

長壽命高能量密度動力電池及模組技術開發計畫

執行單位

工研院材化所、中科院飛彈所

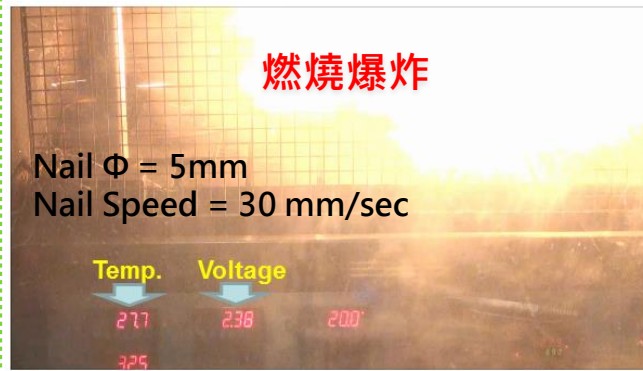
計畫主持人

彭裕民

- 本計畫發展之高能量VDA大方罐電池技術、單元電池組技術、高壓動力電池系統整合技術，可應用於綠能、電動車輛等產業。

本計畫從材料(正負極、膠態電解液與安全添加劑、隔離膜)、電池(安全極板、電池設計與導電機構及安全端蓋設計)、模組(設計及電池BMS與熱管理)及電池系統共四個區塊來進行專利佈局，歷年來總計申請38件專利，獲證101件。

商用 38Ah VDA電池穿刺結果



ITRI 38Ah VDA STOBA電池穿刺結果



化學SEI改質長續航力
電動車鋰電池

R&D 2017
100
WINNER



- 本計畫開發高能量/長壽命電池芯、模組與電池系統技術，包含材料、電池芯(安全極板、電池設計與導電機構及安全端蓋設計)、模組(設計及電池BMS與熱管理)與電池系統等，並結合電動巴士廠商進行電池系統驗證，除可應用於電動車輛(電動機車、電動車及電動巴士)外，也可以應用在綠能產業中的儲能電池。
- 「化學SEI改質長續航力電動車鋰電池」榮獲2017 R&D 100 Award。

Technology development for long-life and high-energy power cells and modules

Execution Unit

Industrial Technology Research Institute / Materials and Chemical Laboratories
National Chung-Shan Institute of Science and Technology / Missile and Rocket
System Research division

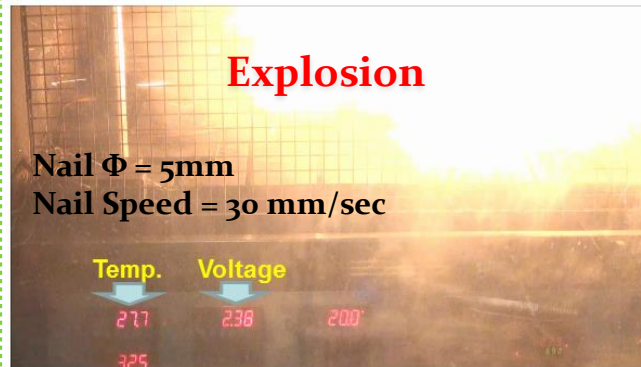
Project Director

Yu-Min Peng

- Integrating high energy VDA cell techniques, unit-cell techniques, and high-voltage power systems for green energy and electric transportation industries.

Patent strategies are including 4 parts: materials (electrodes, gel electrolytes, safety additives, and separators), cells(safety electrodes, cell designs, conduction structures, and end caps), modules(BMS, and heat management), and systems.
*patent application: 38, *patent certification 101. cases

Nail testing of commercial 38Ah VDA cell



Nail testing of ITRI 38Ah VDA STOBA



- Developing high-energy/long-life cells, modules, and systems.
- Include of materials, cells(safety electrodes, cell designs, conduction structures, and end caps), modules(BMS and heat management), and systems.
- Target industries: stationary energy storage systems for green energy and electric transportations (e-scooter, e-vehicle, and e-bus)
- 「ChemSEI-Linker」 2017 R&D 100 Award ◦