

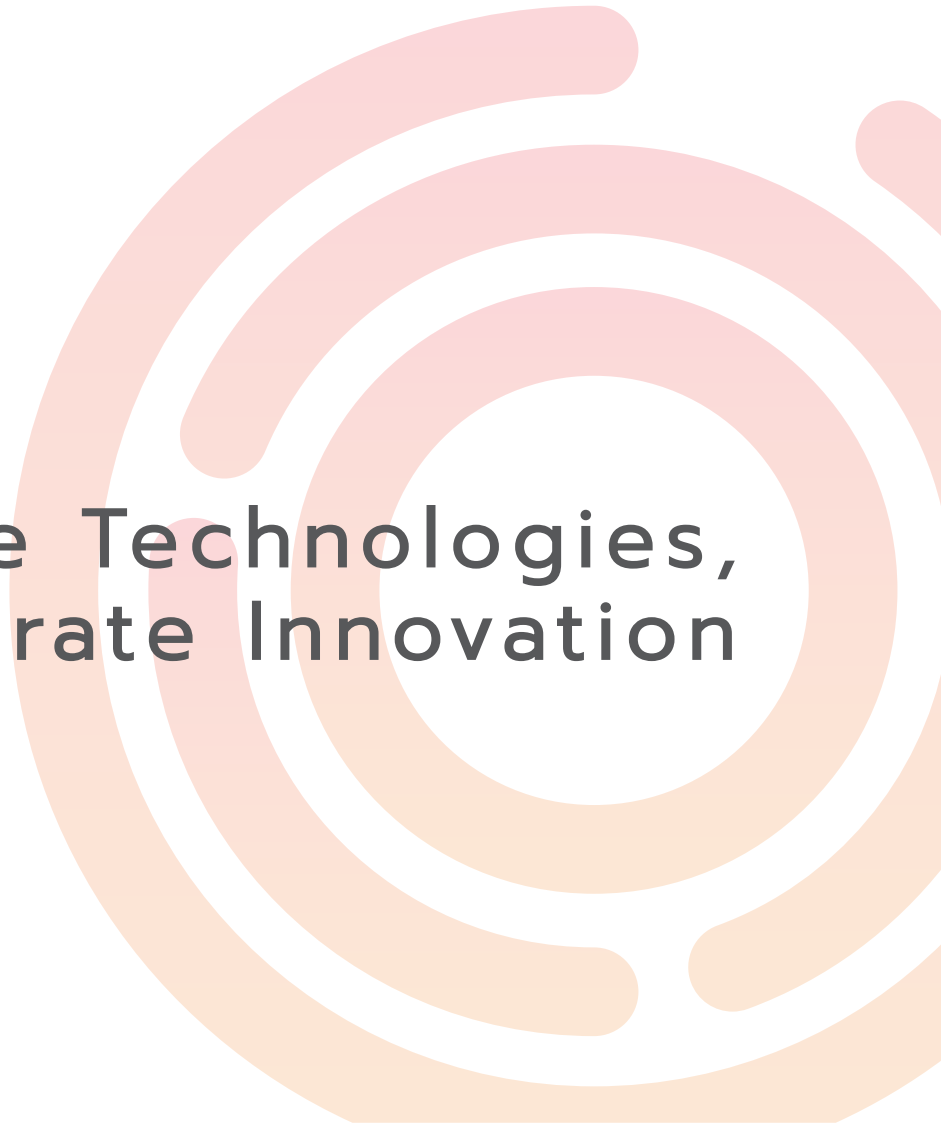


FACT SHEETS



EASTERN ECONOMIC CORRIDOR OF INNOVATION

Integrate Technologies,
Accelerate Innovation





Why EECi ?

The Eastern Economic Corridor of Innovation or EECi is an innovation hub located at the heart of the Eastern Economic Corridor (EEC) in Wangchan District, Rayong Province. Its ultimate goal is to support the transformation of Thailand into a country that thrives on innovation and enhances the quality-of-life of its people on a sustainable and self-sufficiency path. In order to meet this goal, EECi positions itself as a hub linking innovation and investment across the country for Thailand's target industries. Research outputs at the laboratory level can be scaled up to commercial scale using infrastructure and supporting innovation ecosystem at EECi and the investment that follows thereafter can settle in the EEC or anywhere else. Likewise, investors bringing advanced technology for the target industries into the region can use infrastructure and innovation ecosystem at EECi to adapt the technology to the local conditions before settle the investment in the EEC or elsewhere in Thailand and ASEAN.

The development of EECi is spearheaded by the National Science and Technology Development Agency (NSTDA), a semi-autonomous government agency affiliated to the Thailand's Ministry of Higher Education, Science, Research and Innovation. NSTDA partners with PTT Public Company Limited, Thailand's national energy company, in the development of Wangchan Valley to become the first major site for EECi. In the partnership, PTT plays an important role in the basic infrastructure and smart township development, while NSTDA focuses on the development of the EECi innovation ecosystem.





EECi Vision and Mission

The ultimate goal of EECi is to support the transformation of Thailand into a country that thrives on innovation to enhance competitiveness of its economy and quality-of-life of its people. To achieve this goal, EECi strives at becoming “a leading innovation ecosystem in Southeast Asia on which research and innovation are translated into sustainable regional economic development and societal well-being” and sets its actions in 5 strategic mission areas to bring about its vision and ultimate goal. These 5 mission areas of EECi are:

- 1 Hub of Translational Research and Technology Localization**
EECi plays the intermediary role of aligning technology development to the needs of market. It solicits industry players for strategic development directions and technologies required. It fosters the development of industrial technology consortia and innovation clusters to enhance flows of knowledge and innovation from various players in and between networks. In addition, EECi secures the development of government-funded translational research infrastructures and public and private national quality infrastructures including regulatory sandboxes onsite, as well as engages with those already available elsewhere to support scaling up of locally developed technologies and facilitate foreign technology adaptation to local applications.
- 2 Center for Human Resource and Advanced Skill Development**
Preparation of workforce is essential to the development of the target industries. EECi facilitates re-skilling and up-skilling of current industrial workforces to the requirement of the target industries. It also supports medium-term and long-term human capacity building through the arrangement of government scholarships, industrial graduate studies and dual-degree programs, post-doctoral internships, international top-notch researcher and visiting professor programs, and STEM education.
- 3 House of Industrial Technology Capability Services**
Competitiveness of local industries and SMEs are vital in the innovation driven economy. EECi provides and facilitates various systematic “readiness” assessment and government’s technology assistant program deployment as well as supports supplier development programs of enterprises to help maintain and accelerate competitiveness of local industries and SMEs.
- 4 Focal Point for Startup and Venture Creation**
Startups and Spinoffs are sources of industry disruption and competitiveness acceleration. EECi strives at providing platforms linking innovation needs of established firms to innovative solutions from startups as well as connecting promising startups to government funding, corporate venture funds, professional resources and path to market.
- 5 Provider of Community Development Program**
EECi supports the development of nearby community with modern agriculture technologies to improve productivity and reduce labor intensive task. A Joint development program between community and EECi members is set up to stimulate user-required agendas. STEM education program, whereby teachers are trained of modern techniques and students are augmented with supplementary extra-curriculum, is organized with supports from EECi members to increase academic achievement and skills of students in nearby schools.



EECi Focused Industries & Innovation Platforms

Eastern Economic Corridor of Innovation (EECi) positions itself as a hub linking innovation and investment across the country, specially on six focused industry domains as follows:

- Modern Agriculture
- Biofuels and Biochemicals
- High Performance Battery and Modern Transports
- Automation, Robotics and Smart Electronics
- Aviation and Aerospace
- Medical Devices

Research outputs at the laboratory level can be scale up to commercial scale using infrastructure and supporting innovation ecosystem at EECi and the investment that follows thereafter can settle in the EEC or anywhere else. Likewise, investors bringing advanced technology for the target industries into the region can use and

infrastructure innovation ecosystem at EECi to adapt the technology to the local conditions before settle the investment in the EEC or elsewhere in Thailand and ASEAN.

Platforms in the domains of Biotechnology, digital and advanced material Technologies as well as industry-specific technologies comprises the backbone of EECi's Innovation Platforms. These Platforms are **BIOPOLIS** for biotechnology Platform, **ARIPOLIS** for automation, robotics and intelligent System Platform, **FOOD INNOPOLIS** for food industry related technology platform, and **SPACE INNOPOLIS** for aviation and aerospace technology platform. In addition, Thailand's 2nd and state-of-the-art Synchrotron 3GeV (4th generation) will be located in EECi to provide supplemental support on deep understanding of molecular structures to the EECi's focused industries and beyond.

EECi | BIOPOLIS

Biotechnology Platform

- Innovative Agriculture
- Chemical and Bioprocess Technology
- Functional Ingredients

FoodInnopolis

an anchor of EECi

Food Innovation Platform

- IoT for Food
- Food Automation

EECi | ARIPOLIS

Automation, Robotics and Intelligent Electronics Platform

- Sustainable Manufacturing Center
- Smart Agriculture Center
- Smart Living Center
- High Performance Computing Center

EECi | SPACE INNOPOLIS

Aviation and Aerospace Technology Platform

- High Altitude Pseudo-satellite Unmanned Aerial Vehicle (HAPS UAV) and Global Navigation Satellite System (GNSS)
- NQI Aerospace



SYNCHROTRON
THAILAND
CENTRAL LAB

SLRI_SPS-II

- Largest 4th generation synchrotron light source in ASEAN
- Innovation-oriented cooperation of academic and industrial research infrastructures

EECi Innovation Ecosystem

A thriving innovation ecosystem forms the backbone of EECi development. It provides an open innovation setting to accelerate the pace of innovation, shorten time to market and facilitate expansion of innovation into different applications. The innovation ecosystem of EECi creates framework for cooperation among and between firms, academia and research institutes and government agencies. In addition, it facilitates formation of industrial innovation clusters whereby highly innovative startups and SMEs are linked with large enterprises and multinationals, generating rapid flows of knowledge and innovation to market places.



5

Technology Startup, SME and Entrepreneurial Support

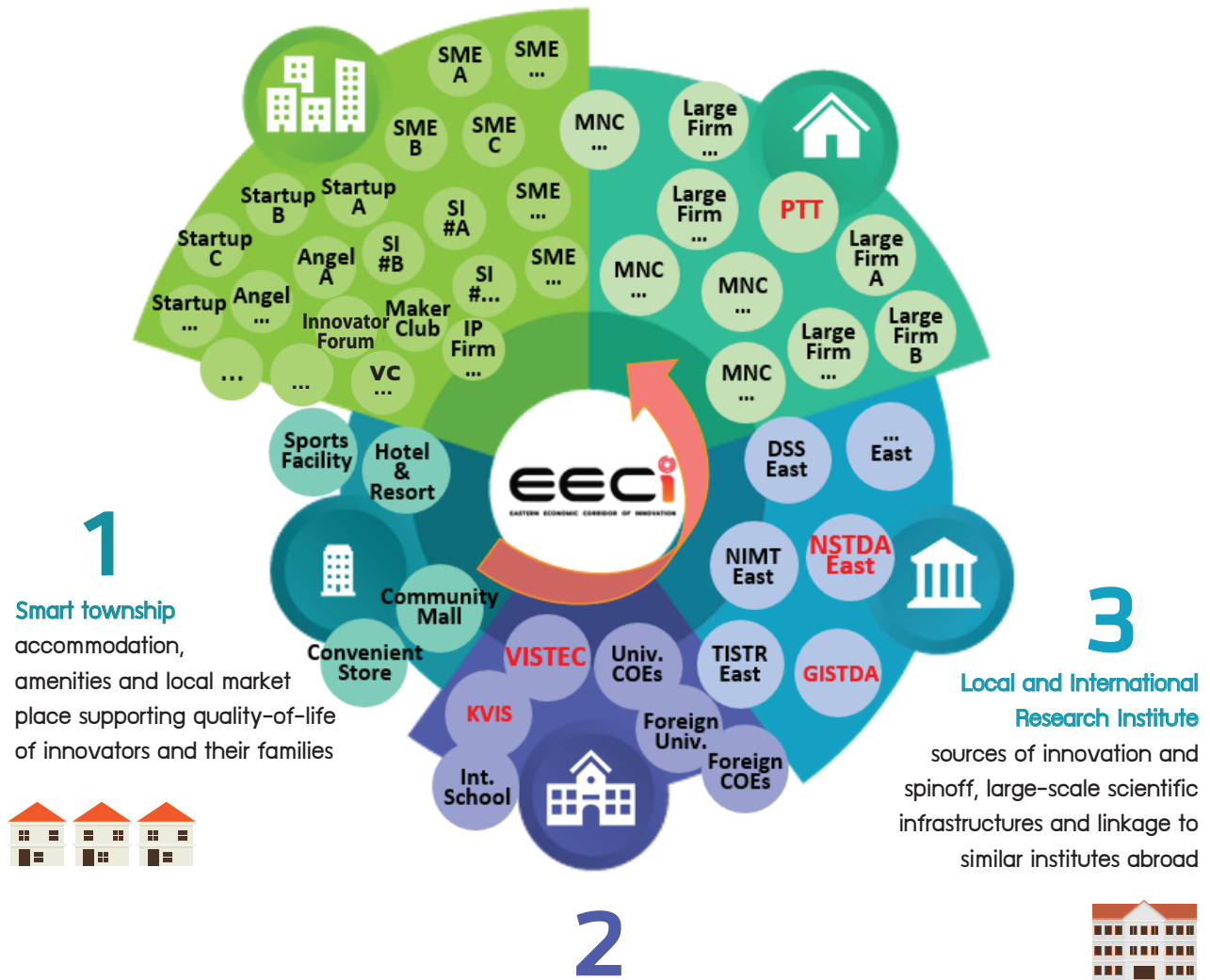
- providers of disrupting technologies and innovations
- adapters of platform technologies to new applications
- sources of professional services for startups and SMEs



4

Large Enterprise and Multinational

clusters of core technologies for innovation assembling process, providers of market demands and source of later stage funding for innovation development



1

Smart township
accommodation, amenities and local market place supporting quality-of-life of innovators and their families



2

Educational Institution

- sources for innovation and feeders of highly train research personnel for firms and research institutes in EECi and beyond
- high quality education to children of members of EECi community and nearby community



3

Local and International Research Institute

sources of innovation and spinoff, large-scale scientific infrastructures and linkage to similar institutes abroad





The Pool of Our Growing Partners

INTERNATIONAL PARTNER

- KAIST
- Fraunhofer
- ITRI

GOVERNMENT

- MHEESI
- NSTDA
- GISTDA
- NIA
- TIST
- TCCELS

INDUSTRY

- Corbion
- PTT
- GGC
- Baxter
- SCG
- Mitr Phol

ACADEMIA

- KMUTB
- RMUTP
- VISTEC

EECi Master Plan



Wangchan Valley,
Rayong Province

Highway No. 344
(Ban Bueng - Klaeng)

COMMUNITY ZONE

Community Mall
Hotel & Serviced Apartment
International School

Gas Station

PTT Art Gallery & Energy Museum

Land for Rent

EDUCATION ZONE

Kamnoetvidya Science Academy
(KVIS)

Vidyasirimedhi
Institute of Science
and Technology
(VISTEC)

Wangchan
Forest Project

INNOVATION ZONE 1

EECi Headquarters

Synchrotron Facility
(3 GeV)

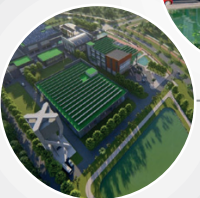
Innovative Agriculture
Learning Center

INNOVATION ZONE 2

Total Area

3,454 Rai (552.64 ha)

• Community Zone	178 Rai (28.48 ha)
• Education Zone	1,186 Rai (189.76 ha)
• Innovation Zone 1	989 Rai (158.24 ha)
• Innovation Zone 2	946 Rai (151.36 ha)
• Innovative Agriculture Learning Center	155 Rai (24.8 ha)



Offerings, Privileges and Incentives

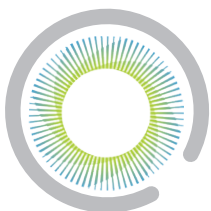
Projects related to research and development, advanced technology and innovation and quality infrastructure are qualified for the following:



Long-term land lease and flexible-term office & laboratory space lease



Share-space usage (online & offline conferencing facility, exhibition center, co-working space, maker space, fabrication laboratory and etc.)



Scientific infrastructure access (Synchrotron 3-GeV facility, testing and analytical equipment, prototyping facility, testbed and etc.)



Regulatory sandbox usage



Talent access



Smart visa scheme for international experts



17% flat personal income tax rate for international experts



Up to 13 years of corporate income tax exemption scheme from B01



Import duty exemption on raw materials for R&D and related testing purpose



Utilities and Facilities

Basic Utilities in EECi Headquarters

Utility	Specifications
Electricity Capacity	Total capacity for Plot E = 12 MVA
Water Supply	Capacity at 500 cu.m/day during 2021 – 2023 expand to 1500 cu.m/day after 2024
Wastewater Treatment	Capacity at 400 cu.m/day (Max BOD = 200 mg/L and max COD = 400 mg/L)
Waste / Hazardous Waste	Sorting and storage waste center for proper disposal
Cold Water Supply	CHS/CSR : 6/15 deg.C at 5,712 RT.hr
ICT Infrastructure	Broadband (3G, 4G and 5G (future expansion)) and Wifi coverage in all area with fiber optic network for high speed connection

Safety & Security

- Fire Alarm / Fire Pump / Generator
- Access control door
- CCTV camera with facial recognition
- Emergency call center
- Security guards on-site 24 hours a day – 7 days a week

Internet / Communication Providers

- Voice over Internet Protocol (VoIP)
- Leased line internet
- Internet share bandwidth / FTTx
- IP VPN
- Cloud service
- Fax to email
- VDO conference

Commuting Service to EECi

- Van service between
BKK – EECi at 06:00 (Leave from BKK) and 15:00 (Leave from EECi)
- Van service between
Rayong – EECi at 07:30 (Leave from Rayong) and 16:30 (Leave from EECi)

Rental Space and Specification

EECi Headquarters – Buildings A, B, C, D, E and F



- Total cooling capacity = 560 tons (refrigeration)
- Total electricity capacity = 2,000 kVA
- Fire alarm and sprinkler systems covering all areas
- Total water capacity = 100 cubic meters/day

Room Type	Size	Specification
Office	<p>Building B</p> <ul style="list-style-type: none"> • 160 sq.m/room • Number of room : 1 <p>Building C</p> <ul style="list-style-type: none"> • 210 - 250 sq.m/room • Number of room : 2 • 160 sq.m/room • Number of room : 1 • 75-100 sq.m/room • Number of room : 6 <p>Building D</p> <ul style="list-style-type: none"> • 70 sq.m/room • Number of room : 1 <p>Building F</p> <ul style="list-style-type: none"> • 12 sq.m/room • Number of room : 8 	<ul style="list-style-type: none"> - Ceiling height = 3.5 m - Vinyl floor - Floor load = 300 kg/sq.m
Wet Lab	<p>Building F</p> <ul style="list-style-type: none"> • 77 sq.m/Module • Each module has <ul style="list-style-type: none"> - Wet Lab : 60 sq.m - Office Space : 17 sq.m • Number of module : 36 	<ul style="list-style-type: none"> - First floor ceiling height = 4.05 m - Second floor ceiling height = 4.55 m - Polished concrete floor (wet lab area) - Antistatic flooring tiles (office area in each module) - Floor load = 500 kg/sq.m - Normal electricity load ~ 3 Phase 40A (with kWh meter) - Essential electricity load ~ 3 Phase 32A (with kWh meter) - Grounding system - Data outlet

Rental Space and Specification

EECi Headquarters – Buildings A, B, C, D, E and F



Room Type	Size	Specification
High Bay	Building B <ul style="list-style-type: none"> • 910 sq.m/room • Number of room : 1 	<ul style="list-style-type: none"> - Ceiling height = 7.5 m - Vinyl floor - Floor load = 750 kg/m²
	Building D <ul style="list-style-type: none"> • 550 sq.m/room • Number of room : 1 • 320 sq.m/room • Number of room : 1 	<ul style="list-style-type: none"> - Ceiling height = 7.5 m - Floor load = 750 kg/m² - Vinyl floor
	Building E <ul style="list-style-type: none"> • 770 sq.m/room • Number of room : 1 	<ul style="list-style-type: none"> - Ceiling height = 8.5 m - Vinyl floor - Floor load = 750 kg/m²
Auditorium & Exhibition Hall	Building A <ul style="list-style-type: none"> • 690 sq.m/room • Number of room : 1 	<ul style="list-style-type: none"> - Ceiling height = 7.7 m - Floor with epoxy self-leveling 2.0 mm - thick - Floor load = 750 kg/m² - Maximum seating = 300 seats

Rental Space and Specification

EECi Headquarters – Buildings A, B, C, D, E and F



Room Type	Size	Specification
Meeting Room	Building C <ul style="list-style-type: none"> • 75 sq.m • Number of room : 1 	<ul style="list-style-type: none"> - Ceiling height = 3.5 m - Max. seating = 32 seats - Flooring tiles - Floor load = 300 kg/m²
	Building F <ul style="list-style-type: none"> • 50 – 65 sq.m • Number of room : 3 	<ul style="list-style-type: none"> - Ceiling height = 3.5 m - Max. seating = 17 – 33 seats - Flooring tiles - Floor load = 300 kg/m²
Lecture Room	Building C <ul style="list-style-type: none"> • 120 sq.m • Number of room : 1 	<ul style="list-style-type: none"> - Ceiling height = 3.5 m - Vinyl floor - Floor load = 300 kg/m²
Canteen	Building B <ul style="list-style-type: none"> • Seating area 305 sq.m • Kitchen area 85 sq.m 	<ul style="list-style-type: none"> - Ceiling height = 3.5 m - Max. seating = 180 seats - LPG gas cylinder storage area outside the building - Granite floor - Floor load = 300 kg/m²



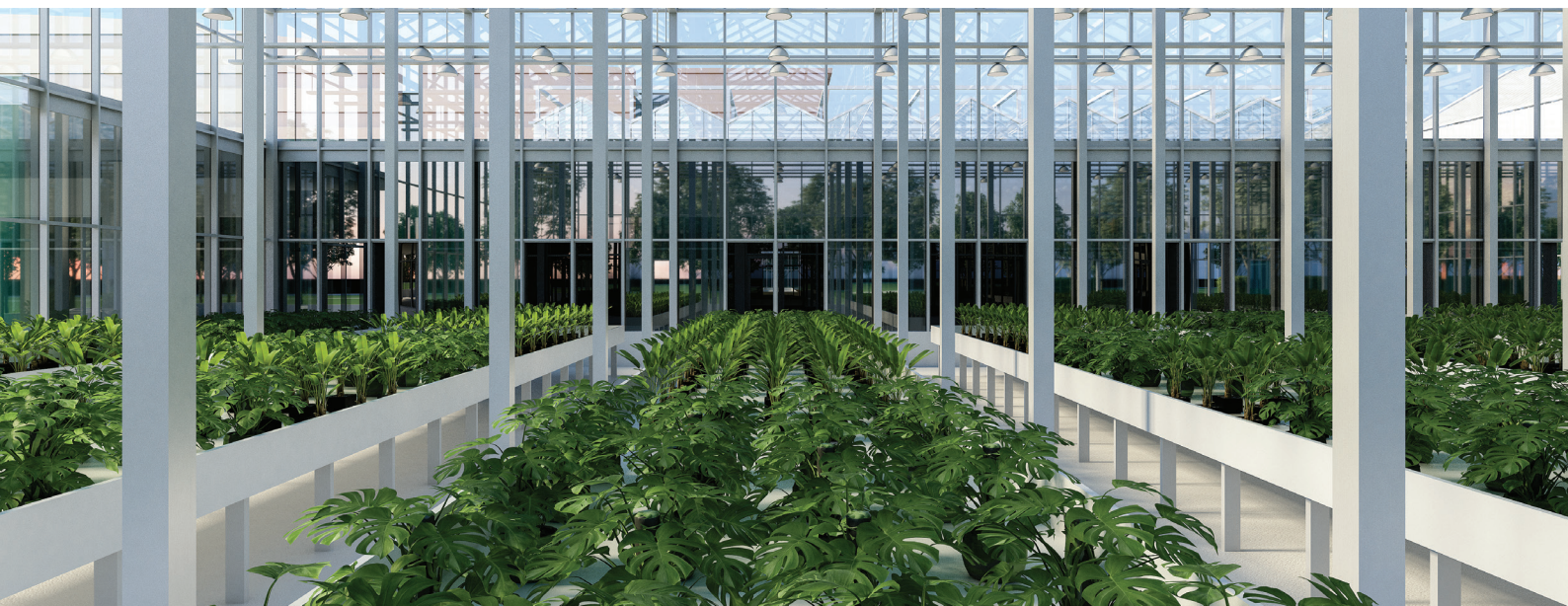
Rental Space and Specification

EECi Headquarters – Building S: Greenhouse and Plant Factory



- Total Cooling capacity = 280 tons (refrigeration)
- Total Electricity capacity = 500 kVA
- Fire alarm and sprinkler systems covering all areas
- Total water capacity = 30 cubic meters/day
- Loading area height = 4.1 m with (polished concrete floor)

Room Type	Size	Specification
Greenhouse	<ul style="list-style-type: none"> • 280 sq.m (1 module) • 310 sq.m (5 modules) 	<ul style="list-style-type: none"> - Ceiling height = 8.1 m - Floor load = 1,000 kg/sq.m - Polished concrete floor
Plant Factory	425 sq.m (2 modules)	<ul style="list-style-type: none"> - Ceiling height = 9.55 m - Floor load = 1,000 kg/sq.m - Polished concrete floor - Normal electricity load ~ 3 Phase 160A (with kWh meter) - Essential electricity load ~ 3 Phase 50A (with kWh meter)





Rental Space and Specification

EECi Headquarters – Building Q: Pilot Plant Module

- Total Cooling capacity = 280 tons (refrigeration)
- Total Electricity capacity = 1,600 kVA
- Fire alarm and sprinkler systems covering all areas
- Total water capacity = 40 cubic meters/day

Room Type	Size	Specification
Office	56 sq.m/room (5 rooms)	<ul style="list-style-type: none"> - Ceiling height = 3 m - Floor load = 300 kg/sq.m - Flooring tiles
Meeting Room	64 sq.m/room (2 rooms)	<ul style="list-style-type: none"> - Ceiling height = 3 m - Floor load = 300 kg/sq.m - Flooring tiles
Pilot Area (include wet lab area in each module)	Size M = 1,115 sq.m/module (2 modules)	<ul style="list-style-type: none"> - Normal electricity load ~ 3 Phase 320A (with kWh meter) - Essential electricity load ~ 3 Phase 320A (with kWh meter) Operation area on 1st floor : <ul style="list-style-type: none"> - Ceiling height = 13 m - Floor load = 10,000 kg/sq.m - Polished concrete floor Characterization lab on 1st floor : <ul style="list-style-type: none"> - Ceiling height = 4.15 m - Floor load = 500 kg/ sq.m - Polished concrete floor Wet lab on 2nd floor : <ul style="list-style-type: none"> - Ceiling height = 4.15 m - Floor load = 500 kg/sq.m - Polished concrete floor Wet lab on 3rd floor : <ul style="list-style-type: none"> - Ceiling height = 4.15 m - Floor load = 500 kg/sq.m - Polished concrete floor
	Size L = 2,240 sq.m/module (1 module)	<ul style="list-style-type: none"> - Normal electricity load ~ 3 Phase 840A (with kWh meter) - Essential electricity load ~ 3 Phase 840A (with kWh meter) Operation area on 1st floor : <ul style="list-style-type: none"> - Ceiling height = 13 m - Floor load = 2,000 kg/sq.m - Polished concrete floor Characterization lab on 1st floor : Wet lab on 2nd floor : Wet lab on 3rd floor : <ul style="list-style-type: none"> - Ceiling height = 4.15 m - Floor load = 500 kg/sq.m - Polished concrete floor



Rental Space and Specification

EECi Headquarters – Building R: Pilot Plant Module

- Total Cooling Capacity = 280 tons (refrigeration)
- Total Electricity Capacity = 1,600 kVA
- Fire alarm and sprinkler systems covering all areas
- Total water capacity = 40 cubic meters/day

Room Type	Size	Specification
Office	64 sq.m./room (5 rooms)	<ul style="list-style-type: none"> - Ceiling height = 3 m - Floor load = 300 kg/sq.m - Flooring tiles
Meeting Room	42 sq.m./room (2 rooms)	<ul style="list-style-type: none"> - Ceiling height = 3 m - Floor load = 300 kg/sq.m - Flooring tiles
Pilot Area (include wet lab area in each module)	Size S = 710 sq.m./module (3 modules)	<ul style="list-style-type: none"> - Normal electricity load ~ 3 Phase 200A (with kWh meter) - Essential electricity load~ 3 Phase 200A (with kWh meter) <p>Operation area on 1st floor :</p> <ul style="list-style-type: none"> - Ceiling height = 13 m - Floor load = 2,000 kg/sq.m - Polished concrete floor <p>Characterization lab on 1st floor :</p> <p>Wet lab on 2nd floor :</p> <p>Wet lab on 3rd floor :</p> <ul style="list-style-type: none"> - Ceiling height = 4.15 m - Floor load = 500 kg/sq.m - Polished concrete floor
	Size M = 1,095 sq.m./module (2 modules)	<ul style="list-style-type: none"> - Normal electricity load ~ 3 Phase 320A (with kWh meter) - Essential electricity load~ 3 Phase 320A (with kWh meter) <p>Operation area on 1st floor :</p> <ul style="list-style-type: none"> - Ceiling height = 13 m - Floor load = 2,000 kg/sq.m - Polished concrete floor <p>Characterization lab on 1st floor :</p> <ul style="list-style-type: none"> - Ceiling height = 4.15 m - Floor load = 500 kg/ sq.m - Polished concrete floor <p>Wet lab on 2nd floor :</p> <p>Wet lab on 3rd floor :</p> <ul style="list-style-type: none"> - Ceiling height = 4.15 m - Floor load = 500 kg/sq.m - Polished concrete floor

Rental Space and Specification

EECi Headquarters – Building P: Pilot Plant Module



- Total Cooling capacity = 280 ton (refrigeration)
- Total Electricity capacity = 2,000 kVA
- Fire alarm and sprinkler systems covering all areas
- Total water capacity = 40 cubic meters/day

Room Type	Size	Specification
Office	120 sq.m/room (6 rooms)	<ul style="list-style-type: none"> - Ceiling height = 3 m - Floor load = 300 kg/sq.m - Flooring tiles
Meeting Room	42 sq.m/room (2 rooms)	<ul style="list-style-type: none"> - Ceiling height = 3 m - Floor load = 300 kg/sq.m - Flooring tiles
Pilot Area (include wet lab area in each module)	Size S = 735 sq.m/module (6 modules)	<ul style="list-style-type: none"> - Normal electricity load ~ 3 Phase 200A (with kWh meter) - Essential electricity load~ 3 Phase 200A (with kWh meter) <p>Operation area on 1st floor :</p> <ul style="list-style-type: none"> - Ceiling height = 13 m - Floor load = 2,000 kg/sq.m - Polished concrete floor <p>Characterization lab on 1st floor :</p> <p>Wet lab on 2nd floor :</p> <p>Wet lab on 3rd floor :</p> <ul style="list-style-type: none"> - Ceiling height = 4.15 m - Floor load = 500 kg/sq.m - Polished concrete floor

13,000 sq.km

\$ 43 Billion USD
Infrastructure
Development Projects



Focus in 3 Eastern Provinces;
Chachoengsao, Chonburi and Rayong

30 Industrial Estates

Gateway to ASEAN

Strategic Location



Don Muang Airport



Suvarnabhumi Airport

Bangkok

Bang Sue

Makkasan

Chachoengsao

Chachoengsao

331



Laem Chabang Port

Chonburi

Chonburi

344

High-speed Train

Double-track rail lines

Motorway
(Bangkok-Pattaya-Rayong)

Highway



Pattaya City

Sriracha

Sriracha

EECI

Rayong

160 Kilometers from Bangkok

170 Kilometers from Don Muang Airport

130 Kilometers from Suvarnabhumi Airport

90 Kilometers from U-tapao Airport

90 Kilometers from Pattaya City

78 Kilometers from Laem Chabang Port

68 Kilometers from Map Ta Phut Port

110 Kilometers from Sattahip Port

U-tapao

Rayong

Sattahip Port

U-tapao Airport

Map Ta Phut Port





Hub of the Hubs

“Connecting Research and Investment Across Thailand”



Thailand at a glance

Kingdom of Thailand

FACT

Land area:

513,115 sq.km
(200,000 sq.mi)

Time zone:

UTC/GMT + 7 Hours



Climate: Tropical monsoon climate with a high degree of humidity (annual average temperature : 66–100 °F)

**Population:**

66.41 million

**Capital city:**

Bangkok (population 5.6 million)

Language: Thai

Nationality: Thai

**Government:**

Parliamentary democracy with a constitutional monarchy

Head of State:

His Majesty King Maha Vajiralongkorn
Phra Vajiraklaochaoyuhua

Head of Government:

Prime Minister (renewable four-year term)



Exchange Rates



32.60
Baht



35.52
Baht



30.80
Baht
(100 Yen)



4.64
Baht

Source: Bank of Thailand (as of 29 April 2020)

Economy

\$ 505 billion USD

GDP 2018

\$ 7,273.56 USD

GDP per capita 2018

\$ 19,051.33 USD

GDP per capita PPP 2018

Source: Bank of Thailand (2019)

Tax Rate

0 - 20%

Corporate Income Tax

7%

VAT

5 - 35%

Personal Income Tax

1 - 10%

Withholding Tax

Source: The Revenue Department

International Competitiveness

Best countries
to start a business

1st

2020

Source: U.S. News & World Report (2020)

World Bank
ease of
doing business

27th

2019

Source: World Bank (2020)

The World's
strongest
health security

6th

2019

Source: Global Health Security Index (2019)