Thailand as a global food innovation hub for ASEAN

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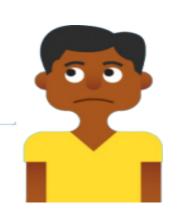
The Governor

Thailand Institute of Scientific and Technological Research (TISTR)



Successive development schemes of Thailand

middle-income trap **Growing disparities Imbalanced development**











Thailand 1.0 Agriculture

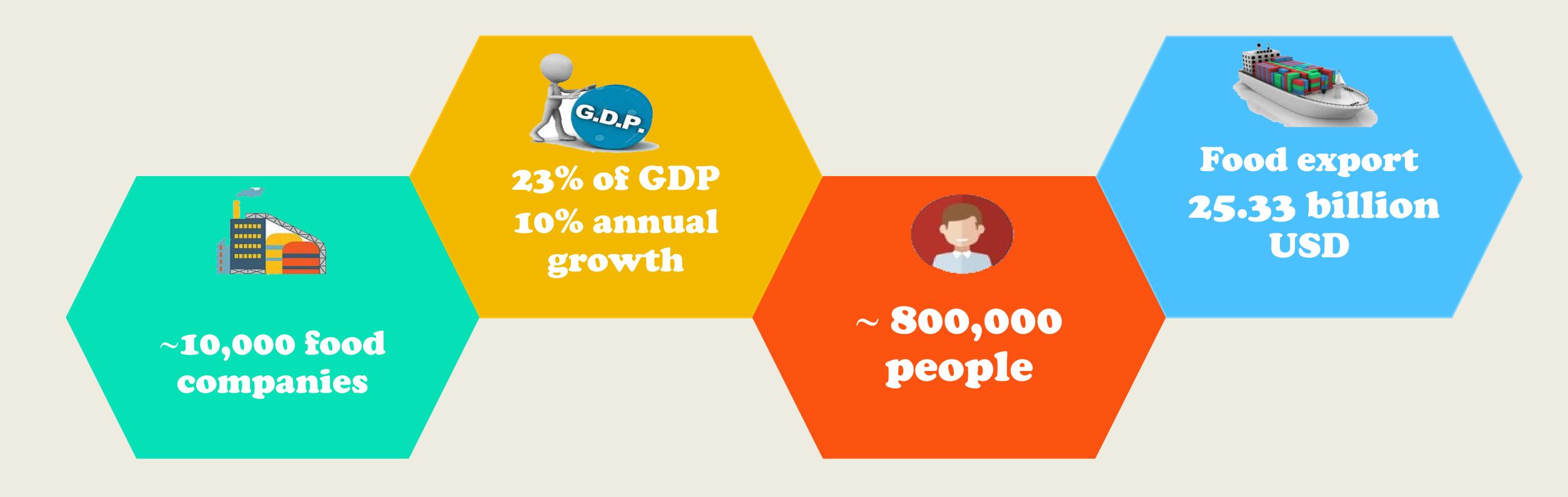


Thailand 2.0 Light industry **Cheap labor cost**



Thailand 3.0 **Complex industry Attract foreign investment**

Food industry of Thailand (2015)





Driver

Demographic

- Aging society
- Millennials have purchasing power
- Increase in ethnic diversity

Health conscious and well-being

- -Increasing emphasis on health and wellness derived from foods
- Growing crisis of chronic disease



Food trend

- Enhanced nutrition and health benefits
- Fresh and natural
- Convenient for consumption
- Desire for information about food



- Ethical food choice
- Environmentally sustainable diet
- New taste profiles and flavor combinations
- Traceability

Driver

Climate and environment

- Increasing green lifestyle
- Green, sustainable production
- Waste utilization & innovation



Economic aspect

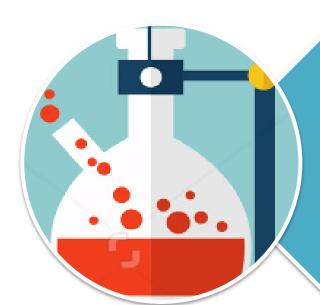
- Toward a more competitive and
 - efficient production
- Automation
- Assurance standard
- Food safety and data mgt



Strength of Thailand as a global food innovation hub for ASEAN

- Abundance of natural resources
- Thai farmers have used research, technology and on-the-farm learning to develop their own new techniques
- The investments in technology, continuous R&D
- The government policy is focusing on becoming a value-based and innovation-driven economy.

TISTR supports Thailand to be a global food innovation hub for ASEAN



We conduct R&D in science, technology and innovation for value adding of products and services, in order to enhance national competitiveness



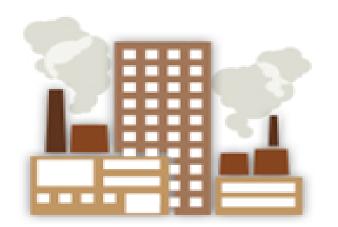
We provide services in analysis, testing, calibration, inspection, certification of quality management system, training and consultancy services, in order to enhance industrial competitiveness



We transfer technology and innovation to industry and community enterprises, with a furtherance for economic, social and environmental utilizations

TISTR innovation through food supply chain













Agricultural Production

Ingredient processing

Food processing

Packaging

Distribution

Export/ Retail

Expert Center of Agriculture (InnoAg)

Expert Center of Innovative Health Food (InnoFood)

ealth Food Thai Packaging Center

Industrial Metrology and Testing Service Centre

Office of Certification Body

Biodiversity Research Cenber

Expert Center of Herbal Product (InnoHerb)

Agricultural innovation

- Organic farming
- Biofortification
- Smart farm
- Nanofertilizer
- Biocontroll

Food ingredient

- Bioactive ingredient
- Microbial derived functional ingredient
- Pre-Probiotics

Food innovation

- Functional food
- Nutraceutical
- Value added food product
- Food processing machinery

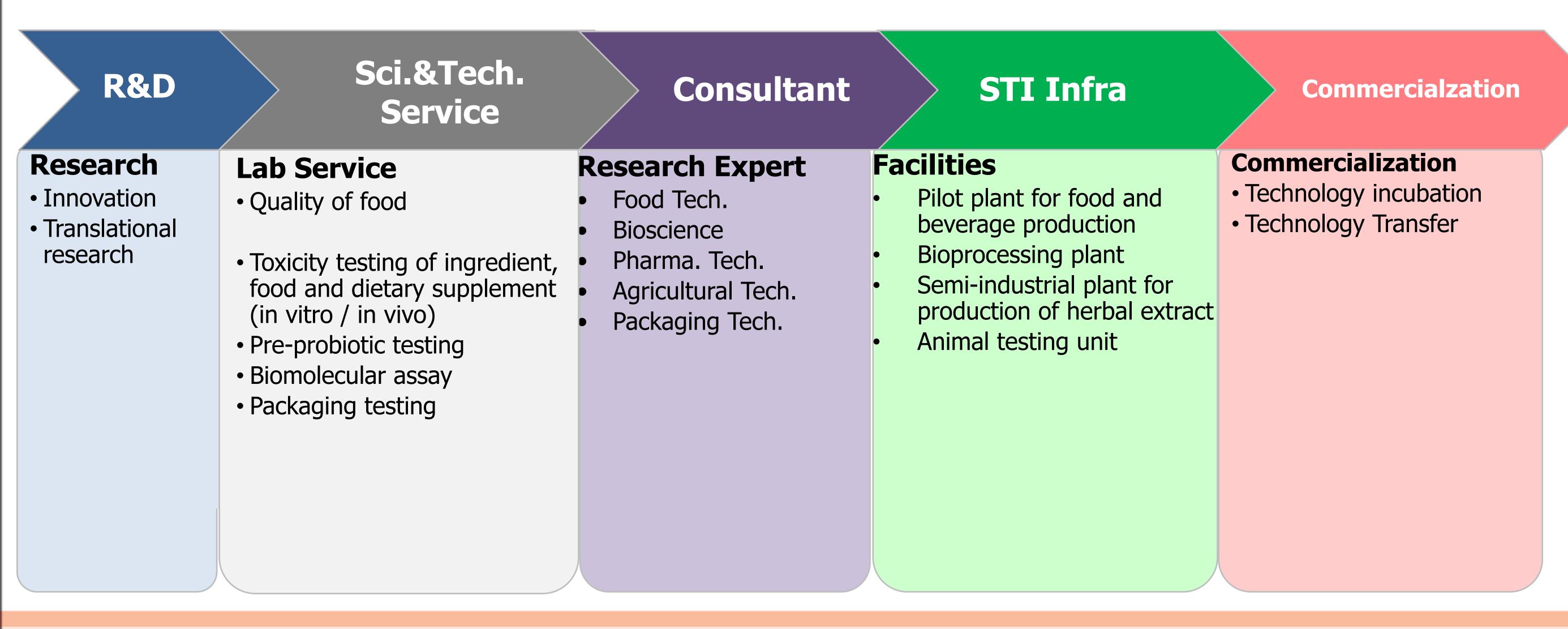
Food packaging innovation

- Active packaging
- Intelligent packaging
- Universal design packaging

Food testing and Certification service

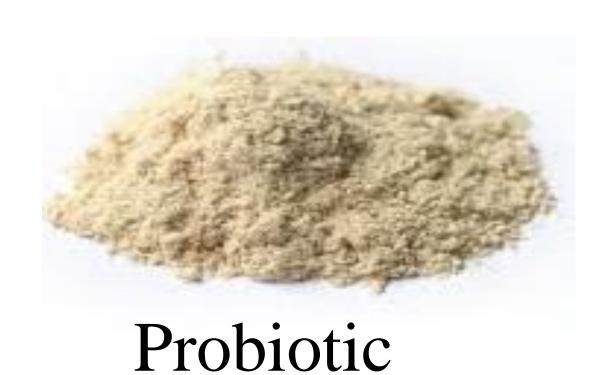
- Food safety
- Food allergen
- Food nutrition

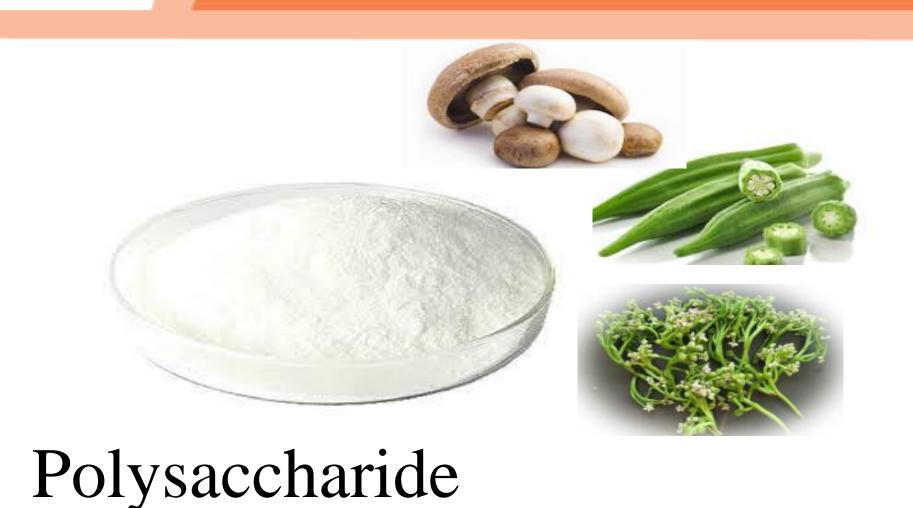
Expert Center of Innovative Health Food (InnoFood)











Functional ingredients



Fruit & vegetable extract



Polypeptide



Herb extract











Functional food & Dietary supplement









Food processing machinery innovation

Washing machine

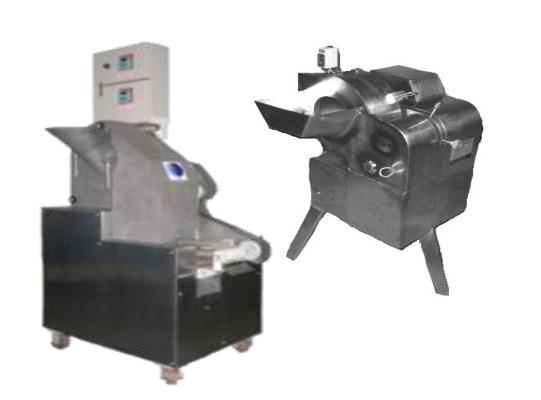












Juice extractor



Snack molding & cutting machine



Peeling machine









Pilot plant for food and beverage production

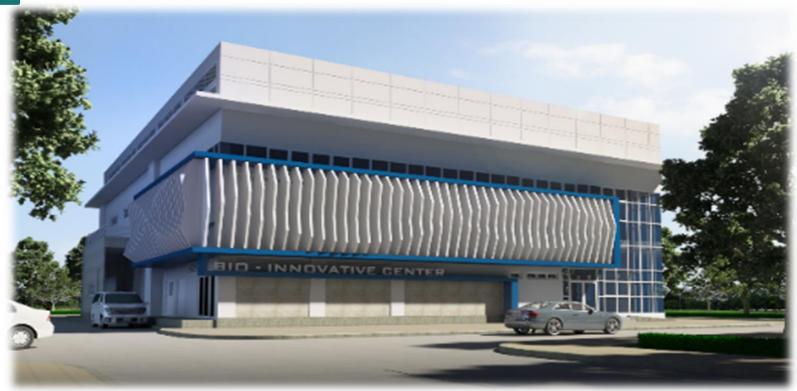


Bioactive ingredient pilot plant

Food ingredient & Food processing pilot plant



Animal testing unit



Bioprocessing plant





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