



# Pursuing New Opportunities and Overcoming Challenges in Future Food

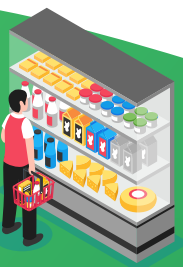
# FUTURE FOOD

Future Food is an elevation of traditional food production processes by utilizing modern technology capable of addressing “the challenge of food insecurity” and “responding to the ever-changing demand of consumers” after COVID-19.



2022  
food prices  
skyrocketed  
by **14.3%**

from previous year,  
reaching 30-year high.



**670** million people  
(8 % of the world population)  
will face food scarcity.



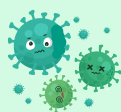
**Food Insecurity**

**Global warming**

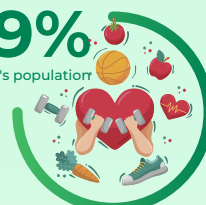
deteriorates  
agricultural areas.



**Ever-changing demand**  
of consumers after COVID-19



**79%**  
of the world's population



shows an **interest in**  
**health, well-being, and**  
immunity boosting.

**63%**  
of the world's population

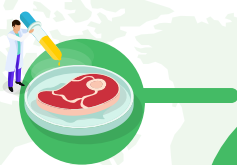


has been growing an **interest in**  
**Future food** such as plant-based  
protein and cell-based meat.

## Types of Future Food

### Novel Food

is an alternative meat  
that can be divided into  
2 groups 1) plant-based  
meat and 2) cell-based  
meat.



### Medical Food

is specially formulated for patients  
with chronic or congenital diseases.  
For example, patients with Inherited  
metabolic disorders or Alzheimer's.



### Organic Food

is produced through farming practices  
that are free of artificial chemicals,  
Genetically Modified Organism (GMO)  
processes, hormones, and antibiotics.



### Functional Food

includes supplements that strengthen  
health and immunity, for example, dietary  
supplement products.



# Global Market of Future Food

Future Food  
CAGR 10.5%

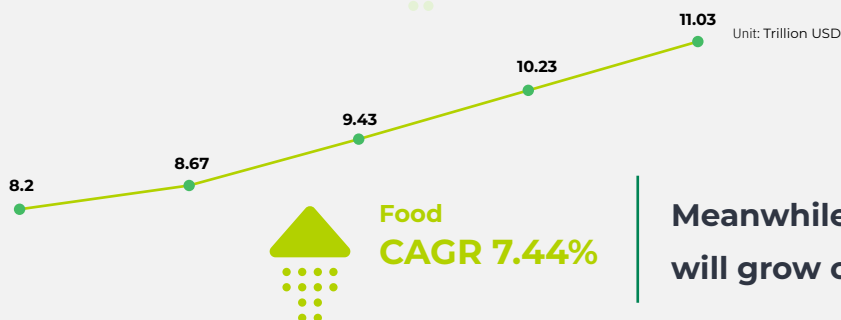
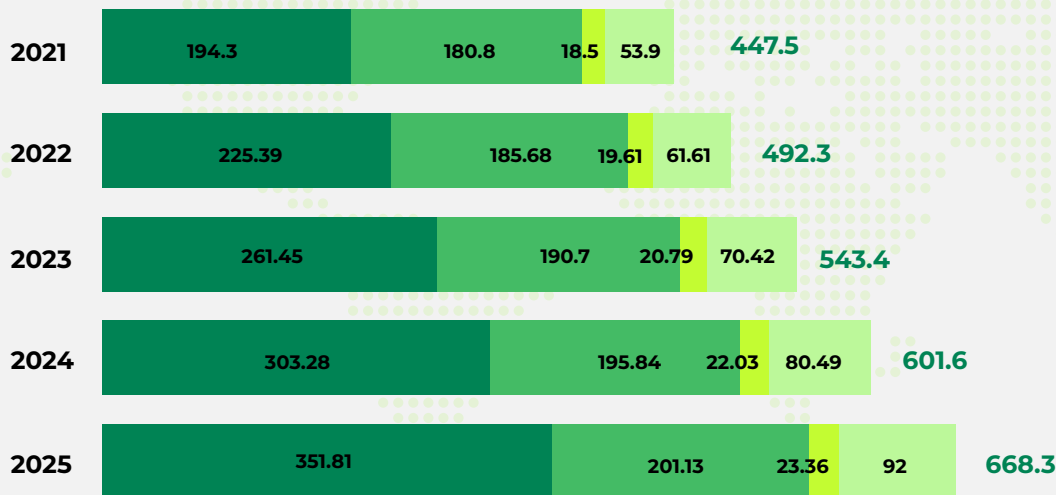


Future food industry

will grow at an average of **10.5%** per year.

Year

Unit: Billion USD



Unit: Trillion USD

Food

Food  
CAGR 7.44%

Meanwhile, the traditional food industry will grow only at **7.44 %** per year on average.

2025

The Global Food Market



is expected to reach  
**\$668.3**  
billion dollars

The value of organic food will grow at the highest rate, reaching **\$351.8** billion dollars

followed by functional food's **\$201.1** billion dollars



Novel food

Cell-Based Meat

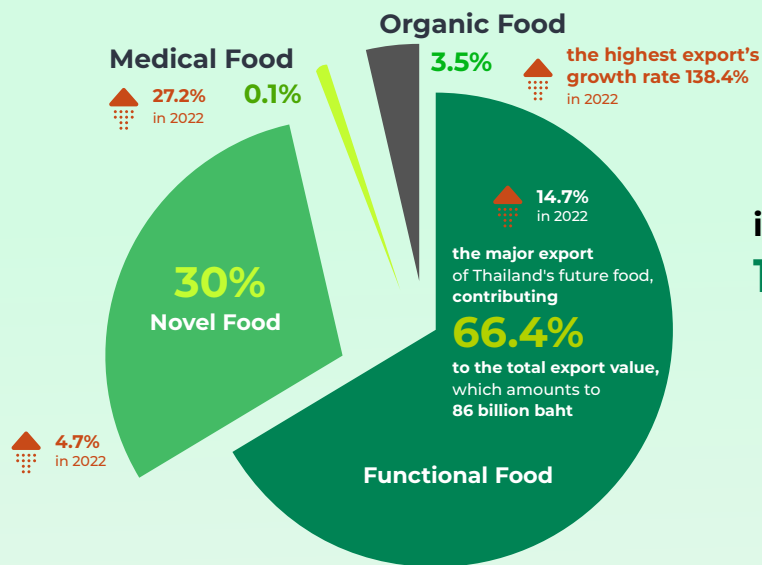
is expected to increase at **128%** per year, hitting **\$43.5** billion



Plant-Based Food

is predicted to grow at **2.7%**, targeting  
1) high-income earners  
2) Generation Y and Z  
3) Parents who concern about their children's health

# The Value of Thailand's Exports of Future Food



in 2022 a total value of **130 billion baht**

Thai future food exports grew by **13.6%** compared to the previous year

## 5 Key partners of Thailand's Future Food Export

in 2022



U.S.A  
**20,212** million baht



Vietnam  
**15,155** million baht



Cambodia  
**12,387** million baht



China  
**11,144** million baht



Myanmar  
**10,104** million baht

**70%** of respondents are willing to pay higher price (5%-10%) for alternative food.



**65%** of Thais are likely to consume less meat.



**41%** of respondents are expected to increase their consumption of plant-based meat, while 32% of this group plan to make plant-based meat account for half of their weekly meat intake

**38%** of Thais are looking for products that have the potential to improve their brain and memory

## Future food trends in Thailand in 2022

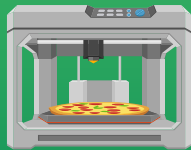
Thailand consumer trends indicate a **growing need for future food** driven by an increase in demand.



# Future Food Technologies



## 3D Printing



Customized shapes of food into any forms. Currently, the technology is used in many Michelin star restaurants in the US, Spain, or the UK to impress customers.

## Smart Packaging



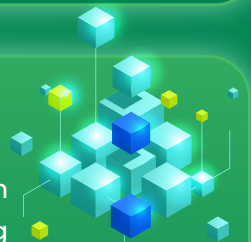
Integrated current technologies to packaging, allowing the data collection as well as the detection of the freshness, temperature, or leakage of the package. QR code, for example, is embedded on the packaging to display food information.

## FIoT (Food Factory Internet of Things Platform)



Enabling an efficient management of food manufacturing including cost control, process monitoring, and quality control 24/7. Furthermore, the technology could help alleviate the labor shortage in the industry and enhance compliance with Good Manufacturing Practices (GMPs).

## Blockchain



Collecting product data from harvesting to manufacturing to delivery, providing a means for customers to examine and verify the product journey and ensure product safety. By utilizing QR codes, the technology improves process traceability, sustainability, and the food supply chain, which in turn addresses food security issues.

# Thailand's Processed Food Industry Ecosystem



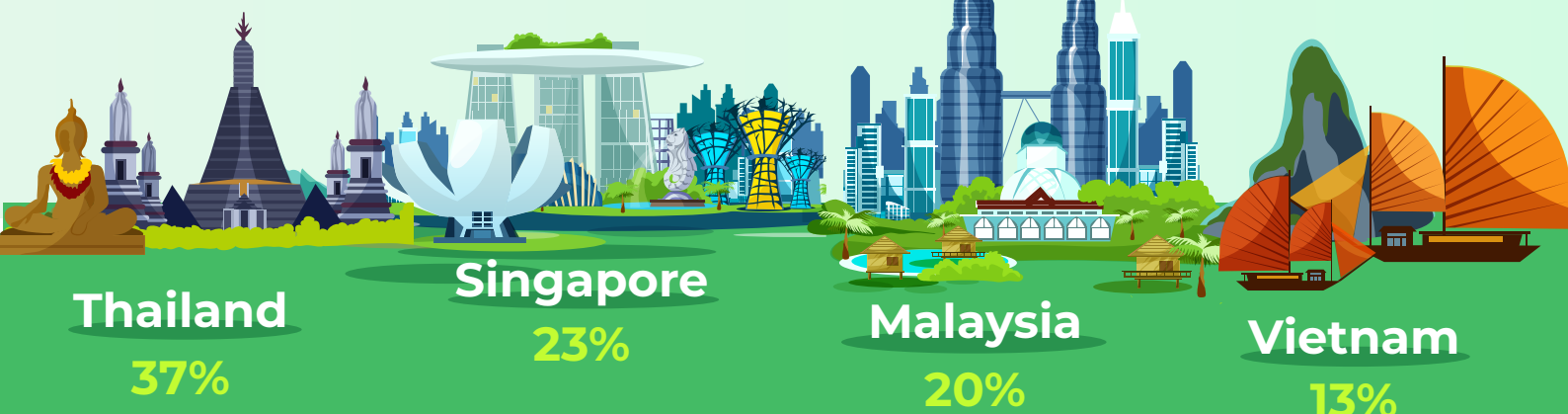
Sources: Krungsri Research , Techsauce, NIA, BOI, MOC

# Thai consumers have the greatest level of interest in consuming future foods

among the ASEAN nations in 2022, particularly vegan and vegetarian food.



Thailand is known for its diet that mainly consists of vegetables, which is a cultural norm among Thai people. Moreover, compared to other ASEAN nations, Thailand enjoys better availability of high-quality protein sources.



Thailand's major competitors among ASEAN countries in Future Food



Thailand developed comparative advantages through robust domestic demand and the government supports.

**Thai Government** has outlined a comprehensive strategy to position the country as **a leading hub for future food production** in ASEAN and the global market

## Financial Support

Subsidizing entrepreneurs to invest in future food or alternative food.

exemption of corporate income tax for 8 years with a maximum of additional Corporate Income Tax (CIT) exemption up to 5 years with no CIT exemption limits.



## Trade promotion

The government promotes commercial areas, business events, and trade incentives from RCEP and FTA,

such as promoting the **World Food Expo** organizing knowledge sharing sessions and business forums for entrepreneurs about FTA and RCEP<sup>1</sup>.

## Skill Development

Enhancing future food stakeholder skills and expertise

by establishing **food academy** or **boot camps** for entrepreneurs to accelerate their skills and expertise.

## Technology and Research & Development

The government encourages the establishment of research institutes and food innovation

For instance, organizing World Food Innovation Forum for raising an awareness of being future food center as well as promoting on food innovation hub of Thailand, Food Innopolis.

<sup>1</sup>The Regional Comprehensive Economic Partnership (RCEP) is the largest regional free trade agreement (FTA) between 10 Association of Southeast Asian Nations (Asean) members plus Australia, China, Japan, New Zealand and South Korea.

# Main challenges of Thailand's Future Food Industry

1

Low utilization of technologies in production processes, Thailand's future food products have limited variety, lack uniqueness, and fail to mimic the taste of real meat.

2

Facing with International measures on addressing environmental issues such as Carbon reduction policy, cost of future food manufacturing are expected to increase.



3

Thai future food entrepreneurs encounter rising international competitions in the market since many competitors have access to advance manufacturing technology, creating cost management and process control advantages.

4

Thai entrepreneurs might face non-tariff barriers such as the prohibition of GMO food and the requirement for legal labor in manufacturing processes.

5

Thai entrepreneurs tend to neglect the potential of utilizing and identifying new local ingredients as the primary source of future food.

## 3 Growth Opportunities for MICE on Future food

1

### The support from government policies

that promote Thailand as a host of Future Food events in both world and regional stages.



2

### The expansion of future food industry locally and globally, especially for organic food

which has the largest market value worldwide among future food and also shows the strongest growth in the Thai future food industry.



3

### The capabilities of the MICE industry to tackle right at the challenges in Thailand's future food

- Conducting business matching between future food businesses and relevant technology/solution providers.
- Promoting Thailand's Future food and the adoption of future food to increase value-added in existing products and services, for instance, serving future food in Thailand's tourism industry.
- Advocating R&D that emphasizes on the identification of new ingredients for producing new future food as well as encouraging the use of modern technology in manufacturing processes.



# Recommendations on organizing MICE activities on Thailand's Future Food

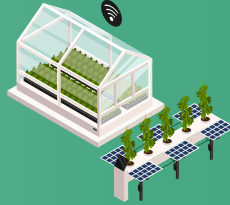


## Segmentation



future food entrepreneurs

## Targeting



Organic food entrepreneurs  
and Food tech entrepreneurs

## Positioning



Connecting future food businesses  
with technologies businesses and  
holding knowledge sharing forum  
on ways to improve future food  
of Thailand

## Recommendations

## Exhibitions and Conferences

### Main Activities



- Organizing future food exhibition by inviting related businesses as well as holding conferences together with arranging business matching.

### Exhibition

- Gathering all relevant stakeholders in future food ecosystem to facilitate networking, business matching, and business supports from government agencies and other business entities.

### Conference

- Organizing conferences emphasizing on technology adoptions, industry trends, and the development of innovative future food that are applicable for other industry such as tourism industry.

### MICE PR Marketing



- Promoting through relevant agencies such as TCEB, food institutes, The Thai Organic Trade Association, The Ministry of Commerce, and Thailand Institute of Scientific and Technological Research.
- Promoting via online channels and directly contacting with future food entrepreneurs and agencies.

### Receiving Supports



- Cooperating with food processing organizations, future food businesses, technology and innovation unit, and MICE organizer such as Thailand Institute of Scientific and Technological Research, Thai Food and Tourism Trade Association, Ministry of Higher Education, Science, Research and Innovation, and Thai Automation and Robotics Association.
- Requesting sponsorships from major Thai future food incumbents, for instance, Meat Zero (Charoen Pokphand Foods), OMG Meat (Thai Unions), or Let's Plant Meat (Nithi Foods)



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