

EEC Updates and Investment Opportunities



Eastern Economic Corridor (EEC)



Total Area: 13,810 sq.km. Population: 3,261,751 pp.

Chonburi

Area 4,363 km² Population 1,567,000

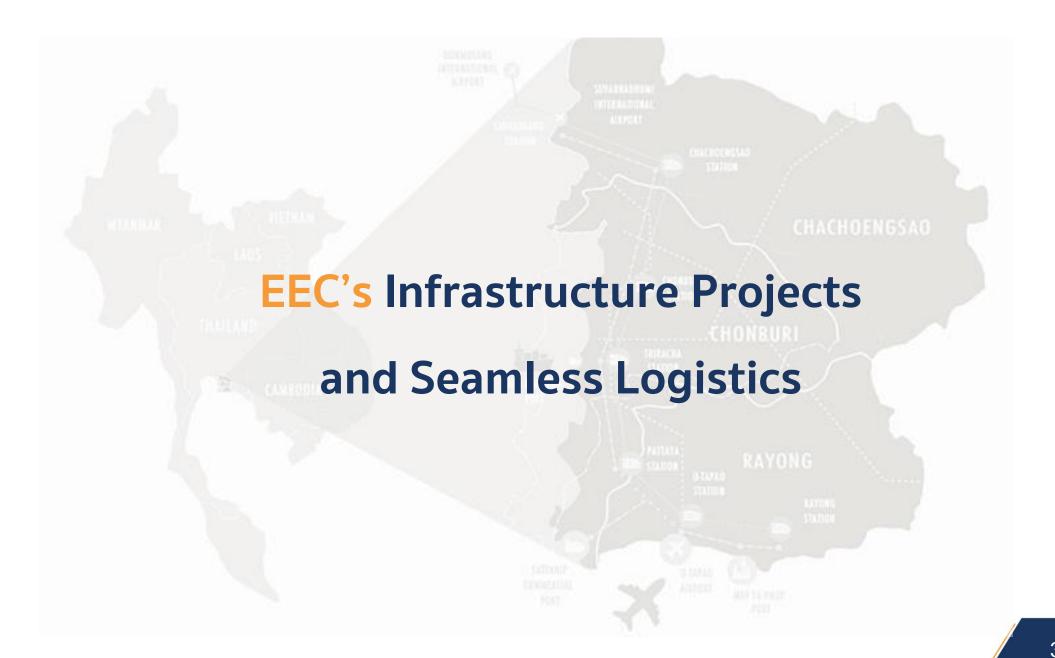
Rayong

Area 5,351 km² Population 908,778

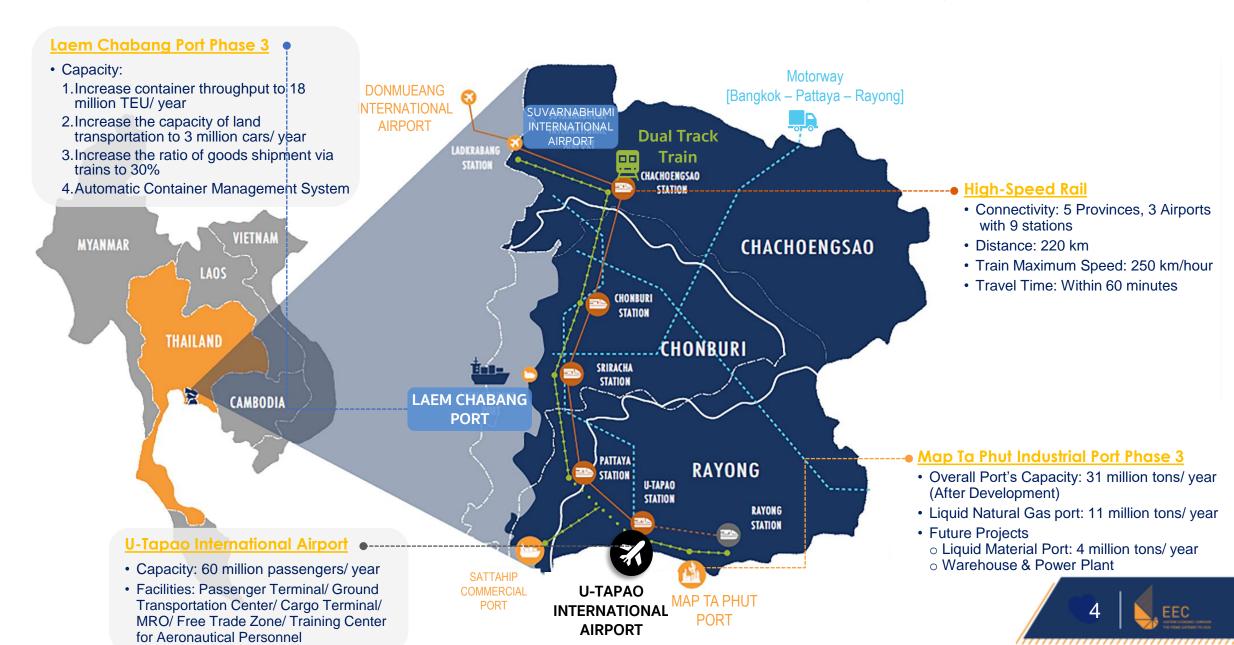
Chachoengsao

Area 3,552 km²
Population 785,973





Eastern Economic Corridor (EEC)



EEC's Infrastructure Projects







- Start Operation: 2025
- Connectivity: 5 Provinces, 3 Bangkok Airports with 9 stations
- Distance: 220 km
- Train Maximum Speed: 250 km per hour
- Travel Time: Within 60 minutes
- Winner: Eastern High-Speed Rail Linking Three Airports Co.,Ltd.
- Status: Expropriation process



3rd international airport of Bangkok

- Start Operation: 2025
- Capacity: 60 million passengers per year
- Facilities: Passenger Terminal
 - Ground Transportation Center
 - Cargo Terminal
 - Maintenance, Repair and Overhaul Center
 - Free Trade Zone
 - Training Center for Aeronautical Personnel
- Winner: U-Tapao International Aviation Co.,Ltd.
- Status: Designing process



EEC's Infrastructure Projects



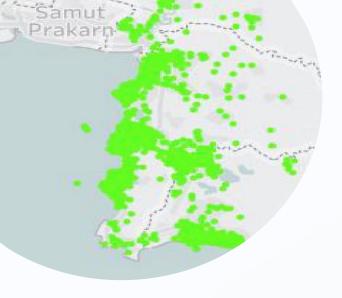
Expand the capacity of the shipment hub in Southeast Asia while maintaining the energy security for Thailand

- Start Operation: 2026
- Location: Rayong Province
- Overall Port's Capacity: 31 million tons/year (After Development)
- Liquid Natural Gas port: 11 million tons/ year
- Future Projects
 - Liquid Material Port: 4 million tons/ year
 - Warehouse & Power Plant
- Winner: Gulf MTP LNG Terminal Co.,Ltd.
- Status: Designing process



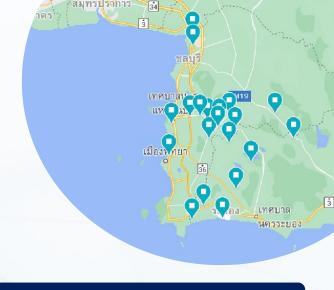
Equip the Largest Sea Port in Thailand with automated system as the foundation for the Regional Logistics Center

- Start Operation: 2025
- Location: Chonburi Province
- Capacity
 - o Increase container throughput to 18 million TEU/ year
 - Increase the capacity of land transportation to 3 million cars/ year
 - Increase the ratio of goods shipment via trains to 30%
 - Automatic Container Management System
- Status: Approved, contract to be signed in Q2 2021



5G Infrastructure in EEC

5G in Thailand was launched in February 2020. and has the potential to account for 10% of Thailand's GDP by 2035

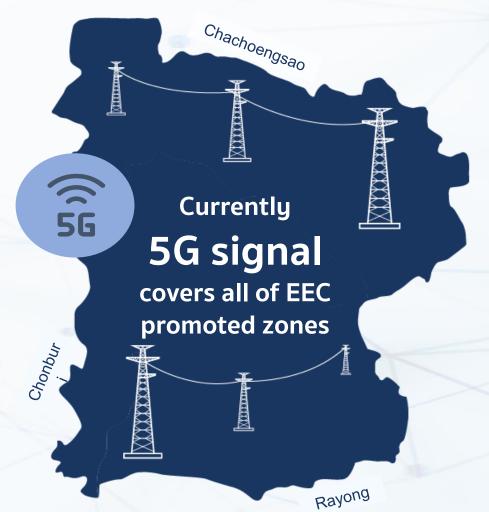






with the plan to cover 50% of EEC Promoted Area within March 2021.





EEC 5G Execution plan

1. Develop 5G Infrastructure

- 5G Signal
- Data Center-Cloud-Common data Lake

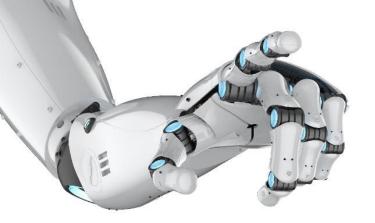
2. Drive 5G Utilization

- 5G for industry applications
- 5G for cities and communities
- 5G for new/ digital businesses

3. Develop 5G & Digital skills







TARGETED INDUSTRIES

PROMOTING ADVANCED TECHNOLOGY AND INNOVATION



ADVANCED AGRICULTURE AND **BIOTECHNOLOGY**



FOOD FOR THE FUTURE



MEDICAL AND COMPREHENSIVE **HEALTHCARE**



INTELLIGENT **ELECTRONICS**



NEXT-GENERATION AUTOMOTIVE



AVIATION



HIGH-VALUE AND MEDICAL TOURISM





EDUCATION AND HUMAN RESOURCE DEVELOPMENT













EEC FOCUS AREAS

3 + 1 emerging clusters amidst global pandemic







DIGITAL

LOGISTICS

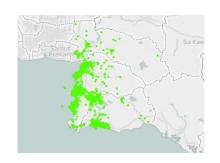
CIRCULAR & GREEN ECONOMY





5G networks is ready for deployment in EEC

- Currently 5G signal covers all of EEC promoted zones
- 5G as a key enabler for Industry 4.0 and Smart Cities development in EEC



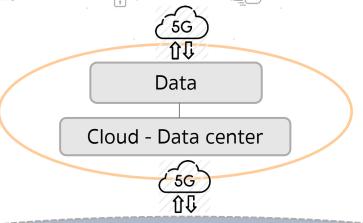
Industry 4.0

5G for Manufacturing and Industrial Automation

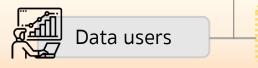


5G driven Smart Areas in EEC

Create more 5G users to benefit community



Common Data Lake







5G driven Smart Areas in EEC



5G and Industries 4.0 Execution Plan in EEC

Agriculture

Precision Agriculture

- Farm & Climate Monitoring
- Farm to Fork Traceability
- Agricultural Drones
- Aerial Imagery Analytics
- Pest & Disease Prescriptive Analytics

Augmented Farming

Simulated Agriculture Training

Manufacturing

Smart Factory

- Remote Monitoring and **Operations**
- Full-loop Industrial Automation
- Safety Analytics & Predictive Maintenance

Tele-workers

- Virtual Production Line
- Tele/ Augmented Field Service

Simulated Training

Virtual Prototyping

Transportations & Logistics

Intelligent Supply Chain

- Supply Chain Visibility
- Supply Chain Traceability
- Warehouse Automation
- Demand Forecasting & Optimization
- Safety Analytics

Autonomous & Remotely-Operated Vehicles

Healthcare

Telemedicine

- Remote Surgery
- Connected Medical Devices
- Remote Patient Monitoring
- Intelligent Diagnosis

Precision Medicine

- Health Wearables
- Bio-Informatics / Genomics
- Personalized Health Plan
- Personalized Treatment & Medication

Consumer & **Tourism**

Hyper-Personalization

- Smart Home and IoT **Appliances**
- Personalized Wearables
- Interactive Tourism through Sensor / IoT
- Advanced Personalization e.g. geo-intelligence

Augmented Experience

- Augmented Learning & Working
- Virtual Tour / Event

Execution Plan in EEC in 2021



Facilitate supply and demand with 5G initiatives

- Sharing of infrastructure
- Tax incentive schemes
- Matching funds for SME's OSMEP



Create 5G usecase and pilot projects

- Pilot project >> 80 Factories in 2021 (Year 1 Milestone)
- Leverage partnership with industry and technical organizations



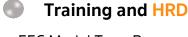












- Using EEC Model Type B
- Approved 85 short courses in Industry 4.0 and another 73 in 5G and related techno in 2021
- Target Trainees >> 14,000 in 2020 and 30,000 in 2021







Health and Wellbeing

Functional Food



Cosmeceutical



- Silver Food
- Food Supplement
- Super Food



• Bio-active Ingredient

Bioprocessing Technology



Bio Extraction
 Fermentation Technology



Advanced Agriculture



 Precision Drones Sensor Marketplace Agriculture

Quality Farming

 Organic • GAP Food Safety
 Traceability (Good Agricultural Practice)



Therapy



Precision Medicine/

Personalized Healthcare

• Regenerative Medicine

Manufacturing



- Pharmaceuticals
- Medical Devices
- Digital Health

Data Utilization / Interpretation



SO.

Data Analytics

- Bioinformatic
- Clinical Interpretation

Genome Data













New Eco-system for Health and Wellbeing (Plant Centric)





Technology Platform in EEC

EECi - Biopolis





Synchrotron Thailand



- ✓ Latest (4th generation) and Largest synchrotron light source in ASEAN
 - ✓ Infrastructure for Nano-tech & Research

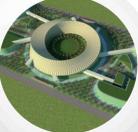
Targeted Industry & Technology

Material Science / Energy / Food / Environment / Biotechnology / Medical











Chemical & Bioprocess Facilities

- **✓** Biorefinery
- ✓ Fermentation
- ✓ Bio-Extraction

Collaborating with







- **✓** Plant Factory / Smart **Green House**
- ✓ Phenomics Green House
- ✓ Open-Field Smart Farming



New Eco-system for Health and Wellbeing (Human Centric)



- Genomics Thailand Integration and Execution Plan (2020-2024)
- 1st Step for Thailand to develop **Genome Sequencing Center Project and** establish Genome Sequencing Lab in EEC
- Focus on Cancer, NIPT and Rare disease

Medical Centers & Network Public/ Private Sector



National Bioresource Center Public/ Private Sector



Genome Sequencing Lab



- **National Whole Genome Sequencing Project**
- 50,000 Whole Genome Data
- 5 Years Processing since 2021

Genome Data Center (National Biobank of Thailand) Public/ Private Sector



Clinical Interpretation Public/ Private Sector



- Develop clinical interpretation and report tools
- Provide genetic counselling service

Public/ Private Sector



- Aggregated data analysis

Central data storage

Develop and provide

analysis tools

Manage Thai genome database

Business Opportunities

Therapeutics



Precision Medicine

- **Gene Therapy**
- Personalized healthcare etc.

Regenerative Medicine

- Cell Therapu
- Small molecule & Biologic drugs
- Tissue Engineering

Manufacturing



Digital Health

- Advance Health and **Wellness Devices**
- Telemedicine
- **Bioinformatics**



R&D



Clinical Trials

Pharmacogenomics



Drugs Discovery



EEC's Complete Multi-Modal Transportation and Logistics





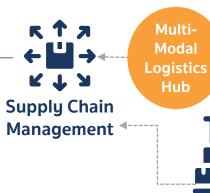


- Fulfillment Service

- New-generation Vehicles (EV, AV, UAV, Drone)

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- Robotic & Automation
- Blockchain



EEC Airport City



Aircraft

- Airframe
- Airframe Engines Landing Gear & Wheels and Breaks **Breaks** MRO
- Engine Fuel & Control
- APU
- In Flight Entertainment

- Aviation Training Center

- Advanced Composite square



Air Cargo

BCG Model, Targeted Industries, and Green & Circular Economy



EU Green Deal

- ✓ Transition to a Circular Economy
- ✓ Climate Pact & Law, Carbon tax
- ✓ Clean, Reliable and Affordable Energy



US Executive Order on Tackling Climate Crisis at Home and Abroad

- ✓ Carbon-free electricity by 2035
- ✓ Net-zero emissions and 100% clean energy by 2050



Paris Agreement

To limit global warming to well below 2, preferably to 1.5 degree Celsius - Net Zero -



Bio Economy

ircular Economy

A tool to achieve international environmental agreements



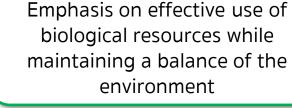
Thailand is one of the Parties that ratified the Paris Agreement

and announced Carbon Emission

Reduction Target:

20-25% by 2030

Focus on increasing the product's value throughout lifetime, from production consumption to waste disposal





Green & Circular Economy in EEC: Goal and Execution plan

Improve Energy Efficiency **EEC** becomes **Net Zero Carbon Emission area** for industrial sector **Enhance Resource & Waste Management**

Create Business Ecosystem

Objectives

- Increase the share of electricity generation from renewable energy in industrial sector
- Enhance the infrastructure to support distributed power generation system (Smart Grid, Micro-Grid)
- Increase the share of electric vehicles in public transport
- Shift to Low-Carbon production to reduce carbon intensity
- Create a model industrial waste management in EEC area
- Incentivize investments related to reused and recycling businesses

- **Plans**
- Renewable power supply schemes for 30% of the total electricity demand in the EEC
- Develop Ban Chang district,
 Rayong as an EV City
- Total Waste Management
 Project in Rayong Province
 or "Rayong Model"
- Agricultural plan in EEC to enhance agricultural product's value added
- Promote the industrial production under international standards of Green & Circular Economy, i.e. ISO 14021 / 14024 / 14025
- Establish Carbon Trading System in EEC





EEC Promoted Zones

EEC has designated 21 Promoted Zones for 12 targeted industries and Promoted Zones for Specific Industries



Promoted Zones

For Targeted Industries

The EEC has designated 21 Promoted Zones to be a location for the 12 targeted industries. Investors will be eligible to receive both tax and non-tax privileges.

List of Promoted Zones for Targeted Industries

- WHA Rayong Industrial Estate
- Eastern Seaboard (Rayong)
- WHA Eastern Industrial Estate (Map Ta Phut)
- WHA Eastern Seaboard I.E.1
- WHA Chonburi I.E.1
- WHA Chonburi I.E.2
- WHA Eastern Seaboard I.E.2
- WHA Eastern Seaboard I.E.3
- WHA Eastern Seaboard I.E.4
- OP (Rayong)
- Amata Nakorn Industrial Estate
- @ Amata Nakorn Industrial Estate (2nd Project)
- Mata City
- Pinthong
- Pinthong Industrial Estate (Laem Chabang)
- Pinthong Industrial Estate (3rd Project)
- Pinthong Industrial Estate (4th Project)
- Pinthong Industrial Estate (5th Project)
- TFD (2nd Project)
- Yamato Industries
- Smart Park



Special Package for Investors in EEC Area



EEC Incentives for Investment Promotion



EEC Privileges

- Ownership of land and residence
- Foreigners to enter and reside in Thailand
- Taxes and duties
- Foreign exchange control
- Others e.g. professional, grant



BOI's Tax Incentives for EEC for Targeted Business Activities

- Knowledge-based activities
- Infrastructure activities for country's development
- High technology activities
- Technology and Innovation development



Facilitation of Investment and Doing Business in EEC



EEC Regulatory Sandbox

Designed in collaboration with investors aiming to create optimal rules and regulations, and procedures to best facilitate investment in targeted industries



Regulatory Guillotine



EEC One Stop Service (EEC-OSS)

Facilitating permit application process through digital channel for 44 permits



Long-term Land Lease

Extending the leasehold contracts from 30 to 50+49 years



Education & Human Resource Development in **EEC**

Workforce skill development at every level to meet demands



New Skill

Adjust the teaching strategies, train teaching personnel and improve teaching materials in order to produce skillful workforce that meet the needs of the industrial sector



Up Skill

Improve workforce skills to keep pace with the new technology through practical training



Re Skill

Set up 6-12 month short term trainings for people working in unrelated field, lacking direct experience, or unemploued



EEC Model D

: Module Short Courses

Re Skill – Up Skill to keep pace with the change of new technology



Credit Bank for undergraduate and graduate levels

EEC HDC Coordinate/Course Accredited

Collaboration on curriculum design

Contribution 50:50

250% tax 50% budget deduction reduction

Hiring guarantee (6 months at minimum)

- · Approved by Private Sector
- · Accredited by EEC



EEC Useful Resources (English version)

1. EEC Progress

1. EEC Brochure

2. 2 Years of EEC

- 2. EEC 2-Year Report
- 3. High-speed Rail Linking Three Airports
- 4. U-Tapao International Airport & Eastern Airport City Project



EEC Useful Resources



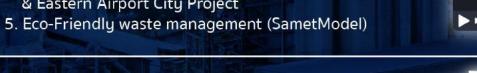
www.eeco.or.th



สื่อประชาสัมพันธ์ (ฉบับภาษาไทย)



- 1. ความก้าวหน้า อีอีซี
- 2. 2 ปี อีอีซี
- 3. รถไฟความเร็วสูงเชื่อม 3 สนามบิน
- 4. โครงการสนามบิ้นอู่ตะเภา และเมืองการบินภาคตะวันออก
- 5. จบขยะที่เสม็ด





- สนามบินอ่ตะเภา และเมืองกำรบิน ภาคตะวันออก
- 1. 2 ปี อีอีซี
- 2. สาระสำคัญ และคำถาม-คำตอบ โครงการรถไฟความเร็วสูงเชื่อม 3 สนามบิน
- 3. สาระสำคัญ และคำถาม-คำตอบ โครงการสนามบินอู่ตะเภาและเมืองการบินภาคตะวันออก