Fact Sheet

Thai Union Group
Global Innovation Incubator (Gii)

About Gii:
Thai Union Group signed a collaboration agreement with the Faculty of Science, Mahidol University to inaugurate the first state-of-the-art innovation Incubator. The Global Innovation Incubator or GII is regarded as one of the most modern research and development facilities of Thai Union Group. The primary purpose of this facility is to develop innovative research and studies of technology for tuna and seafood-related products. This exclusive cooperation will play a key role in developing innovation to better serve the world's seafood industry.

The 600-squre meter research center will function as a central network and a global exchange hub of R&D data and technology transfer amongst scientists within Thai Union Group. The key functional activities consist of sensory and consumer insight investigation, pilot plant initiation, chemistry & nutrition laboratory testing, innovative product development and instrumental laboratory, product demonstration facilities and technical conference center.

Expansion Phase of the Thai Union Global Innovation Incubator

The Thai Union Global Innovation Incubator was established in January 2015 with a usage space of over 600 sqm. The facility comprises 6 major platforms for and the research work have progressed rapidly over the course of time including experiments at the Pilot Factory, chemistry laboratory, nutrition laboratory and product innovation development. To meet with the increasing demands for more research work, Thai Union Group in collaboration with the Faculty of Science, Mahidol University has agreed to expand the usage space to over 1,200 sqm or doubling the initial space and invested in over THB 70 million for new research equipment as follows:

1. Fully automated fish filleting machine.
2. High pressure food processor.
3. Radio frequency frozen fish thawing machine.
4. Product innovation development laboratory.
5. Chemistry laboratory.
6. Nutrition laboratory.

Radio frequency fish thawing machine

Demonstrating the use of the radio frequency fish thawing machine

Automated fish filleting machine

Demonstrating the use of the automated fish filleting machine

Thai Union Global Innovation Incubator Phase 2

Thai Union Global Innovation Incubator Phase 2

Chemistry laboratory

Nutrition laboratory

Joint Post-graduate Programme

The Thai Union Global Innovation Incubator launched the education collaboration initiative to build capacity of sciences with an MOU for joint post-graduate programme with Mahidol University, Kasetsart University and King Mongkut University of Technology Thonburi. The aim is to allow Thai Union employees to build their capacity through research work under supervision of advisors from the participating universities and entitle them to Master's or Doctoral degrees.

The programme not only contribute to build capacity of Thai Union personnel and knowledge base, but also support the vision, mission and targets of the company aiming for world class brand building.

Interior design concept:
Thai Union Frozen Products Public Company Limited (TUF) has commissioned Archive Architects to design Global Innovation Incubator-GII, the first innovative research center.

GII is shared workspace and state-of-the-art research facility designed to support creative researchers working in the area of food science and technology. The design is focused on two key ideas.

Firstly, creating a remarkable interior space of research center through fusing two discrete, functional and aesthetic. Form, Function and beauty become inseparable, wall and ceiling has been developed into navigational system and product showcase, as well as lighting features, mechanical and electrical support system of research facilities.

Secondly, the ideas of fluidity, interconnected and transparent space have been employed to promote shared workspace environment throughout the center.

Various fluid layers of interior element were used to outline different space hierarchies, from public event hall to confidential workspaces without compromising the interconnections between spaces and functions, enhancing fluidity and interactions among diverse users and spaces.

Functional Structure composed of 6 major platforms:

Platform 1: Fundamental Studies of Tuna
We study species of tuna and all aspects of their physiology and factors that affect the quality of tuna meat. Guidelines for enhancing shelf life and quality of tuna products with an emphasis on "green" technology. This will be the fundamental for product and process development. Additionally, an effect of fish species, fish habitats on tuna quality will be studied.

Platform 2: Health & wellness benefits from tuna
We study nutritional fact in each part of the tuna utilizing technology to help extract its protein and fat components. In this part of study, we also look into the best ways to preserve each part of the tuna to maintain maximum quality and freshness. We also investigate preferential difference between tuna meat and other kinds of proteins (meats), i.e., chicken, pork, and beef, etc.

Platform 3: New Processing Technology
We search for the best possible ways to process and preserve the freshness and nutritional value of the tuna to the consumers through new processing technologies. New processing technology will be investigated and studied as an alternative process for superior quality tuna and related product with more environmental friendly processes which reduce energy and water consumption and lower emissions.

Platform 4: Co-products science and technology
Besides tuna meat for general consumption, we study the use of other parts of its body in order to leverage production efficiency and tuna-related product creations. Nutritional rich by-products from tuna processing plant such as meat flakes, dark meat, tuna's cooking juice, skin, bones and blood will be investigated and developed to high value added products.

Platform 5: Sensory properties of tuna products and consumers research
We study consumer trends and observe consumption behaviors and preferences to develop innovative products that best meet consumer's demands worldwide. We will work to find out precise and consistent sensory judgments on tuna meat such as aroma, flavor and texture attributes, and the important factors of consumer acceptance.

Platform 6: Perfect TUNA product research and development
We study and keep account of the world's needs for tuna in order to create expansive ranges of value-added tuna products. Research studies from the 5 platforms and will be optimized and realized into consumer relevant and innovative products.

Atmosphere at work

Atmosphere at work

TUF Researchers and Co-Team

Scientist Advisory board (SAB) 5 persons

1. Prof. Dr. Kraisid Tontisirin
2. Prof. Dr. Amaret Bhumiratana
3. Assoc. Prof. Dr. Sakarindr Bhumiratana
4. Dr. Robert A. Burns
5. Dr. Hordur G. Kristinsson

Principal Investigator and Co-Principle Investigator

1 Assoc Prof. Sittiwat Lertsiri, Ph.D.
2 Nisa Patikarnmonthon, Ph.D
3 Panwajee Payongsiri, Ph.D.
4 Nuttawee Niamsiri, Ph.D.
5 Asst. Prof. Atitaya Siripinyanond, Ph.D.
6 Asst. Dr. Supanee Danviriyakul
7 Dr. Pathama Jatakanonda
8 Dr. Siripong Thitamadee
9 Dr. Napassorn Punyasuk
10 Assoc. Prof. Dr. Jirundon Yuvaniyama
11 Dr. Kanlaya Prapainop
12 Prof. Dr. Nateetip Krishnamra
13 Prof. Dr. Narattaphol Charoenphandhu
14 Dr. Panan Suntornsaratoon
15 Prof. Dr. Pavinee Chinachoti
16 Assoc. Dr. Santad Wichienchot
17 Ms. Worrapanit Chansuwan

18 Dr. Nualpun Sirinupong
19 Assoc. Dr. Sakamon Devahastin
20 Assoc. Dr. Naphaporn Chiewchan
21 Assoc. Dr. Saovanee Chancharoensin
22 Assoc. Dr. Jirawat Yongsawatdigul
23 Dr. Teerarat Likitwattanasade
24 Dr. Pramvadee Wongsaengchatra
25 Assoc. Prof. Thongchai Suwonsichon
26 Dr. Penkwan Chompreeda
27 Dr. Suntaree Suwonsichon
28 Dr. Withida Chantrapornchai
29 Assoc. Dr. Wunwiboon Garnjanagoonchorn
30 Mr. Tawat Suthasineenont

Location:
Global Innovation Incubators
Building N, 6th Floor
Faculty of Science, Mahidol University
272 Rama VI Road, Ratchathewi, Bangkok, 10400, Thailand
Tel: +66 2202 6900

Usage space: 1,200 Square meters

Gii Innovation Incubator	Sqm
Gii phase I	600
Gii Expansion phase II + Pilot Plant	600
Total space	**1,200**

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