

PANJIT International Inc

Power
Semiconductor





Apr.

2021

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- New Team
- Financial Info
- New Technology

關於強茂



PANJIT
SEMI
CONDUCTOR

PANJIT International Inc.
Est. 1986.05
Product: Discrete Packaging & Testing



PYNMAX Technology Inc.
Est. 2000.03
Product: Wafer Foundry



MILDEX Optoelectronics Inc.
Est. 2005.05
Product: Touch Screen

晶圓產能

封裝產能



環茂高雄

- 4"/5"/6" 外延晶片: 70,000 pcs/month
- 5"/6" 蕭特基晶片: 50,000 pcs/month
- 6" ESD/TVS 保護晶片: 3,000 pcs/month
- 6" ZENER 齊納晶片: 3,000 pcs/month
- 8" wafer: In construction



強茂高雄

封裝:
小訊號元件/ SMD 橋式

產能:
2,100 KK /月



強茂山東

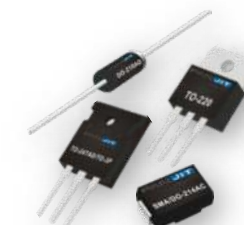
- 4" ESD/TVS 保護晶片: 25,000 pcs/month



強茂無錫

封裝:
功率元件封裝

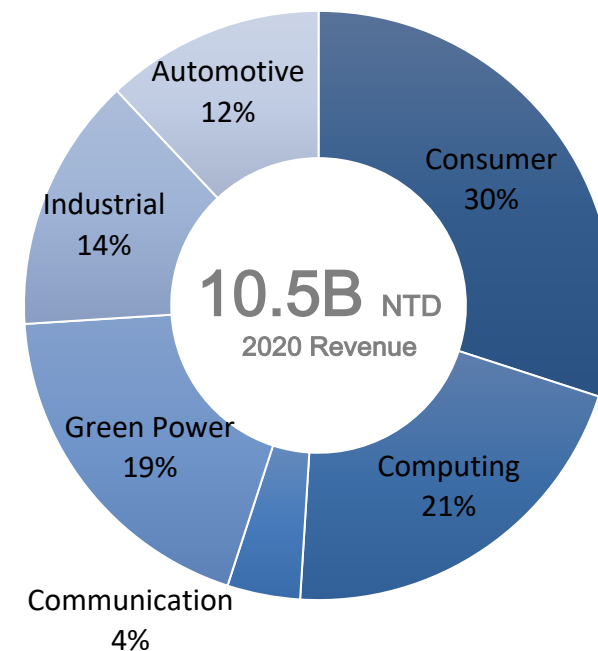
產能:
400 KK /月



強茂股份有限公司是一家致力於生產高品質半導體的國際性公司，產品廣泛應用於消費性、綠能源、工業電子、汽車電子、網通、電腦運算領域

- 資本額：NTD \$33億
- 上市代號：2481 (2001 上市)
- 全球員工數：約 2,500 人
- 2 座前段晶圓
- 2 座後段封測廠

Market Segments



岡山總部成立

無錫廠成立
環茂成立

推出小訊號產品
強茂上市

開發整系列
MOSFET產品

推出Super
Schottky系列產品

IATF1694:2016
取得認證

研發中心
成立

8" 關鍵製
程晶圓廠

1986

2000

2001

2012

2013

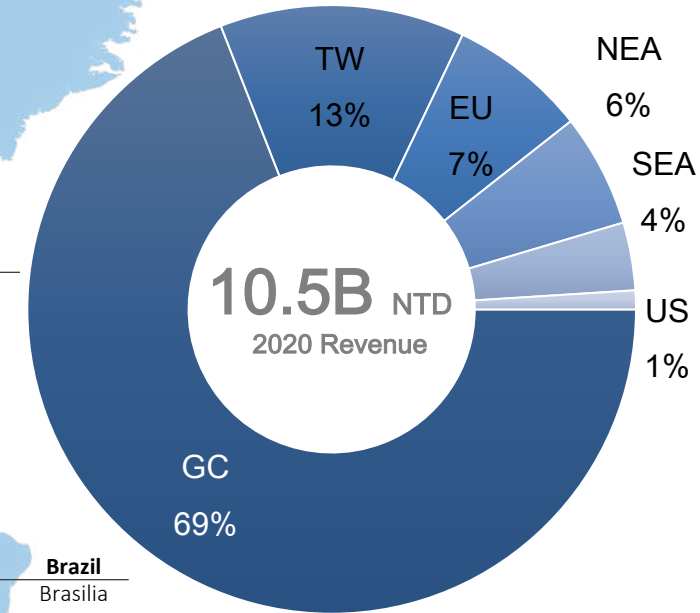
2018

2019

2020



Region Revenue

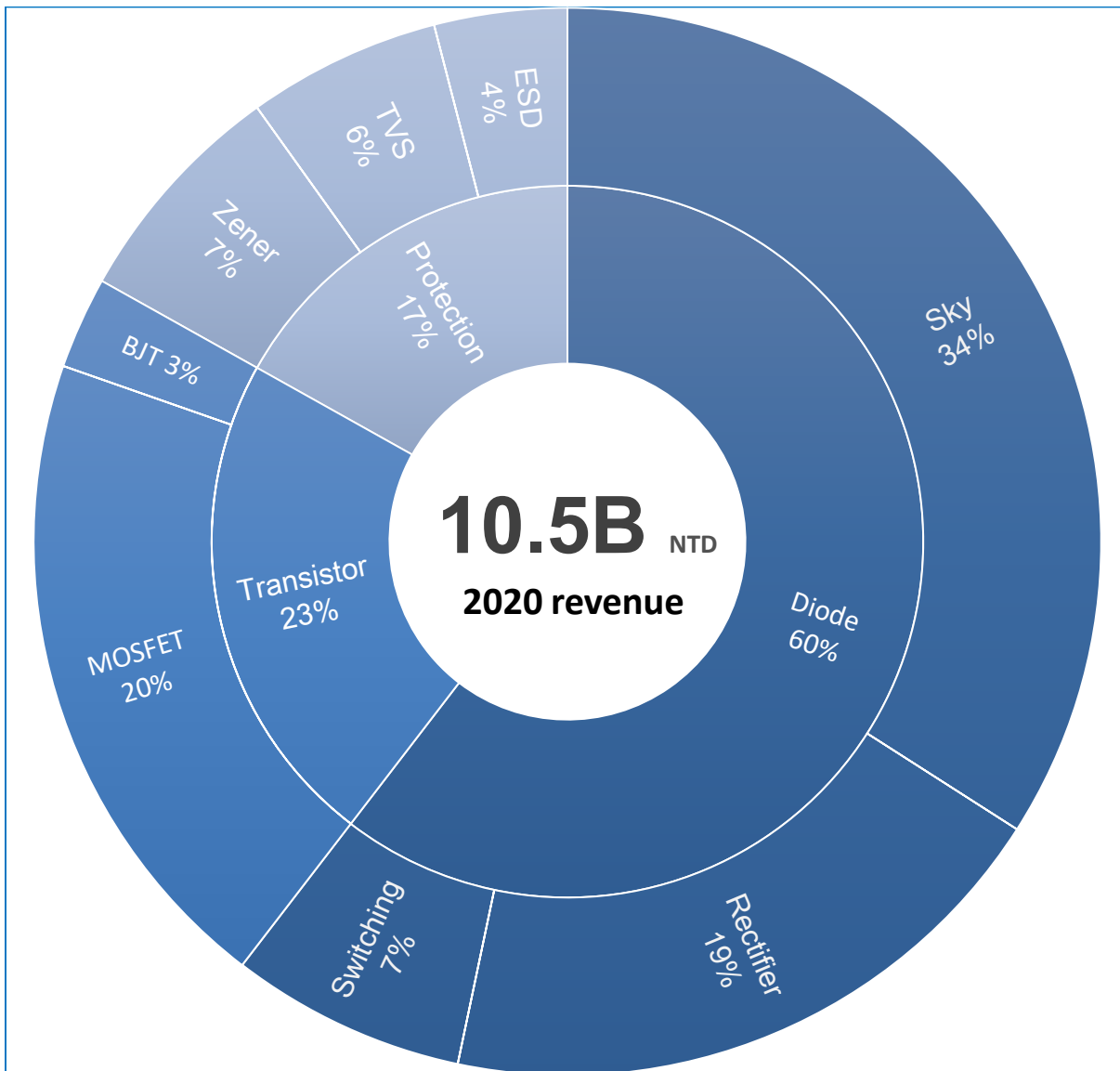


- Headquarters
- Sales Office
- R&D Sites
- Frond-End
- Back-End

全球功率式器件排名

Ranking	2018	2019
1	Infineon	Infineon
2	ON Semiconductor	ON Semiconductor
3	STMicroelectronics	STMicroelectronics
4	Mitsubishi	Nexperia
5	Vishay	Rohm
6	Nexperia	Toshiba
7	Rohm	Vishay
8	Toshiba	Mitsubishi
9	Renesas Electronics	Fuji Electric
10	Diodes	Diodes
11	Fuji Electric	Renesas Electronics
12	Littelfuse	Microchip
13	AOS	Littelfuse
14	CREE	AOS
15	Microchip	CREE
16	PANJIT	Denso
17	Shindengen Electric	Shindengen Electric
18	Denso	Toyota
19	Toyota	PANJIT

2020 產品營收占比 & 產品開發藍圖



New Product Focus

MOSFET

- SGT MOSFET 60 - 80V
- SGT MOSFET 100 - 150V
- SJ MOSFET 600 - 650V

IGBT

- FS Trench IGBT 650 - 750V
- FS Trench IGBT 950 - 1200V

FRED

- Si FRED 600 - 650V
- Si FRED 1000 - 1200V

SiC

- SiC Diode 650 - 1200V
- SiC MOSFET 900 - 1200V

財務資訊

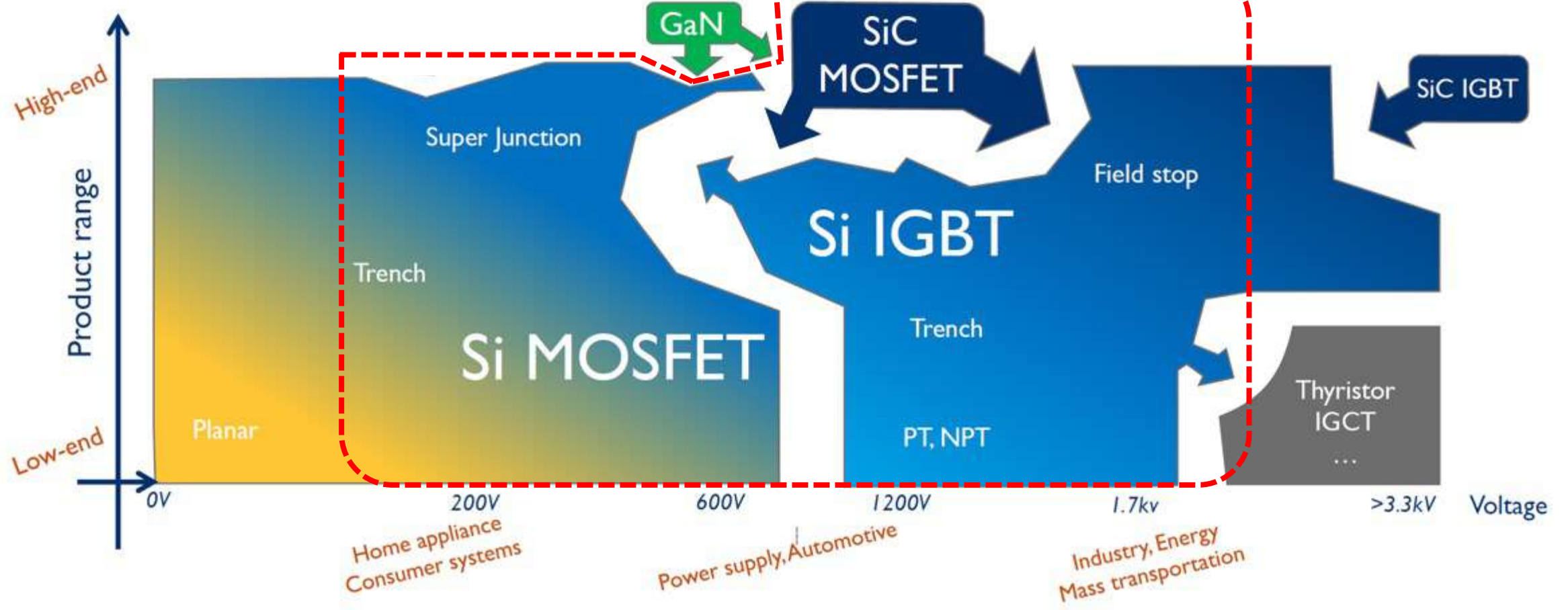
關鍵財務訊息 2019 vs 2020

	2019 FY	2020 FY	YoY
Revenue	NTD 9.1 Bn	NTD 10.5 Bn	14.7% ↑
Gross Profit & Margin	NTD 1.9 Bn 21.0%	NTD 2.4 Mn 23.3%	27.3% ↑
EBITDA & Margin	NTD 1.5 Bn 16.8%	NTD 1.8 Bn 17.2%	
EPS	NTD 1.50	NTD 2.70	80% ↑
Cash Flow from Operating Activities	NTD 0.7 Bn	NTD 1.8 Bn	

功率器件市場趨勢 & 新技術發展

強茂功率元件技術發展

40V – 1.7 kV is PANJIT focus



2022 功率器件 TAM

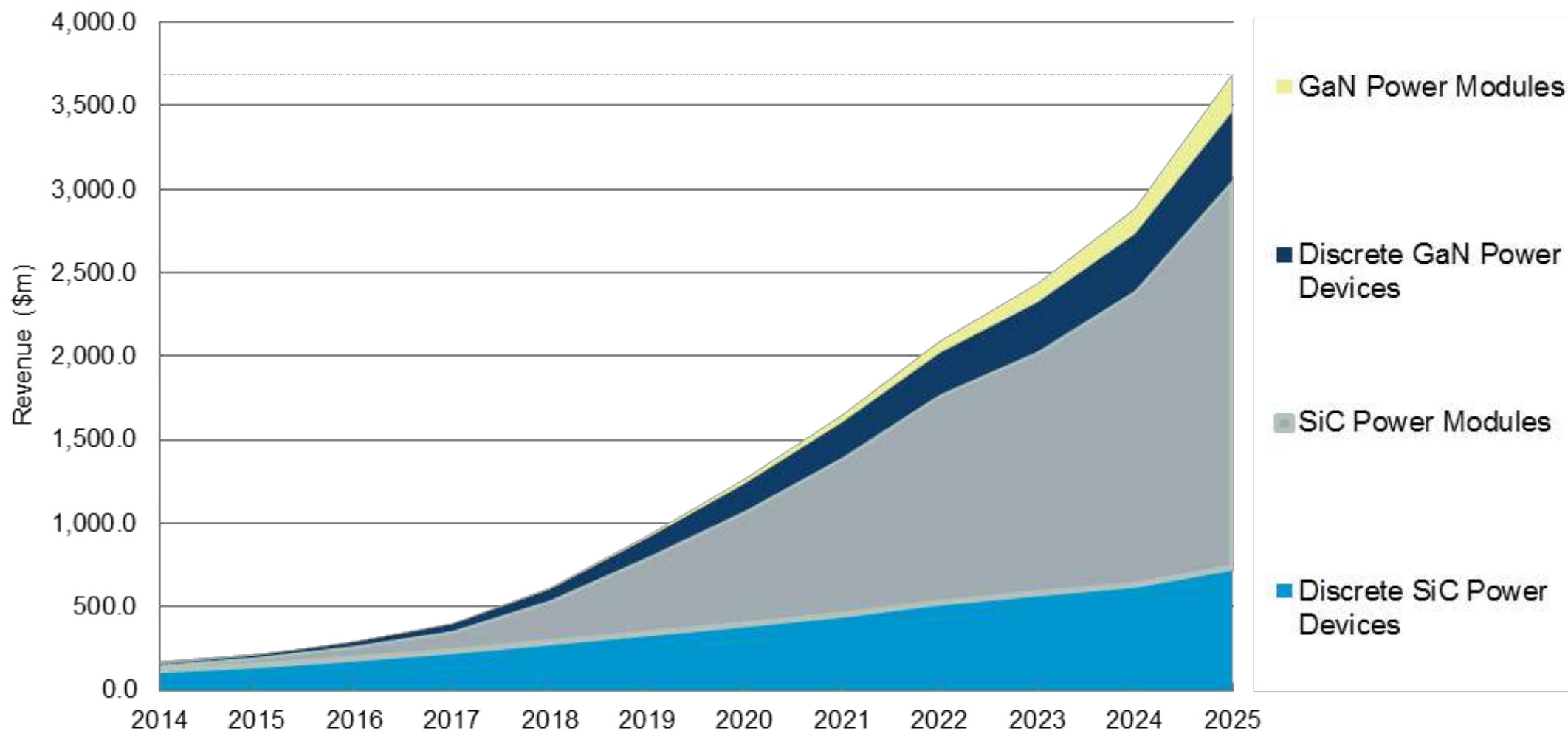
Diodes/ MOSFETs/ IGBTs 在各應用市場產值

- 在功率器件中**汽車應用**佔最大的市場
- 功率器件在電源供應市場主要的應用為**工業/數據處理/消費**。



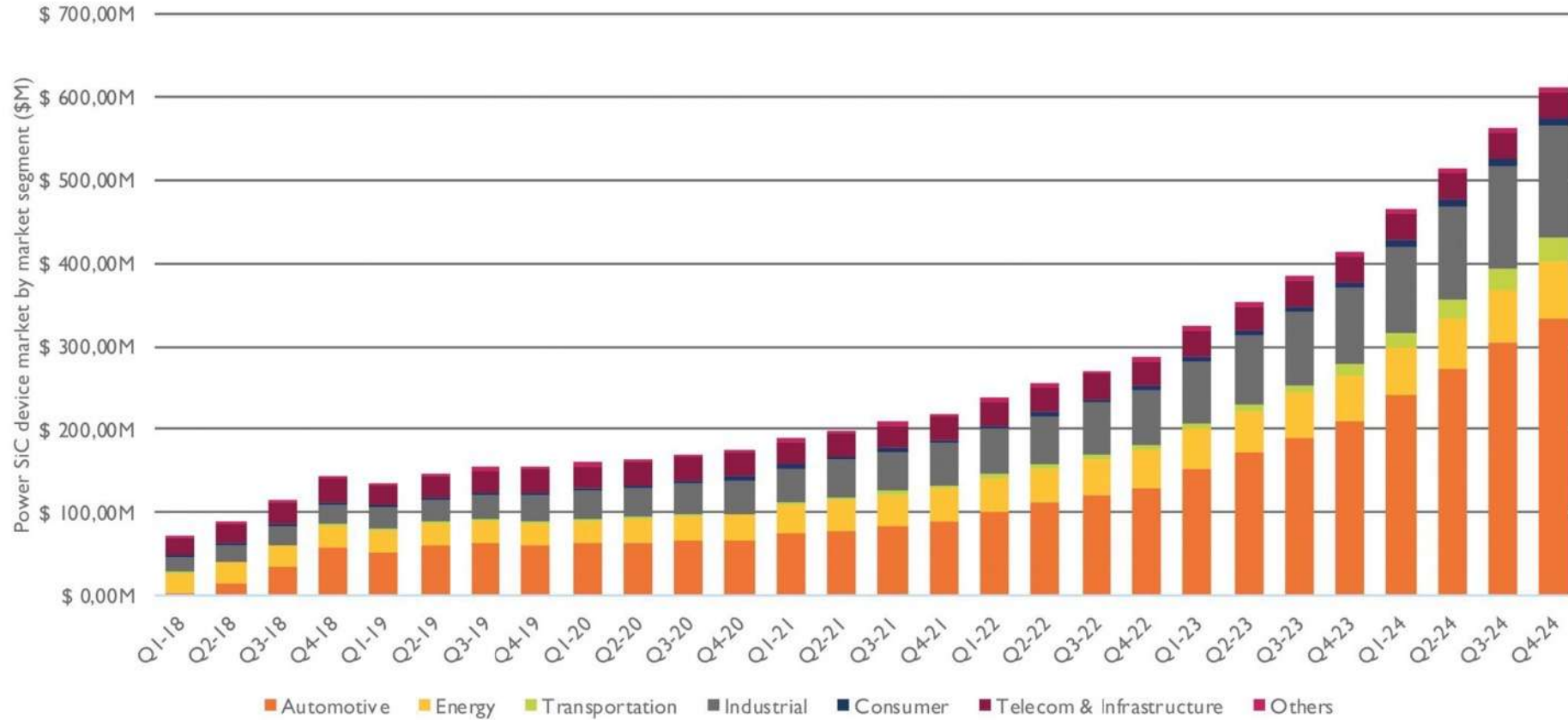
第三代半導體材料 SiC & GaN 在功率器件市場的趨勢

2025 總產值來到 USD \$3.7B, SiC 佔 84% & GaN 佔 16%



SiC 元件在各應用市場的走勢

汽車應用市場占比超過50%



- This figure represents the estimated market for SiC devices, including both open and captive markets.
- The ramp up of automotive market in 2018 was mainly due to Tesla's adoption of SiC in its main inverter.
- Similar to automotive application, other applications such as industrial, energy and transportation are expected to grow.

Thank You



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