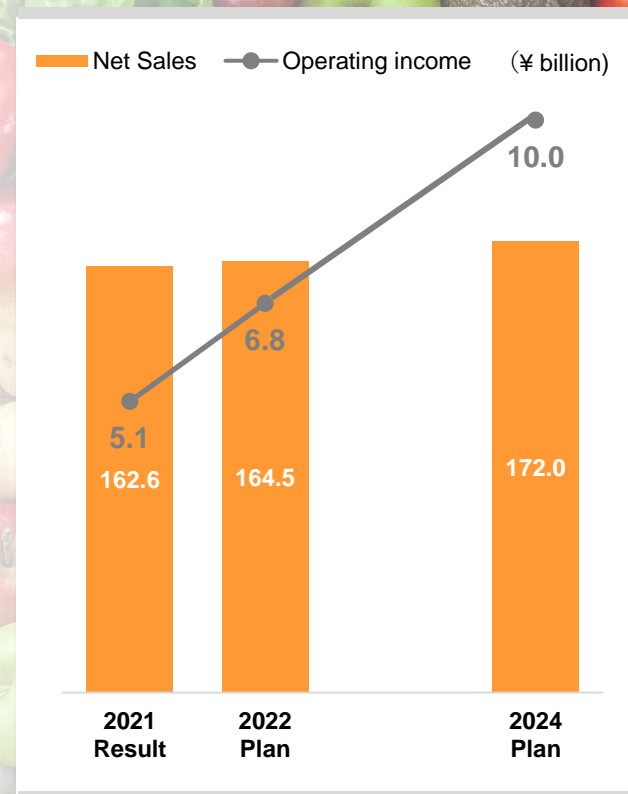
- Provide solutions that contribute to food diversification, food enrichment, disease prevention, health promotion and production in the agriculture, livestock and fisheries fields
- Strengthen customer contact points and brands by utilizing digital technologies

[Supplement]

- Globally expand probiotics sales, strengthen production of coenzyme products

[Foods]

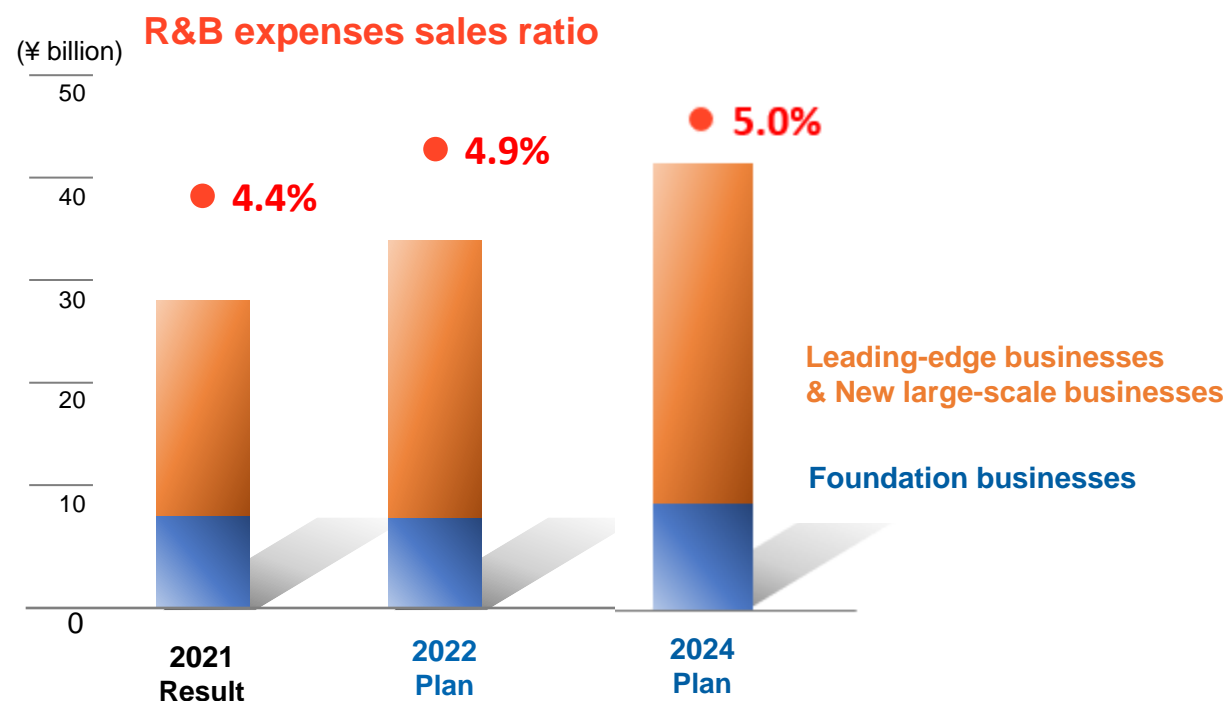
- Boost scalability of the dairy products business, develop antenna shops and E-commerce
- Accelerate development of Asian markets, utilize digital technologies



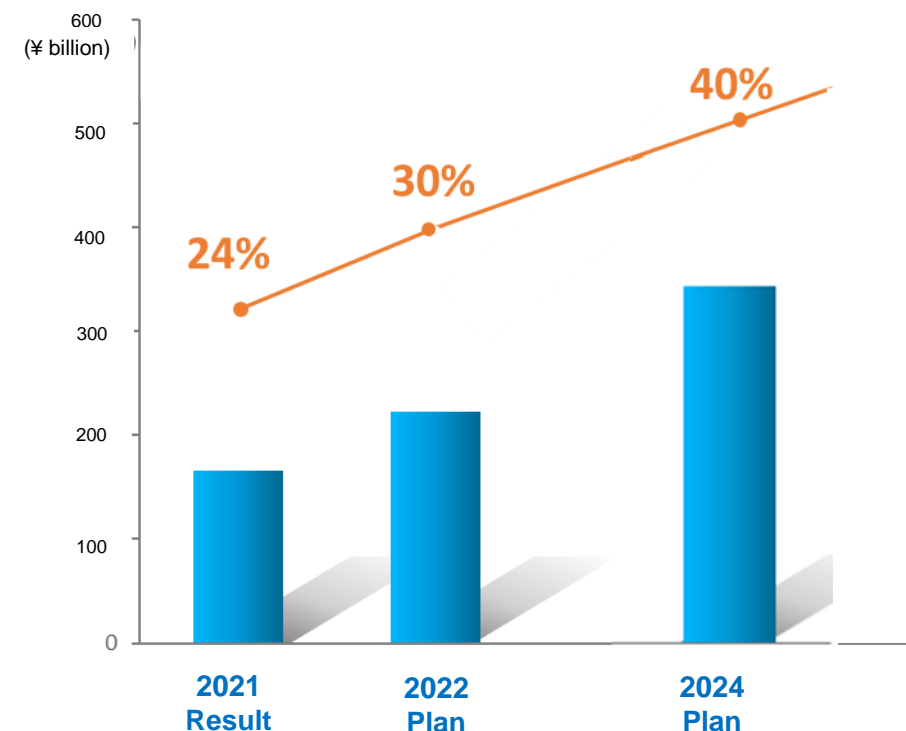
R&B activities generate returns and create a favorable cycle
Generate returns through
R&B activities and create a favorable cycle that reinvests those returns

- Set basic ratio of R&D expenses to net sales at essentially a level of 5% -

< R&B expenses >



< New product sales >

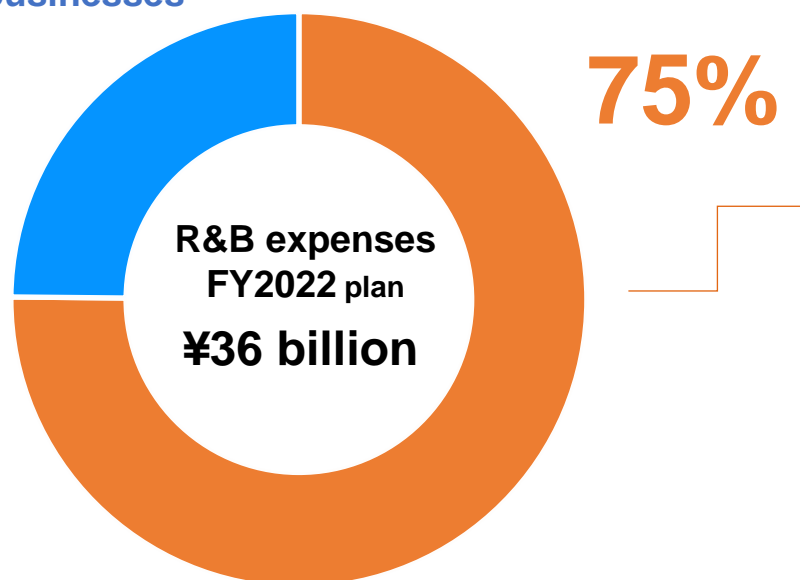


Concentrate **75%** of invested R&B expenses for fiscal 2022 **in important fields**

< Important investment fields >

Foundation
businesses

Leading-edge businesses
& New large-scale businesses



<Important themes> Focus on social implementation and output

KANEKA Biodegradable Polymer Green Planet™

Photovoltaic modules (heterojunction, BIPV, in-vehicle PV), Batteries

Optoelectronics, biologics, Functional food (QH) and probiotics,

Agricultural biology

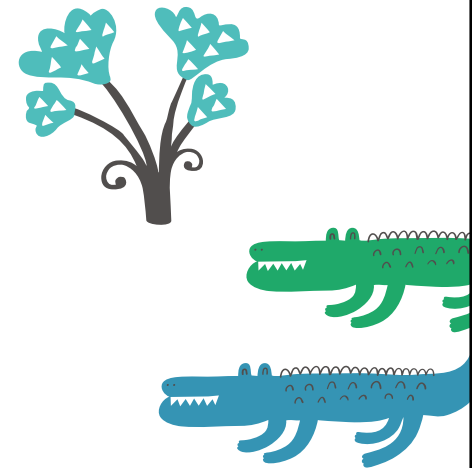
< Themes for new challenges and enhancements >

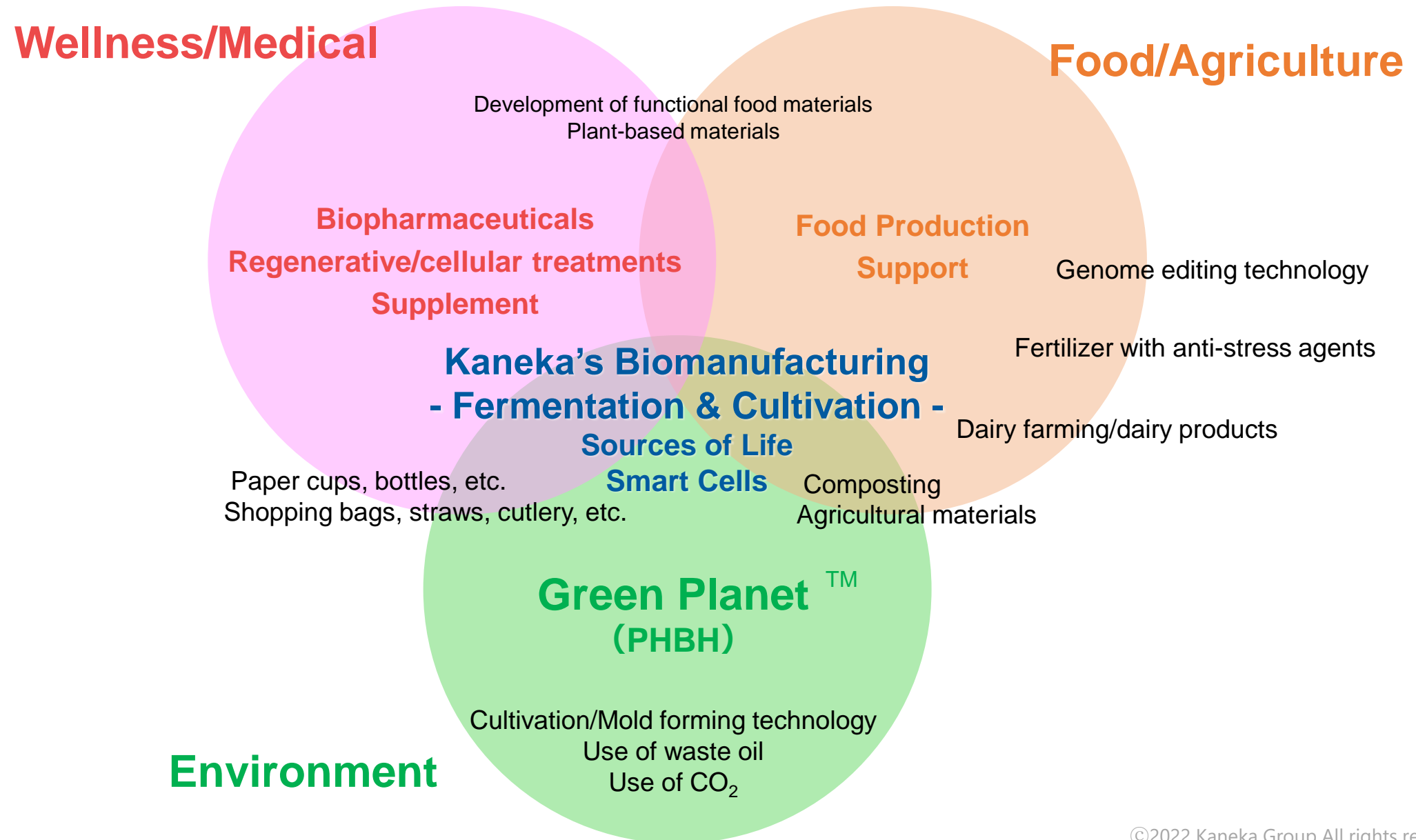
Revolutionizing carbon neutral technology, biodegradable modifiers

Perovskite solar cells, Ultra-low dissipation factor material for 5G

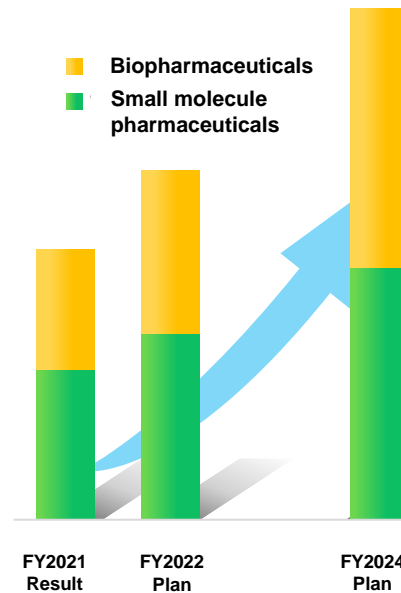
New Drug Delivery System(DDS)/ pharmaceuticals, Plant proteins

4 Make it Real !





Pharma businesses sales



Biopharmaceuticals

Vaccine/Infectious disease

Improve productivity through joint research

University of Louvain

Core technology related to microorganisms

Kaneka Eurogentec

Technology for medicine production through microorganisms



Expand biologics businesses

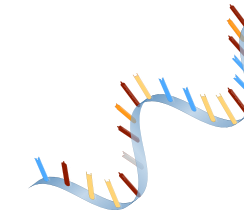
Capacity expansion
→ to global customers

Microorganisms

Expanded capacity in 2021
Currently considering further capacity expansion

mRNA

Full-scale development of mRNA business
Currently considering further capacity expansion



Develop Working Cell Bank (WCB)

Process development
Develop analysis methods

GMP for clinical trials

GMP for commercial use

Small Molecule Pharmaceuticals

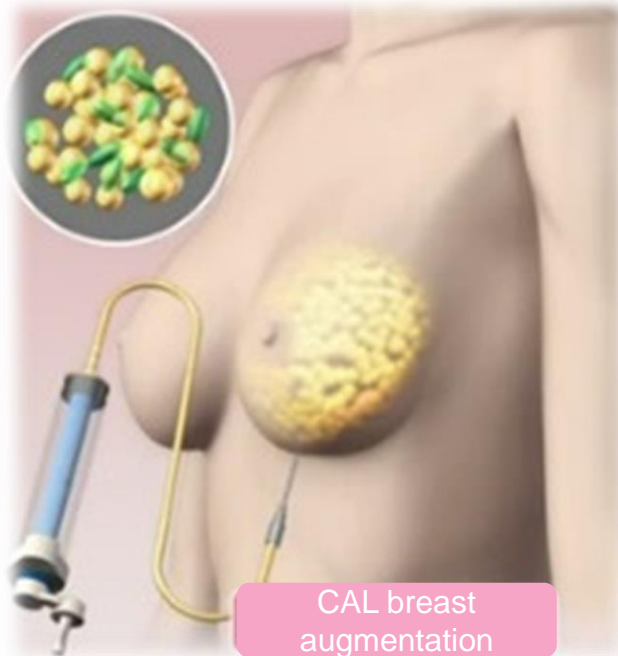
- Expand small molecule CDMO (contract development and manufacturing) business by enhancing the market development structure and deepening relationships with pharmaceutical customers in Japan and overseas
- Increase production capacity through proactive capital investment

Make regenerative and cellular treatments become a standard treatment

Biomaster, Inc.

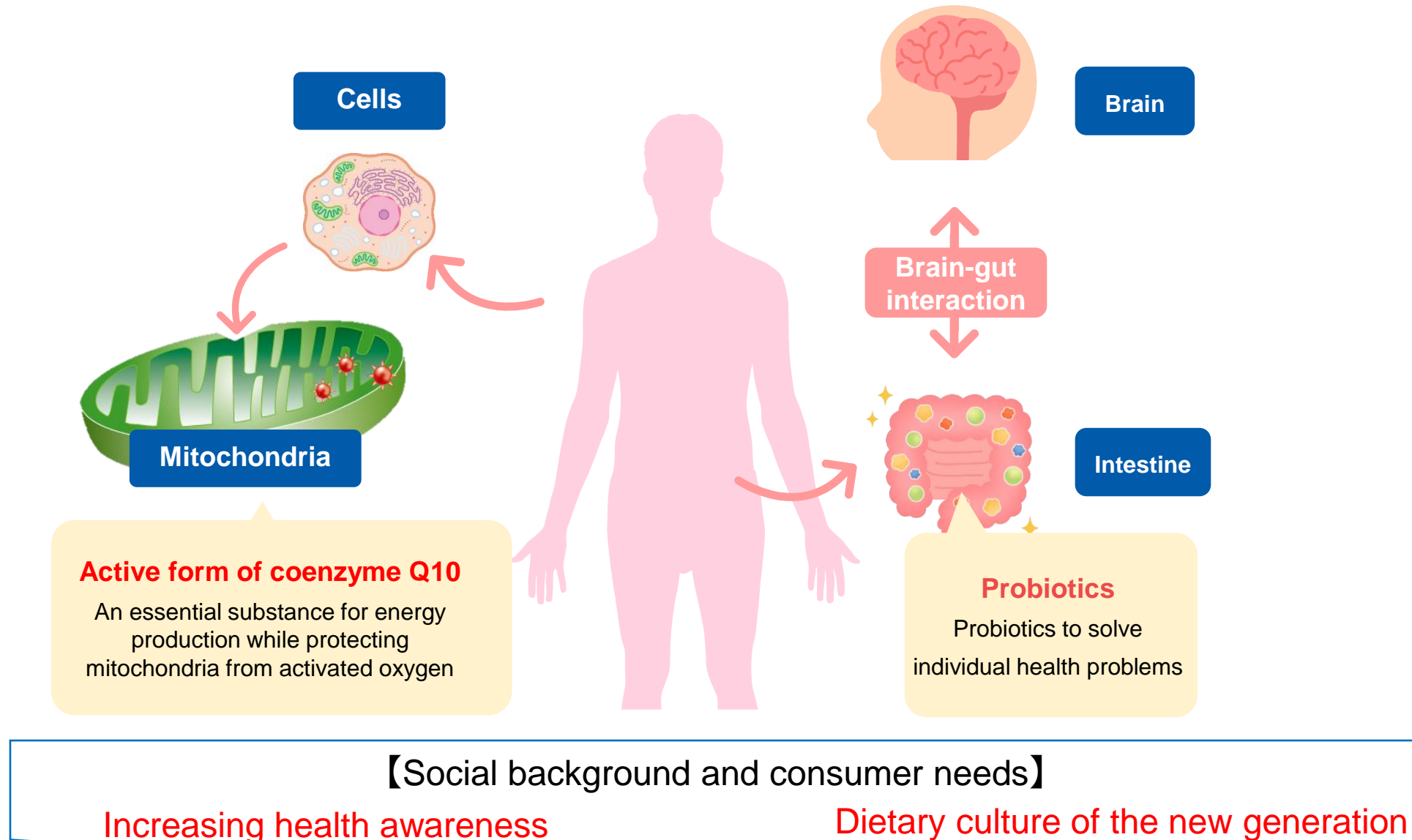
Rich experience with **tissue picking /cultivation, washing/collection, and storage/transportation**

**Cosmetic surgery field
(breast reconstruction)**



**Orthopedic surgery field (knee
osteoarthritis, etc.)**





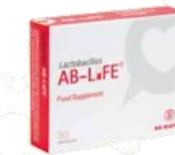
Probiotics for Boosting Immunity

- Purchased Spanish company AB-Biotics, S.A. in 2018
- Provide **probiotics products that have clear effects in humans**
- Develop new products from proprietary probiotics bank derived from humans



AB-Biotics, S.A.

- A company focused on probiotics founded in 2004 in Barcelona, Spain
- Applied by world's leading companies including Sanofi and Mylan
- Develop globally with many customers
- Possess strains that have demonstrated many unique effects in clinical trials
- Applied for over 200 patents thus far



AB-LIFE

Probiotics that are reported to reduce cholesterol

L. plantarum CECT 7527

L. plantarum CECT 7528

L. plantarum CECT 7529



AB-IMMUNO

Probiotics that are reported to support the health of elderly people

L. plantarum CECT 7315

L. plantarum CECT 7316



AB:Dentalac gum

Probiotics that are reported to improve the oral environment

L. plantarum CECT 7481

L. brevis CECT 7480

P. acidilactici CECT 8633



i3.1

Probiotics that are reported to improve the quality of life for patients with IBS

L. plantarum CECT 7484

L. plantarum CECT 7485

P. acidilactici CECT 7483



AB-KOLICARE

Probiotics that are reported to treat the infant colic

P. pentosaceus CECT 8330

B. longum CECT 7894

Medical 'Offer a solution of extend Healthy Life Expectancy'

Kaneka

Investment: ¥10 billion

Start of operation: June 2024

Will supply products
throughout the world
from the Tomatch district
of Hokkaido

New construction of a blood purification device's plant



Global expansion



Blood purification system
Liposorber

Sales expansion of new product



Device for treating
severe arteriosclerosis obliterans
Rheocarna



Rheocarna

Highly effective at treating severe arteriosclerosis obliterans

Sales expanded due to high evaluations from medical frontlines

A pioneer of medical solutions that treat diseases
by removing disease-causing agents in blood
Leading the world in blood purification treatment

Medical 'Offer a solution to extend Healthy Life Expectancy'

Kaneka



ED COIL (coils for embolization of brain aneurysms)
Development of the overseas medical device market
Expand sales globally

**Develop products that will make it possible to
address blood vessels in various organs
through macromolecular material technology
and processing technology**
Lead intravascular treatment solutions



Enhance Vietnamese plant for catheter production

Investment: ¥1 billion

Start of operation: May 2022



Global development



Embolization of brain aneurysms
i-ED coil

Launch of new products



Fractional flow reserve measurement device
Coronary FFR wire

**Launch new products in catheters and the
blood purification business, and increase
results through global development**

Solving the social issues of food production

Climate
change

Food self-
sufficiency

Food
loss

Protein crisis

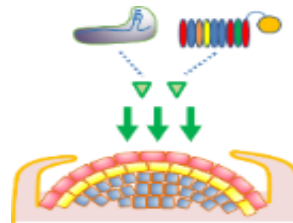
Highly functional
nutritional food

Genome editing
technology



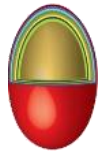
Fertilizer with
anti-stress agents
Bioagrichemicals

iPB method



Eco-friendly seed-related business
Seeds and seed processing agents
Plant protein material
Sales target of ¥40.0 billion

Develop seeds with
useful properties



Disease-resistant

High nutritional value

Pest-resistant

High storage
performance
properties

High productivity
under unfavorable
environments

Joint development with
customers (for NPBT)

■ Enter the seed business

→ Collaboration with downstream
companies (food processing companies,
etc.)

■ Seed processing agent business

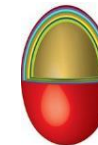
2023-27

2030 and beyond

- Strengthen the global research and development structure
→ **A U.S. base**, partnership with leading companies

Present

Seed processing agent
business



Technology forming a business foundation

Genetic delivery technology (iPB method,
cultivation technology), seed processing
technology, fermentation technology

Dairy products business contributing to health

○Development of Belgium and the Netherlands's advanced organic dairy farming technology

- Scheduled to acquire organic certification in December 2022

Betsukai Wellness Farm



New cattle barn



○A unique product lineup

- Improving the intestinal environment through taste & probiotics
- Acquire functional claims

Belgian yogurt



“Milk for Bread” series



Q10 yogurt
High protein yogurt



To the new supplement brand holders

○Create a market in Japan for AB-Biotics SA's functional probiotics

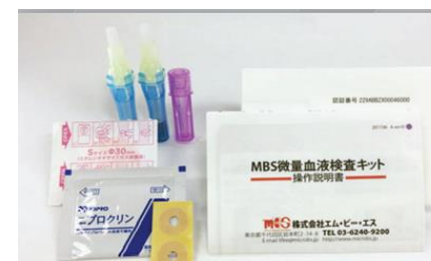
- Increased global capital investment
- Create a market in Japan for AB-Biotics SA's functional probiotics



○Create a new market for active form of coenzyme Q10

Establish visualization technology

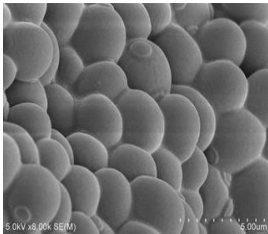
- Ensure food stability
- Technology to visualize blood concentration



Entry into the plant-based food market

○ Development of plant-based meat (acquire protein sources through biotechnology)

- Soybean protein: Productivity through genome editing technology
Development of soybeans with no beany smell
- Acquire new protein sources
 - : Protein production through yeast and microorganisms
 - : Protein production through yeast and microorganisms



○ Added taste through unique technology

- Fat modification technology
- Seasoning blending technology
- Emulsification and fermentation technology
- Protein enhancement processing technology



Establishment of a digital business model

○ Expansion of customer services utilizing IT technology

- Develop an informational campaign by making full use of direct mail and social media
- Develop an informational campaign by making full use of direct mail and social media



○ Expand the E-commerce business (merchandise sales) through websites

- KANEKA's technology, transmission of product information/sales
- Expand KANEKA's online store



- Establish antenna shops for food



- 100% plant-derived polymers (biomass polymers)
- Superior biodegradability (in soil and in seawater)
- The only biomass material that biodegrades in seawater and in soil
- A wide variety of physical properties that allows it to replace general-purpose plastics

	Ocean Decomposition	Soil/Compost Decomposition	Non-biodegradable
Biomass (Renewable raw materials)	Green Planet (PHBH)	Green Planet (PHBH) PLA Bio-PBS	Bio-PE Bio-PP Bio-PA Bio-PC Bio-PET
Petroleum-derived raw materials	PCL	PBSA PBAT PBS	(General-purpose plastics) PE, PP, PA PC, PET

A miraculous polymer Green Planet™

Wellness-first global environment

We will contribute to solving the worsening microplastics problem in the ocean by means of our 100% plant-derived polymers.

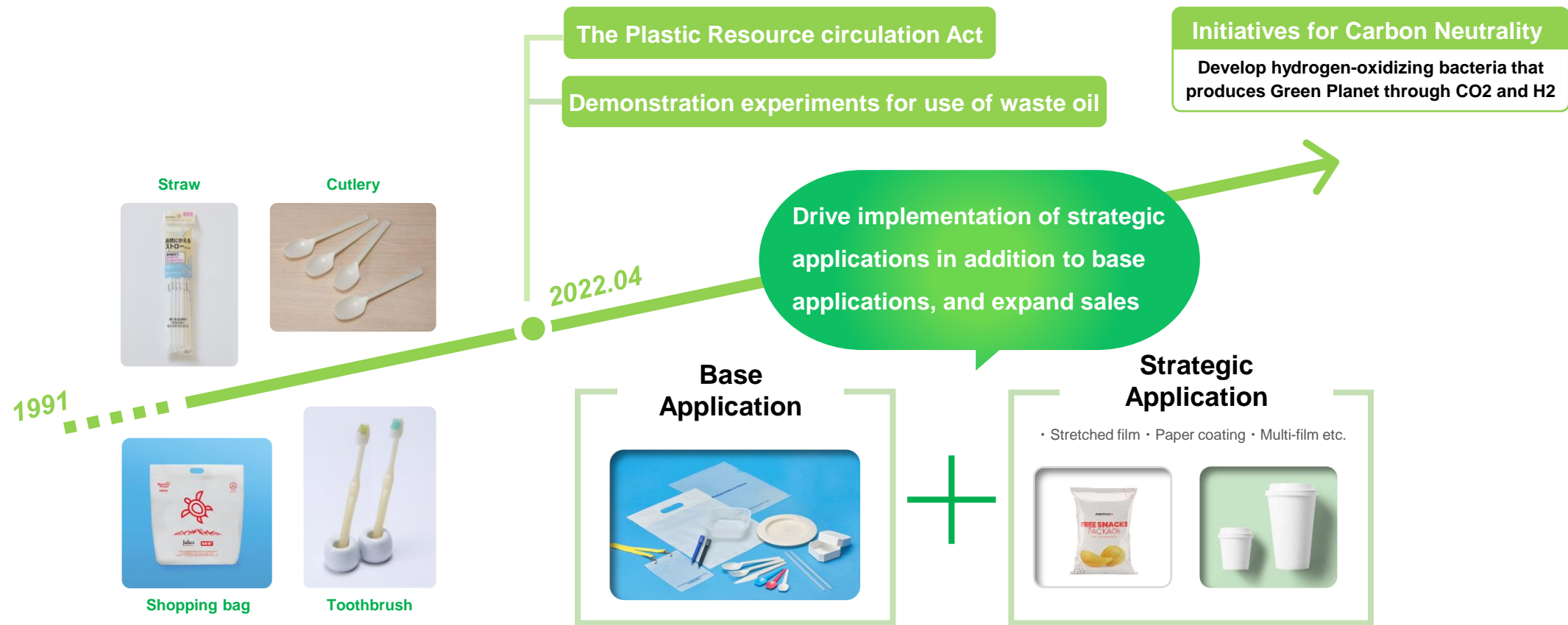
What is microplastics

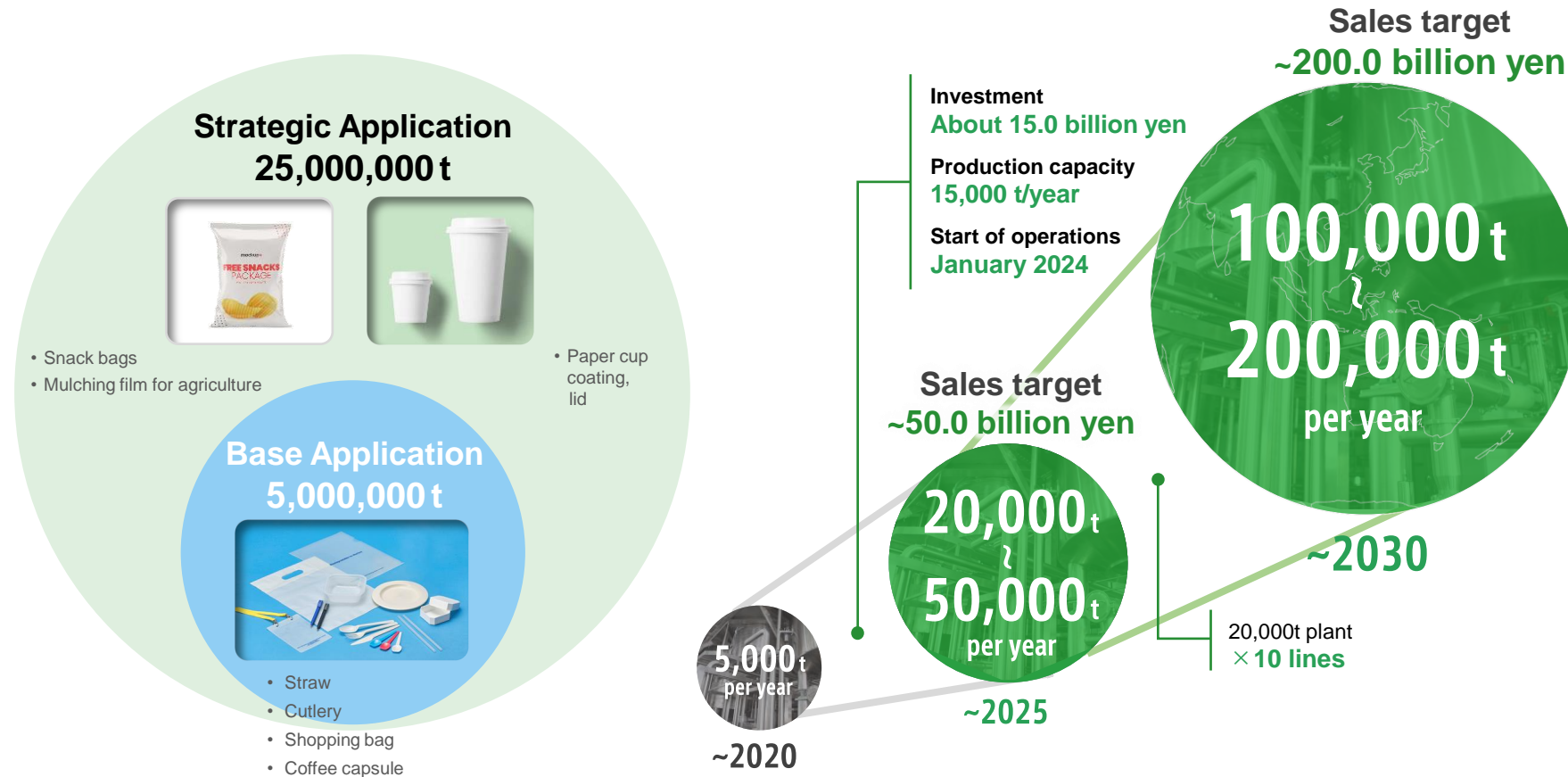
Fine plastic pieces with a diameter of 5 mm or less (Finely crushed plastic while it floats in the ocean)

The amount of plastic flowing into the ocean

Over 800 million tons per year

Source: Jambeck et al. 2015





Unified with Building Material

- Also functions as a building component
- Can be set in many directions, and contributes to peak power reduction
- Also reduces power transmission load through self- consumption

**New construction projects
with major general
contractors underway**



provided by Taisei Corporation

In-Vehicle PV

- Demands for designs of modules to be loaded into vehicles and for high cell performance cells are increasing toward vehicle decarbonization

**Development of production
technology to implement mass-
production of vehicles**



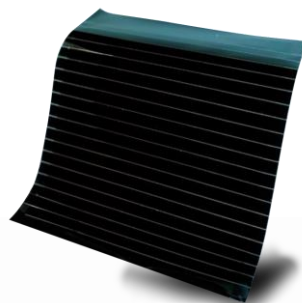
provided by Toyota Motor Corporation



Solar roof (prototype)
heterojunction back-contact crystalline
silicon solar cell

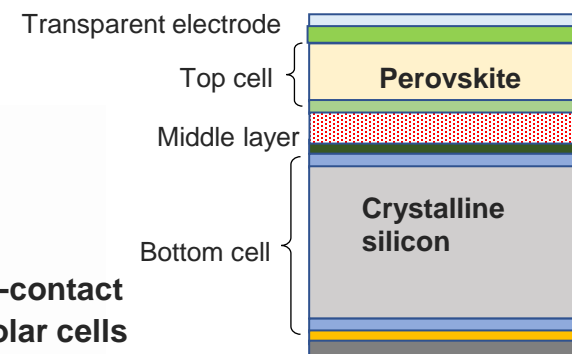
High-performance Photovoltaic Modules Accelerating the Implementation of “Perovskite Solar Cells”

High-performance solar cells accelerating the implementation of “perovskite solar cells”



Ultra-thin perovskite solar cells using in-house developed polyimide substrate with a thickness of approx. 10μ

Development of perovskite/heterojunction crystalline silicon tandem solar cells



Heterojunction back-contact crystalline silicon solar cells

Heterojunction back-contact crystalline silicon solar cells

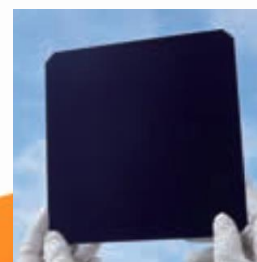
Thin film silicon tandem solar cells



13.4%



25.1%

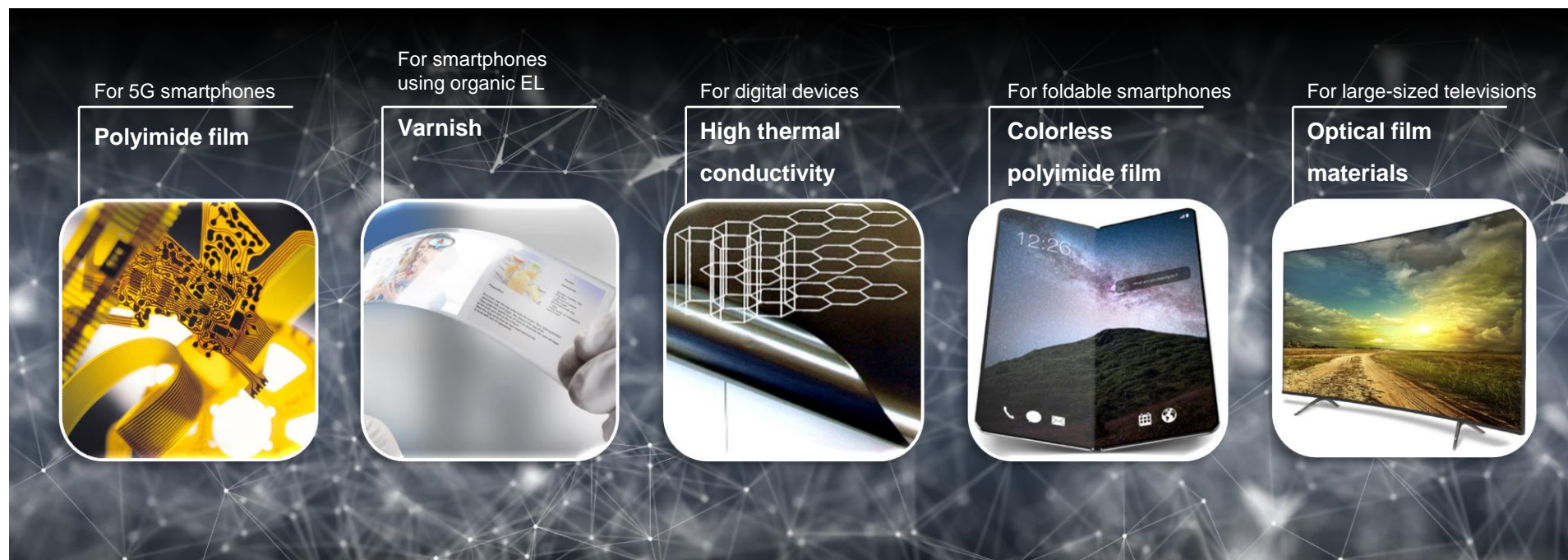


26.7%

< World's highest solar cell conversion efficiency >

Combine the technologies of perovskite solar cells and crystalline silicon tandem solar cells to develop technology that achieves the highest efficiency in the world

> 30%



- **Polyimide film compatible with 5G**
- **Launch of polyimide film as a substitute for glass**
- **Entry into optical materials for CMOS sensors**
- **Enhance performance and increase capacity of acrylic film for optics**

Kaneka

The Dreamology Company

— Make your dreams come true —