



Electric Vehicle Technology and Updates on Thailand

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President, Electric Vehicle Association of Thailand

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- Example of Electric Vehicle Projects in Thailand



EVAT Establishment



During the beginning of 2015, The Thai government had shown an attention to promote the electric vehicle (EV) technology and policy to support EV production, R&D and usage in Thailand.

This support motivated individuals from academia and private sector in Thailand to discuss and establish the Electric Vehicle Association of Thailand (EVAT) on September 14, 2015 at Knowledge Exchange (KX) building, which later had been officially registered on November 6, 2015. The present president, Dr. Yossapong Laonual, and committee were firstly elected on June 24, 2016 (officially approved on August 23, 2016). Dr. Yossapong was re-elected as the President on 9 June 2018 for another two-year term.



**Present EVAT
Committee
2018 – 2020**

EVAT Goals



EVAT promotes the usage of EV in Thailand which leads to a reduction of road pollution especially in the major cities. In addition, the EV deployment also improves the energy efficiency in transport sector. The EVAT support includes the industrial manufacturing, research and development on EV technologies in Thailand; this strengthens and increases the competitiveness of entrepreneurs in Thailand into the global market.

EVAT Membership



Corporate Member

132
Members

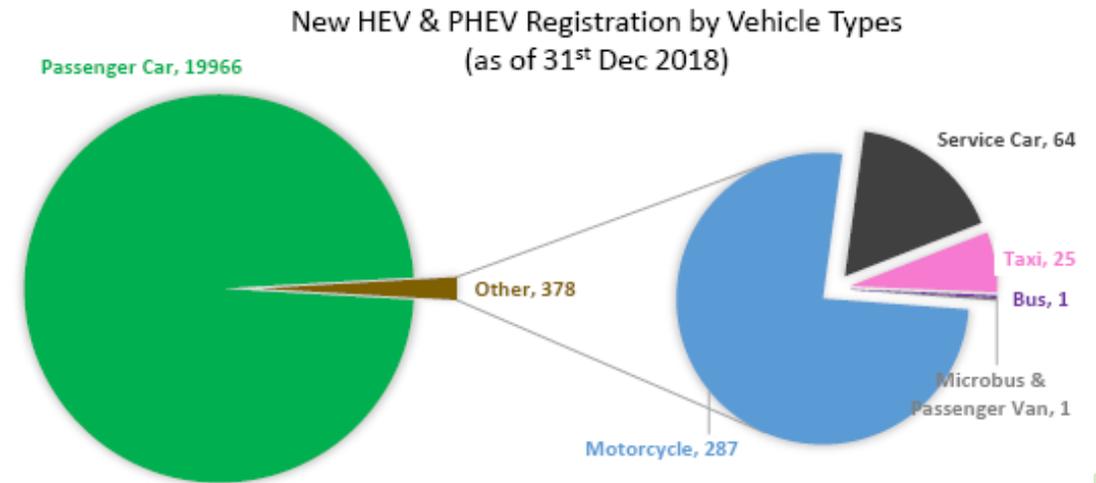
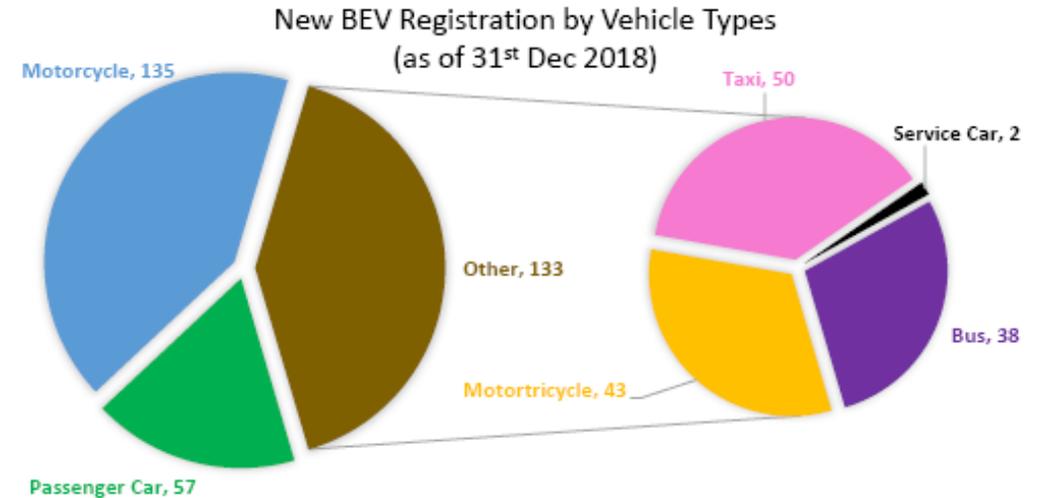
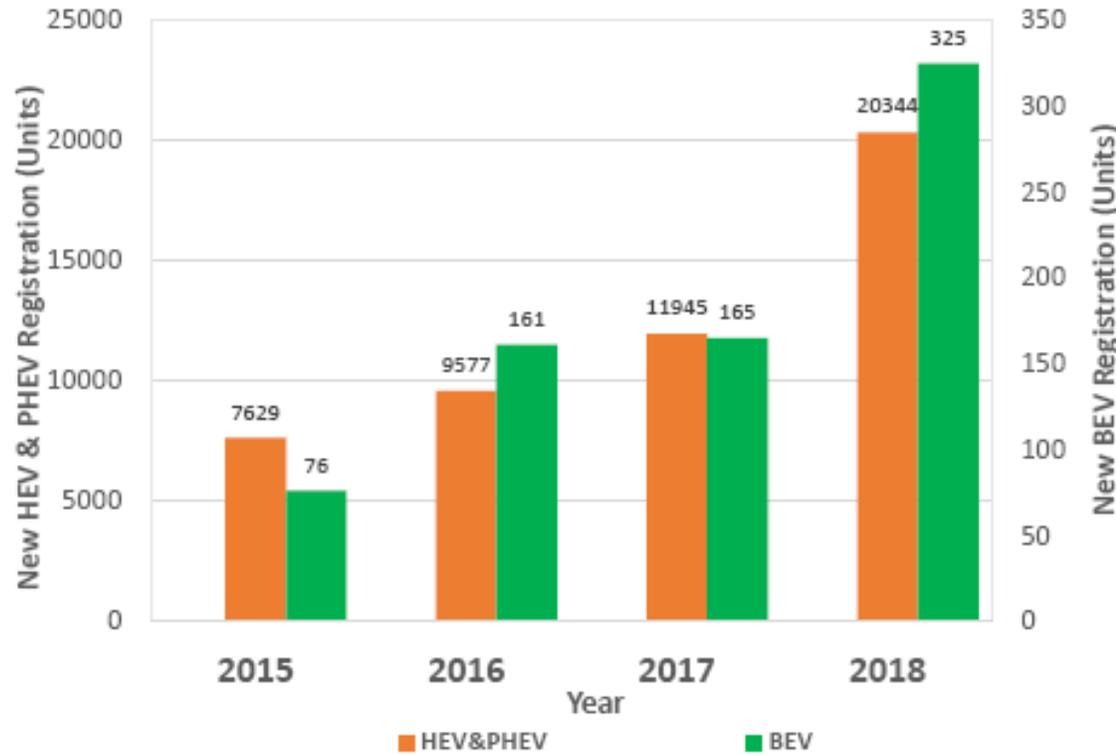
Individual Member

44
Members



EV Current Status in Thailand

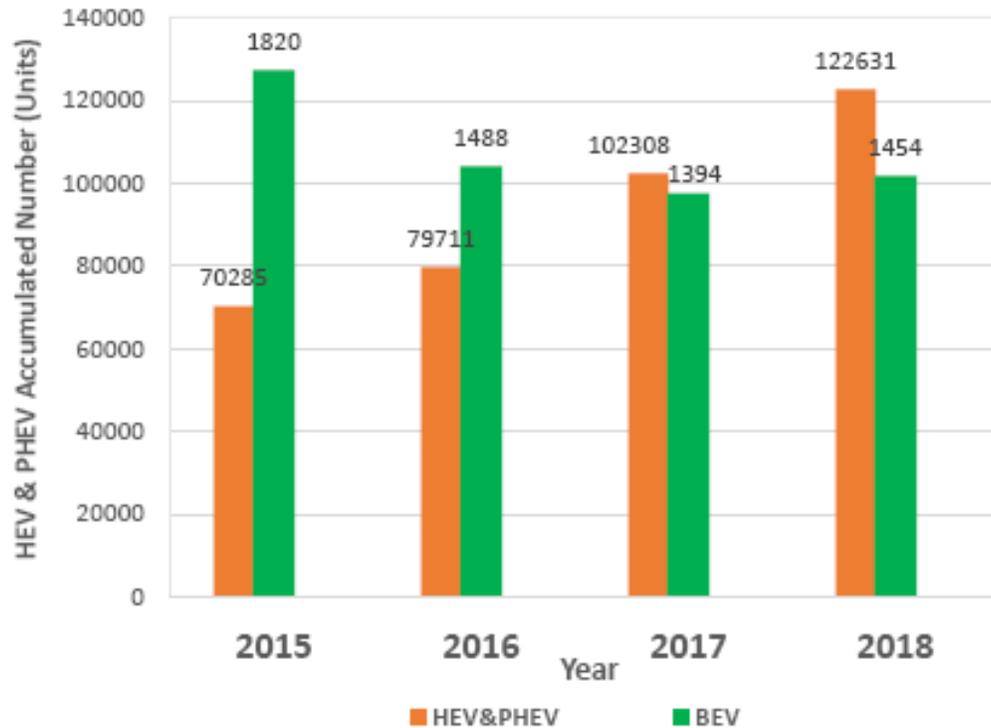
Number of New xEV Registration
(as of 31st Dec 2018)



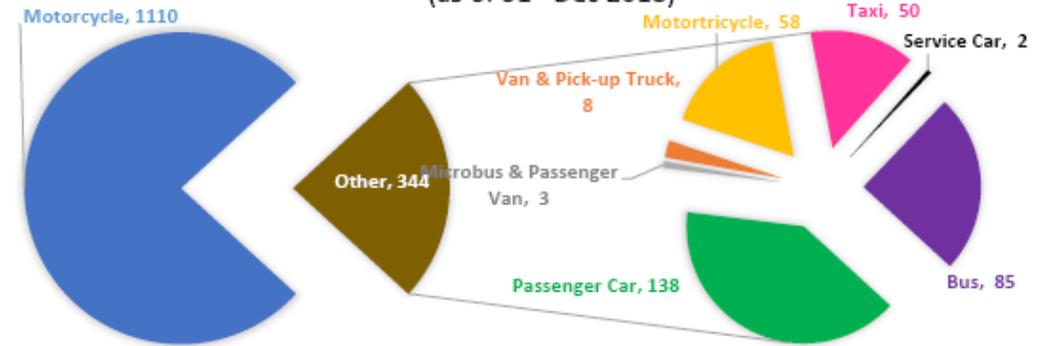
- Passenger Car
- Motortricycle
- Motorcycle
- Microbus & Passenger Van
- Taxi
- Service Car
- Bus

EV Current Status in Thailand

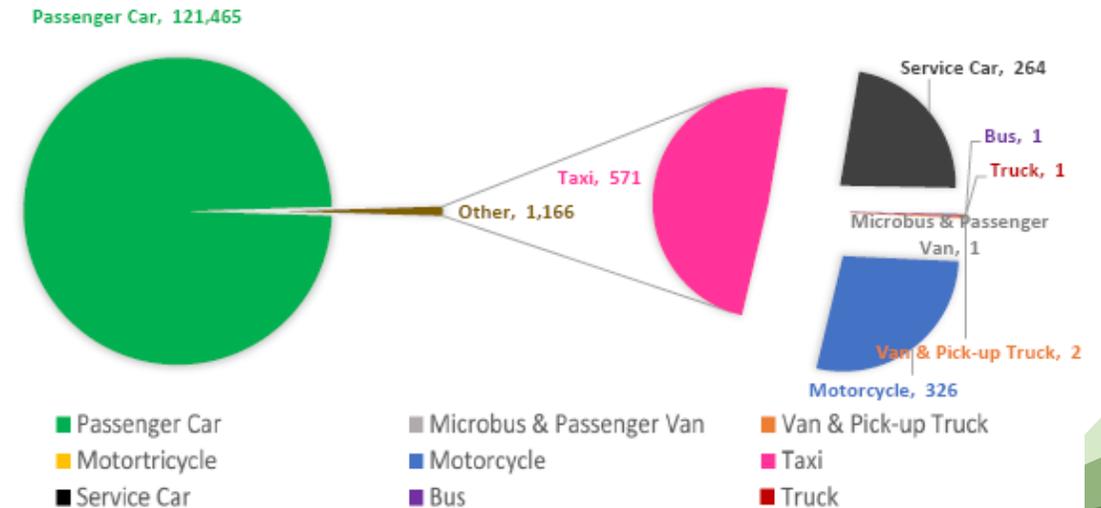
Accumulated Number of xEV Registration
(as of 31st Dec 2018)



BEV Registration by Vehicle Types
(as of 31st Dec 2018)



HEV & PHEV Registration by Vehicle Types
(as of 31st Dec 2018)



Plug-in Hybrid Electric Vehicles (PHEV)



BMW 330e



BMW X5 xDrive40e



Land Rover Range Rover PHEV



Mercedes Benz E 350e



Porsche Cayenne E-Hybrid



Volvo S90 T8 Twin Engine

Battery Electric Vehicles (BEV)



สรุปรถยนต์ไฟฟ้า BEV ที่มีจำหน่ายในประเทศไทยปี 2019

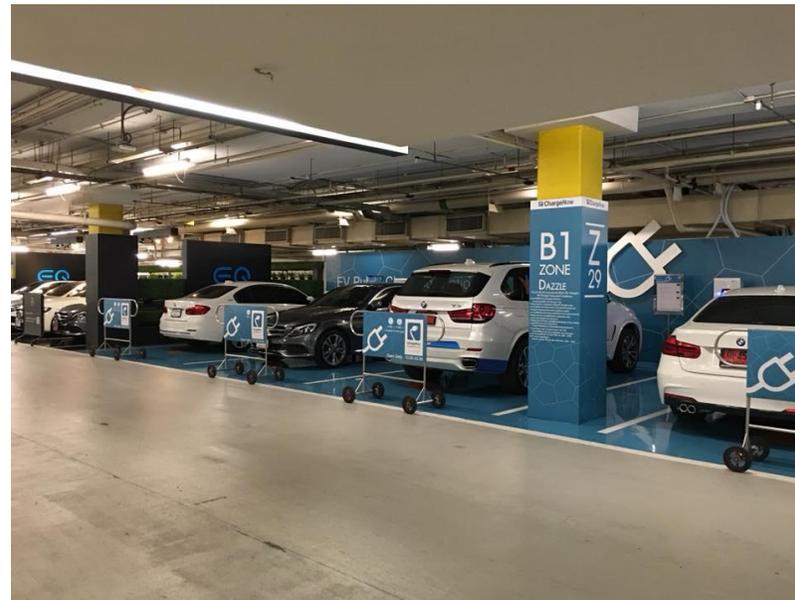


	 Audi	 BYD	 Fomm First One Mile Mobility	 HYUNDAI	 HYUNDAI	 JAGUAR	 KIA	 MITSUBISHI	 NISSAN
	e-tron 55 quattro	e6	ONE	KONA Electric	IONIQ Electric	I-PACE	Soul EV	SPAI	LEAF
ประเภทหัวชาร์จ Socket Type	AC Type 2 & CCS2	AC Type 2	AC Type 2	AC Type 2 & CCS2	AC Type 2 & CCS2	AC Type 2 & CCS2	AC Type 1 & CHAdeMO	AC Type 2 & CCS2	AC Type 1 & CHAdeMO
ระยะทางวิ่งสูงสุด EV Range (km)	417	400	160	312 (SE) 482 (SEL)	280	470	250	200	311
ขนาดแบตเตอรี่ Battery Size (KWh)	95	80	11.8	39.2 (SE) 64 (SEL)	28	90	30	30	40
ประเทศที่ผลิต Country of Origin									
ภาษีนำเข้า Import Tax	80%	0%	-	40%	40%	80%	40%	-	20%
ภาษีสรรพสามิต Excise Tax	8%	8%	2%	8%	8%	8%	8%	2%	8%
ราคาขาย Retail Price (Baht)	5,099,000	1,890,000	664,000	1,849,000 (SE) 2,259,000 (SEL)	1,749,000	5,499,000 (S) 6,299,000 (SE) 6,999,000 (HSE)	2,297,000	1,200,000	1,990,000
ข้อมูลเพิ่มเติม More Info									

Public Charging Stations in Thailand



Paragon Department Store



Central World Department Store

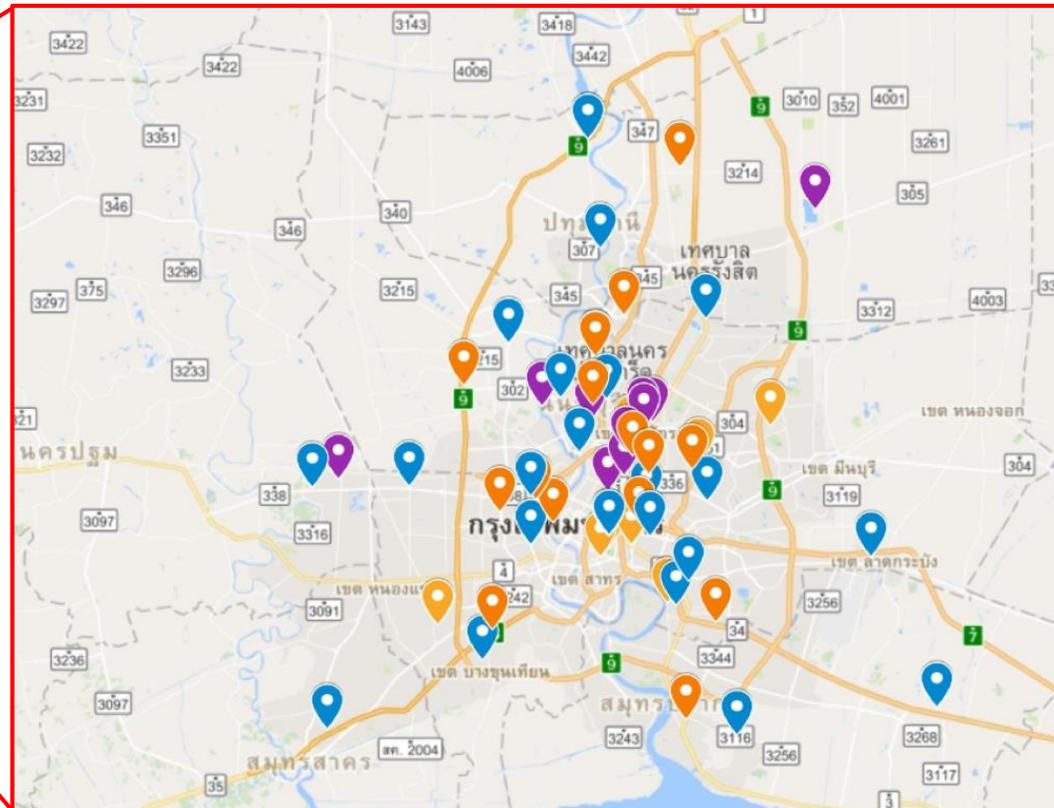


Pollution Control Department

EV Charging Stations by 2019 in Thailand & Bangkok



Greater Bangkok



-  Quick Charge & Normal Charge
-  Quick Charge
-  Normal Charge

EVAT Charging Consortium



Charging Consortium

สนับสนุนโดย



ผู้ให้บริการการอัดประจุไฟฟ้า (Charging Operator & Service Provider)



บริษัทรถยนต์ (EV Company)



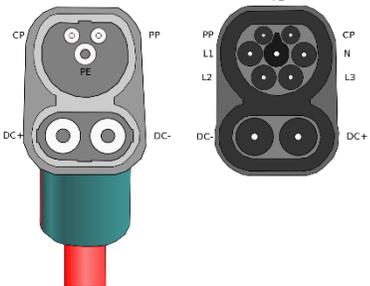
บริษัทเครื่องอัดประจุไฟฟ้า (EV Supply Equipment Company)



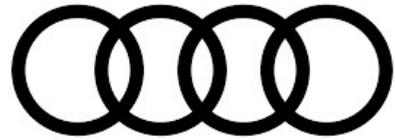
Sockets and Inlet Standard



Thailand Industrial Standards Institute

Vehicles	AC Charger	DC Charger	Vehicles																									
Electric Bus	<p>IEC 62196-2 Configuration Type 2</p>  <p>Type 2 Female Plug Pinout: CP, PE, PP, N, L1, L2, L3</p> <p>Type 2 Male Plug Pinout: PP, PE, CP, L1, L2, L3</p>	<p>IEC 62196-3 Configuration FF</p>  <p>Rated Current: Up to 200 A Rated Voltage: ≥ 500 V DC Communication Protocol: PLC</p>	Electric Bus																									
Electric Passenger Car	<p>Phase: Single / Three Rated Current: 70A (Single phase) / 63A (Three phase) Rated Voltage: 480 V Capacity: Up to 22 kW (Mode 2) Up to 43 kW (maximum)</p>	<table border="1"> <thead> <tr> <th></th> <th>System A CHAdeMO (Japan)</th> <th>System B GB/T (PRC)</th> <th colspan="2">System C</th> </tr> <tr> <th></th> <th></th> <th></th> <th>COMBO1 (US)</th> <th>COMBO2 (DE)</th> </tr> </thead> <tbody> <tr> <td>Connector</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Vehicle Inlet</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Communication Protocol</td> <td colspan="2">CAN</td> <td colspan="2">PLC</td> </tr> </tbody> </table>		System A CHAdeMO (Japan)	System B GB/T (PRC)	System C					COMBO1 (US)	COMBO2 (DE)	Connector					Vehicle Inlet					Communication Protocol	CAN		PLC		Electric Passenger Car
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Connector																												
Vehicle Inlet																												
Communication Protocol	CAN		PLC																									

Expected xEV Production in Thailand



HONDA



MAZDA



Mercedes-Benz



MITSUBISHI



TOYOTA

FOMM- New Japan OEM



The FOMM One consists of 1,600 auto parts, with more than 65% from local suppliers.

On 18 Sept 2018, The BOI approved FOMM Asia's investment project and issued a license.

This project was categorized under A3 privileges.

The FOMM One will be delivered by 2019 onward, and 1,600 cars have already been booked

New Thai EV OEM



MINE Mobility (SPA1)



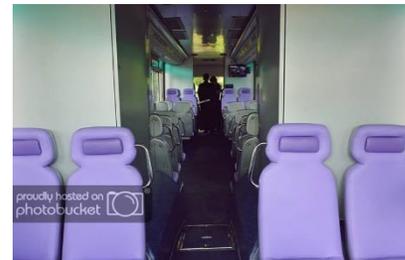
Sammitr Motors Manufacturing Public Co., Ltd.

Local EV in Thailand

Electric scooter



Electric Bus



Electric Tuk Tuk



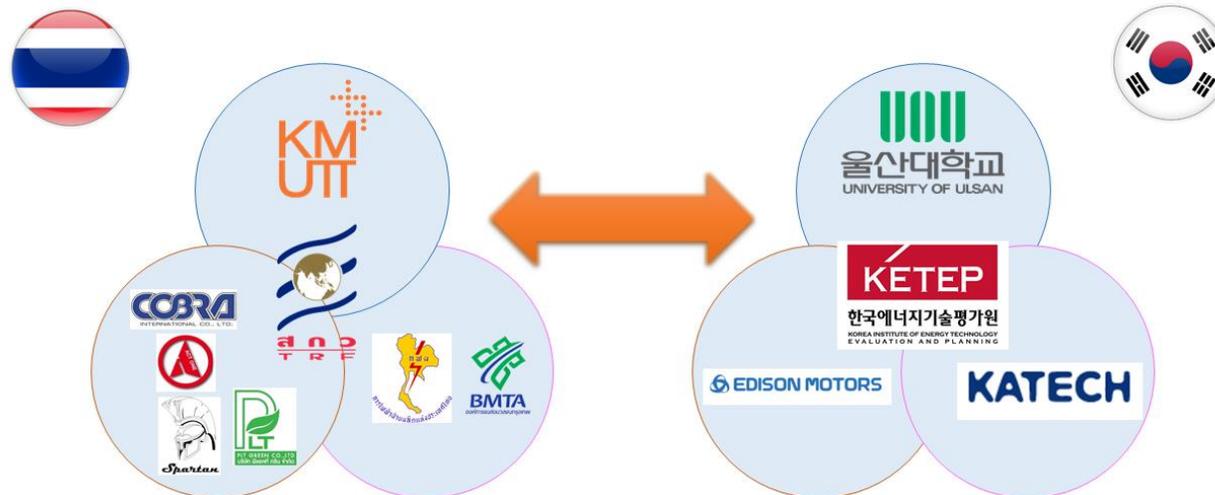
Korea-Thailand Collaboration Projects

Development and Promotion of Electric Bus in Thailand



- Collaboration on the study of operation of electric bus on Thai road condition.
- Collaboration with Korean government and bus manufacturer as well as Thai bus builder, material manufacturer and charger company.

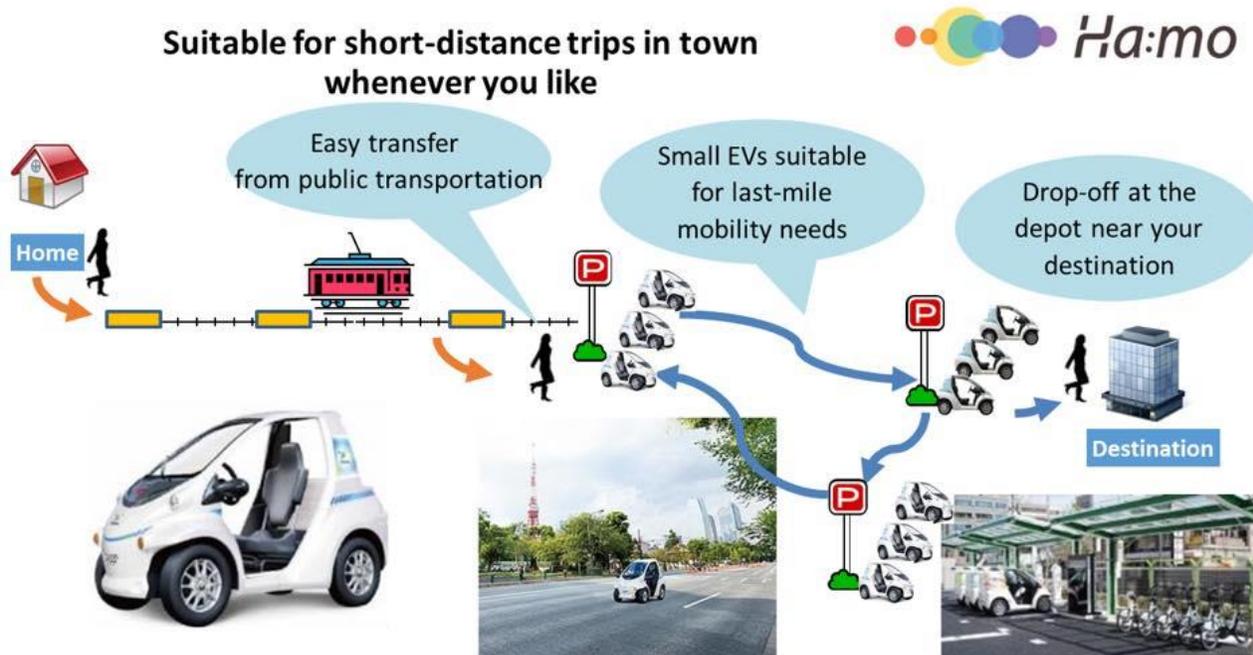
Project Period: June 2016 – May 2019



Toyota Motor Thailand Partners with Chulalongkorn

Ha:mo Car Sharing Service in Bangkok

What is Ha:mo ?



- Support short distance trip within the city, improved convenience effective use of land
 - Improve access and movement in the city
 - Reduce transportation problems
 - Complement public transportation for first/last mile.

Ha:mo is an ultra-compact EV sharing network which complements public transportation to enhance urban mobility.

Source: <http://newsroom.toyota.co.jp/en/detail/18045221>



Service from: Dec 2017

Haup- The first car sharing in Thailand

Haupcar is the first service provider of “carshare” mobility platform (including electric vehicle) in Thailand to enable individuals to travel seamlessly without the hassle that comes with car-ownership.



Access to variety of cars 24/7



Reduce parking congestion



Slow down car-ownership

EV Taxi Service at Suwannabhuiairport



Grab เปิดตัวบริการใหม่ “Electric VIP Taxi”

*Introducing Electric VIP Taxi,
the newest service from Grab.*

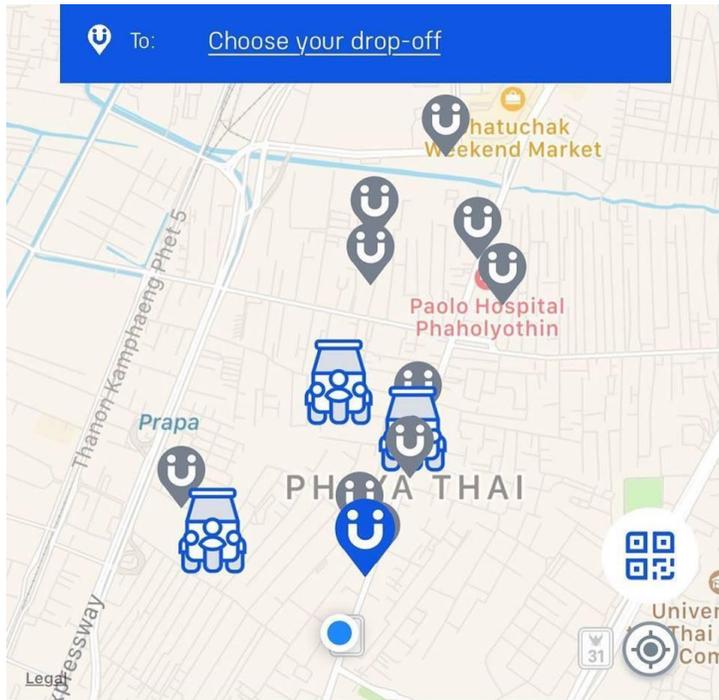


Taxi VIP by BYD E6 is available at Suwannabhumi airport.
The starting price is 150 Baht (\$4.6) for the first 2 km and then 12-16 Baht (\$0.4-\$0.5) per km.

müvmi e-Tuk Tuk on Demand



MÜVMI is the first ride hailing of “electric tuk tuk” in Bangkok and Thailand. The first service area is located at Chulalongkon University which now expand to Ari BTS station area.



Source: <http://www.facebook.com/muvmi>

Thank you



Electric Vehicle Association of Thailand (EVAT)

<http://www.evat.or.th>

