

Businesses Bridging Pharmaceuticals and Food & Beverages

Kirin Holdings Company, Limited March 2019

Rise of Health and Well-being Issues



- Soaring healthcare spending
- → Increase in self-care needs
- Health and well-being issues in \rightarrow Measures to extend healthy the era of "the 100 YEAR LIFE" life expectancy

motor functions, cognitive functions, anti-aging

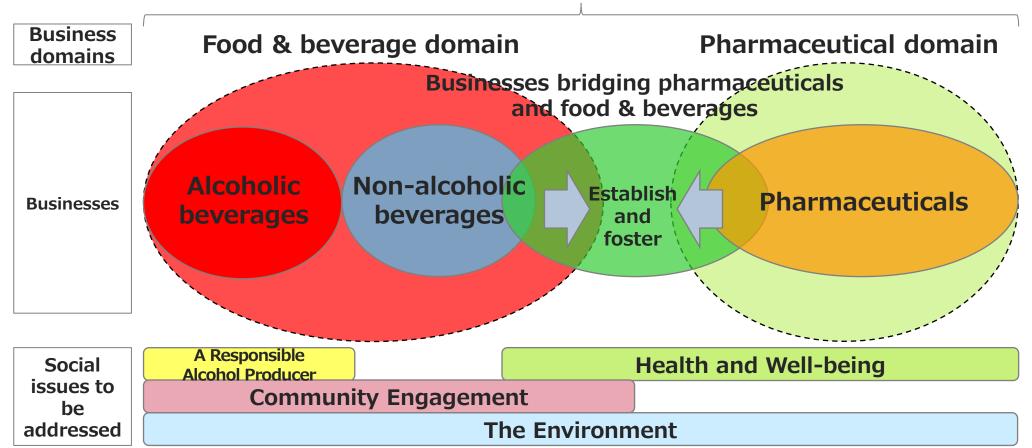
- Health and well-being issues that medicine cannot solve
- → Non-medical measures for lifestyle related diseases and minor infectious diseases

Target Business Portfolio



- In KV2027, Kirin will redefine the business domains of the Kirin Group.
- Kirin Group will establish and foster "Businesses bridging pharmaceuticals and food & beverages" by utilizing organizational capabilities and resources within the existing businesses.

Kirin Group's Business Domains Ranging from Food & Beverage to Pharmaceuticals



Business Model



- Targeting the consumer segment with health and well-being related issues, Kirin aims to establish multiple businesses that comprehensively provide personalized products and services through new channels based on strong evidence.
- Kirin positions Kyowa Hakko Bio at the core of "Businesses bridging pharmaceuticals and food & beverages," and aims for growth by maximizing the group's resources.

Consumers without health concerns



Prevention / Control



Medical treatment



KIRIN









プラズマ



KYOWA

KYOWA KIRIN

THORNE

Kirin Company plant research center

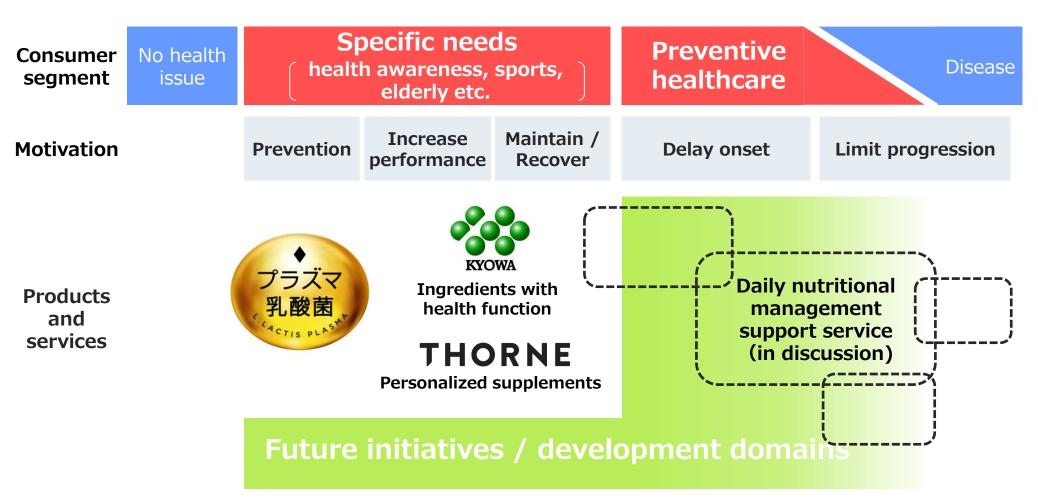


Establish multiple new businesses in the future

1. Consumer Segment with Health and Well-being Related Issues



Kirin will target the consumer segment with strong awareness for improving and advancing health conditions. In particular, unmet needs not covered by medical treatments are major social issues, which is a growth opportunity for Kirin. Kirin will contribute to resolve the issues utilizing the benefits of food & beverages.



2. Strong Evidence



■ With Kirin's unique ingredients backed by scientific evidence, Kirin will develop products and services that are clearly differentiated. In addition to the high functioning amino acids marketed by Kyowa Hakko Bio, Kirin will strengthen the group's R&D capability that would bridge pharmaceuticals and food & beverages.

Food & beverages

Pharmaceuticals

Lifestyle support

Decaf (Caffeine control)

High functioning amino acids

Functional ingredients

Support comfortable lifestyles by unique functional food & beverages



Immune system

Lactococcus lactis strain Plasma

Lactobacillus strain KW



New business through medical channel based on immunological science



Brain function

Citicoline

Ingredients derived from food & beverages (hops / milk)





Provide "one-stop self control solution" through products and services



"Plant smart cells"

Active vitamin D3
(NEDO* "Smart Cell" project)

Pharmaceutical related materials (beneficial proteins)

*NEDO:

New Energy and Industrial Technology Development Organization

Provide products
made from
"plant smart cells"
that meets the needs
for high quality and
low cost

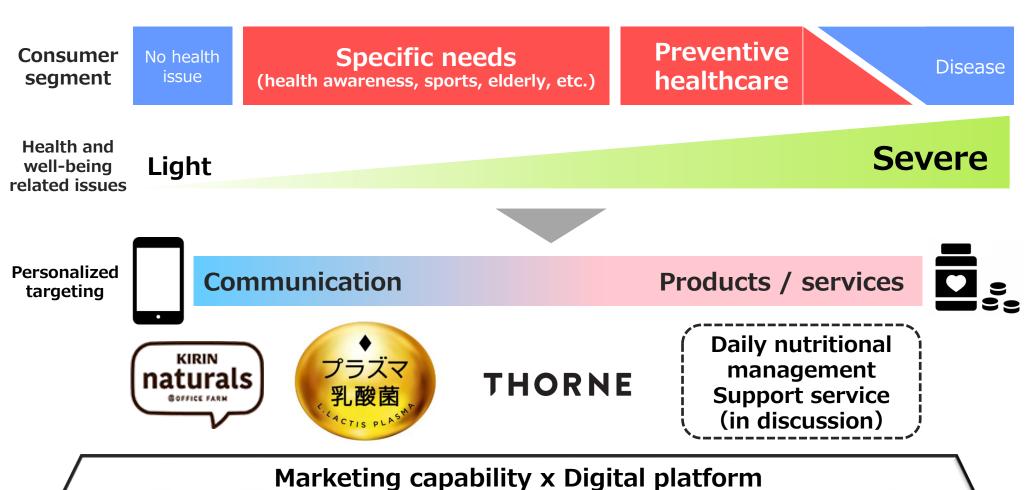


Group-wide technological capabilities

3. Personalized products and services



■ Demand for personalized solutions is increasing as the health and well-being related issues are becoming important. Kirin will nurture new businesses in the area of "businesses bridging pharmaceuticals and food & beverages" by applying marketing capabilities Kirin has established in the food & beverages businesses.



4. Channels with Credibility



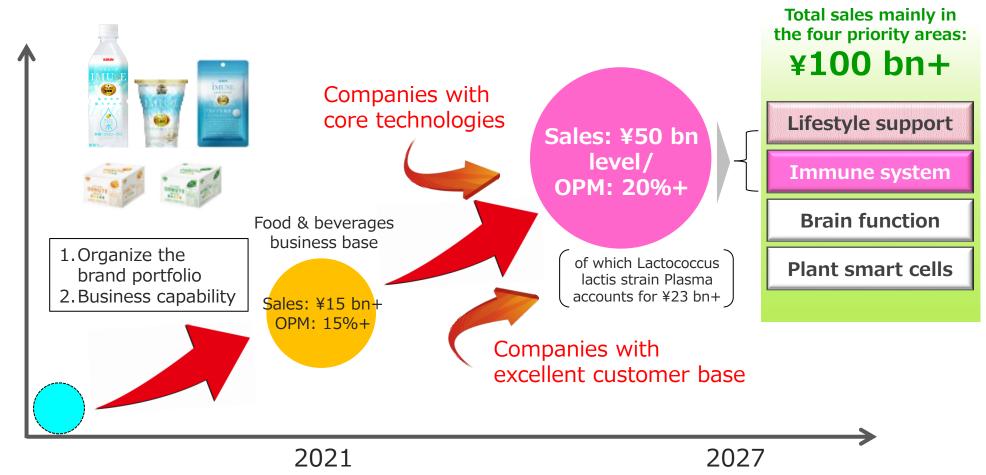
- In order to enter the health and well-being market, Kirin will work with channels and professionals highly trusted by consumers. i.e., physicians, pharmacists, and other healthcare professionals.
- Kirin will also strengthen direct-to-consumer business.



Business rollout model 1 iMUSE as a driver for establishing health support food & beverage busines similarity



- Kirin will position iMUSE brand as the center of the new business establishing trust through healthcare professionals. The brand will be rolled out in multiple categories internally and externally with the unified credibility.
- Besides iMUSE, Kirin will also look into various areas where Kirin can apply its science, including alliances with external partners.



Business rollout model 2 Envisioning the application of "Plant Smart Cell" technology



■ Leveraging Kirin's plant bio technology, we will work on developing and manufacturing pharmaceutical related materials, by partnering with universities and venture companies.

Research and development of plant biotechnology



Development example: NEDO* "Smart Cell" project (Active vitamin D3)



Clean room in the pilot facility

2018

Plant Biotechnology
Project launch
(Plant Research Center)



2027

Materials for pharmaceutical products



Materials for veterinary medicine

2021

Reagent for medical research

*NEDO: New Energy and Industrial Technology Development Organization



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