

# TECO EVs Experience

50<sup>+</sup> set



### E-Van

develop logistic vehicle with ITRI · vehicle-miles travel km.320K

### Sim Drive

Co-develop In-wheel motor with Japanese Professor



清水浩 · 慶応大学教授

100<sup>+</sup> set



### E-Trike (3W)

Pre Production at Subic in Phillipines

300<sup>+</sup> set



### E-Bus

Collaboration with Visedo (Finland) to Technical License Agreement

1,000<sup>+</sup> set

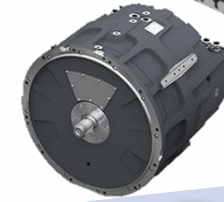


### E-Passenger Vehicle

Strategic co-development with car maker (Brand L.)



Motor & Inverter Individual to Integrated



### T Power 2in1

- Co-development drive with ITRI
- Integrating Motor and Inverter 2 in 1 design

### T Power +

Development Traction 150 ~300kW Motor and Drive for E-Bus .

### T Power 3in1

30-125kW Integrated Motor, Drive and Gear



ITRI

Industrial Technology Research Institute

1998... 2015

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2018

2019

2020

2021

# T Power by TECO



T Power 2in1  
50~130kW



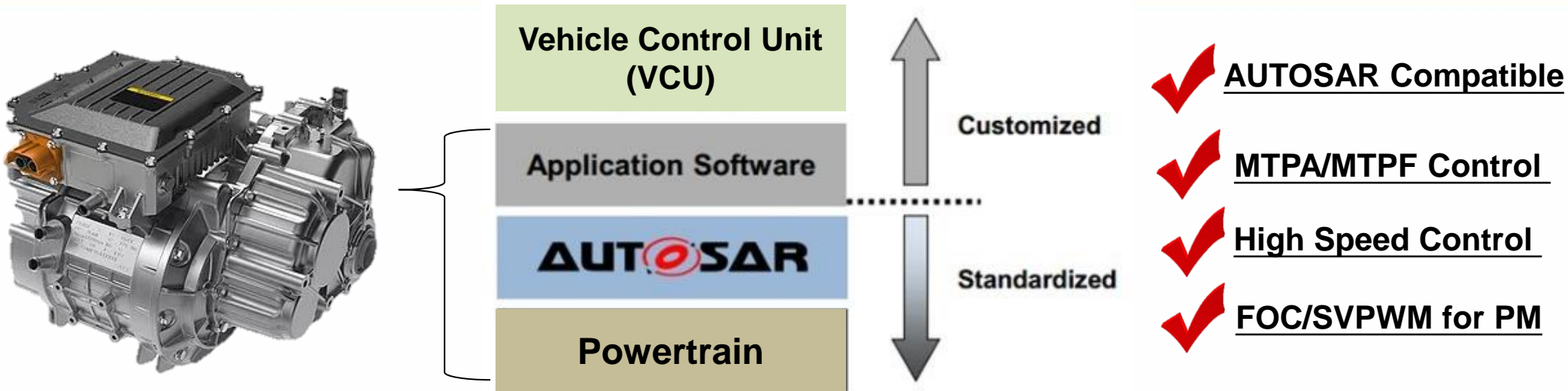
T Power 3in1  
30~125kW



T Power +  
150~300kW



# T Power : Core Technologies



**21 Patents, 16 are inventions (Taiwan & US)**

## Permanent Magnet Synchronous Motor (PMSM)

- ✓ Patented rotor & stator design & manufacturing technology
- ✓ Lower torque ripple 40% and low operation noise 68dB

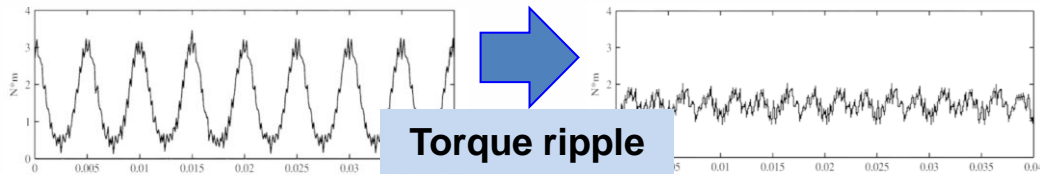
Patented Technology

Low noise

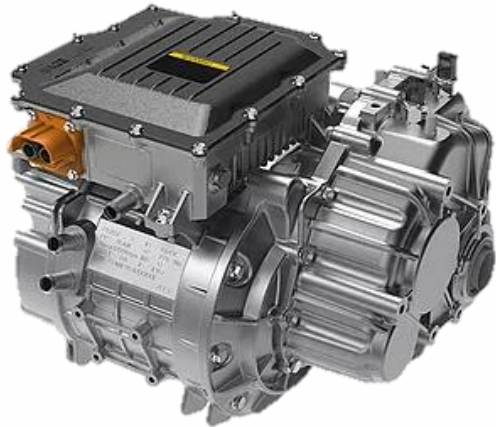
Low vibration

Rotor structure  
Pat. NO: I467983

Stator boot  
Pat. No.: I524632



# Compact and Modularization



T Power 3in1 95kW

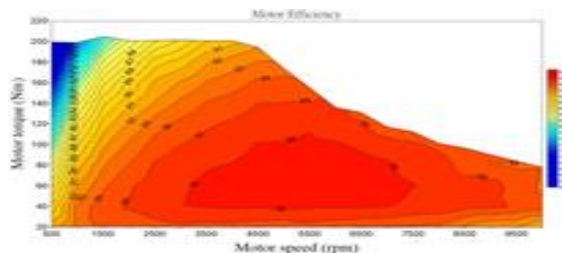
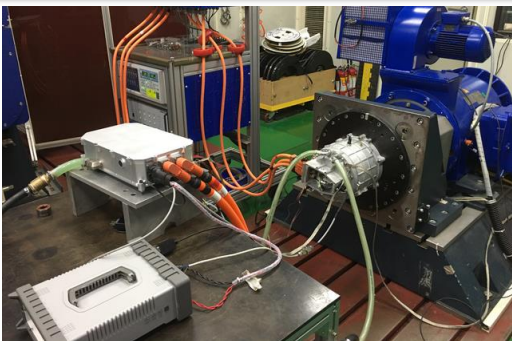
## T Power is the next generation powertrain for electric vehicles.

- **Compact** in volume by 25% and reduced weight 15%
- Modular design (30~130kW) with **one frame size**
- **Efficiency: 93.6% M+I system**, extend cruise range 10%+
- **Maximum speed: 12,000 RPM** (vehicle speed: 180 KMPH)
- **Motor torque: 250Nm** (to wheel Max. 2,500Nm)
- **Mass: 70kg weight**, including motor (48kg), drive (12kg), Gear (10kg).

Model Type	T Power EDM2	T Power EDM1
Peak Power (kW)	95	95
Wheel Torque (Nm)	2152	2152
Weight (kg)	70	75.8
Power Density (kW/kg)	1.36	1.25
Length (mm)	423	470
Width (mm)	450	450
Height (mm)	340	364
Volume (Litres)	64.7	77
Volume Density (kW/L)	1.47	1.23

# TECO Quality

## Design and Manufacture



 工業技術研究院  
 Industrial Technology Research Institute  
**Report : J353CC1100** 技資編號 : 53-3-A-80443  
**Report issued by ITRI**  
 高效率動力馬達驅動器技術  
 90 kW 動力系統性能測試報告  
 計畫代號 : J353CC2100

System efficiency 93.6%  
(Drive 97% · Motor 96.5%)

## Environmental Stress



Thermal shock



Salt spray test



IP 67 test



Vibration shock test

中華民國 103 年 03 月 29 日  
**ISO 19453**  
 財團法人車輛研究測試中心  
 Automotive Research & Testing Center  
 50544 彰化縣鹿港鎮鹿工港七路 6 號 Tel: +886-4-7811222 Fax: +886-4-7811777  
 No. 6, Lugong S. 7th Rd., Lukang Township, Changhua County, 50544, Taiwan (R.O.C.)

- ✓ Thermal shock (120hr)
- ✓ Salt spray test (96hr)
- ✓ IP 67 test (I:8hr / P:30min underwater of 1 meter)
- ✓ Vibration shock test (50G)

## Reliability Testing



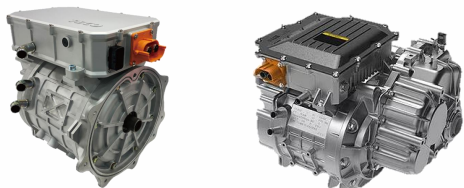
- ✓ 35% Gradeability verification
- ✓ Testing with Taiwan local company

# T Power series

## T Power (30~130 kW)

## T Power+ (150~300 kW)

Product



Application



Truck (3.49t)



Van



Commercial vehicle



BUS (12M)



Heavy Truck (5t~17t)



Logistic Car



Passenger Car

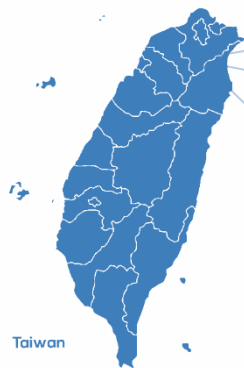


Marine & Off Road

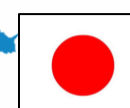
Marketing



Taiwan



Turkey



Japan



India



Thailand



Vietnam

# THANK YOU

