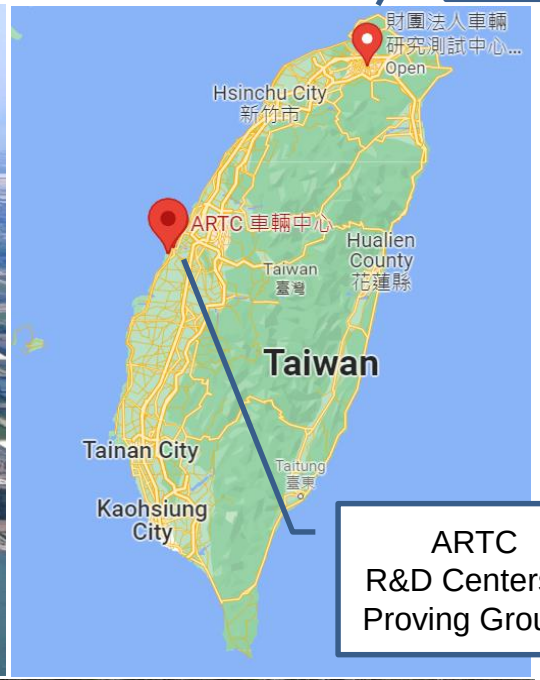
# Automotive Research & Testing Center

Established in Oct. 1990 by
- Ministry of Economic Affairs
- Ministry of Transportation and Communication
- Environmental Protection Administration

No. of Employees: 400+

Area：129 Hectares




# ARTC Visions & Objectives



## Advanced R&D

- Autonomous Driving Technologies
- ADAS Technologies
- Advanced Optical Technologies
- CAE Engineering
- Connected Vehicle Technologies

## Homologation & Validation

- Electromagnetic Compatibility
- Vehicle & Component Performance
- Advanced Optical Lighting
- Emissions & Fuel Economy
- Active & Passive Safety

## Industry Development

- Industrial Research & Analysis
- Industrial Policy Formulation
- Industrial Policy Promotion
- Technology Licensing & Transfer
- International Cooperation

Applus IDIADA EPA DOTARS DEPARTMENT OF TRANSPORT AND REGIONAL SERVICES AMECA Certified IQA TÜV NORD TÜV SÜD TÜVRheinland UTAC CERAM

# Taiwan's EV Industry Overview

**Taiwan has been active in the EV supplier industry since the early 2000s, and currently hosts more than 800 active suppliers. Taiwan is especially strong in information and communication Technologies (ICT) industry, which perfectly corresponds to the rapidly involving and increasingly dependence of vehicle Connectivity, Autonomous operation capability, vehicle Sharing and all out Electrification (CASE)**

## Connectivity

## Autonomous

## Sharing

## Electrification

Integrated Motor Drive System and Control

EV DMIT: Designed and Made in Taiwan

Advanced Smart IoT & ADAS Systems

Next-Gen. Battery System & Management

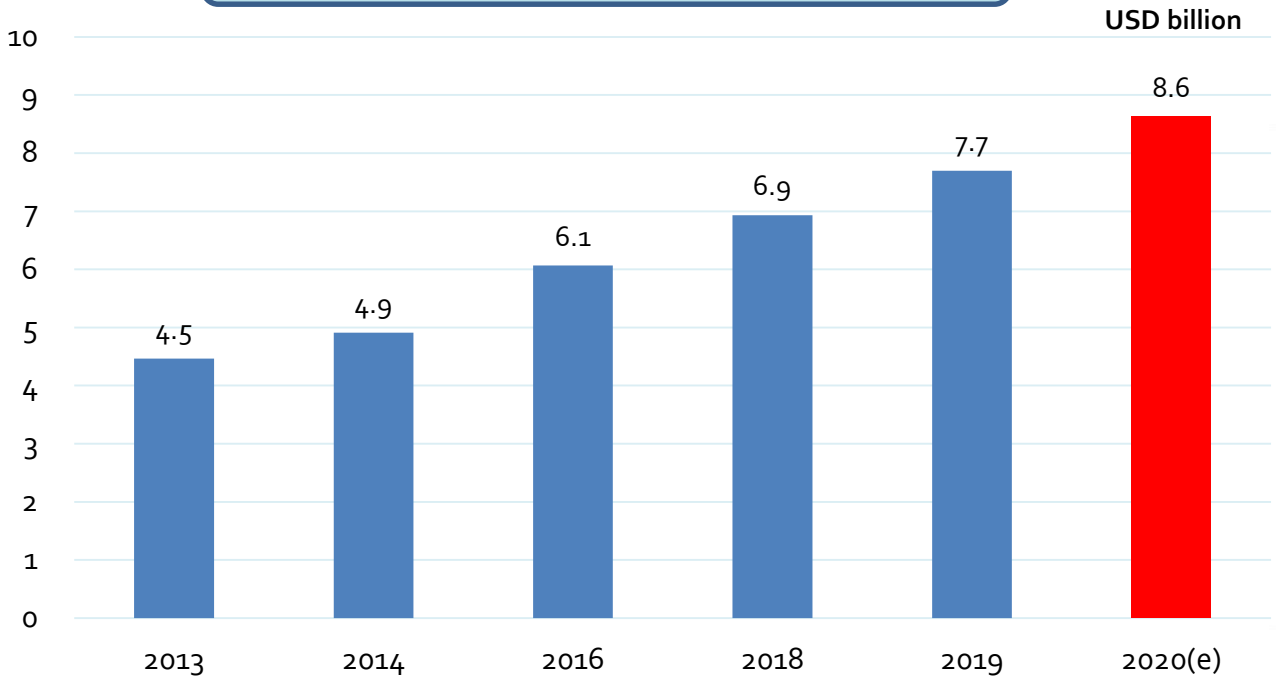
Public Mobility Service & Infrastructure

# Taiwan's EV Industry Overview

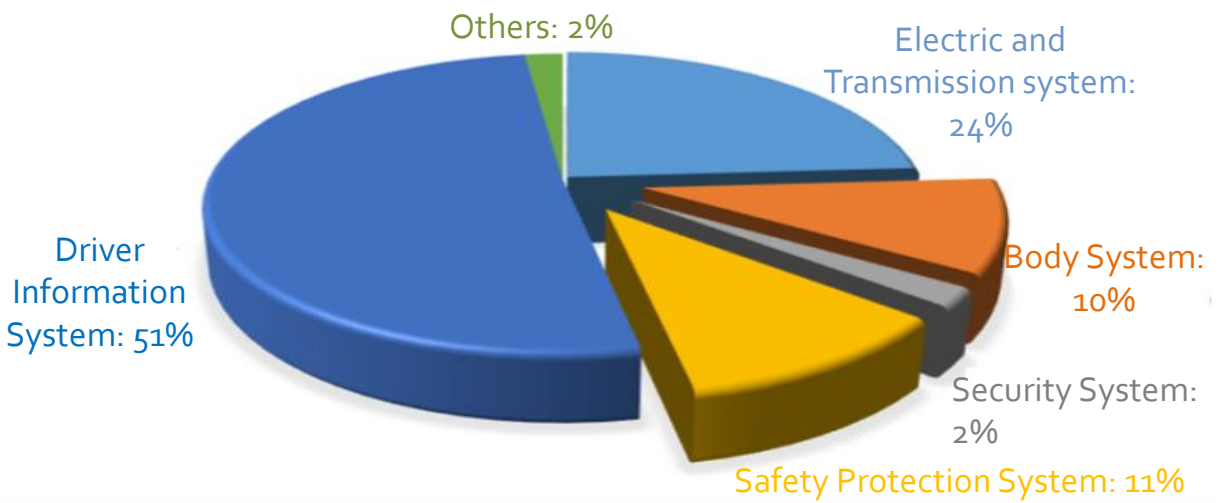
## Industry Profile

- **Annual Output: USD 8.6 Billion (2020)**
- **Main Product Category: Driver information system industry (ICT) accounts for more than half of the total output (51%).**

Almost Doubled in 5 Years




Source: ITRI-IEK; prepared by ARTC (2020/11)




Taiwan's EV industry output value and ratio by category

# Taiwan's EV Industry Overview

- Innolux plays a major role in the advanced vehicle display development and currently supplies to many of world's most renowned automobile & EV OEMs, including VW, Mercedes-Benz, BMW AG, Porsche AG, Jaguar and Stellantis.

INNOLUX


Volkswagen

JAGUAR

STELLANTIS

# Taiwan's EV Industry Overview

**The FOXTRON EV & E-Bus models and their underpinning open format platforms represent the level of competence of Taiwan EV & ICT R&D capability, advanced manufacturing experience and leading-edge smart ICT system integration expertise and capabilities.**




# Taiwan's EV Industry Overview

- Foxconn Technology Group plans to establish the Mobile Drive JV with the Stellantis group.
- Foxcoon will begin deliver EV platform solutions to FISKER starting 2022

# Taiwan E-Bus Industry Overview

**Taiwan already sees a well-developed and self-sustained E-Bus supply chain ecosystem with many companies in the private industry sector supplying key components and technologies for both EV and E-Bus industries worldwide.**

**OBU**
(BAORUH, MS )

**Recorder**
(Jasslin, BAORUH)

**Telematics**

**Public Service**

**Charger**
(Phihong)

**Component**
(Delta)

**Charging**

**Motor**
(Fukuta, Teco )

**Silicon steel sheet**
(China Steel )

**Powertrain**

**Battery**
**(MOLICEL,** Delta)

**BMS**
(Mobiletron)

**Battery**

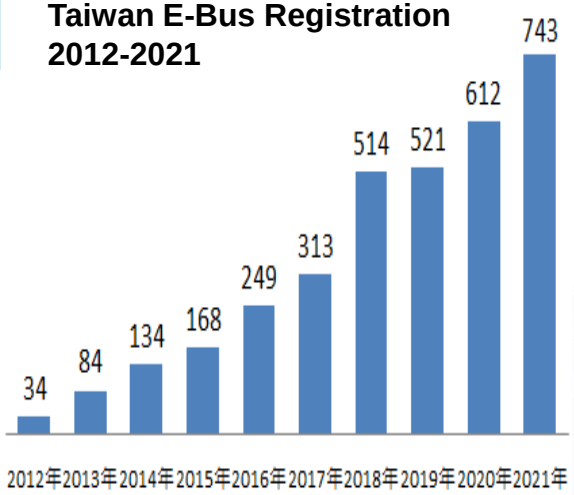
# Taiwan National Policy on Green Transits

**In 2017, Taiwan government issued a carbon neutralization policy with the main objective to electrify all public transit buses (over 10,000 units nation-wide) and also to electrify all government light-duty vehicle fleets (over 20,000 units nation-wide) by end of 2030.**

## Current E-Bus Subsidy Policy

| | |
|---|---|
| E-Bus Purchase Subsidy | Up to USD $238,500 per Unit |
| E-Bus Operation Subsidy | Up to USD $8,500 per year for up to 12 years |

**Taiwan E-Bus Registration 2012-2021**




**Currently there are 7 independent E-Bus manufacturers in supplying completely-built E-Buses to various public transit route operators in Taiwan.**

# The Future of Public Transit Right Now

## ARTC WINBUS
Autonomous Driving Public Transit Shuttle Demonstrator

- Developed by ARTC with domestic industry support on all key components and technologies.
- High Automation L4 Autonomous Driving Capable.
- Currently in Active Pilot Operations at Various Locations and Routes.
- Targeted for both domestic and international export applications through licensing technology transfer or collaboration.

***ARTC WINBUS provides a glimpse to the future of Taiwan's Public Transportation & Technology & Possibilities***

Adaptable Route Operation & Scalable Passenger Capacities

Automated Environmental Sensing & Response Capabilities

# Thank You