

# INDUSTRY TRANSFORMATION CENTER 4.0

Ceramic and Industrial Material  
Development Group

Division of Innovation and Industrial  
Technology Development

Department of Industrial Promotion, Ministry of Industry

COLLABORATE  
FOR THE FUTURE

ITC 4.0

Industry  
Transformation  
Center 4.0



กรมส่งเสริมอุตสาหกรรม  
DEPARTMENT OF INDUSTRIAL PROMOTION



## INDUSTRY TRANSFORMATION CENTER 4.0

### Ceramic and Industrial Material Development Center, Lampang

Specializing in materials and ceramic production, this center is equipped with tools and expertise in furnaces and is ready to serve ceramic entrepreneurs in the region and across the country to elevate Thailand's industrial capacity and reinforce its leadership in the ceramic industry. The center collects a comprehensive range of information related to the ceramic industry, including entrepreneurs, manufacturers, innovation, and research, in order to make perfect business matches. It also provides consultation and helps entrepreneurs

find solutions to their problems regarding product development, product design, business development, as well as access to capitals and financial instruments. Furthermore, the center also offers equipment and tools, ranging from raw material quality assessment tools, 3D printers, and 3D scanners to larger machines that SME entrepreneurs can try out before making an investment and purchasing their own. The center also provides a comprehensive range of facilities, including a library, a space for creative works and prototyping, an area for exhibitions and trade fairs, and venues for meetings, seminars, and training sessions.



#### Zone 1

- Industrial Network Information and Service Consultation Center



#### Zone 2

- Product Design, Development, and Prototyping Center



#### Zone 3

- Ceramic and Industrial Material Research and Accreditation Center



#### Zone 4

- Machinery and Pilot Plant Center



#### Zone 5

- Exhibition and Connection Center





Zone

1

## Industrial Network Information and Service Consultation Center

This zone serves as the central information hub that analyzes, screens, and records data of service users before referring them to the other zones. This zone also provides consultation for visitors on various issues.



Zone

2

## Product Design, Development, and Prototyping Center

In this zone, the officers will learn more about users' ideas through discussion and seek additional relevant information, such as similar products, competitors, hapes, colors, primary-secondary materials to further flesh out the ideas, before transforming them into 3D models for prototyping and mold making. The products created with the mold will then be baked into finished prototypes.



Zone

3

## Ceramic and Industrial Material Research and Accreditation Center

This zone carries out research and development projects to elevate production through academic collaborations with various domestic and overseas organizations. It also conducts analyses and tests and validates test results of physical and chemical properties and compositions of ceramic and industrial materials. This zone also assists with problem analysis, suggests solutions, and provides training and academic support so as to enable entrepreneurs to conduct tests, develop their production, and enhance the quality of their products by themselves.



## Cutting-edge machines for ceramic entrepreneurs

### 1. Furnace



- The gas furnace fires earthenware, ceramic ware, or other industrial materials at 600-1,300 degrees Celsius.



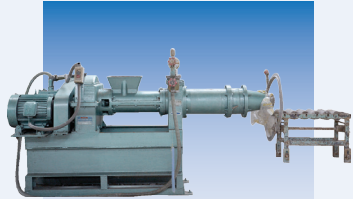
### 2. Tank mixer



- The tank mixer contains an impeller that combines raw materials such as clay, kaolin, feldspar and quartz to prevent sedimentation



### 3. Extruder



- While pushing clay through, the screw in the extruder will cut and homogenize the material as well as eliminate air bubbles from the clay.







## Machinery and Pilot Plant Center

Zone

# 4

This zone provides various machines for the entire ceramic manufacturing process, from material preparation and coating application to molding, decoration, and firing. In addition to consultation on problems in ceramic production, investment, and productivity enhancement, the center also offers training, site visits, and academic seminars to develop personnel in the ceramic industry and enable entrepreneurs and community enterprises to operate with maximum efficiency.

### 4. 50kg Ball Mill



- Coated with ceramic on the inside, this cylindrical metal tank contains ball mills of 3-4 sizes, which grind the material and reduce its molecule size, and is ideal for making coating solutions.



### 5. Metal Separator



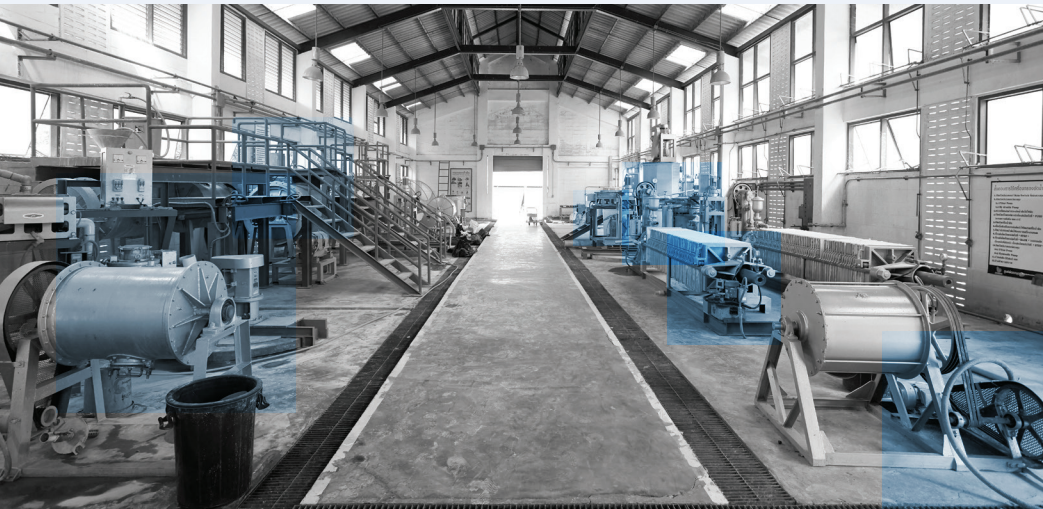
- The machine uses electricity to create a magnetic field within the chamber to draw out metal from the liquid in the clay.



### 6. Filter Press



- This machine filters out water by pressing clay through filters, leaving the material with the final moisture content of about 20%.



# 5



Zone 5



## Exhibition and Connection Center

This zone is divided into four main sections.

### 1. ITC Office Meeting

This section provides information, news and knowledge related to industrial production and offers a venue for academic seminars for entrepreneurs.

### 2. Business Center

Created to connect manufacturers and buyers, this section comprises stores and exhibition areas for products by manufacturers in Lampang and Lanna provinces.

### 3. Learning Center

Consisting of a museum and exhibition room for ceramicware, this section was established to serve as a ceramic industry learning center and preserve local wisdom to posterity.

### 4. Event Hall

This section promotes marketing on a national level as well as hosts academic exhibitions and trade fairs for ceramic ware and industrial crafts.



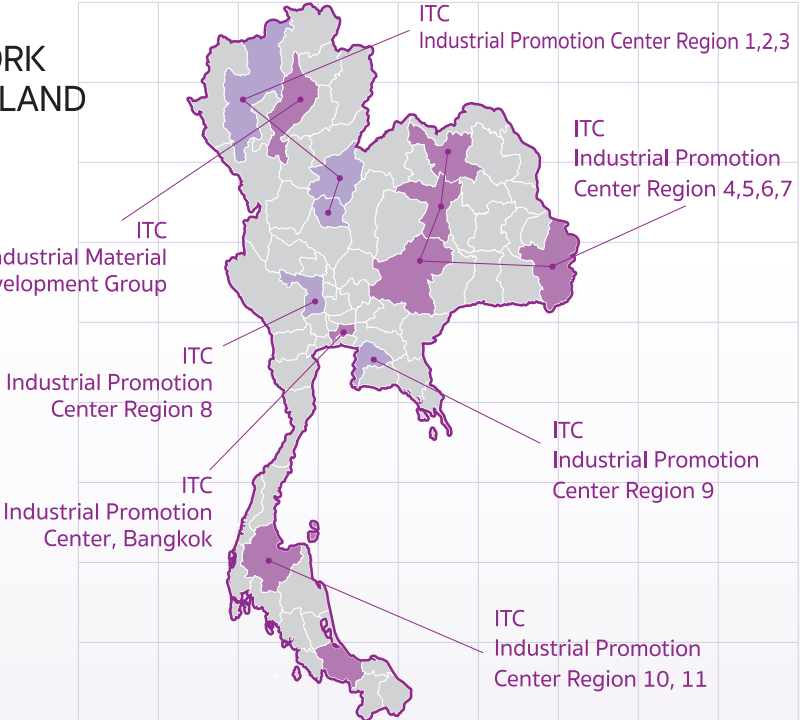
# INDUSTRY TRANSFORMATION CENTER 4.0



## ITC NETWORK IN THAILAND



ITC  
Ceramic and Industrial Material  
Development Group



The Industry Transformation Center is an integrated service center that aims to develop three main dimensions of Thailand's industries, namely their products, processes, and people, in order to be launch Thai SMEs into industries of the future and realize their dreams. The center achieves its goal by connecting private manufacturers and SME entrepreneurs with innovation and research and creating opportunities for them to share their knowledge on product development and business management and develop innovation that will result in high-value-added commercial products, which will ultimately enable Thai entrepreneurs to enhance their competitiveness to be on par with others on a global level.

ITC provides a comprehensive array of services, ranging from business consultation, commercial research, product design, production development, and engineering services to manufacturer matching, accreditation, market testing, and financial consultation, in order to incubate and enhance entrepreneurs' product development capacity and their ability to adapt to the business landscape in the digital era and Thailand 4.0. The center also features a

co-working space with cutting-edge machinery contributed by various large organization, which SME entrepreneurs can use and learn from in order to create innovative products and enhance their production. The ultimate goal is to equip Thailand's human resources with knowledge and adaptability that will transform and enable them to achieve security, prosperity, and sustainability.

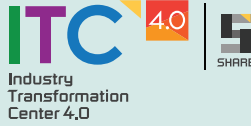
Currently, the ITC network consists of 23 centers in across the country, with ITC in Kluaynamthai, Bangkok as the headquarters. Among these are 11 regional industrial promotion centers and a ceramic industry reform center in Lampang, which have been established to extend the network's service to all the regions. While modeled after ITC, they have also been adjusted to ensure that they operate in correspondence with local industries and can support regional SMEs fully. The ten remaining centers are smaller centers in industrial estates that are attached to provincial industrial offices. Their main functions are to introduce the services of ITC and screen requests from entrepreneurs to pass on to regional centers for further in-depth consultation.

# ITC 4.0 SERVICE



## DEMONSTRATION

ITC serves as a hub that connects domestic and overseas industrial leaders and large companies to give entrepreneurs access to the demonstrations and sharing of knowledge and cutting-edge innovation, so that they can select appropriate technology for strengthening their business development.



## PILOT PLANTS

ITC provides services related to machines and pilot plants. It offers equipment, machinery, production tools, and state-of-the-art software for use at no charge to give entrepreneurs a head start in developing their products in early stages.



## DESIGN

Specialized in engineering design and product design, ITC is the epicenter of innovation for the future and provides a wide range of technologies for entrepreneurs to experiment with, all under the guidance of experts from the center's domestic and overseas industrial networks.



Furthermore, ITC also gives entrepreneurs consultation on financial benefits and connects them with domestic and overseas investors to further enhance their competitive capacity in the market.



## INDUSTRY TRANSFORMATION CENTER 4.0

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