



# GMS Logistics Forum 2021

## Seizing Opportunities : Logistics and Infrastructure Potentials in EEC

25 March 2021

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Special Advisor  
Eastern Economic Corridor (EEC) Office

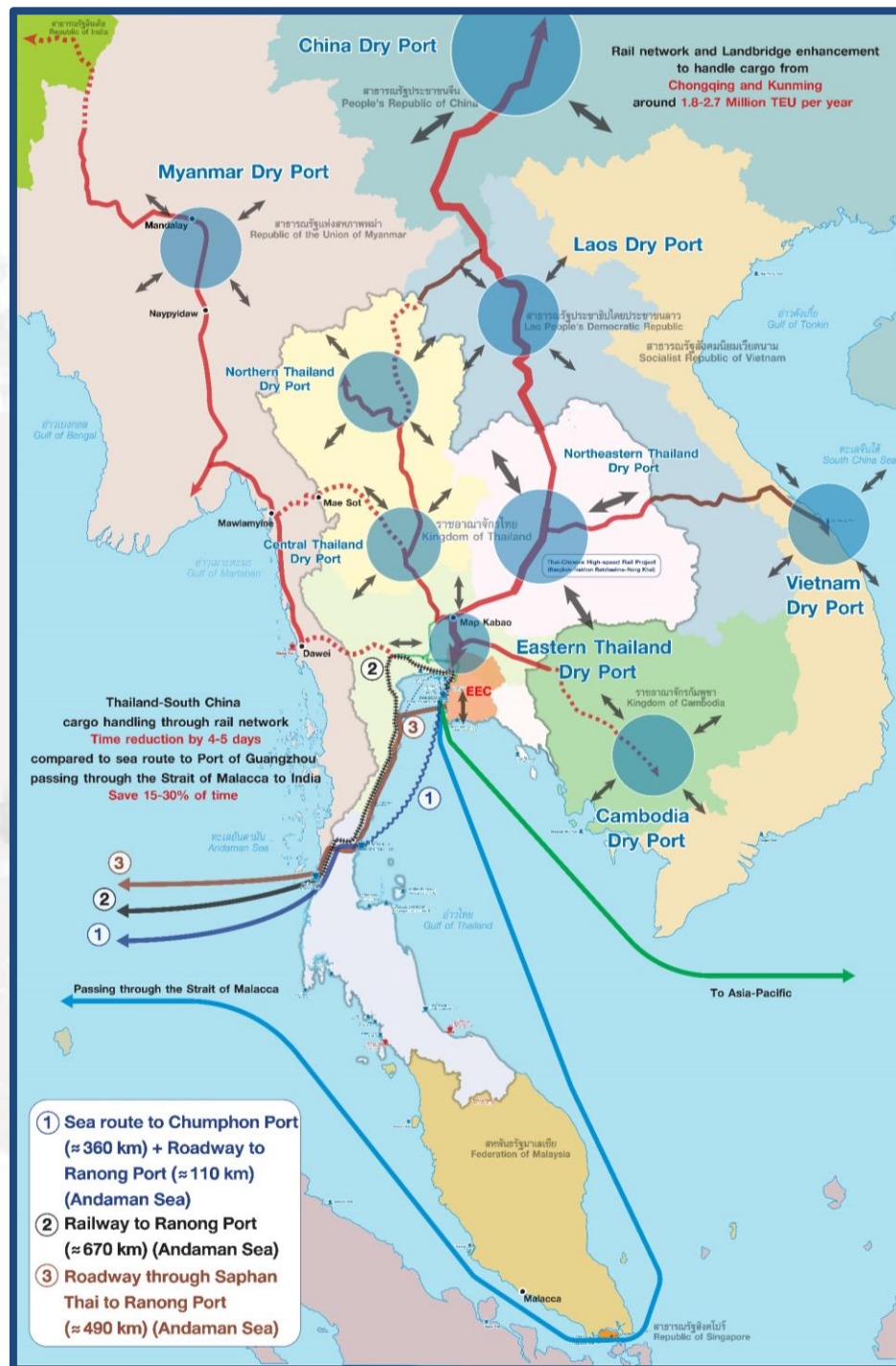






# Dry Port Regional Connectivity

Source: EEC



# Eastern Economic Corridor (EEC)

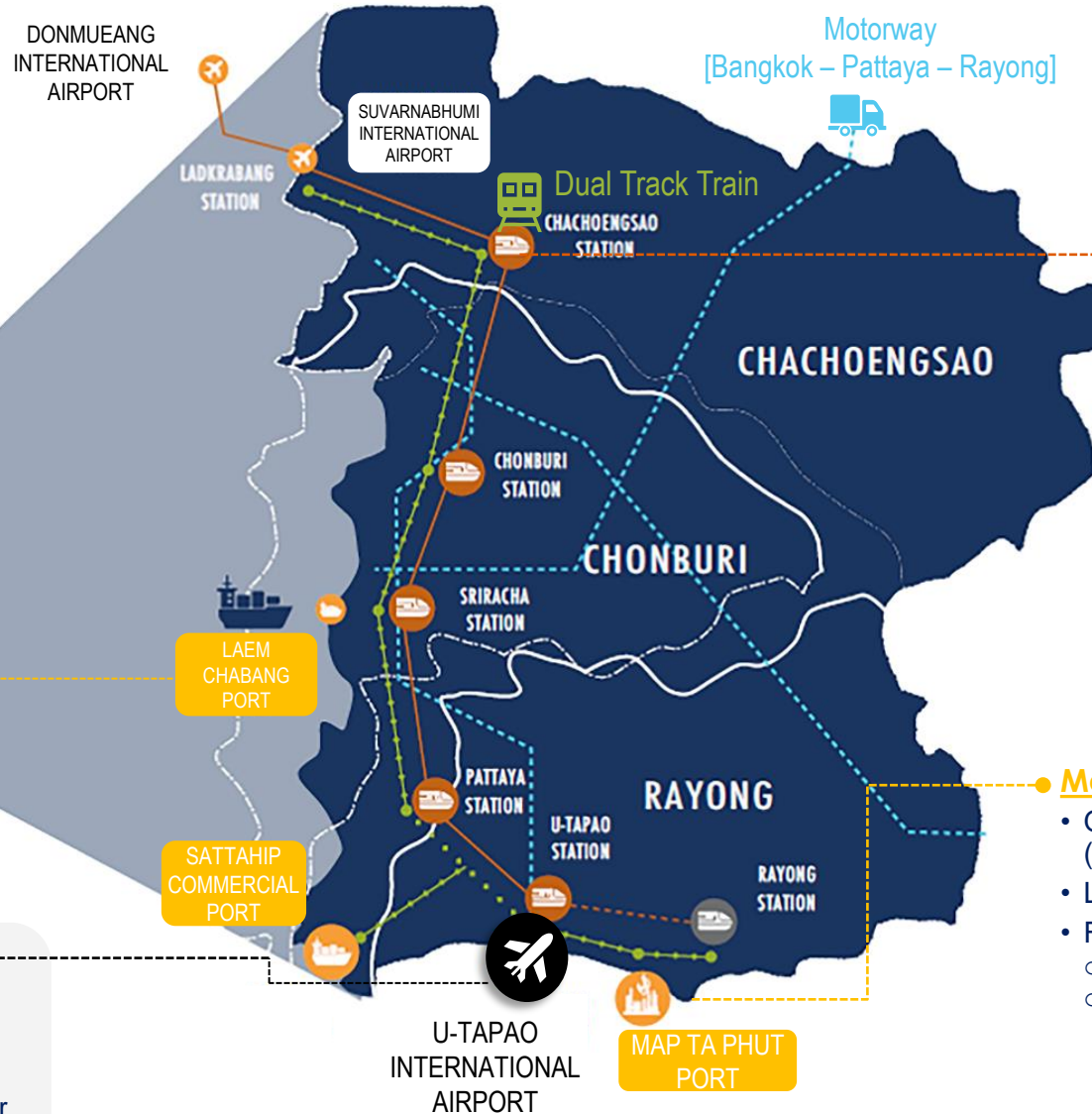
## Laem Chabang Port Phase 3

- Capacity:
  1. Increase container throughput to 18 million TEU/ year
  2. Increase the capacity of land transportation to 3 million cars/ year
  3. Increase the ratio of goods shipment via trains to 30%
  4. Automatic Container Management System



## U-Tapao International Airport

- Capacity: 60 million passengers/ year
- Facilities: Passenger Terminal/ Ground Transportation Center/ Cargo Terminal/ MRO/ Free Trade Zone/ Training Center for Aeronautical Personnel



## High-Speed Rail

- Connectivity: 5 Provinces, 3 Airports with 9 stations
- Distance: 220 km
- Train Maximum Speed: 250 km/hour
- Travel Time: Within 60 minutes

## Map Ta Phut Industrial Port Phase 3

- 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

# EEC Major Infrastructure Progress



Map Ta Phut Port

Contract signed 1<sup>st</sup> October 2019



High-Speed Train

Contract signed 24<sup>th</sup> October 2019



U-Tapao International Airport

Contract signed 19th June 2020



Laem Chabang Port

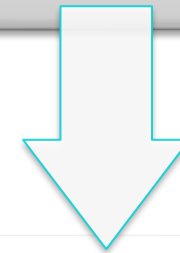
Winner awarded by 2021



Double Track Railway

Cabinet approve by 2021

Constructions start  
by **2020 – 2022**



Year of operation:  
**2024 – 2026**

# The High-Speed Rail Linking 3 Airports Project (Don Mueang – Suvarnabhumi – Tapao)

- ✓ 100,000 Commuter per day + 40,000 Intercity Traveler per day
- ✓ Total Investment 224 billion THB
- ✓ Economic Return 350 billion THB

## Key Points

### Main duties and responsibilities :

- **State Railway of Thailand (SRT)**
  1. **Deliver the Project site** to Private Party (Approx. 4,429 rai)
  2. **Jointly invest** in the Project over ten years in equal amounts starting from first year of operation
- **Private Party**
  1. **Design, Build, Operate and Finance** of **250 kph High-Speed Rail (220 kms)** and Development of **TOD on Makkasan and Si Racha area (165 rai)**
  2. Provide compensation towards the Public **by sharing revenue** of the project (above specified thresholds) and transfer **fee for the right to operate the Airport Rail Link**
  3. **Pay land leasing fees** of Makkasan area and Si Racha area
- **Asset Transfer after 50 years concession period**



## Opportunities

- ▶ Potential **commercial development** joint-investment opportunities in Makkasan and Si Racha area
- ▶ Provision of investments along the route – **tourism sector growth due to ease of transportation**
- ▶ Intercity High-Speed Rail route will disperse to various sectors beyond Bangkok, **creating greater opportunities to attract investors in high-value industries requiring greater land size**

## Project Status

- On 24th Oct 2019, PPPA was signed.



# The Double-track Railway Eastern Line (Hua Mak – Chachoengsao – Si Racha section and Si Racha – Map Ta Phut – Rayong – Chantaburi – Trad section

## Key Points

- **Project Owner: SRT – Bid Built**
- **Distance: 201 km**
- **Railway structure: Elevated railway: 35 km**  
**At-grade railway: 166 km**
- **18 stations: 15 at-grade stations**  
**2 halt stations**  
**1 at-grade station with elevated platform**
- **Travel time from Bangkok to Map Ta Phut: approx. 2 hours**
- **Estimated Ridership: 5.9 million passengers/year (by 2055)**
- **Estimated Freight Volume: 250 million tons/year (by 2055)**

- ✓ Increase Rail Mode Share from 7% to 30%
- ✓ Total Investment 62.6 billion THB
- ✓ Economic Return approx. 13%
- ✓ Expected to operate by 2026



## Project Status

- SRT is doing Feasibility Study, Detailed Design, and EIA (completed by mid 2020)



# Map Ta Phut Port Phase 3

- ✓ Capacity from 16 mill. ton/yr to 31 mill. ton /yr
- ✓ Total Investment 55.4 billion THB
- ✓ Economic Return approx. 32 billion THB

## Key Points

Main duties and responsibilities :

- **Industrial Estate Authority of Thailand (IEAT)**
  1. **Reclaim land of 1,000 rai** to facilitate **the construction of new liquid and natural gas terminals**, as well as the development of industrial power sources
  2. Transfer and compensate for the dredging and preparation of project site to the private sector.
- **Private Party**
  1. **Design, build, operate and finance the LNG terminal superstructure** and install necessary equipment
  2. Pay fixed concession fees and royalty fees
- **Asset Transfer : Build-Operate-Transfer (BOT)** after 35 years concession period



## Opportunities

- ▶ Potential investment for liquid cargo (200 rai) terminal and warehouse and businesses related to natural gas (150 rai). The operation is expected to start in 2025.

## Project Status

- **On 1st Oct 2019, PPPA was signed.**



# U-Tapao International Airport

## Key Points

### Main duties and responsibilities :

#### • Royal Thai Navy (RTN)

- No. 1 **Runway 2** and Part of taxiway
- No. 2 and 3 TG **MRO** Campus + MRO Apron
- No. 4 'Other' MRO Campus incl. Common Facilities
- No. 5 Aeronautical and Aerospace **Training Center**,
- No. 6 **Utilities**:  
Water treatment and Wastewater treatment plant,  
Power Plant and Chilled Water Plant, and Aviation Fuel System
- Other : **Air Traffic Control Tower** (to be located)

#### • Asset Transfer

**Build-Operate-Transfer (BOT) after 50 years**, except apron and taxiway and service roads.

#### • On 21st Mar 2019, 3 bidders as follows submitted the proposals.

- **BBS Joint Venture**: Bangkok Airways PCL (Lead Firm), BTS Group Holdings PCL and Sino-Thai Engineering & Construction PCL
- **Grand Consortium** : Property Perfect PCL, Cristiani & Nelen (Thai) PCL and Thai Airasia Co., Ltd.
- **Thana Holding & Alliances Consortium** : Thana Holding Co., Ltd., Orient Success International Ltd, Italianthai Development PCL, Ch. Karnchang PCL and B.Grimm Joint Venture Holding Co., Ltd.

## Project Status

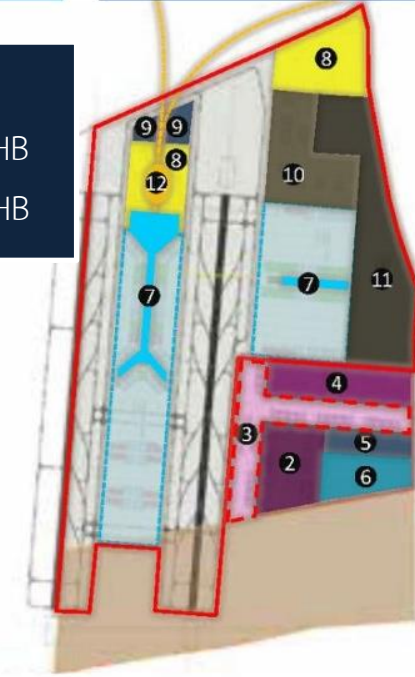
- Contract signed 19th June 2020

- ✓ 60 Million Passenger per Year
- ✓ Total Investment 290 billion THB
- ✓ Economic Return 189 billion THB

#### • Private Party

##### Design, build, operate and finance

- No. 7 **Terminal 3** + Satellite Concourse
- No. 8 **Commercial Gateway**/Business Park
- No. 9 Airport Ancillary/Support Areas
- No. 10 **Cargo Terminals**
- No. 11 **Cargo 'Village'** or Free Trade Zone



## Opportunities

- ▶ Participate in developing or renting from PPP Co. to develop **Cargo Terminal and Free Trade Zone or other related businesses**
- ▶ **Suppliers** can bid for projects from PPP Co, e.g. tools and equipment, software, and other advanced technologies, etc.

# Laem Chabang Port Phase 3 Terminal F

- ✓ Capacity from 11 mill. TEU/yr to 18 mill. TEU /yr
- ✓ Total Investment 114 billion THB
- ✓ Economic Return approx. 180 billion THB

## Key Points

### Main duties and responsibilities :

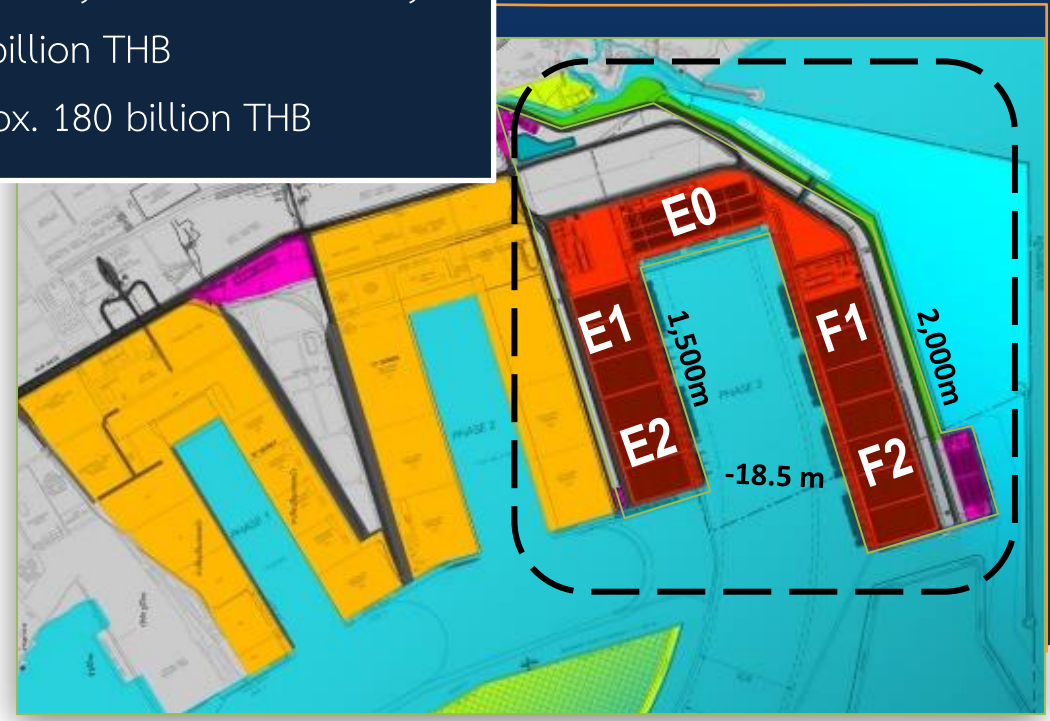
- **Port Authority of Thailand (PAT)**  
Prepare the **Project Site (2,846 rai)** and port **infrastructure work** of Terminal F.  
This also includes for Terminal E and E0.  
Provide **Single Rail Transfer Operation (SRTO)**
- **Private Party**
  1. **Design, Build, Operate and Finance** the terminal superstructure and necessary automation technologies
  2. Pay fixed concession fees and royalty fees
- **Asset Transfer : Build-Operate-Transfer (BOT) after 35 years** concession period
- On 29th Mar 2019, **2 bidders** submitted the proposals.

#### GPC consortium:

- PTT Tank Terminal Co. Ltd.
- Gulf Energy Development Plc.
- China Harbour Engineering Co. Ltd.

#### NPC consortium:

- Associate Infinity Co.Ltd.
- Prima Marine Plc.
- Nathalin Co
- PHS Organic Healing Co. Ltd.
- China Railway Construction Corporation Co. Ltd.

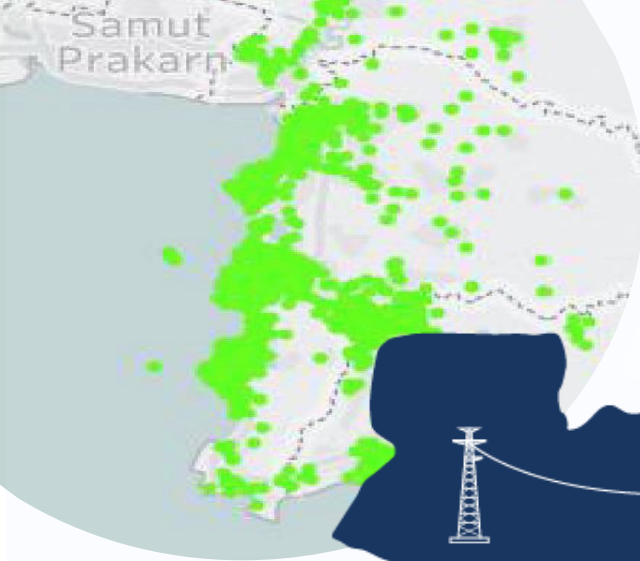


## Opportunities

- ▶ Potential investment for **Terminal E**. RFP for Terminal E will be later issued with the expected start of operation in 2030.
- ▶ Support the know-how in relation to the development and the use of **technologies for port automation and Green Port**.

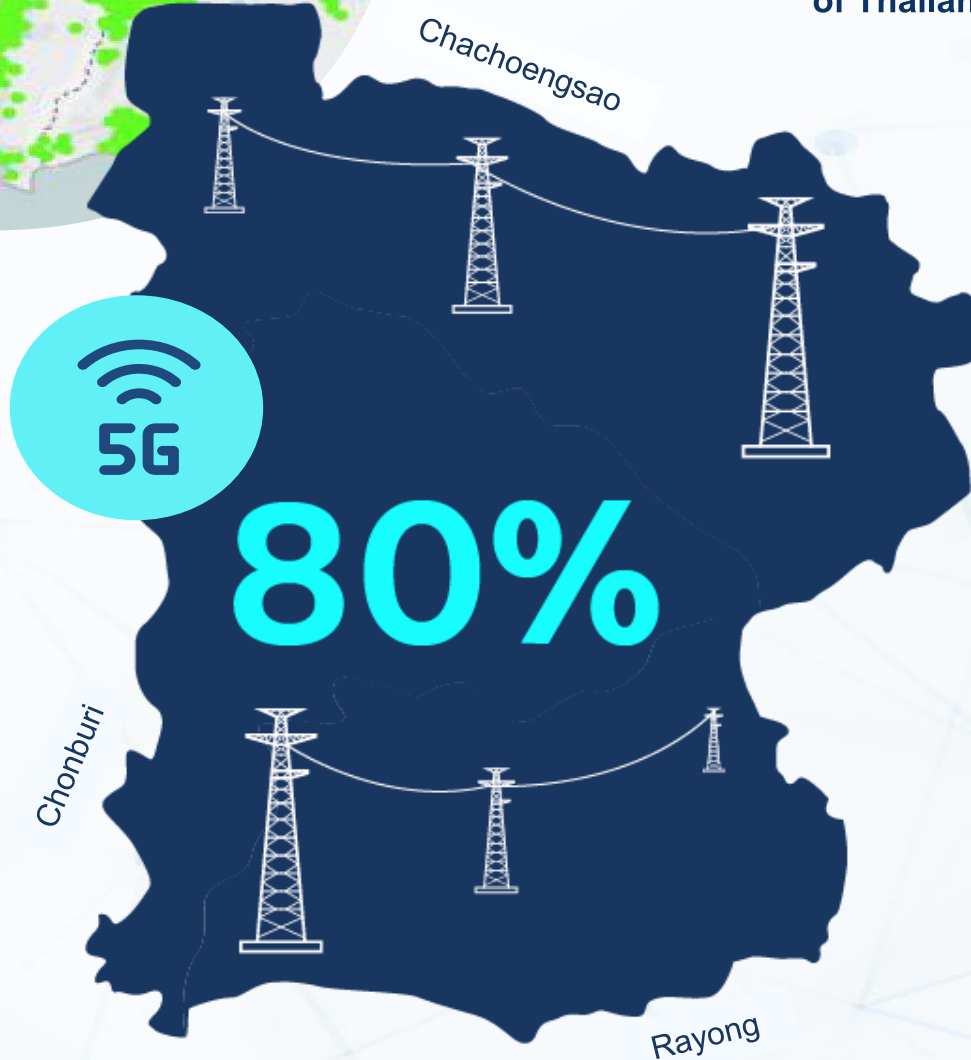
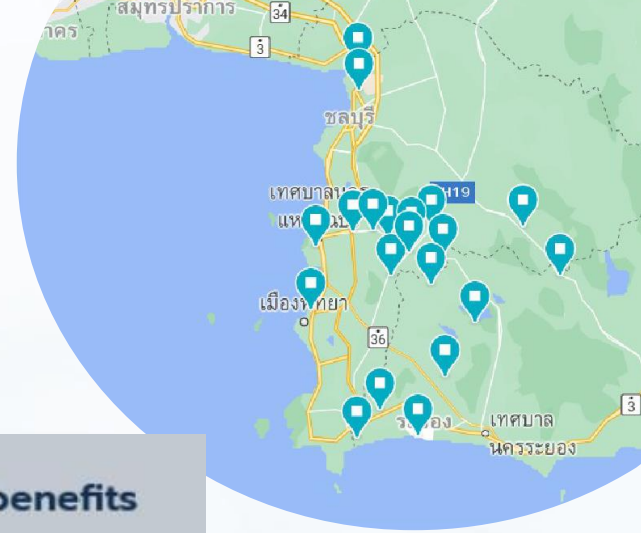
## Project Status

On 17th Oct 2019, the selection committee has a resolution to appeal the Central Administrative Court judgment in revoking the committee's decision to fail the NPC consortium on the 2nd envelope assessment (general qualifications).  
The private selection process is now ongoing and expected to be completed by 2021



# 5G Infrastructure in EEC

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

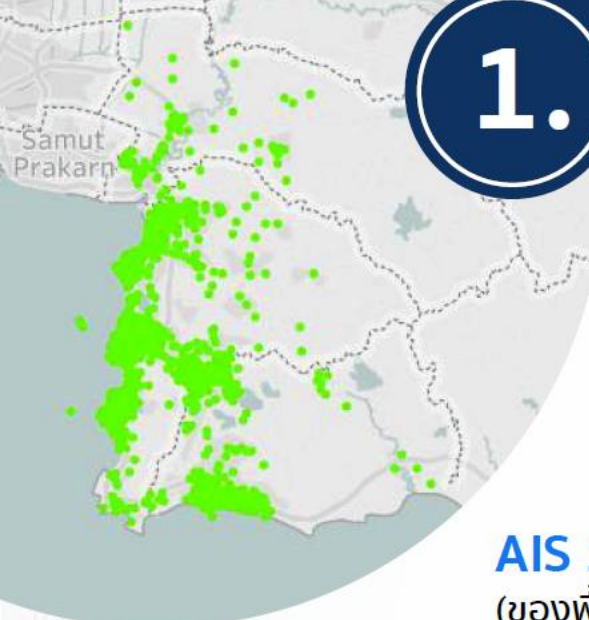


**5G will lead to economic benefits in 3 main areas...**

- Improved Productivity**  
from technological and knowledge transfers
- Increased Efficiency**  
Reducing operational costs across all domains
- Enhanced Competitiveness**  
Through upskilling the workforce, the national competitiveness rises

1.

# ด้านโครงสร้างพื้นฐาน : จากสัญญาณสู่ข้อมูลกลาง



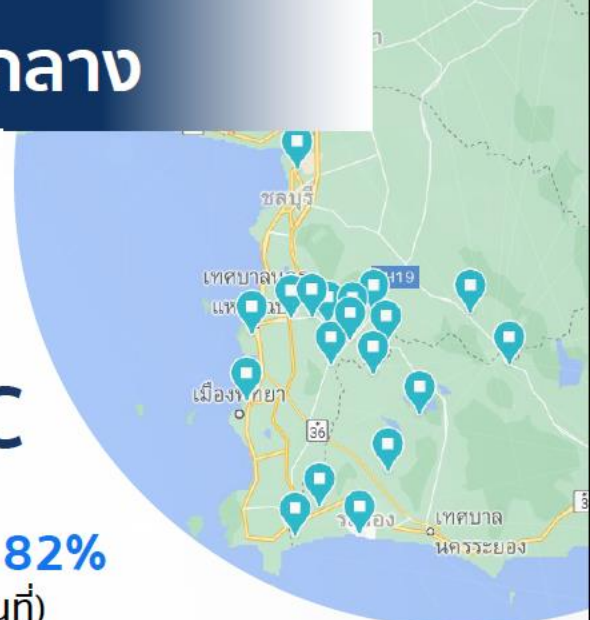
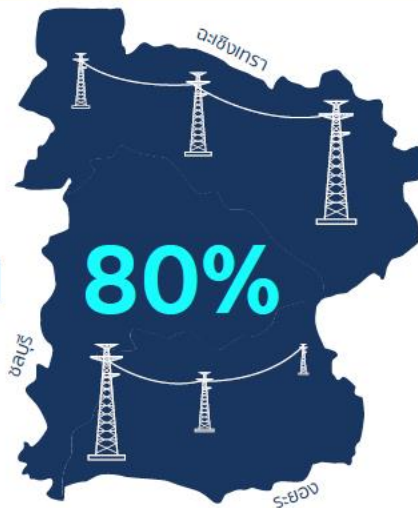
ติดตั้งแล้วเกิน

80%

ของพื้นที่ EEC

AIS 100%  
(ของพื้นที่)

True 82%  
(ของพื้นที่)



## 1. โครงสร้างพื้นฐานด้านสัญญาณ

(ท่อ-เสา-สาย-สัญญาณ 50%ใน เดือน ก.พ.64)

ต้นทุนถูกลง

สทช. ประสานการใช้ Smart Pole ร่วมกัน NT ลงทุนเสาเพิ่มให้ทุกคนเข้าใช้

ราคาถูกลง

กสทช./สทช. ตั้งราคาให้สะท้อนความสามารถในการแข่งขันของธุรกิจ



## 2. โครงสร้างพื้นฐานด้านข้อมูลกลาง ศูนย์ข้อมูล-คลาวด์ – ข้อมูลกลาง

(Data Center-Cloud-Common Data Lake)

- สทช. กำหนดให้ข้อมูลภาครัฐทุกหน่วยงาน รวมอยู่ในคลาวด์ของภาครัฐ (Government Cloud)
- EEC สนับสนุนการจัดตั้ง Data Center / คลาวด์เอกชน
- กระทรวง DE และ EEC ช่วยปรับกฎระเบียบให้สามารถจัดตั้ง Common Data Lake ใน EEC

## 2. ด้านการใช้ประโยชน์ : ก้าวสู่ดิจิทัลเพื่อเศรษฐกิจสังคม



### 3. เพิ่มผู้ใช้ 5G ในภาคการผลิต

- โรงงานทั้งหมด (10,000 แห่ง)
- โรงเรือนทั้งหมด (ประมาณ 300 แห่ง)
- หน่วยงาน/สถาบันการศึกษา/โรงพยาบาล
- โครงสร้างพื้นฐาน (สนามบิน /ท่าเรือ/รถไฟ) เมือง ชุมชน

#### ผลักดันธุรกิจให้มาใช้ 5G

EEC เชื่อมโยง SI กับผู้ประกอบการอุตสาหกรรม โรงเรือน หน่วยงานราชการ SMEs

#### โครงการหลักใน EEC ต้องใช้ 5G

สดช. ท่าเรือแหลมฉบังเป็น 5G-Smart Port (25 ล้านบาท)  
EEC (สัตหีบ เมืองการบิน สนามบินอุตุฯ-ท่าอากาศยานจาง มาตตพุด)

ให้การส่งเสริมธุรกิจเดิมที่นำ 5G มาใช้เพื่อเพิ่มประสิทธิภาพในการดำเนินธุรกิจ



### 4. นำ 5G สร้างประโยชน์ให้ชุมชน

ให้ชุมชนใช้ประโยชน์ 5G : บ้านอัจฉริยะ Smart-city ต้นแบบชุมชนอนาคต แผนเกษตร EEC นำระบบเกษตรอัจฉริยะ (precision farming) งบประมาณการสนับสนุน Digital Health care (Digital Hospital Center ที่ มร. พัทยา)



### 5. สร้างธุรกิจใหม่จาก 5G

#### การใช้ประโยชน์จาก 5G สู่ Robotics and Automation

ให้การส่งเสริม SI : ธุรกิจให้การปรึกษาการใช้ 5G เพื่อก้าวสู่อุตสาหกรรม 4.0

- ธุรกิจผลิตอุปกรณ์ เครื่องจักร และเครื่องมือ (หุ่นยนต์และชิ้นส่วน/มอเตอร์)
- ระบบ และ Platform ในการใช้ Automation ในโรงงาน และ ร้านค้า Application

#### Data and Digitization

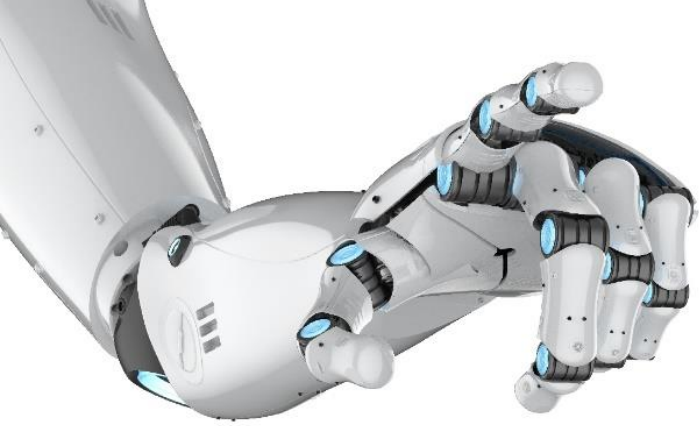
ส่งเสริมการจัดตั้งเขตเศรษฐกิจพิเศษด้านดิจิทัลและการใช้ข้อมูลสนับสนุน การลงทุน Data center /Cloud/ Common data lake

#### Start up

ส่งเสริม Start up ที่เข้ามาทำ Application ด้าน Robotics and Automation และ Data and Digitization

# แผนที่แสดงโครงข่าย 5G ในเขตพัฒนาพิเศษภาคตะวันออก (อีอีซี)





# 12 TARGETED INDUSTRIES

PROMOTING ADVANCED TECHNOLOGY AND INNOVATION



ADVANCED AGRICULTURE AND BIOTECHNOLOGY



FOOD FOR THE FUTURE

HEALTH



MEDICAL AND COMPREHENSIVE HEALTHCARE



BIOFUEL AND BIOCHEMICAL



INTELLIGENT ELECTRONICS

DIGITAL



AUTOMATION AND ROBOTICS



NEXT-GENERATION AUTOMOTIVE



DIGITAL



AVIATION AND LOGISTICS

LOGISTICS



HIGH-VALUE AND MEDICAL TOURISM



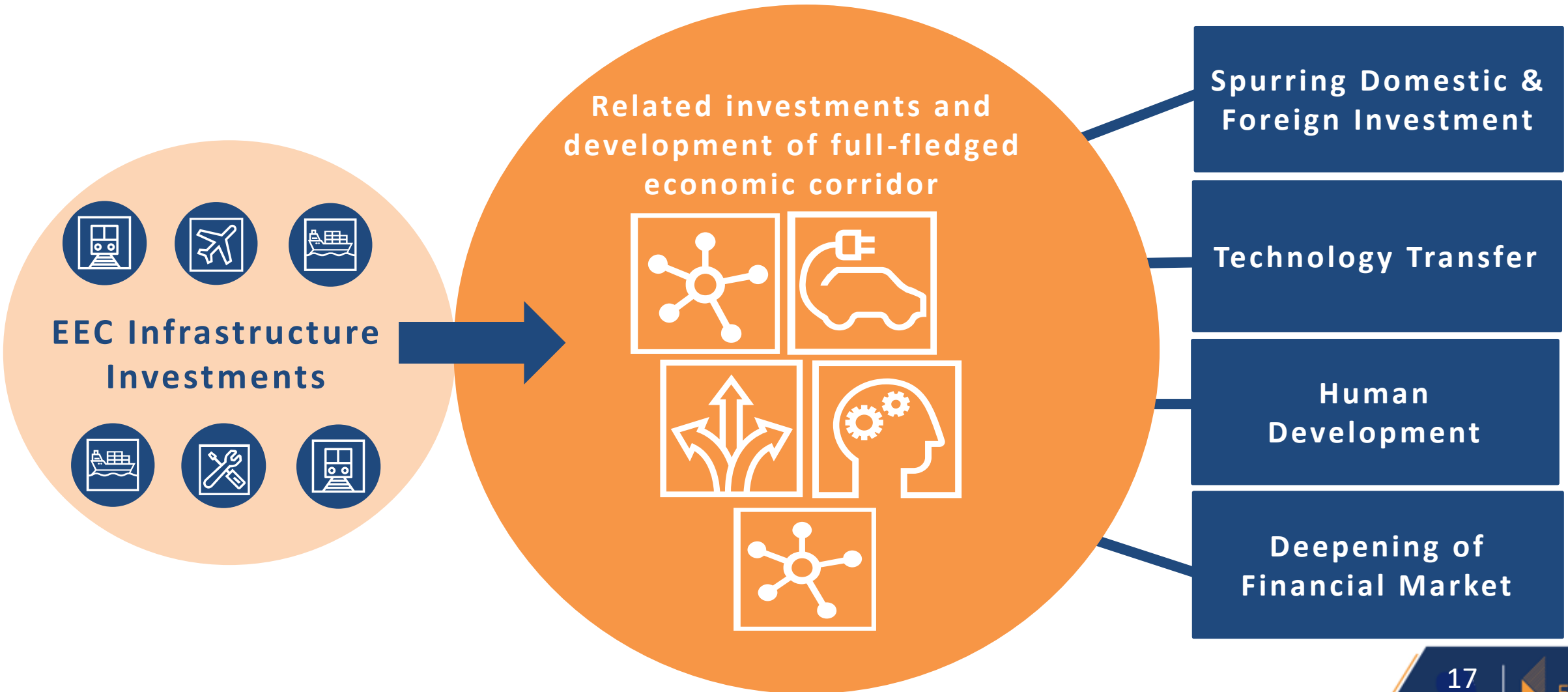
DEFENSE



EDUCATION AND HUMAN RESOURCE DEVELOPMENT



Investments in core infrastructure will lead to investments in related industries and upgrading of the economy through capital flow, technology transfer, creation of high-value jobs and deepening of the financial market.



# EEC FOCUS AREAS

3+1 emerging clusters amidst global pandemic

## Bio-economy



ADVANCED AGRICULTURE AND BIOTECHNOLOGY



FOOD FOR THE FUTURE



MEDICAL AND COMPREHENSIVE HEALTHCARE



AUTOMATION AND ROBOTICS



INTELLIGENT ELECTRONICS



HIGH-VALUE AND MEDICAL TOURISM



BIOFUEL AND BIOCHEMICAL



DIGITAL



DEFENSE



AVIATION AND LOGISTICS



NEXT-GENERATION AUTOMOTIVE

HEALTH

DIGITAL

LOGISTICS

C

IRCULAR & GREEN ECONOMY

EDUCATION AND HUMAN RESOURCE DEVELOPMENT



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# 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



### Create 5G usecase and pilot projects

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



### Training and HRD

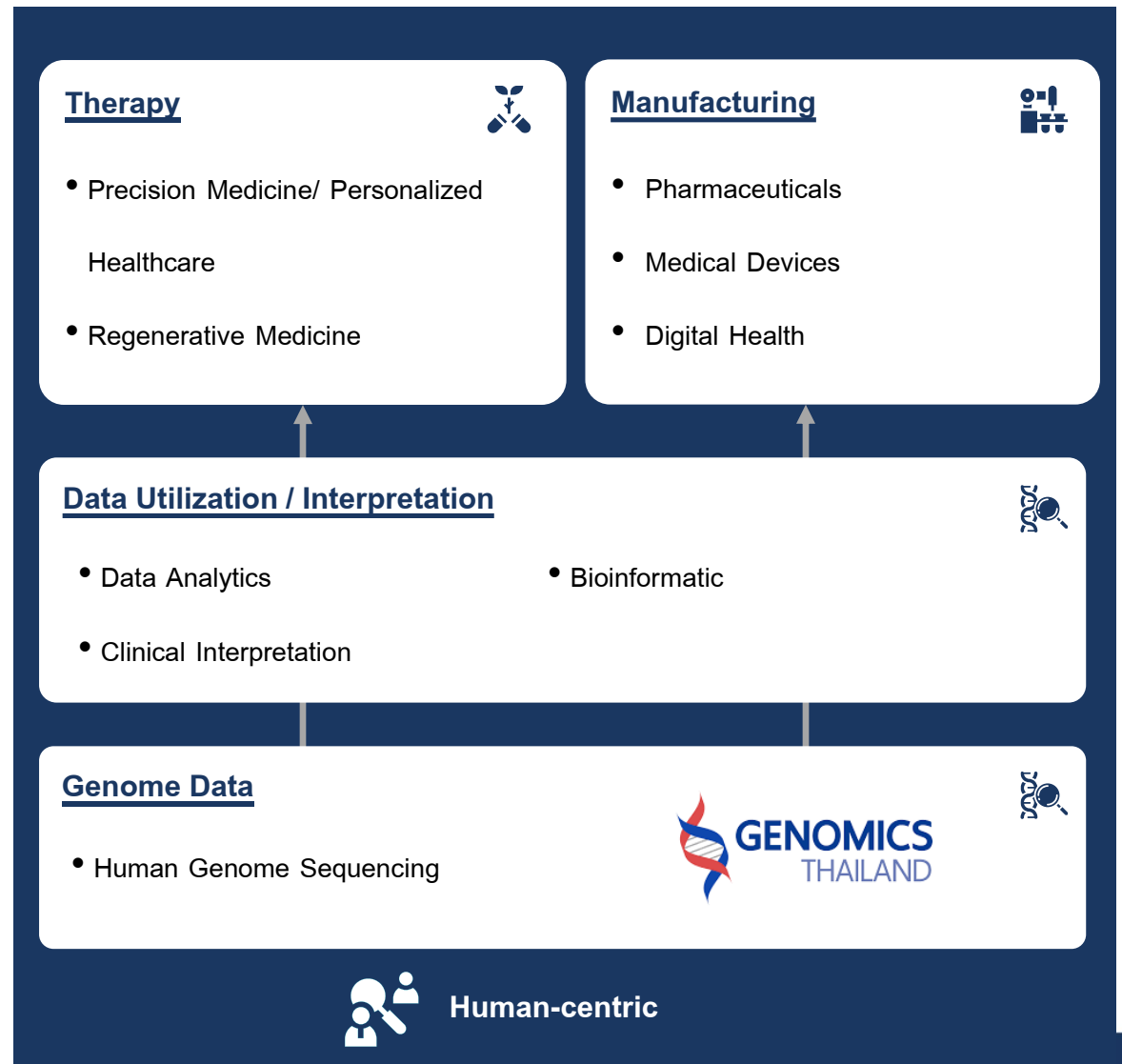
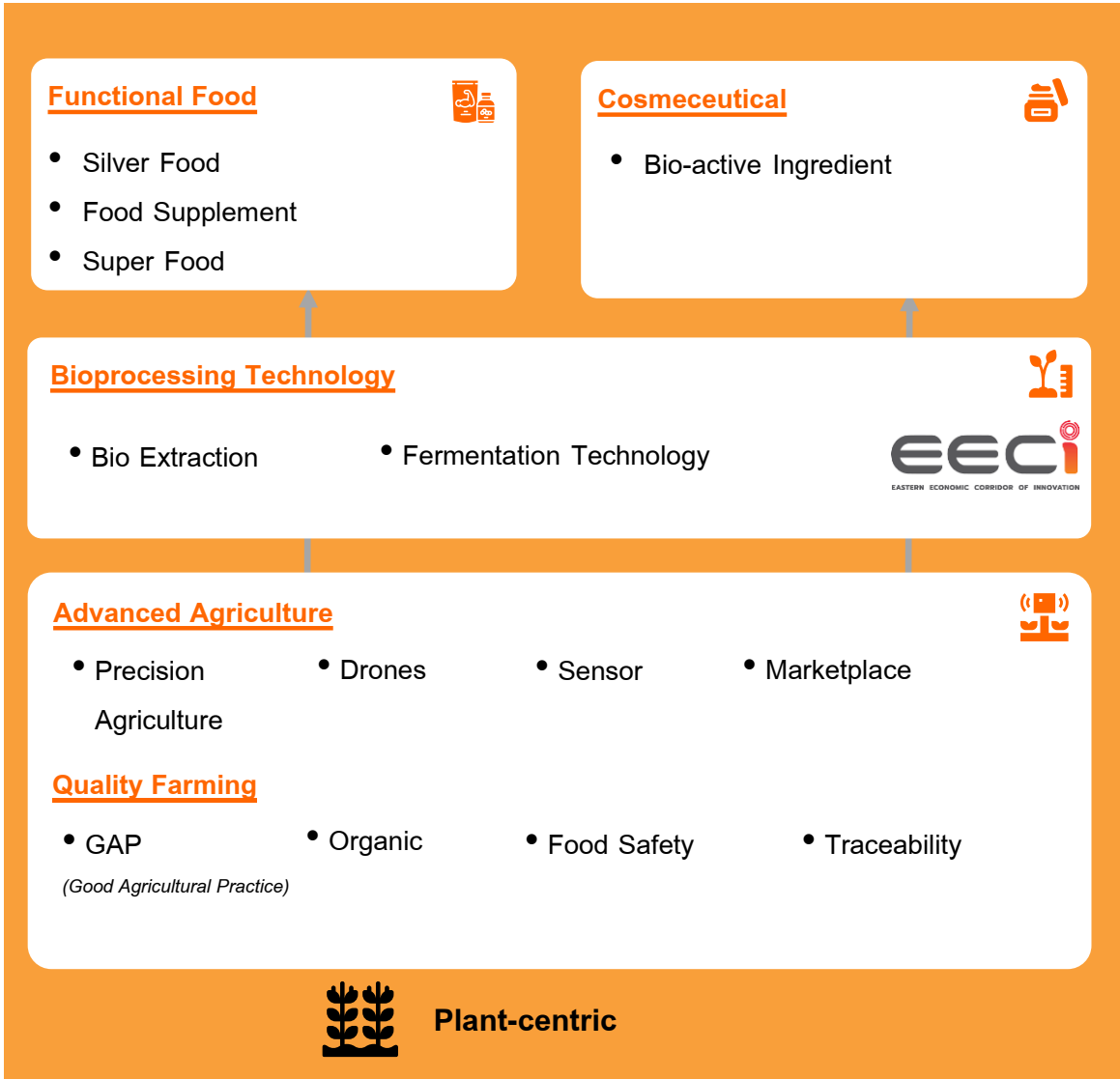
- Using EEC Model Type B
- Approved 85 short courses in Industry 4.0 and another 73 in 5G and related techno in 2021
- Target Trainees >> 14,000 in 2020 and 30,000 in 2021



# Health and Wellbeing

Use Case

Source





## Technology Platforms in EEC

### EECi - Biopolis



#### Chemical & Bioprocess Facilities

- ✓ Biorefinery
- ✓ Fermentation
- ✓ Bio-Extraction

Collaborating with



#### Innovative Agriculture Facilities

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



### Synchrotron Thailand



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

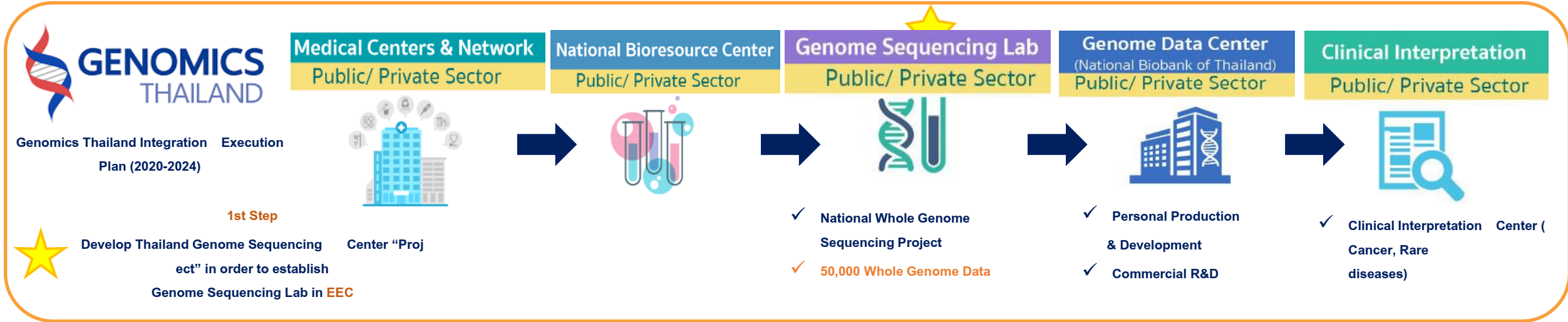
#### Targeted Industry & Technology

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

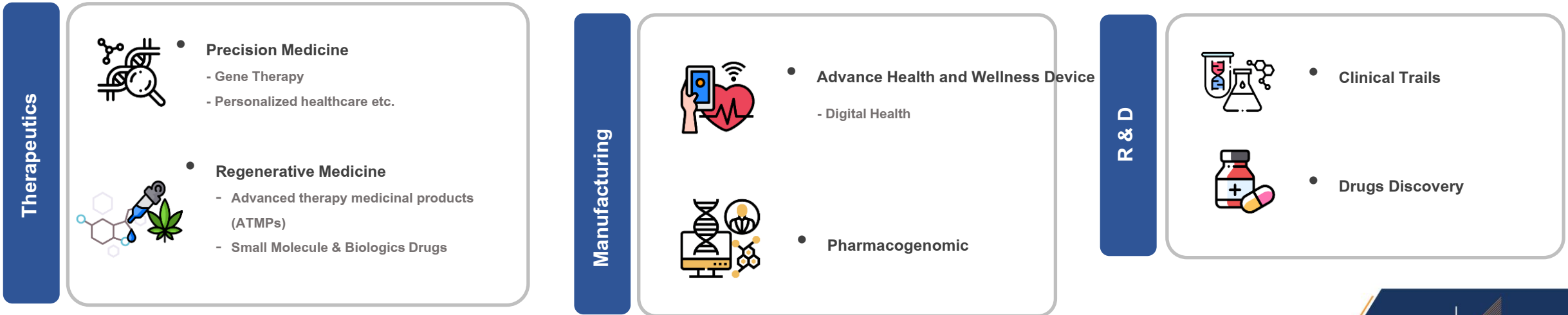
Collaborating with



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



## Business Opportunities



# Green & Circular Economy

## Global Issues



### Paris Agreement

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

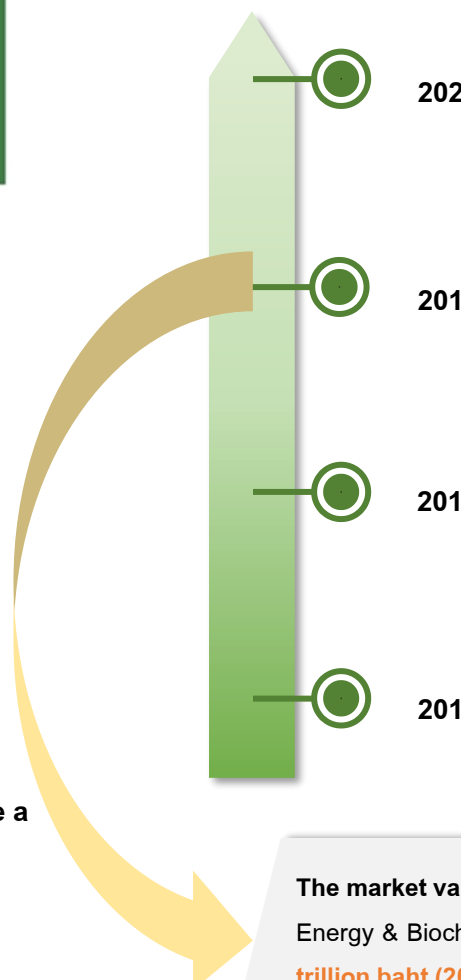
### EU Green Deal

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

### Executive Order on Tackling the Climate Crisis at Home and Abroad

carbon-free electricity by 2035  
net-zero emissions and  
100% clean energy by 2050

## Thailand: Moving Forward to Green & Circular



2021 Implementation of Nationally Determined Contributions (NDCs) under Paris Agreement

2019 BCG Model (Bio- Circular- and Green Economy) was approved by the Cabinet

2015 Thailand is one of the Parties that ratified the Paris Agreement

2013 Thailand announced Carbon Emission Reduction Target : 20-25% in 2030

The market value of BCG businesses (Food & Agriculture, Medical, Energy & Biochemical and creative economy) will increase from 3.4 trillion baht (2020) to 4.4 trillion baht (2025).





# EEC Green & Circular Economy Concept



## Low Carbon Industries & Businesses



### Recycling Business

- Urban Mining
- Remanufacturing



### Energy Business

- Waste to Energy
- Renewable Energy



### Carbon Management

- Carbon Emissions Trading
- Smart Solution for Carbon Reduction

**Key Technology  
Supporting Low Carbon Businesses**

Low Carbon Activities  
in EEC Main Themes

### Health and Wellbeing



High value and Medical  
Tourism

- Ecotourism



Advanced agriculture and  
Biotechnology

- Precision Agriculture
- Agricultural Waste Management



Digital

- Digital platform for Green & Circular Solution



Automation  
and Robotic

- Energy & Material Efficient Manufacturing



Biofuel and Biochemical

- Biofuel / Bioenergy from Waste
- Specialty Material for Green Solution



Next-generation  
Automotive

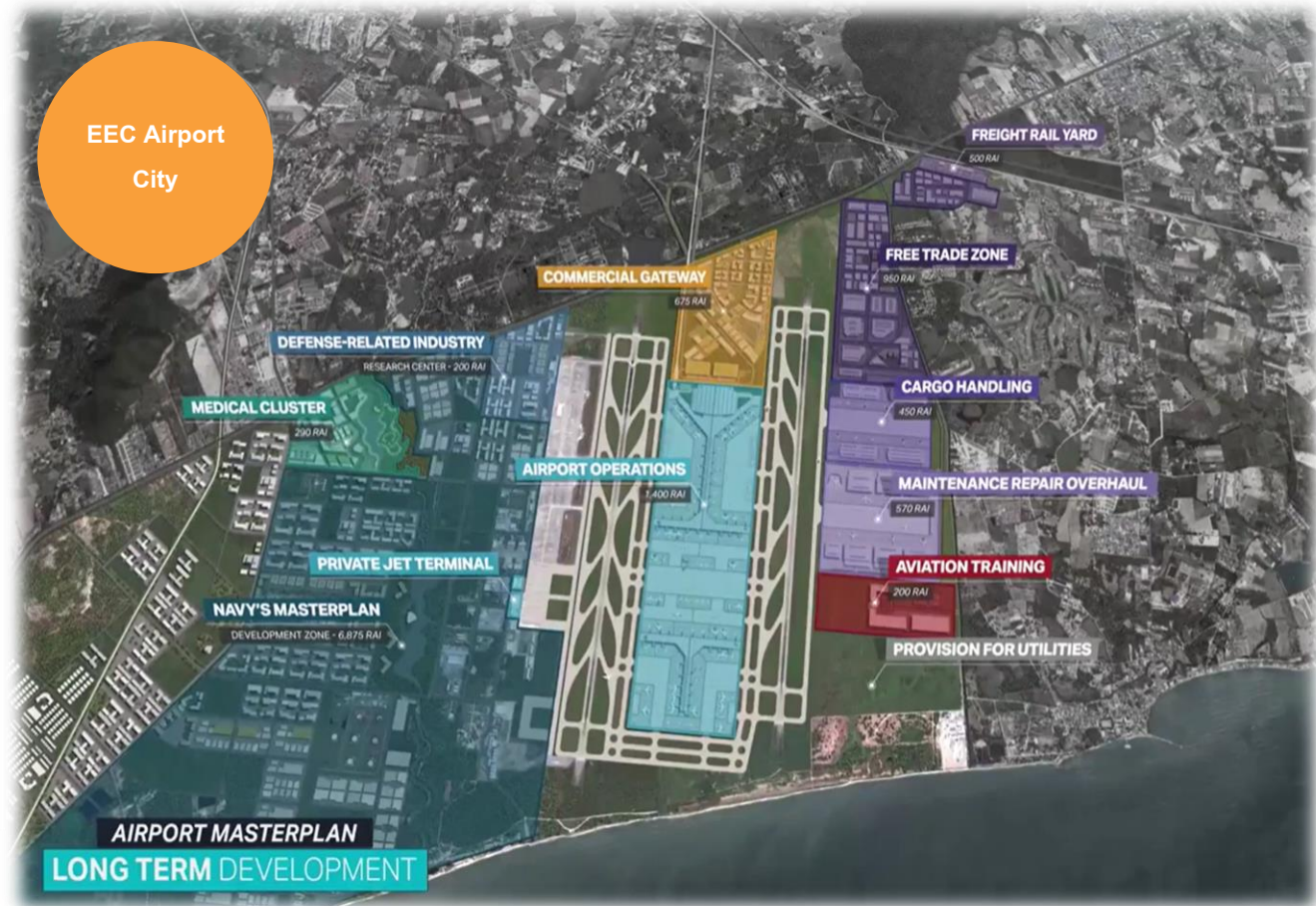
- Electric Vehicle



Aviation and Logistics

- Drones

# EEC's Complete Multi-Modal Transportation and Logistics



# EEC Promoted Zones

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



# Special Package for Investors in EEC Area



## EEC Incentives for Investment Promotion



### EEC Privileges

- 1) Ownership of land and residence
- 2) Foreigners to enter and reside in Thailand
- 3) Taxes and duties
- 4) Foreign exchange control
- 5) Grants



### 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



### 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



### International Regulations and Standards



EEC Useful Resources  
(English version)

# สื่อประชาสัมพันธ์ อีอีซี

## EEC Useful Resources



[www.eeco.or.th](http://www.eeco.or.th)



สื่อประชาสัมพันธ์  
(ฉบับภาษาไทย)

1. EEC Progress
2. EEC 2-Year Report
3. High-speed Rail Linking Three Airports
4. U-Tapao International Airport & Eastern Airport City Project
5. Eco-Friendly waste management (SametModel)



1. ความก้าวหน้า อีอีซี
2. 2 ปี อีอีซี
3. รถไฟความเร็วสูงเชื่อม 3 สนามบิน
4. โครงการสนามบินอู่ตะเภา และเมืองการบินภาคตะวันออก
5. จนขยะที่เสม็ด

1. EEC Brochure
2. 2 Years of EEC



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



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