



WANGCHAN  
VALLEY

EECI  
EASTERN ECONOMIC CORRIDOR OF INNOVATION



# "WANGCHAN VALLEY" SMART CITY

เมืองอัจฉริยะวังจันทร์วัลเลย์

Wangchan Valley Project is located in Wangchan District, Rayong Province, on a 3,454 Rai of land (approximately 553 Hectares). The project has been originated with the collaboration of PTT Public Company Limited together with National Science and Technology Development Agency (NSTDA), which is an affiliate of The Ministry of Higher Education, Science, Research and Innovation. The main purpose is to develop the city as one of the best Smart Cities that provides Innovation Ecosystem in Southeast Asia. Smart city concept has been applied to transform Thailand traditional industry towards National Strategy Thailand 4.0 (New S-Curve), as a matter of improving both economics and quality of life that are reinforced by innovation, knowledge, and technology.

## AREA DEVELOPMENT



## INCENTIVES & PRIVILEGES



Exemption of corporate income tax for up to 13 years



17% of personal income tax which is the lowest rate in Asia



Smart Visa for Professionals and Families



Exemption of import duty on machinery and raw materials



Regulatory Sandbox for Innovation



One Stop Service to facilitate investors

## TARGETED INDUSTRIES



Modern Agriculture &  
Advanced Biotechnology,  
Bio-Fuels & Bio-Chemical



High Performance  
Battery & Modern  
Transport



Automation, Robotics &  
Smart Electronics

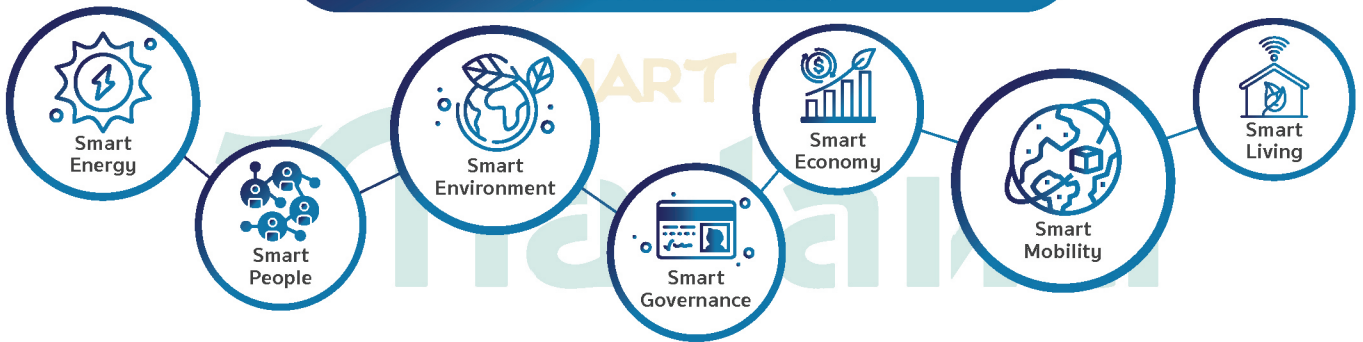


Aviation &  
Aerospace



Medical Device

## AWARDED 7 SMART CITY CERTIFICATES (SINCE AUGUST 2021)



## FACILITIES & SERVICES



## REGULATORY SANDBOX



### UAV Regulatory Sandbox

- UAV Testing Field
- UAV Training Center
- UAV Maintenance / Repair Center
- UAV Traffic Management System
- Factory Acceptance Testing Field
- International Drone Competition



### CAV Sandbox

- CAV Proving Ground by Department of Science Service (DSS)
- Wangchan Valley Private Track
- Wangchan Valley Semi Public Road
- Wangchan Valley 3D Digital MAP & RTK Device



### NBTC Regulatory Sandbox

- Special Frequency for Innovation and Technology Testing
- Frequency Interference Monitoring



### ERC Regulatory Sandbox

- Collaborated with PEA for Pilot Project : City-wide Energy Management towards Net-Zero
- Energy Trading Platform Demonstration



Website



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[www.wangchanvalley.com](http://www.wangchanvalley.com)



# UAV REGULATORY SANDBOX

***Innovation that is restricted will struggle to evolve and progress into the future.*** The Wangchan Valley has been granted by the Civil Aviation Authority of Thailand (CAAT) as the only UAV Regulatory Sandbox Area in Thailand. By allocating the entire 3,454-rai area of the Wangchan Valley as a UAV Testing Field, it serves as a limitless experimental ground for cutting-edge technologies and innovations, which supports testing beyond standard drone flight regulations, such as:

## NAVATNAPHA AIRFIELD



Beyond Visual Line of Sight (BVLOS)



Night Operation



Flying a drone higher than 90 meters above ground level



Testing various transportation methods.



An airfield measuring 830 meters in length and 18 meters in width



Capable of accommodating the takeoff and landing of small aircrafts and all types of UAVs.



Capable of accommodating a fixed-wing, multirotor, and drones weighing over 25 kilograms.



Capable of accommodating a wide range of spectrums of 4G, 5G, and WiFi Networks

Furthermore, Wangchan Valley is prepared to support testing to enable operators, researchers, and startups to fully utilize their newly developed technologies and innovations. This initiative is supported by the Civil Aviation Authority of Thailand (CAAT) and has received permission to use special frequency bands from the National Broadcasting and Telecommunications Commission (NBTC), aiming to collaboratively create future innovations at Wangchan Valley.



**THAILAND'S 1<sup>ST</sup>**  
**NORMAL FLIGHT CONDITION**  
**120 METER-HIGH**

## UAV SANDBOX USE CASES



HG Robotics (HiveGround) conducted a successful trial of a Beyond Visual Line of Sight (BVLOS) drone delivery system in the Wangchan Valley. The drones, capable of transporting payloads up to 2 kilograms, utilized a 4G network to navigate pre-determined routes within a 3-kilometer radius.



Defence Technology Institute (DTI) Concludes Training and Awards Certificates for Tactical Unmanned Aerial Vehicle Operations for Search and Rescue, Cohort 1.



A team of instructors from the Technopolis, Suranaree University of Technology (SUT), and the Defence Technology Institute (DTI) conducted a Drone Academy training program on "Basic Flight Safety and Visual Line of Sight Drone Piloting."



Aeronautical Radio of Thailand Ltd. (AEROTHAI) and the Defence Technology Institute (DTI) jointly organized the first batch of the Remote Pilot Specific Agriculture (RPSA) advanced Unmanned Aerial Vehicle (UAV) training course for agricultural applications.





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## OFFICE SPACE AREA



Office Space

Size **49** Sq.m.



Office Space

Size **144** Sq.m.



Size **320** Sq.m.

## TRAINING / MEETING / SEMINAR



Meeting Room

Size **60** seats



Meeting Room

Size **10** seats



Instructor Room

Size **8** seats



Training Room

Size **40** seats

Website



Facebook



Brochure



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# CAV SANDBOX

*The relentless development of innovation testing in the Wangchan Valley project area.*

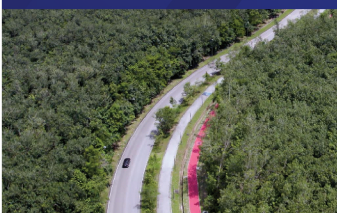
Wangchan Valley focuses rigorously on developing both physical and digital infrastructures to support the testing of modern transportation, particularly **Connected and Autonomous Vehicles (CAVs)**. This effort has resulted in numerous collaborations between government regulators, educational institutions, and entrepreneurs. To facilitate innovation testings under the CAV Sandbox in Wangchan Valley, the entire area is equipped with both physical and digital infrastructures, supporting facilities, and essential resources that support various forms of testings such as,

- CAV Proving Ground by Department of Science Service (DSS)
- Wangchan Valley Private Track
- Wangchan Valley Semi Public Road
- Wangchan Valley 3D Digital MAP & RTK Device



## ROAD AND TRAFFIC SYSTEM

Road and traffic system



EV Charger



Smart Pole



Smart Bus stop



## CAV USE CASES



PTT collaborates with the Department of Science Service and Nagase (Thailand) Testing autonomous driverless vehicles in the Wangchan Valley area.



"Wangchan Valley" received an award from depa in the Smart City Solution Awards 2024 competition. The project was recognized with a Good Level Award in the Smart Mobility category.



HG Robotics conducted a test of autonomous delivery robots operating from local shops within Wangchan Valley.



# NBTC REGULATORY SANDBOX

The special frequency bands currently authorized include :

Applications for unmanned aerial vehicles (UAVs) include

- 410-480 MHZ
- 915-920 MHZ
- 925-928 MHZ



Applications for satellites include

- 430.0125 – 430.1375 MHZ
- 449.8625 – 449.9875 MHZ



Wangchan Valley is equipped with an extensive telecommunication infrastructures, covering the entire area with 4G, 5G, and Wi-Fi networks. It has also been designated as a special regulatory area (Regulatory Sandbox) by the National Broadcasting and Telecom-munications Commission (NBTC) to support research, development and testing that require the use of specialized frequency bands or 5G private networks.

## RENEWABLE ENERGY FROM SOLAR POWER



## DECARBONIZATION ACTIVITIES / PROJECTS



Microgrid at IOC Building  
(PV Solar Roof Top with Battery Storage)



SOLAR PV Installation for EV Shuttle  
Bus Stations and Guard Houses



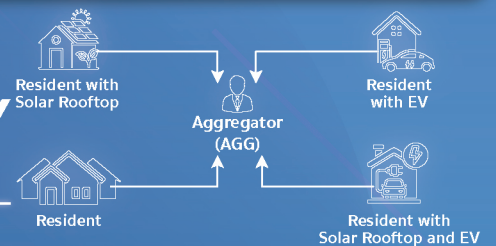
PV Solar Roof Top at Parking Lot for  
EV Shuttle Bus

## Voluntary Greenhouse Gas Reduction Project under Thailand's Standard (T-VER)



No.	Project	Project Category
1	SOLAR PV Installation for EV Shuttle Bus Stations and Guard Houses) in EECI @Wangchan Valley	Alternative Energy (AE)
2	Sustainable Forestation Project at Wangchan Valley by PTT	Forestry (FOR)
3	PV Solar Roof Top for Parking Lot Zone A1-4 in Wangchan Valley	Alternative Energy (AE)
4	Wangchan Valley EV Transportation	Transport Management (TM)
5	Sustainable Forestation Project of Wangchan Forest Learning Center by PTTRFI and Ecosystem	Forestry (FOR)
6	Solar Photovoltaic System in Wangchan Valley by Global Power Synergy Public Company Limited	Alternative Energy (AE)

## ERC REGULATORY SANDBOX



The "ERC Regulatory Sandbox" refers to a regulatory framework established by the Energy Regulatory Commission (ERC) to facilitate the research, development and testing of innovative energy solutions. This Regulatory sandbox involves collaboration between PTT and PEA to research, develop, and test a prototype of green energy trading platform, paving the way for future nationwide energy trading in Thailand.



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