



2023

敬鵬法人說明會

33852桃園市蘆竹區南山路二段5巷17號  
電話:+886-3-3222226  
網站:[www.chinpoon.com](http://www.chinpoon.com)

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本次簡報中若包含有財務資訊的預測及未來市場及產品的趨勢。這些說明乃基於目前可以取得及目前相信是合理性的資料，但這些說明亦牽涉風險及不確定性。本公司之實際營運成果可能會與上述說明有不同的結果。簡報中屬預測性的資料並非本公司未來履行的保證，宜注意其隨時有變更的可能及風險。

# 簡報大綱

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- 敬鵬簡介
- 投資人注意焦點
- 2023年營運說明
- 全球汽車市場
- 全球電動車展望
- 問答時間

# 敬鵬簡介

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- 基本資料
- 全球佈局
- 財務體質與股東權益報酬率
- 汽車板專業

# 基本資料

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- 公司名稱：敬鵬工業股份有限公司
- 成立時間：西元1979年9月26日 (1996年10月於台灣公開上市)
- 負責人：曾劉玉枝
- 產業類別：印刷電路板
- 產品種類：HDI板,多層板(~26層),單/雙面板,銀(銅)膠貫孔板,厚銅板(~14oz),高頻板,金屬基板,銅凸基板,撓折板,散熱銅錠&埋入式散熱片...等等
- 資本額：新台幣 39.74 億元
- 淨 值：新台幣 161.06億元 ( 2023年9月 )
- 營 收 額：新台幣 176.14億元 ( 2022年 ) 新台幣 124.06億元 ( 2023年9月 )
- 員工人數：7,100+人 ( 台灣廠 約3,000+ 人 大陸廠 3,000+人 泰國廠 1,100+人 )
- 總公司地址：33852 桃園市蘆竹區南山路二段5巷17號

# 電路板的百貨公司



## 單面/假雙面/銀貫孔/銅貫孔

主要用途：電視遙控器、電腦相關等消費型電子產品



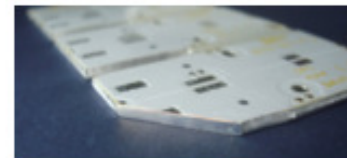
## 高頻板

主要用途：ADAS雷達、衛星天線、智慧天線、LNB等



## 多層板(~26層)

主要用途：汽車ECU、伺服器、電信通訊、自動化機械、醫療等



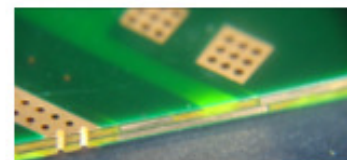
## 金屬基板 & 銅凸基板

主要用途：背光模組、路燈、商用照明、投影機光源、汽車照明、電子煞車



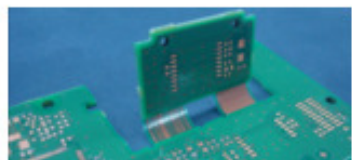
## HDI & IVH

主要用途：汽車資訊娛樂系統、ECU、ADAS、鏡頭、路由器...



## 厚銅板(~14oz)

主要用途：汽車OBC、接線盒、高功率逆變器、轉換器



## 撓折板

主要用途：汽車ECU、接線盒、汽車EPS、ADAS、家電產品



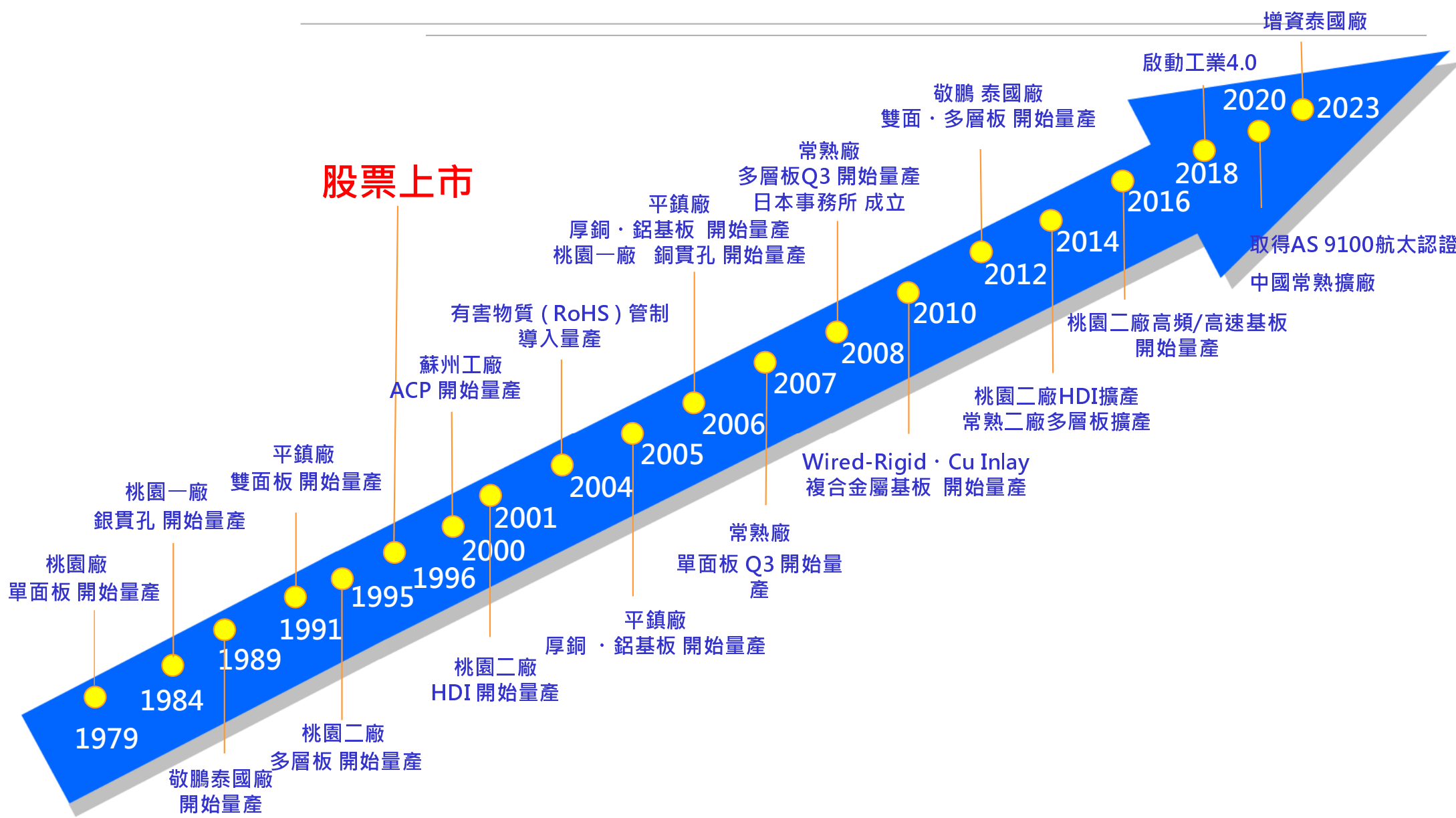
## 散熱銅錠 & 埋入式散熱片

主要用途：電子煞車、LED照明驅動器、工業用電源管理、電力儲存、高功率模組

# 全球佈局

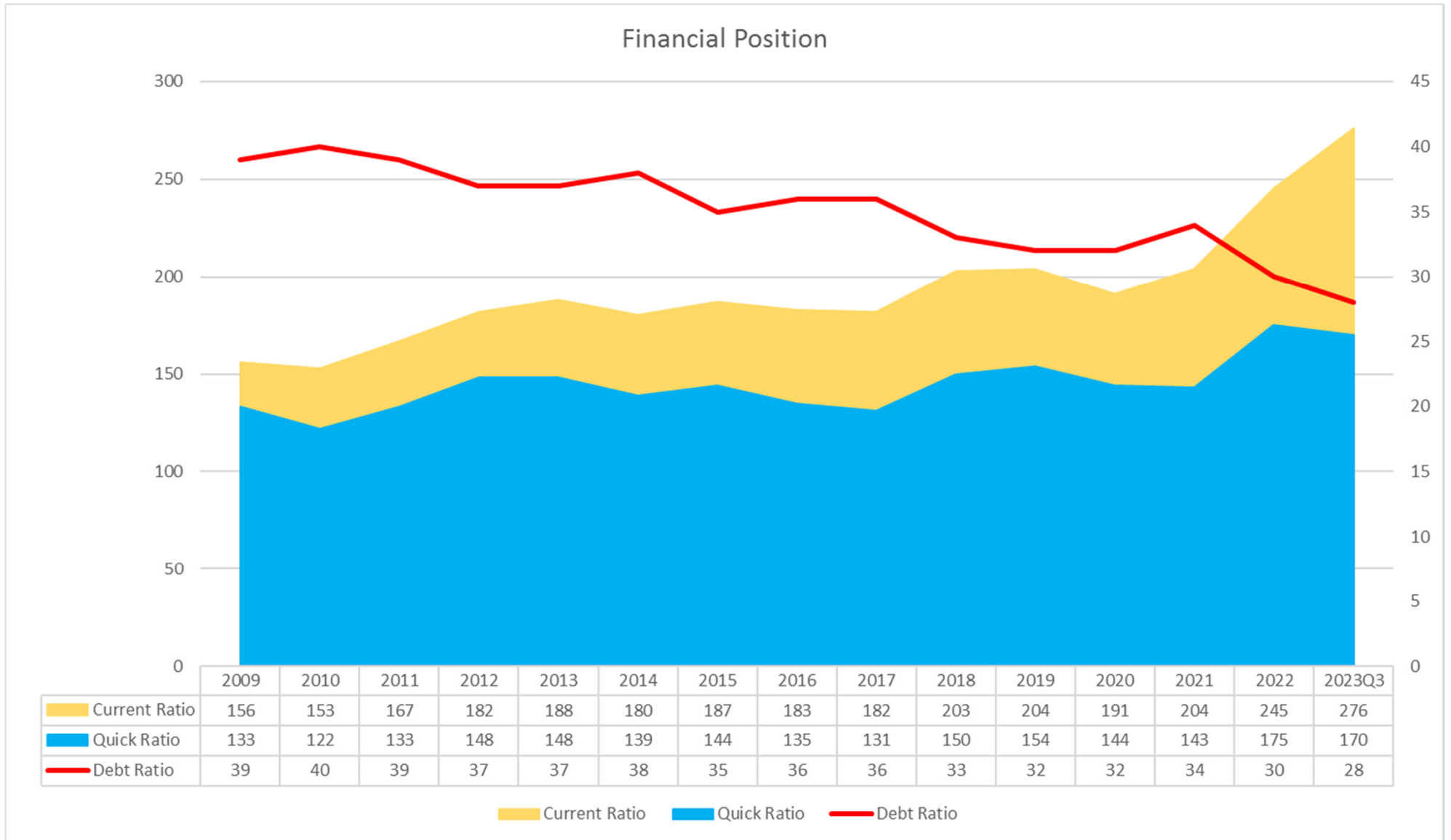


# 成長軌跡

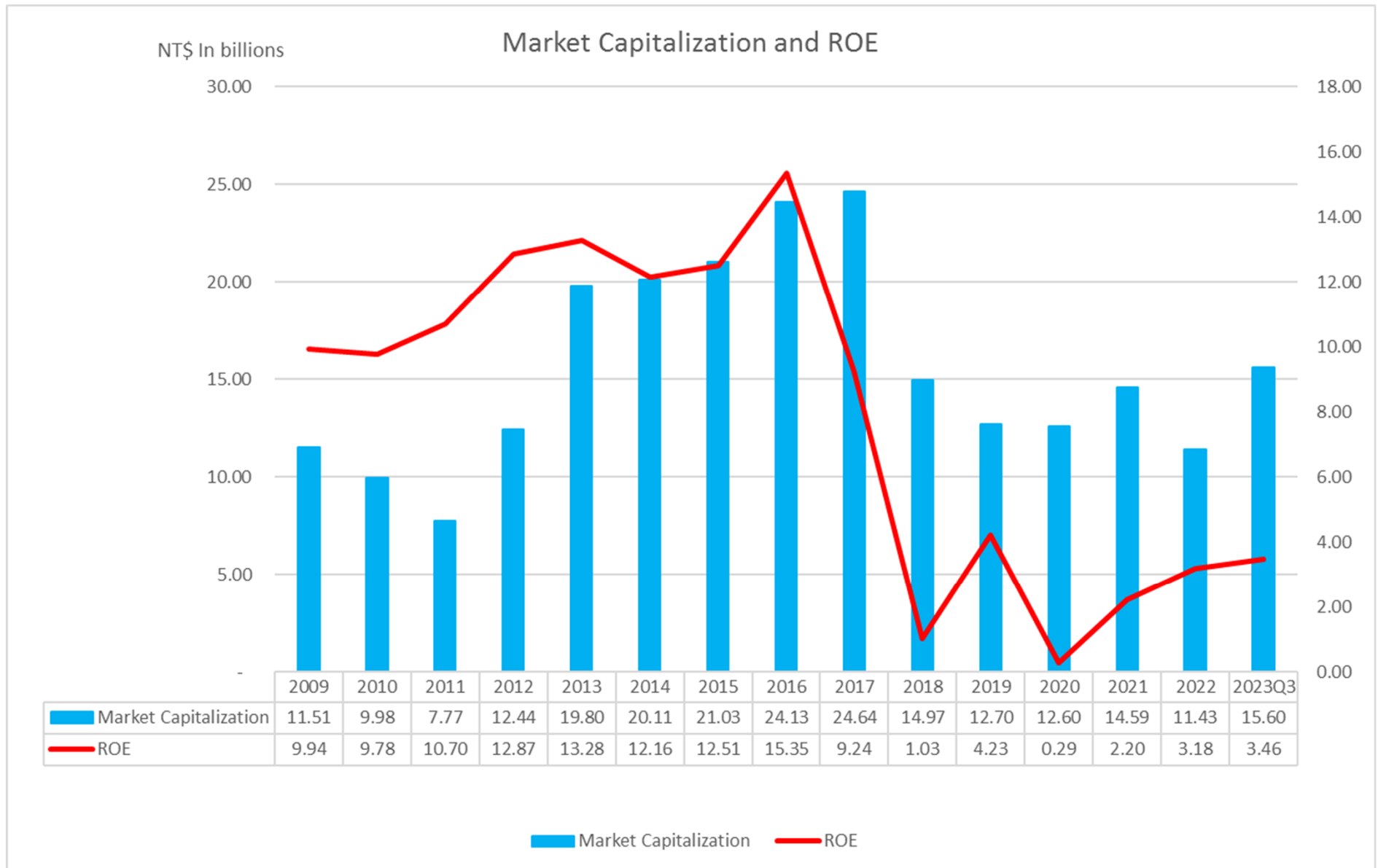




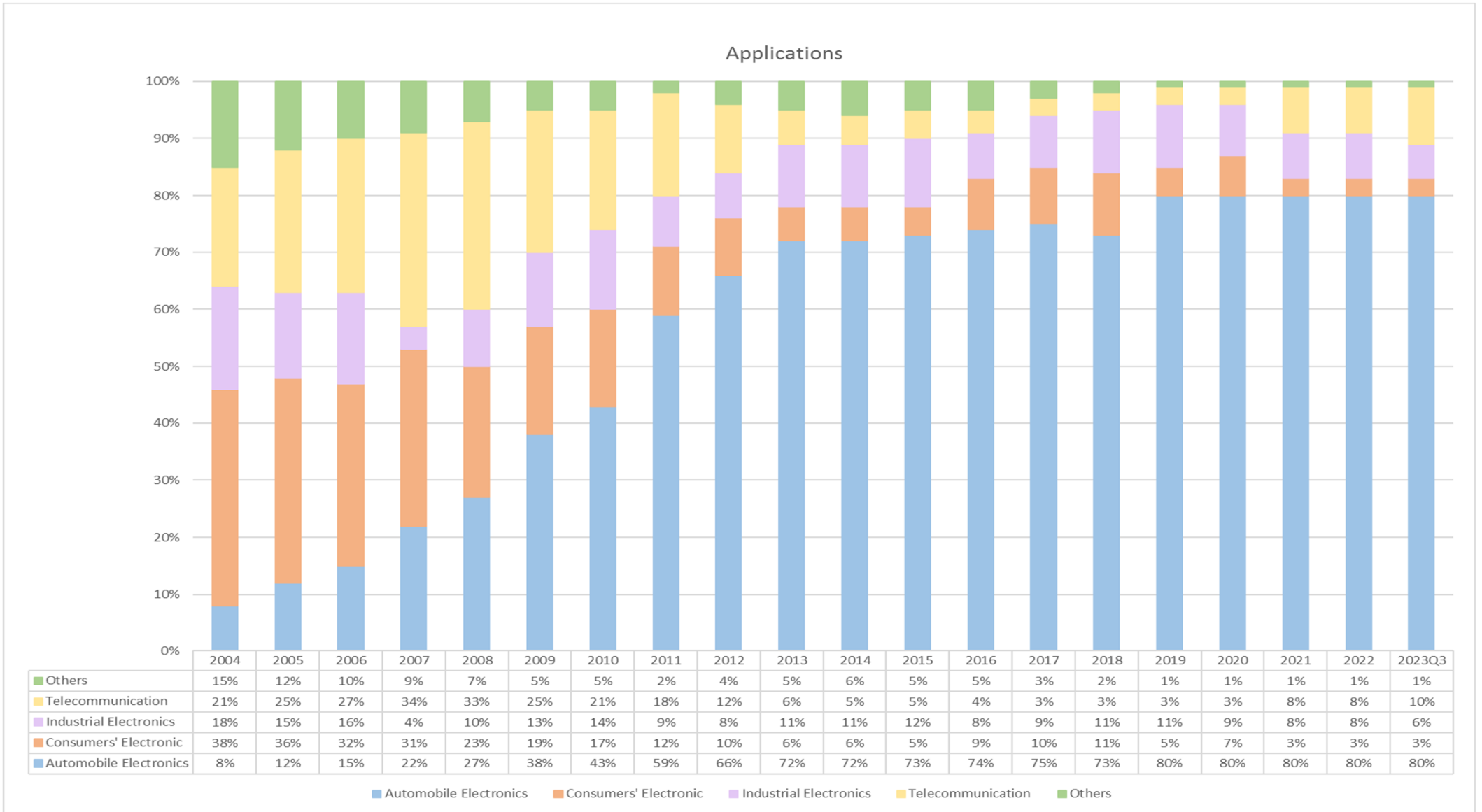
# 財務體質健全



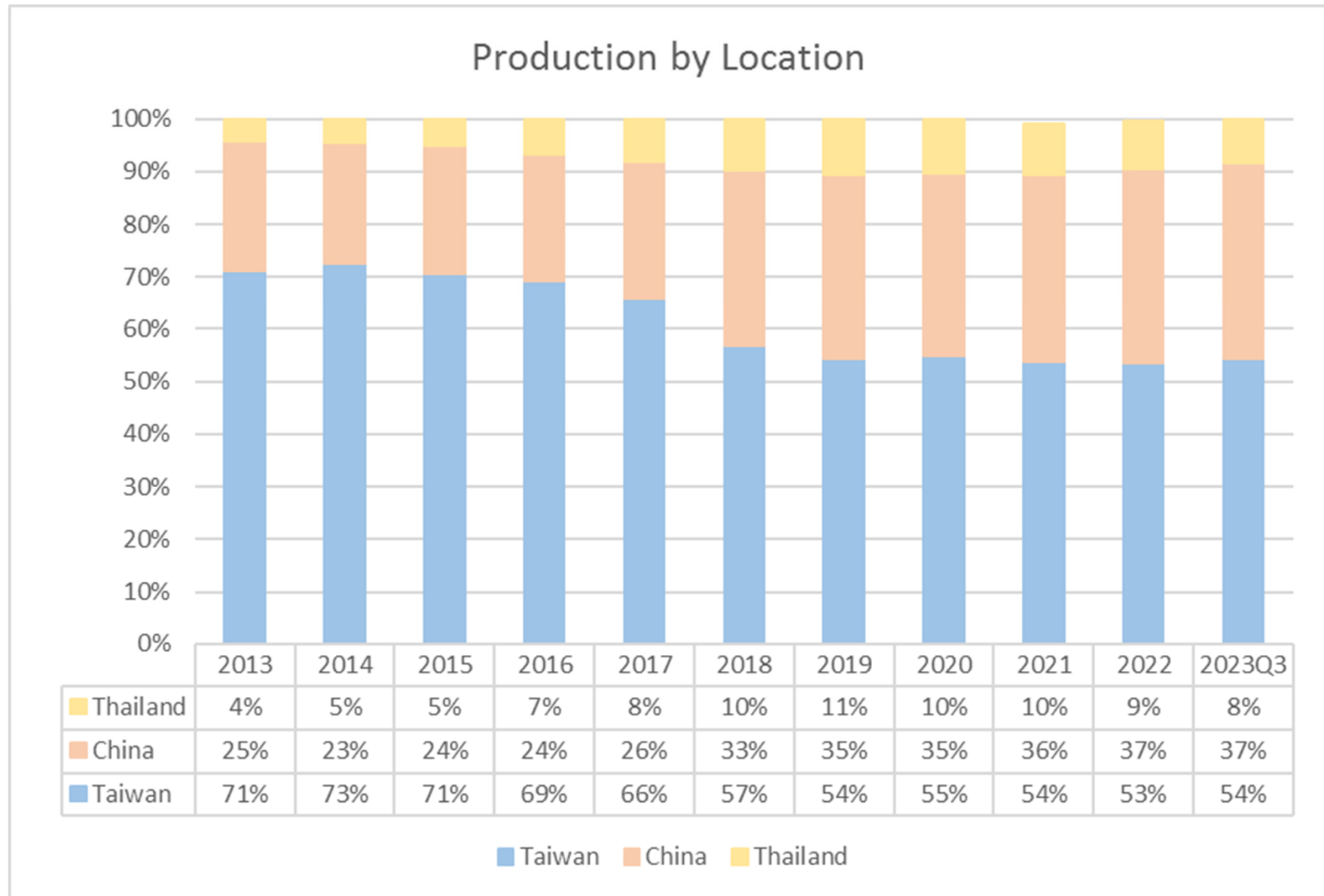
# 市值與股東權益報酬率



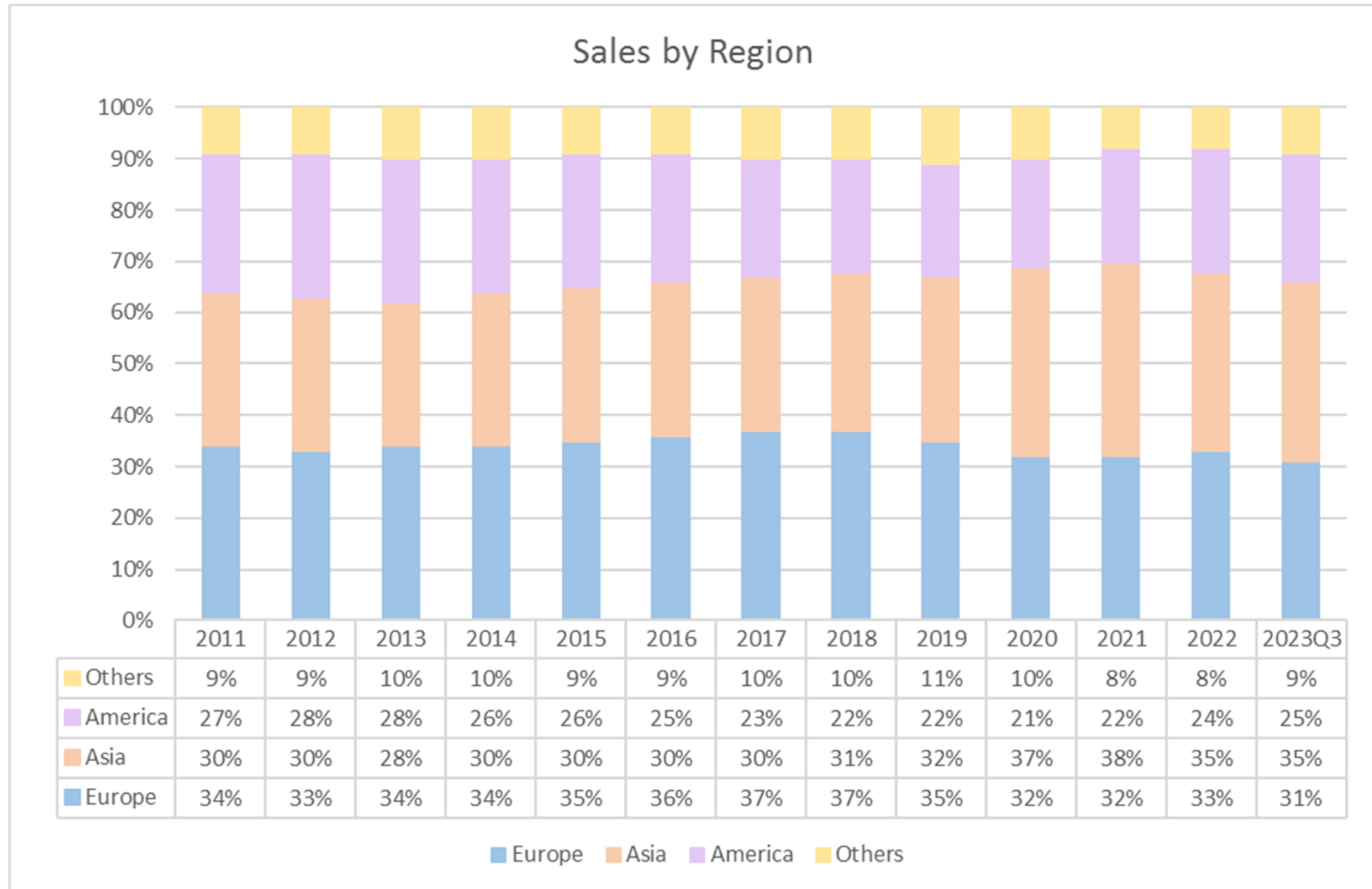
# 汽車板專業廠商



# 台灣生產比重佔54%



# 銷售地區與全球車市相關



# 投資人注意焦點

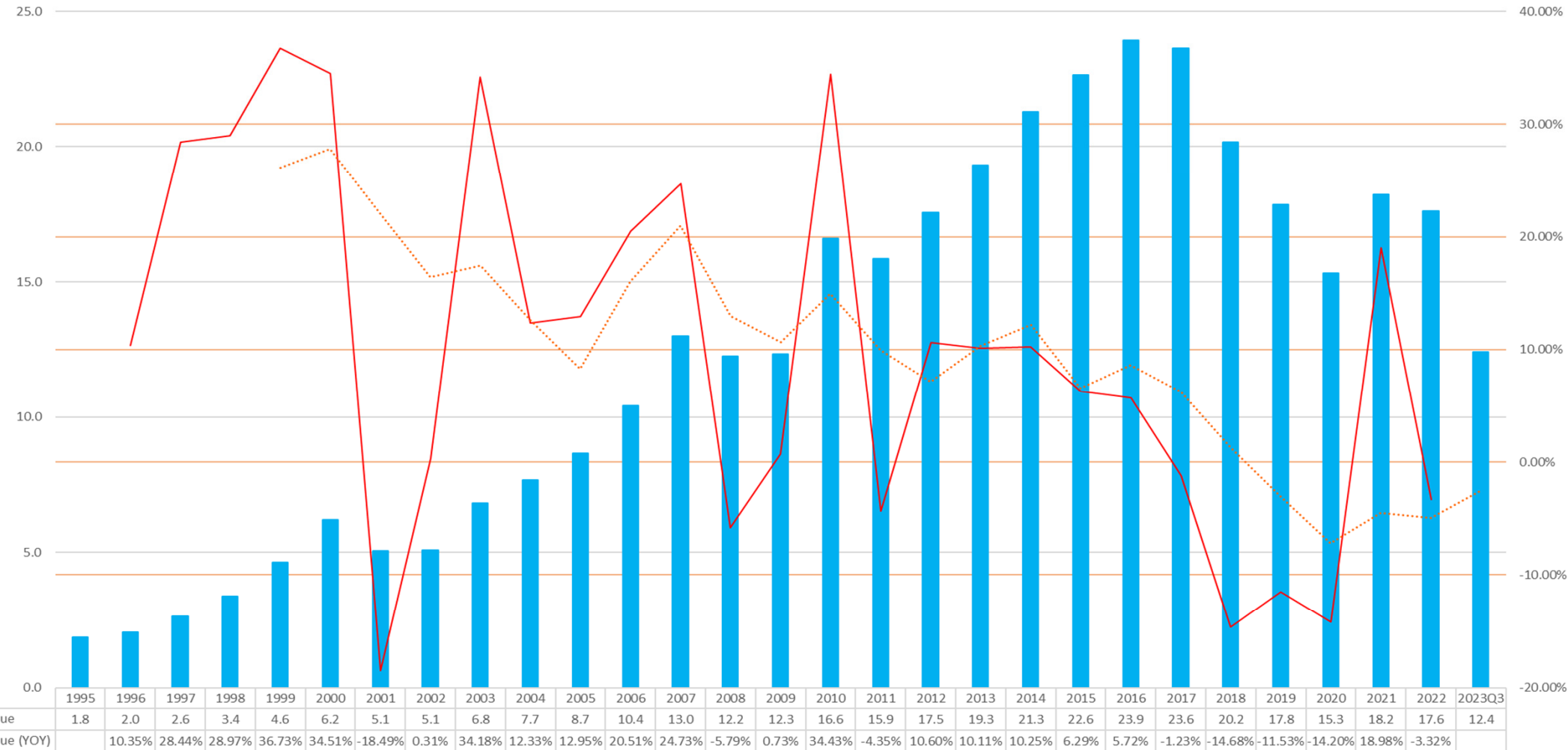
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- 營收趨勢
- 獲利趨勢
- 新業務布局進度
- 股利配發率
- 資本支出

# 營收趨勢

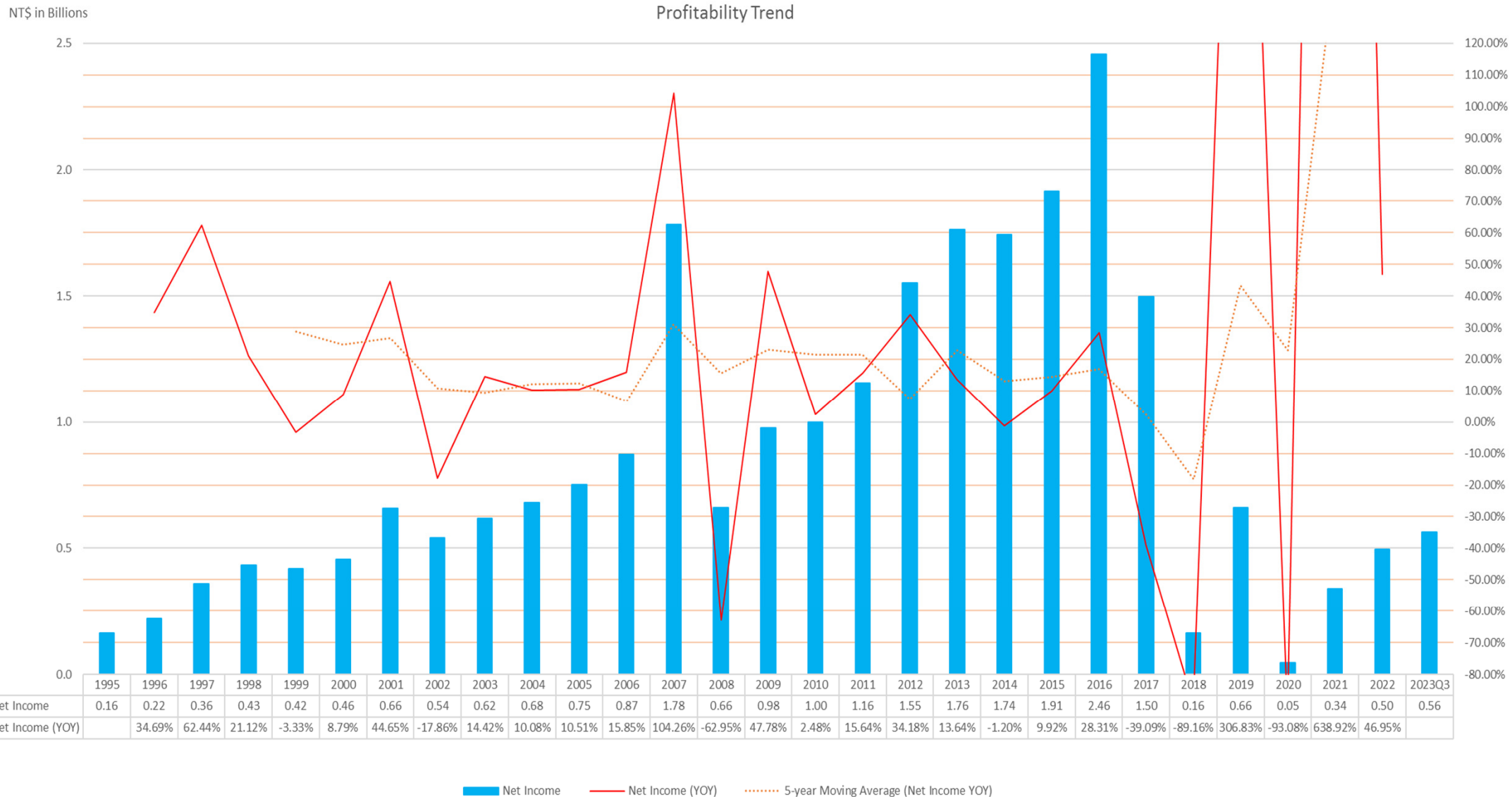
NT\$ in Billions

Revenue Trend



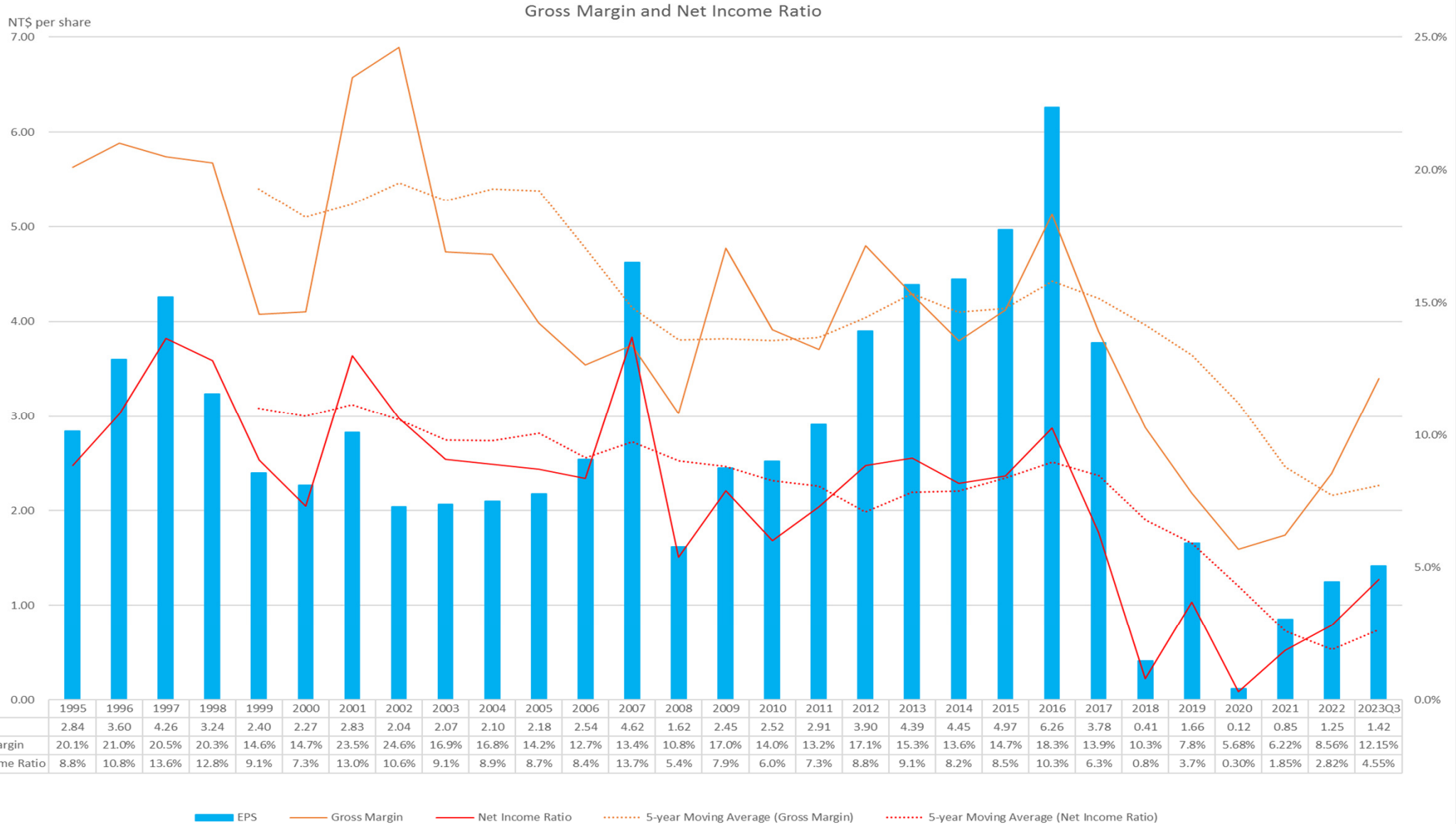
Revenue Revenue (YOY) 5-Year Moving Average (Revenue YOY)

# 獲利趨勢





# 毛利率及淨利率趨勢



# 我們在電動車業務的布局

為彌補全球內燃機汽車銷售的未來衰退，我們公司布局一些新業務：

電動車的布局：電動車供應體系約有三大系，傳統的汽車供應鍊、美國偏科技的電動車供應鍊、中國大陸的電動車供應鍊。我們已在三個供應鍊中皆有全面的布局，且皆已如期完成年度設定的目標。我們的汽車板已全面出貨到下列的車系中：

1. 傳統車廠的電動車：  
我們最早布局的是傳統的汽車供應鍊，目前在VW、Stellantis、Toyota、Ford等車系的電動車中，都有我們的汽車板。我們甚至是某歐洲極豪華電動跑車的主要供應商。
2. 美國偏科技的電動車：  
早期即有接觸，目前在Lucid Motors、Rivian、Fisker、GM Cruise、tesla等車系的電動車中，都有我們的汽車板。
3. 中國大陸的電動車：  
中國已有數種電動車中，有我們的汽車板。傳統車廠及新科技車廠皆有。

# 我們在通訊業務的布局

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為彌補全球內燃機汽車銷售的未來衰退，我們公司布局一些新業務：

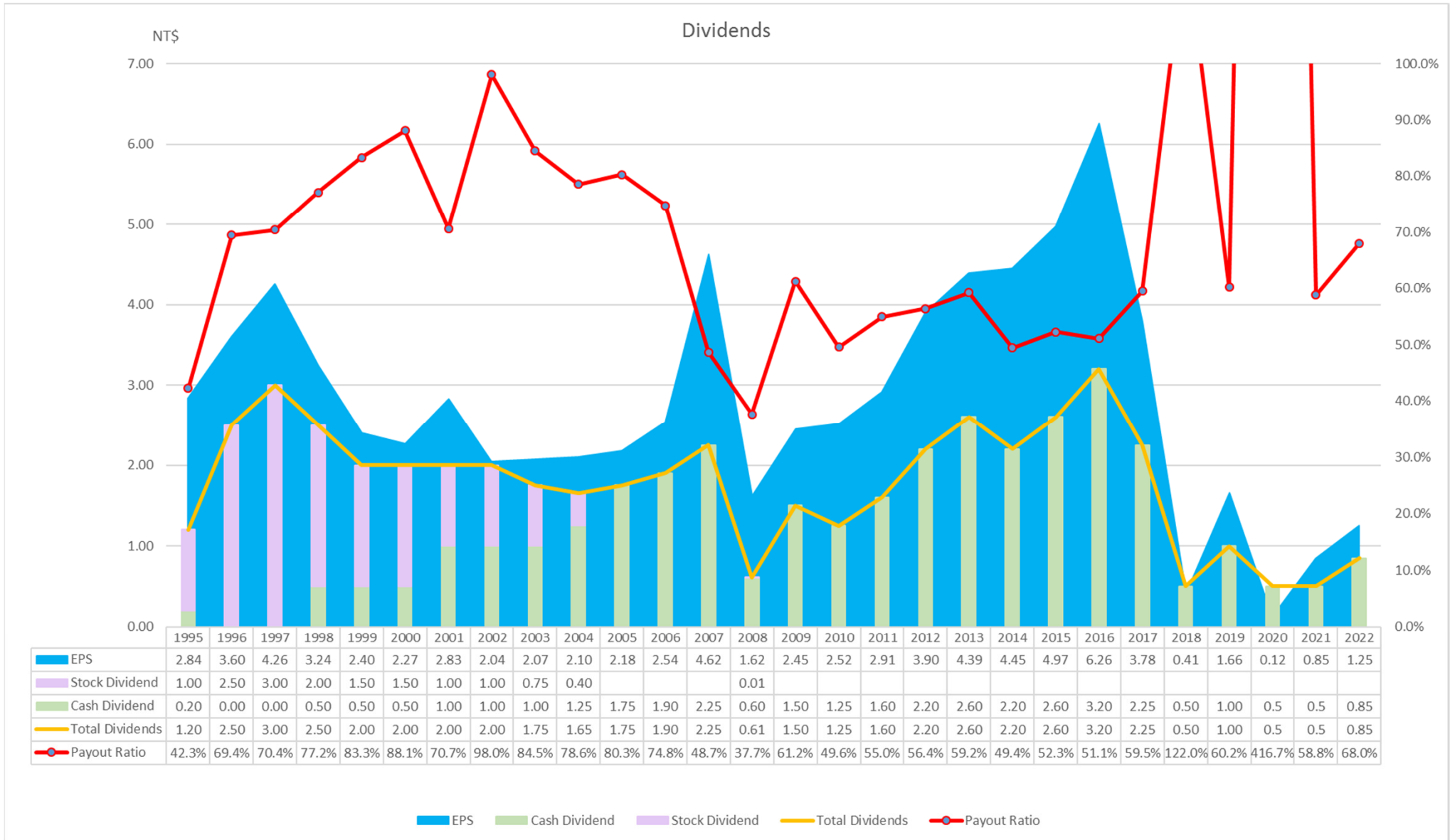
1. 低軌衛星：

我們2020年已取得「AS 9100航太品質管理體系」的認證，並積極拓展低軌衛星的相關業務。目前已有兩家客戶通過認證，並已正式出貨。同時也正積極開發其他的低軌衛星廠商。

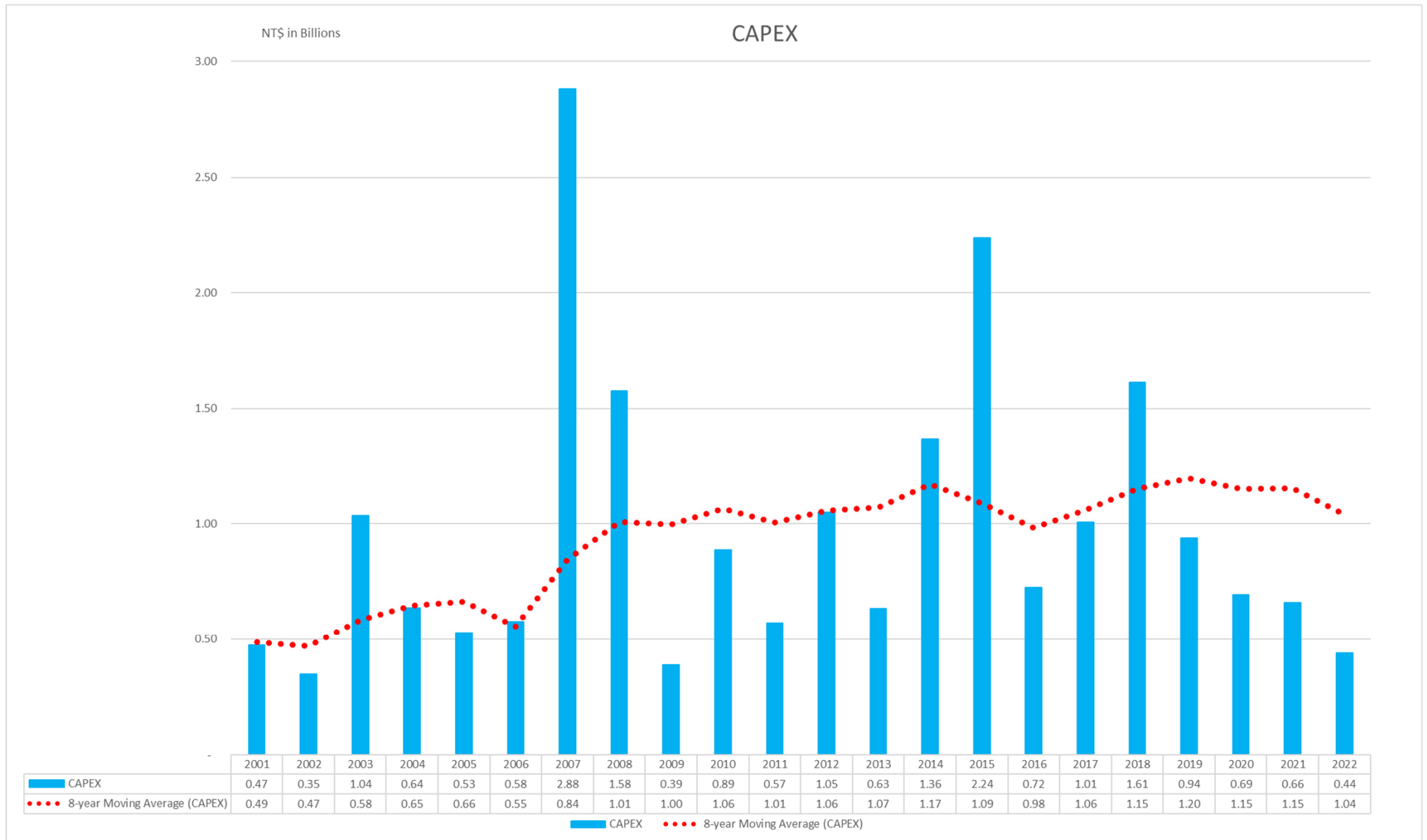
2. 5G通訊：

主要與兩大歐洲龍頭客戶往來。

# 股利配發率



# 資本支出

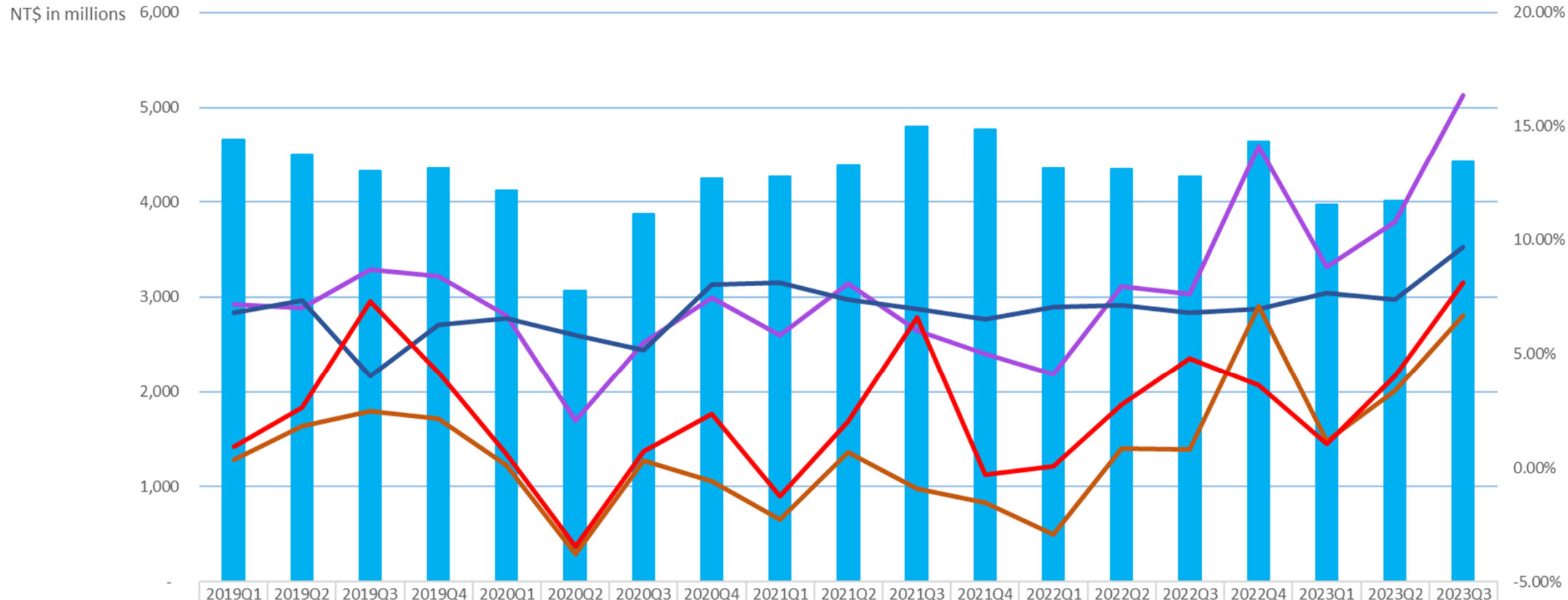


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# 2023年營運說明

# 2019~2022營收及獲利

Performance of 2019 ~ 2023



	2019Q1	2019Q2	2019Q3	2019Q4	2020Q1	2020Q2	2020Q3	2020Q4	2021Q1	2021Q2	2021Q3	2021Q4	2022Q1	2022Q2	2022Q3	2022Q4	2023Q1	2023Q2	2023Q3
Revenue	4,664	4,500	4,326	4,358	4,124	3,068	3,875	4,247	4,267	4,382	4,796	4,774	4,356	4,347	4,268	4,644	3,970	4,014	4,421
Gross Margin	7.19%	7.04%	8.70%	8.41%	6.69%	2.08%	5.50%	7.47%	5.86%	8.07%	6.06%	5.01%	4.14%	7.95%	7.63%	14.11%	8.81%	10.80%	16.38%
Operating Expense Ratio	6.84%	7.34%	4.02%	6.27%	6.57%	5.85%	5.20%	8.05%	8.15%	7.40%	6.97%	6.55%	7.08%	7.13%	6.82%	6.99%	7.66%	7.41%	9.70%
Operating Margin	0.34%	1.84%	2.46%	2.13%	0.11%	-3.77%	0.30%	-0.58%	-2.29%	0.67%	-0.91%	-1.54%	-2.95%	0.82%	0.81%	7.12%	1.15%	3.40%	6.69%
Net Income Ratio	0.91%	2.62%	7.31%	4.21%	0.61%	-3.48%	0.71%	2.35%	-1.26%	2.03%	6.63%	-0.32%	0.06%	2.76%	4.83%	3.61%	1.06%	4.05%	8.14%

Revenue Gross Margin Operating Expense Ratio Operating Margin Net Income Ratio

# 匯率變化對毛利的衝擊

模擬的毛利率

$$= \text{前期毛利率} + 0.8 * \text{匯率衝擊}$$

匯率衝擊

$$= 0.55 * \text{USD/NTD 匯率變化率} \\ + 0.35 * \text{USD/CNY 匯率變化率} \\ + 0.10 * \text{USD/THB 匯率變化率}$$

註:

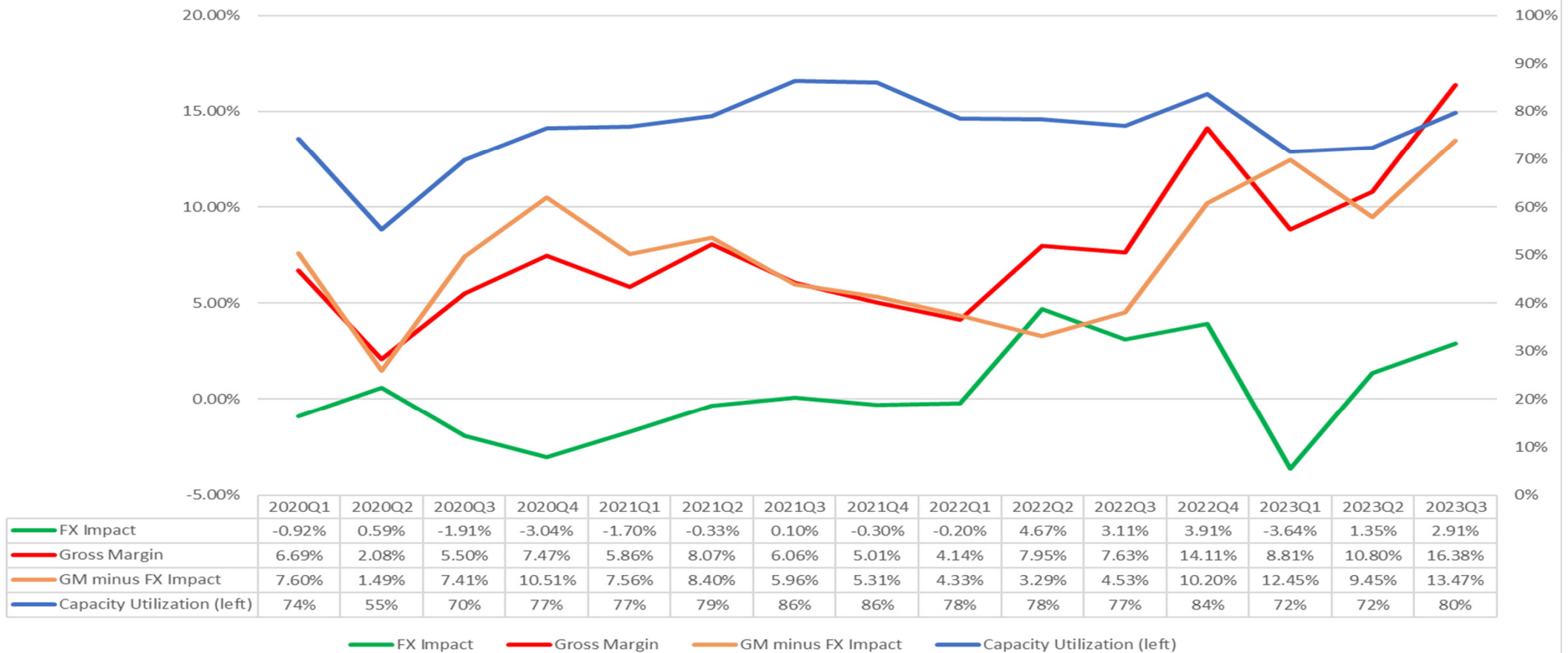
1. 美金營收佔90%，另有美元採購產生的自然避險，故匯率衝擊的乘數設為0.8。
2. USD/NTD, USD/CNY 及 USD/THB都以美元為基準，即1美元可換多少當地貨幣，故正數代表美元升值，有助提升毛利率。反之亦然三種貨幣的權數為0.55, 0.35 及 0.10 代表三地產值佔本公司合併營收的比例。



# 毛利、匯率衝擊、產能利用率 1

## Perspective 1

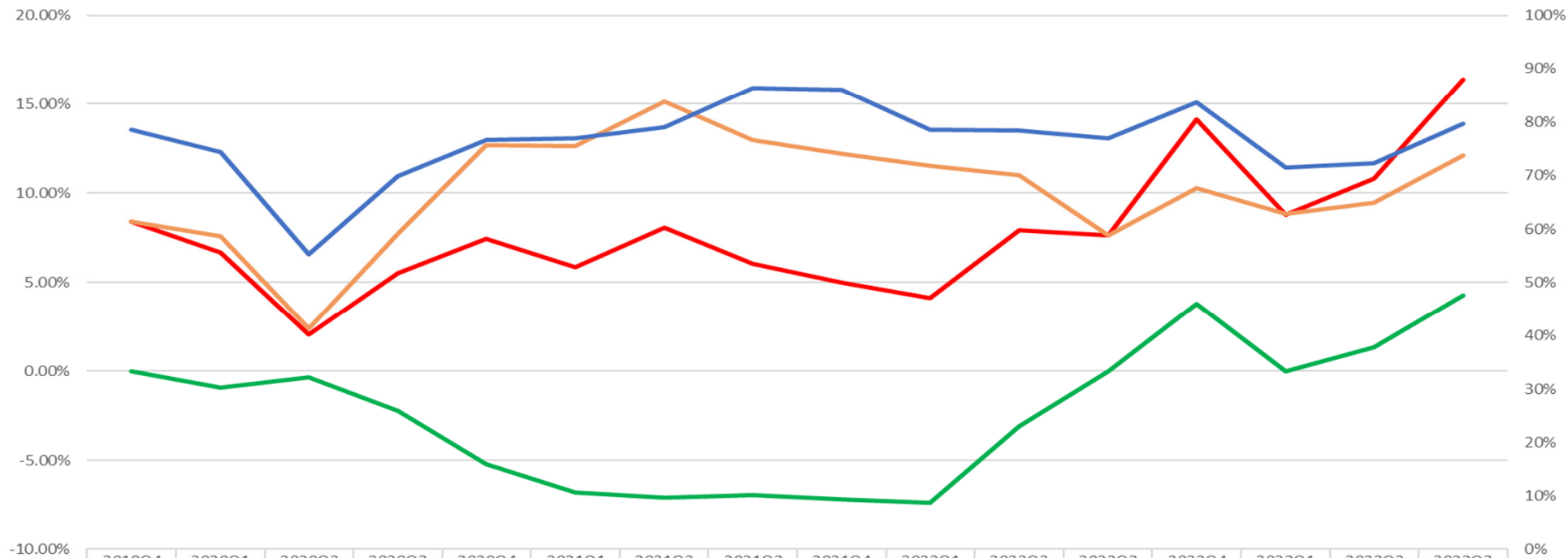
Gross Margin under the Impact of FX Change and Capacity Utilization (Q to Q)



# 毛利、匯率衝擊、產能利用率 2

## Perspective 2

Gross Margin under the Impact of FX Change and Capacity Utilization (Base 100 = 2019Q4)



	2019Q4	2020Q1	2020Q2	2020Q3	2020Q4	2021Q1	2021Q2	2021Q3	2021Q4	2022Q1	2022Q2	2022Q3	2022Q4	2023Q1	2023Q2	2023Q3
FX Impact	0.00%	-0.92%	-0.32%	-2.23%	-5.20%	-6.81%	-7.08%	-6.94%	-7.19%	-7.38%	-3.07%	-0.03%	3.81%	-0.01%	1.33%	4.26%
Gross Margin	8.41%	6.69%	2.08%	5.50%	7.47%	5.86%	8.07%	6.06%	5.01%	4.14%	7.95%	7.63%	14.11%	8.81%	10.80%	16.38%
GM minus FX Impact	8.41%	7.60%	2.40%	7.73%	12.67%	12.67%	15.16%	13.00%	12.20%	11.52%	11.02%	7.66%	10.30%	8.83%	9.47%	12.12%
Capacity Utilization (left)	79%	74%	55%	70%	77%	77%	79%	86%	86%	78%	78%	77%	84%	72%	72%	80%

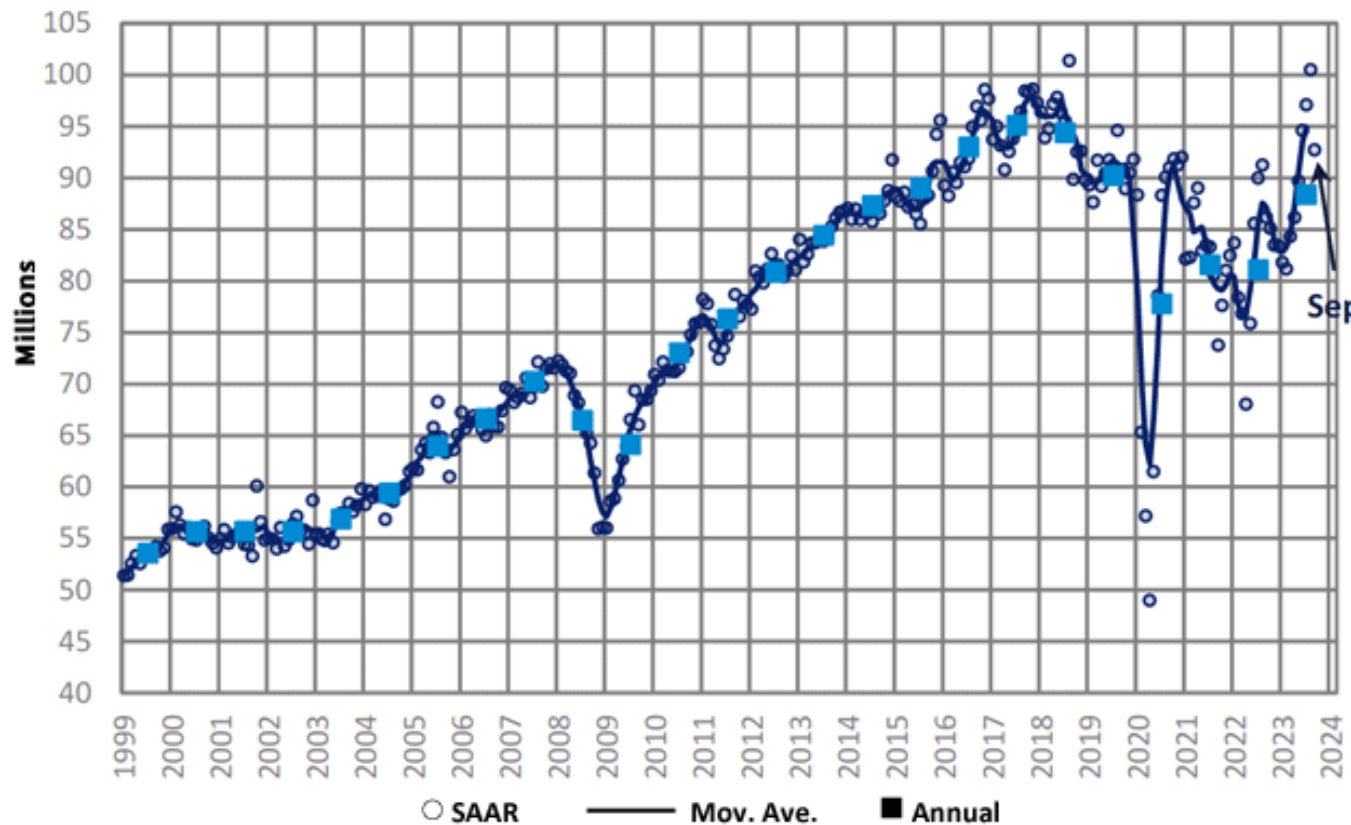
FX Impact Gross Margin GM minus FX Impact Capacity Utilization (left)

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# 全球汽車市場

# 全球汽車市場動能

Global Light Vehicle Sales

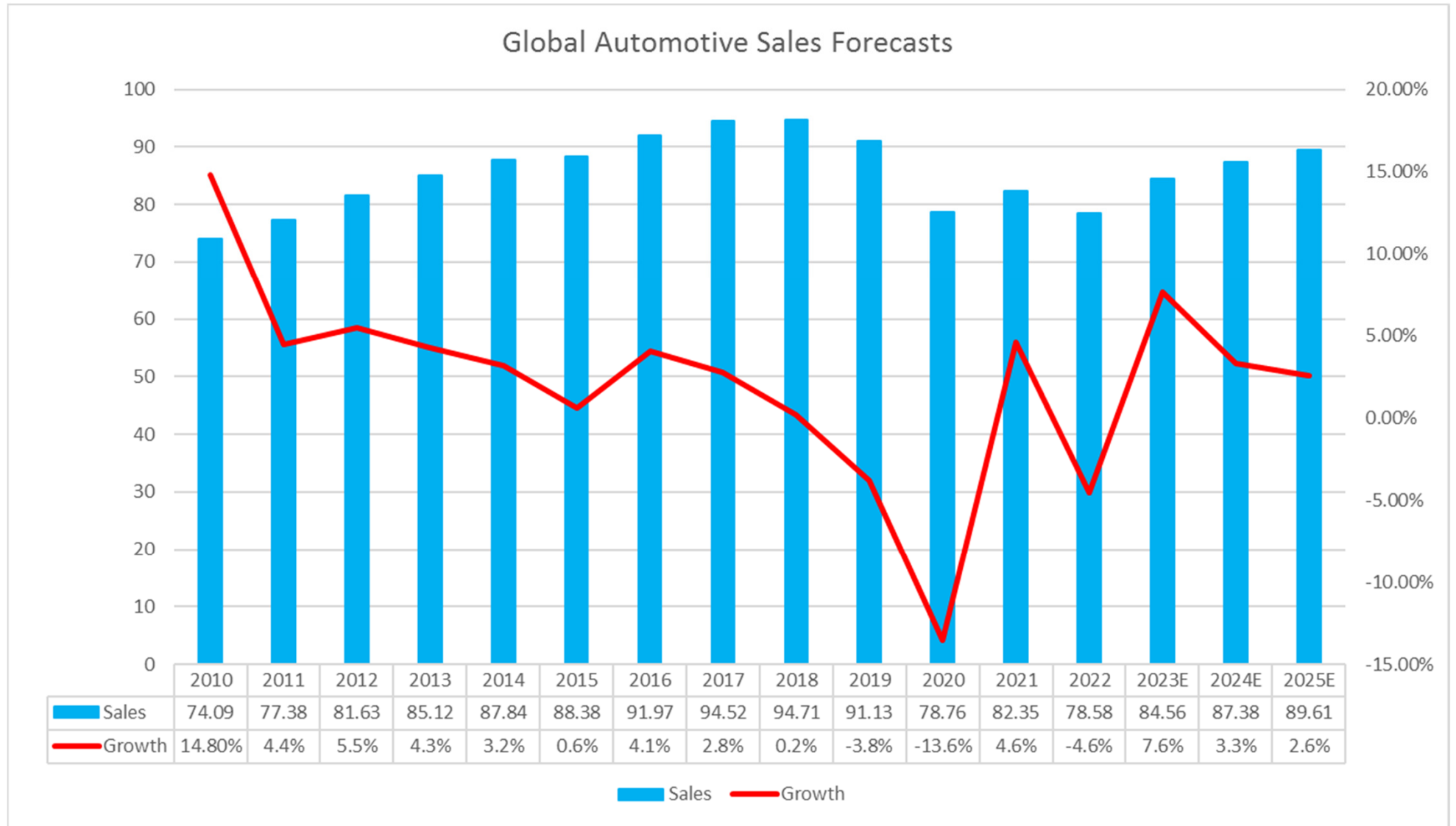


全球輕型車（LV）銷量結束了連續6個月的上升勢頭。9月全球LV市場銷售量達800萬輛，較去年成長8.5%。年初至今，已售出6,600萬輛，年增10.2%。由SAAR（seasonally adjusted annualized rate；季節調整後折成年率）來看，從8月的1億輛/年下降至9月的9,300萬輛/年。

Sources: GlobalData Global Light Vehicle Sales Update

[https://www.marklines.com/en/report/global\\_report\\_202309](https://www.marklines.com/en/report/global_report_202309)

# 全球汽車市場預估



Sources: Nomura (July 2023)

# 全球汽車總量

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“By the end of the first quarter of 2022, there were approximately 1.45 billion vehicles in the world, of which about 1.1 billion are passenger cars.”

截至2022年一季度末，全球汽車保有量約**14.5億輛**，其中乘用車約**11億輛**。

Sources:

<https://www.whichcar.com.au/news/how-many-cars-are-there-in-the-world>

# 全球汽車平均車齡

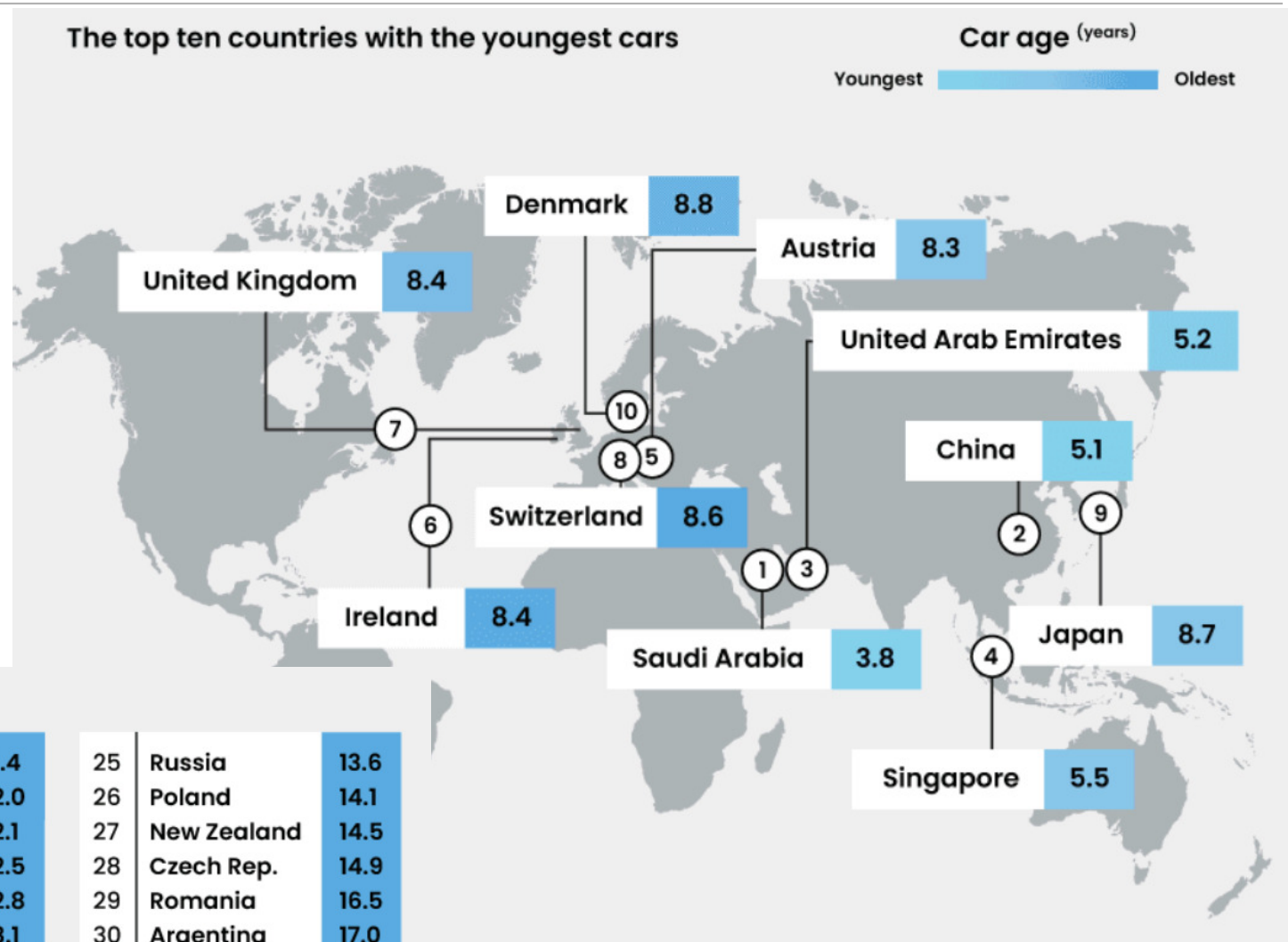
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“The average age of a vehicle in the US will hit 12.3 years in 2023, according to a projection by Hedges & Company. By contrast, the average age of a vehicle in Europe in 2022 is 11.8 years according to the ACEA.”

根據 Hedges & Company 的預測，到 2023 年，美國汽車的平均車齡將達到 **12.3 年**。相比之下，根據 ACEA 的數據，2022 年歐洲汽車的平均車齡為 **11.8 年**。

Sources: <https://hedgescompany.com/blog/2022/02/how-old-are-cars/>

# 全球各地汽車平均車齡



## Here's how the rest rank

11	Belgium	9.1
12	Germany	9.6
13	Australia	9.9
14	Sweden	10.0
15	France	10.2
16	Norway	10.7
17	Netherlands	11.0
18	Italy	11.4
19	Mexico	12.0
20	United States	12.1
21	Finland	12.5
22	Portugal	12.8
23	Spain	13.1
24	Turkey	13.4
25	Russia	13.6
26	Poland	14.1
27	New Zealand	14.5
28	Czech Rep.	14.9
29	Romania	16.5
30	Argentina	17.0

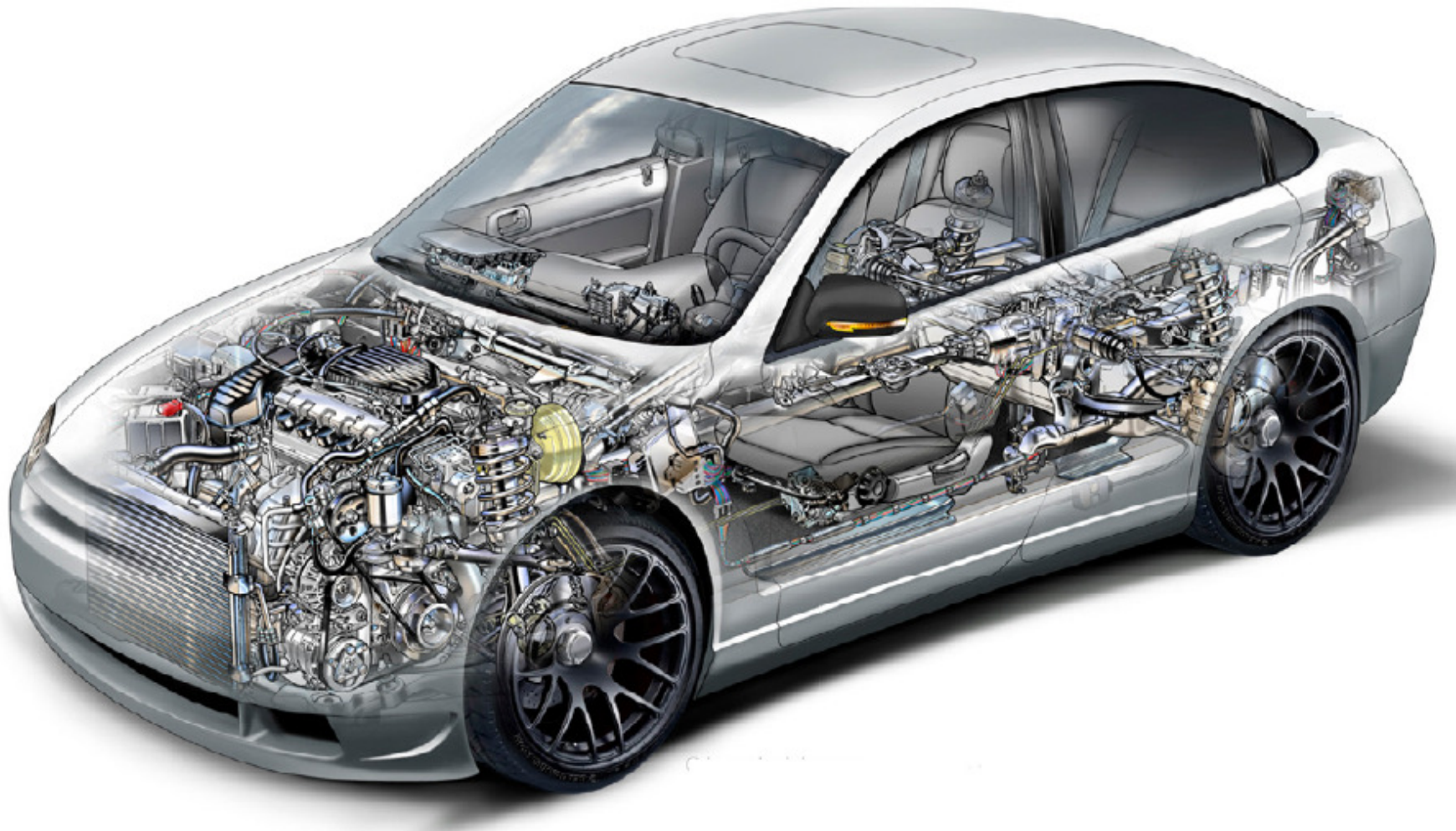
Sources: <https://www.confused.com/car-insurance/average-cars-around-the-world>



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# 全球電動車展望

# 燃油車



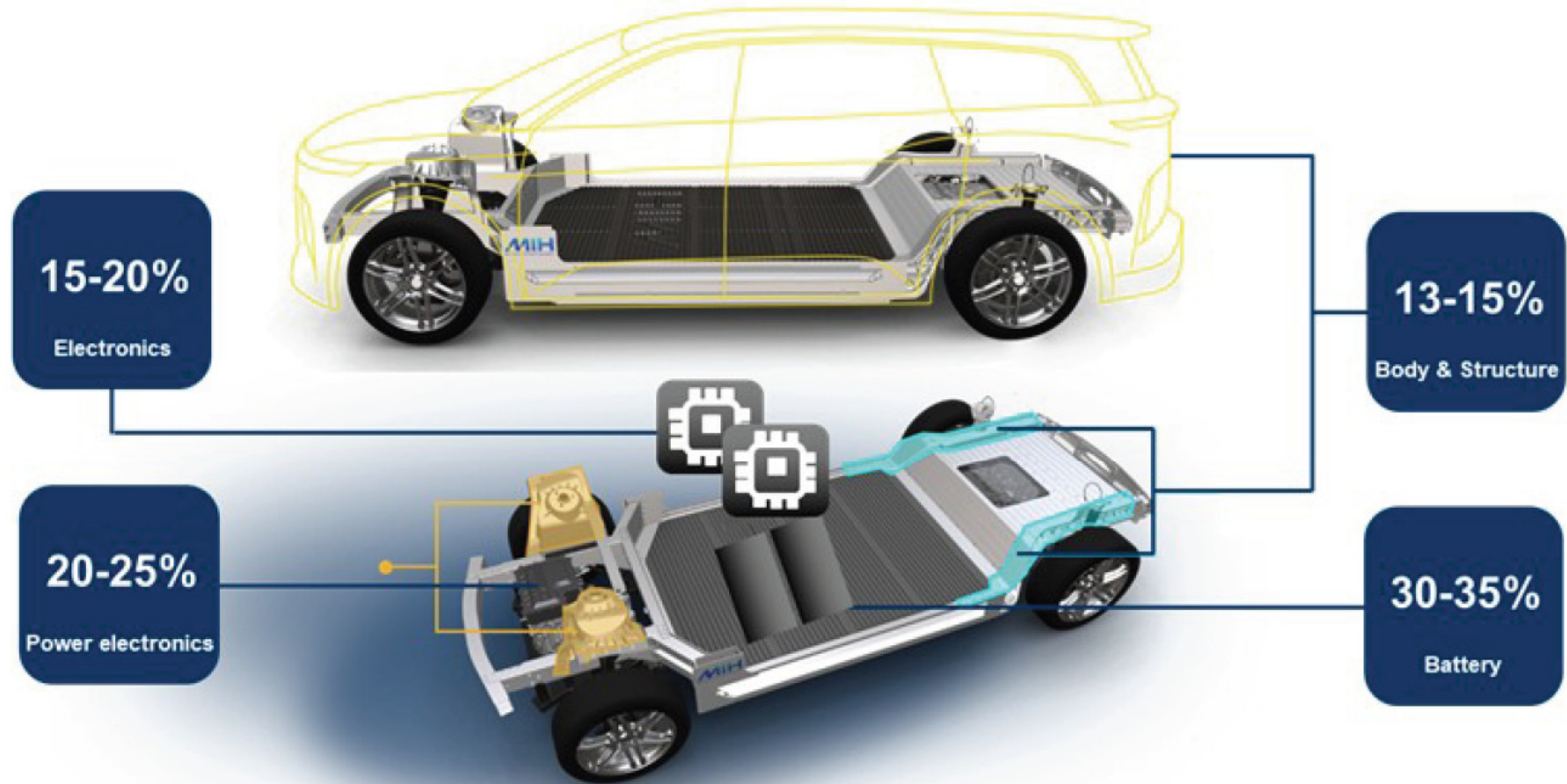
Sources: Aventus July 2020

# 電動車：VW ID.4



Sources: [https://insideevs.com/news/514802/volkswagen-id4-awd-prices-specs/?utm\\_source=RSS&utm\\_medium=referral&utm\\_campaign=RSS-all-articles](https://insideevs.com/news/514802/volkswagen-id4-awd-prices-specs/?utm_source=RSS&utm_medium=referral&utm_campaign=RSS-all-articles)

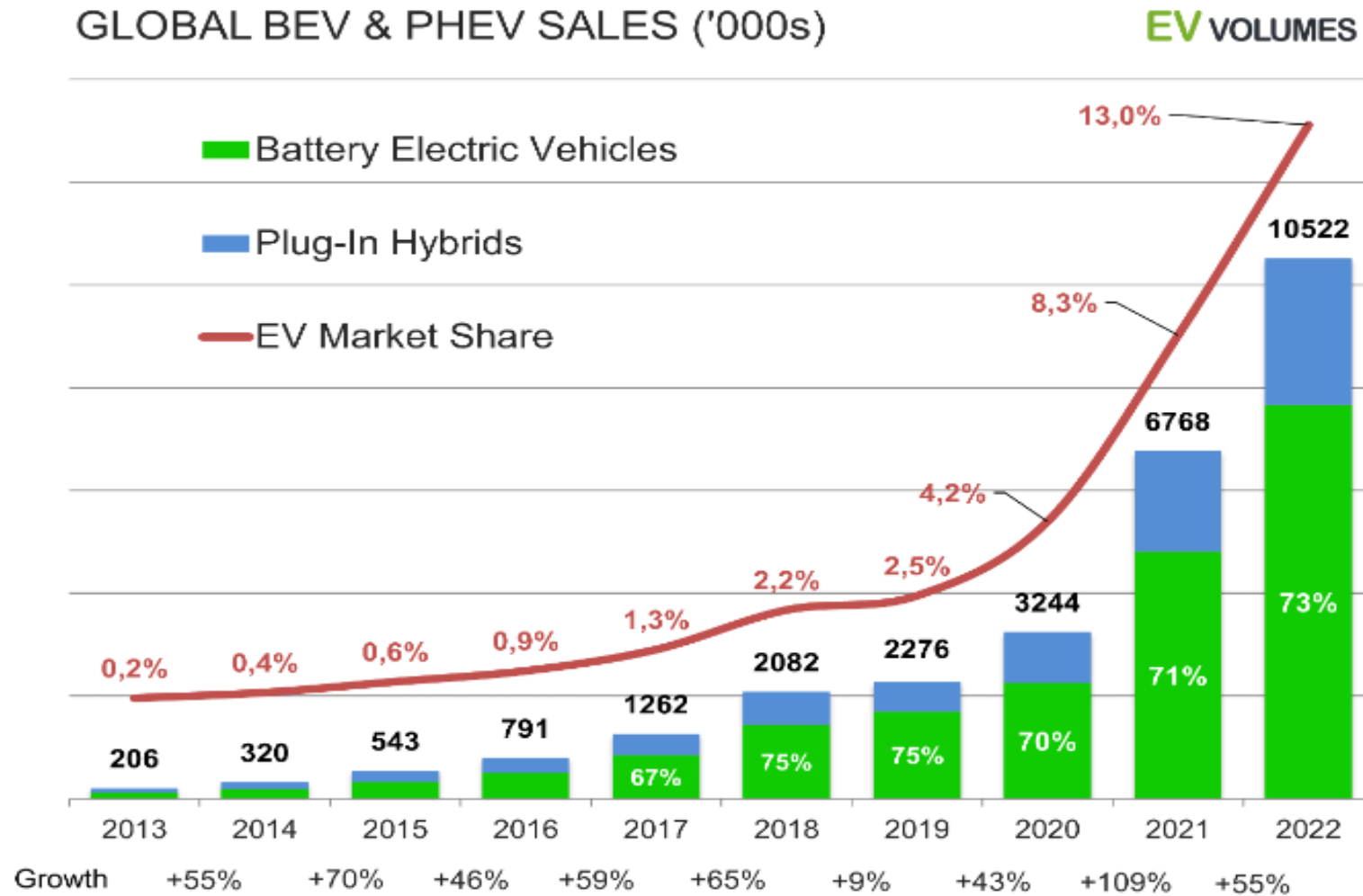
# 電動車主要組件的成本結構



Source: Hon Hai, Morgan Stanley Research

Sources: Morgan Stanley August 2022

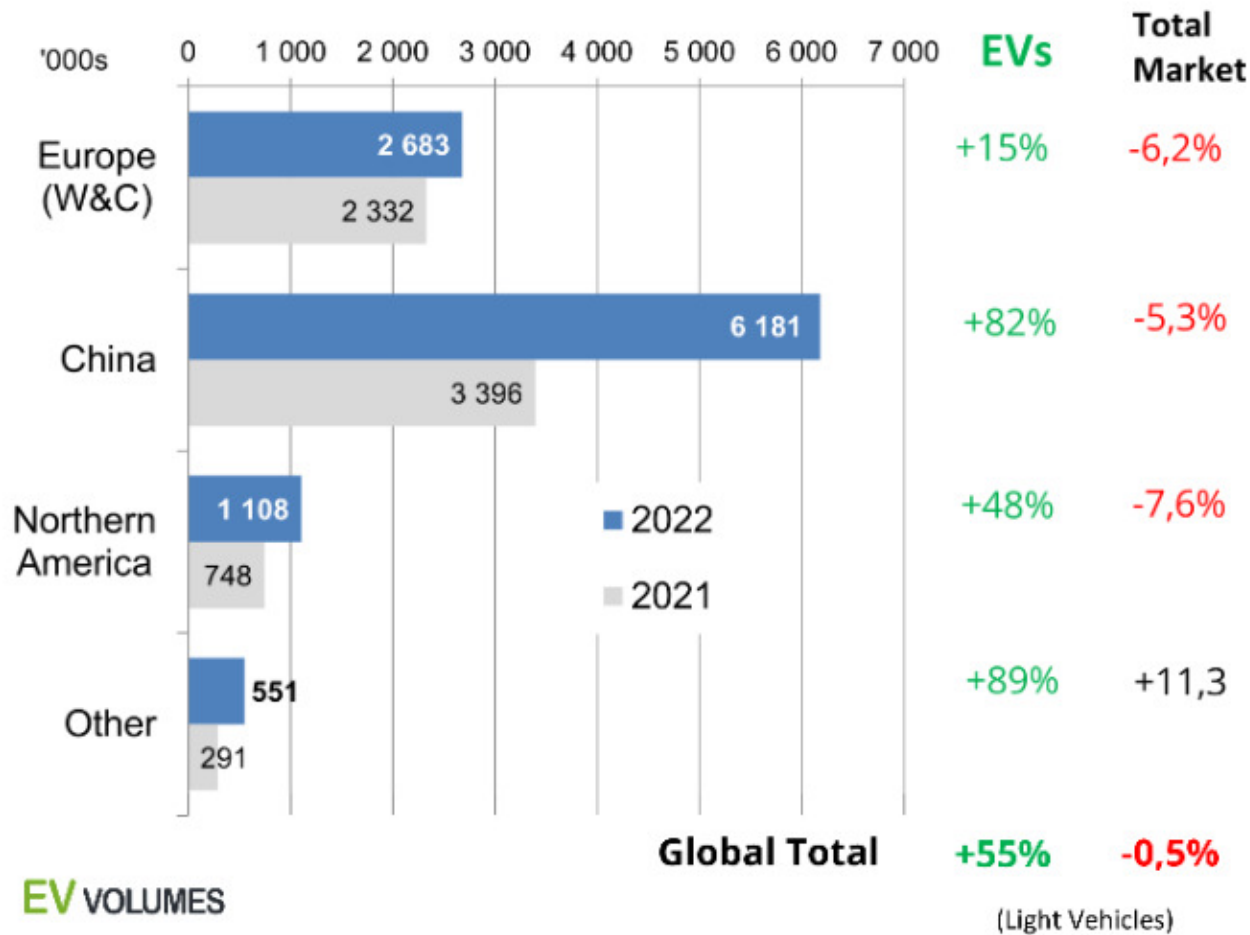
# 全球電動車銷售：過去



Sources: ev-volumes.com 2023

# 全球電動車銷售：2022（地區別）

BEV+PHEV SALES AND % GROWTH FOR 2022 vs 2021



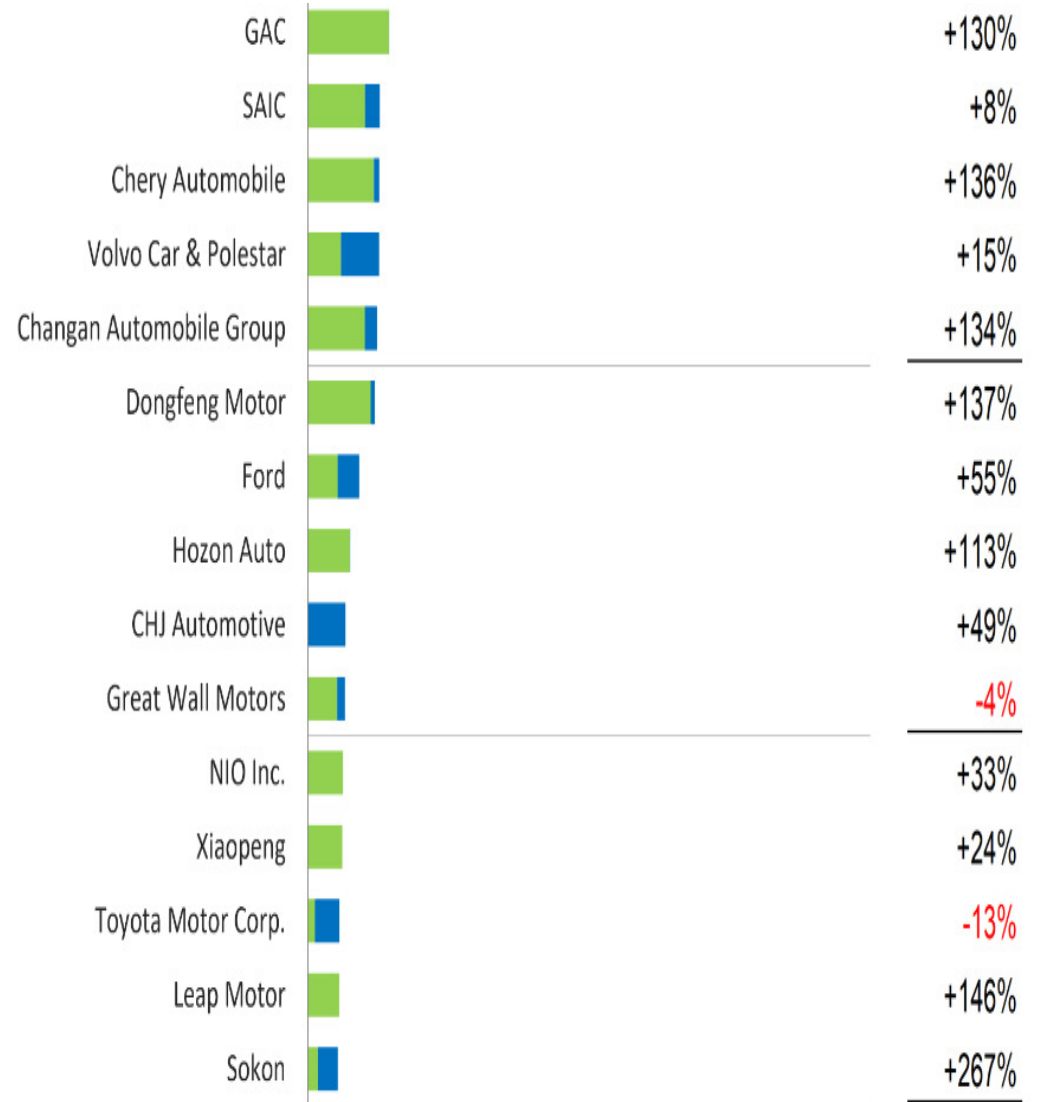
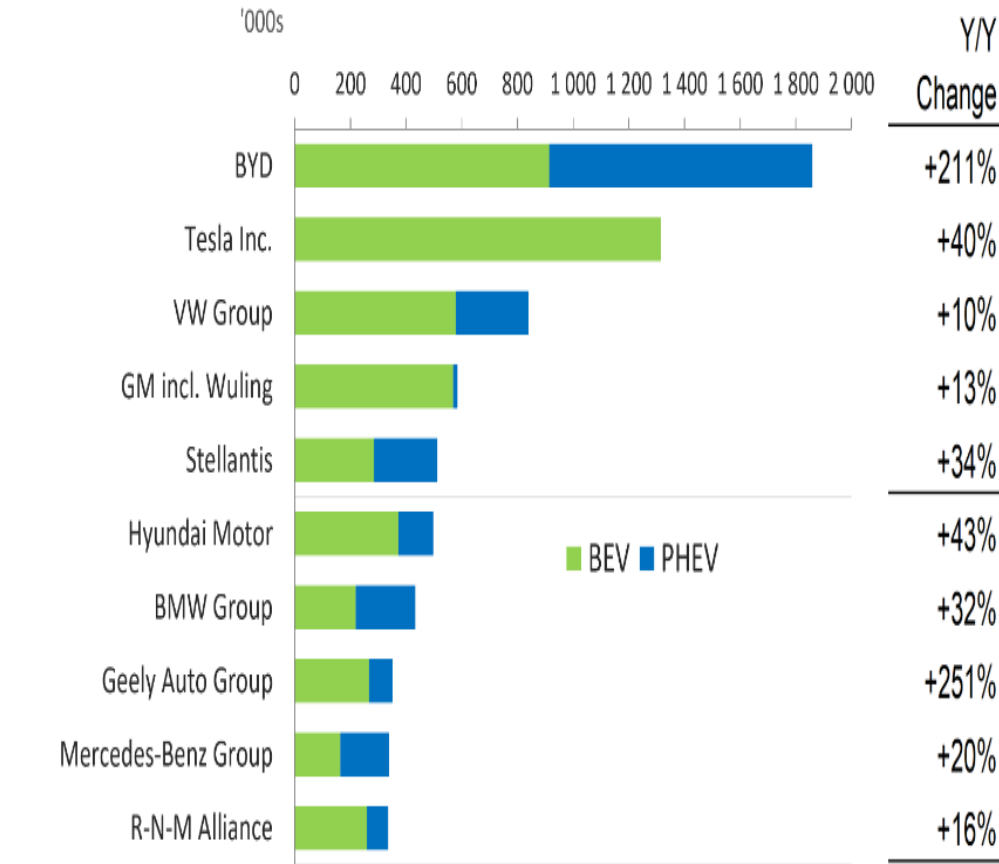
2022年電動車銷量**1,050萬**輛，中國銷量排名第一。歐洲則位居第二，但僅佔中國的**43%**

Sources: ev-volumes.com 2023

# 全球電動車銷售：2022（車廠別）

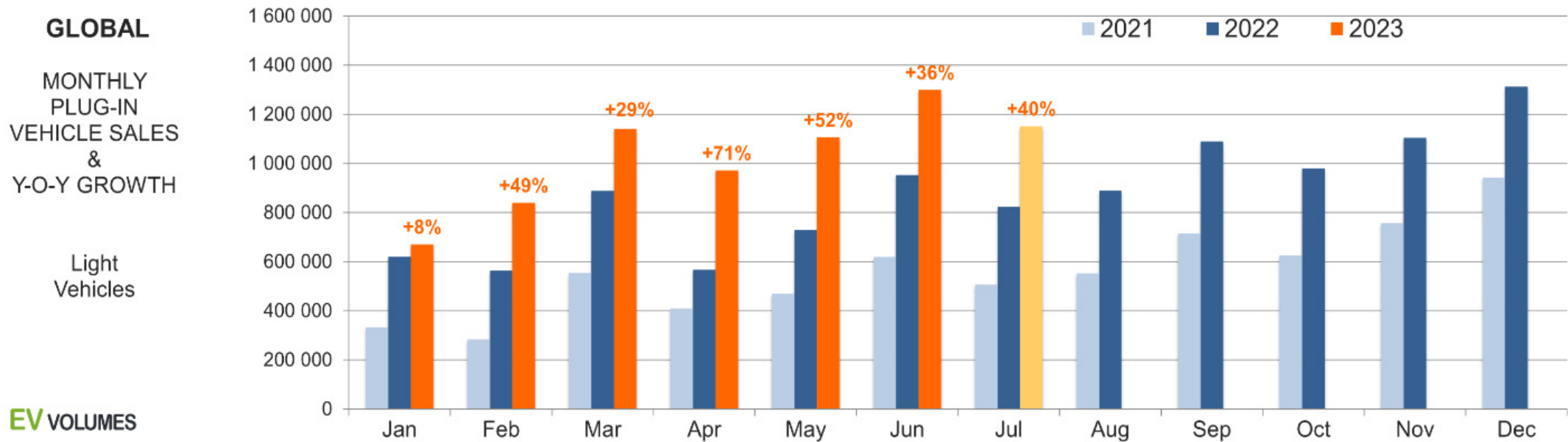
GLOBAL EV SALES BY OEM / OEM GROUP FOR 2022

EV VOLUMES



Sources: ev-volumes.com 2023

# 全球電動車銷售：今年上半年（月份別）



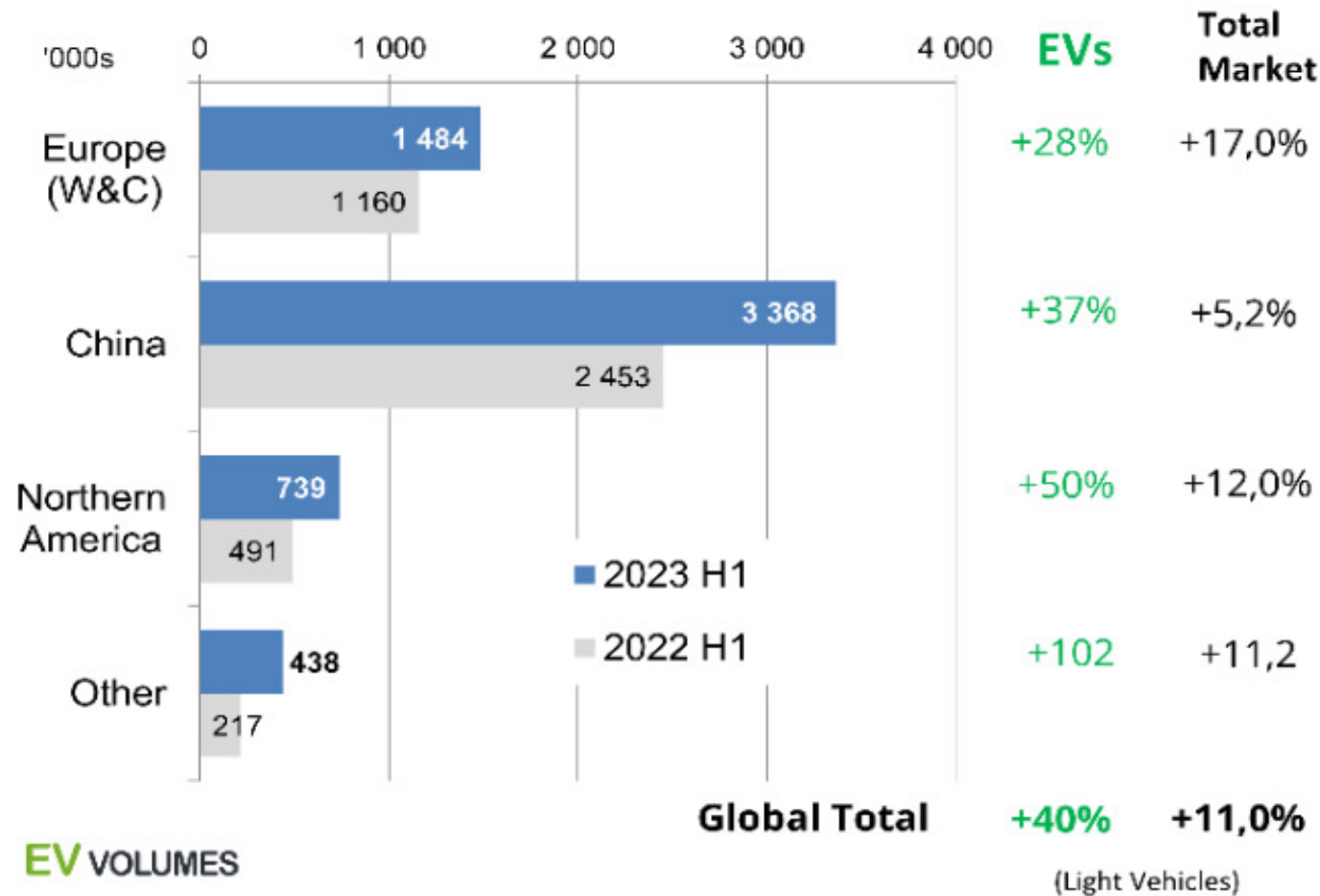
全球電動車銷售持續強勁。2023年上半年，新純電動車（BEV）和插電式混合動力車（PHEV）共交付**600萬輛**，較去年同期成長**40%**。純電動車**427萬輛**，插電式混合動力車**176萬輛**。但如果2023年上半年的銷售額與2022年下半年相比，則下降了**3%**。

Sources: ev-volumes.com 2023



# 全球電動車銷售：今年上半年（地區別）

BEV+PHEV SALES AND % GROWTH FOR 2023 H1 vs 2022 H1

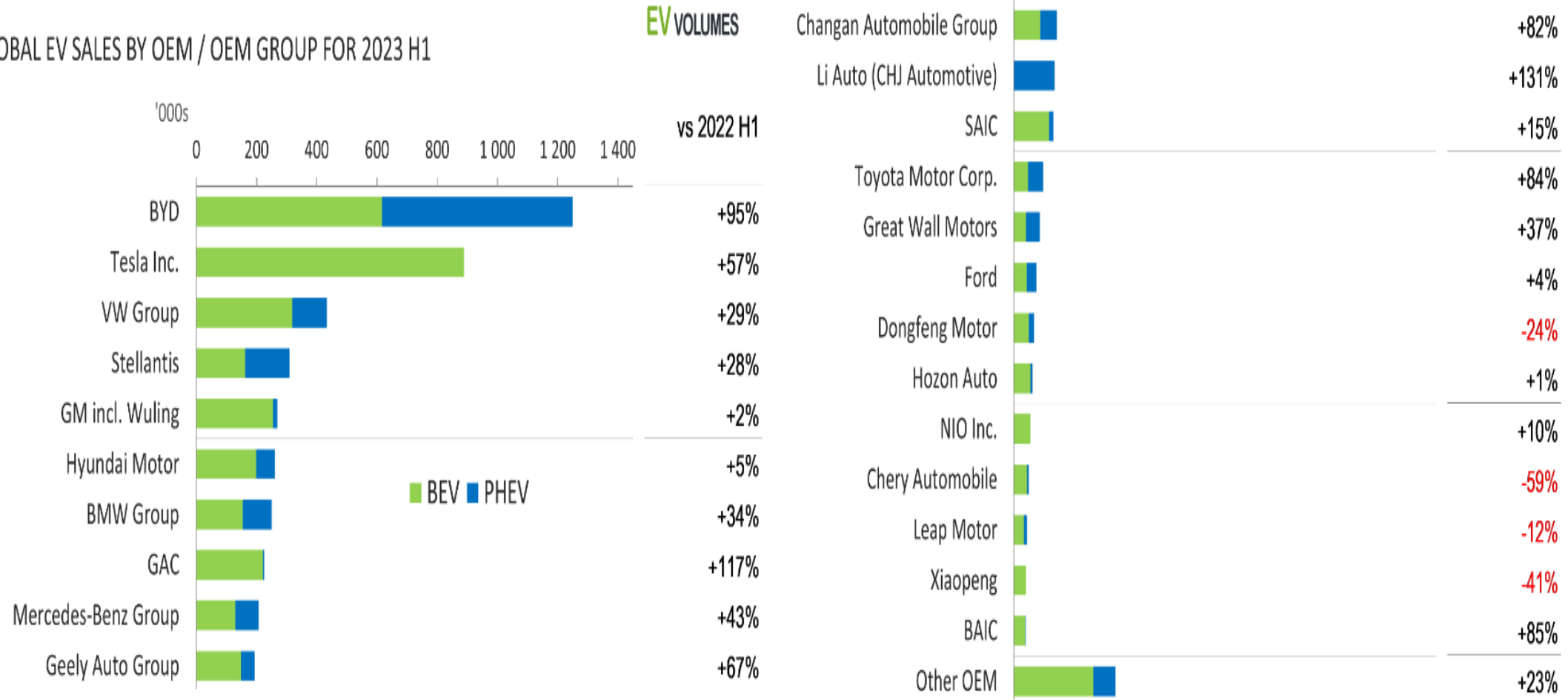


上半年電動  
車銷售  
**602.9萬輛**  
。中國銷  
售一支獨  
秀。歐洲  
第二，但  
只有中國  
的**44%**。

Sources: ev-volumes.com 2023

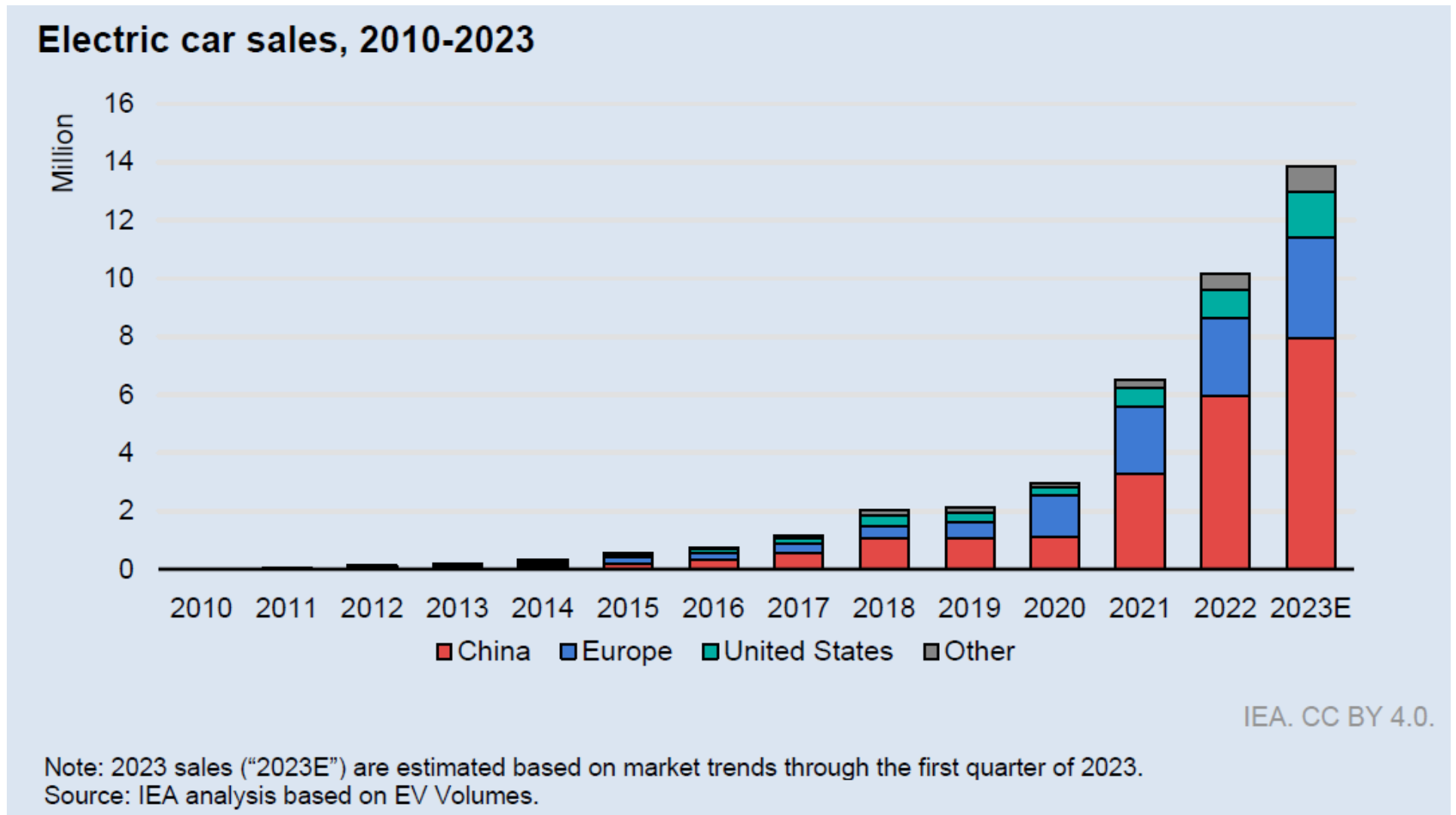
# 全球電動車銷售：今年上半年（車廠別）

GLOBAL EV SALES BY OEM / OEM GROUP FOR 2023 H1



Sources: ev-volumes.com 2023

# 全球電動車銷售：未來 1



Sources: Global EV Outlook 2023 (IEA April 2023)

# 全球電動車銷售：未來 2

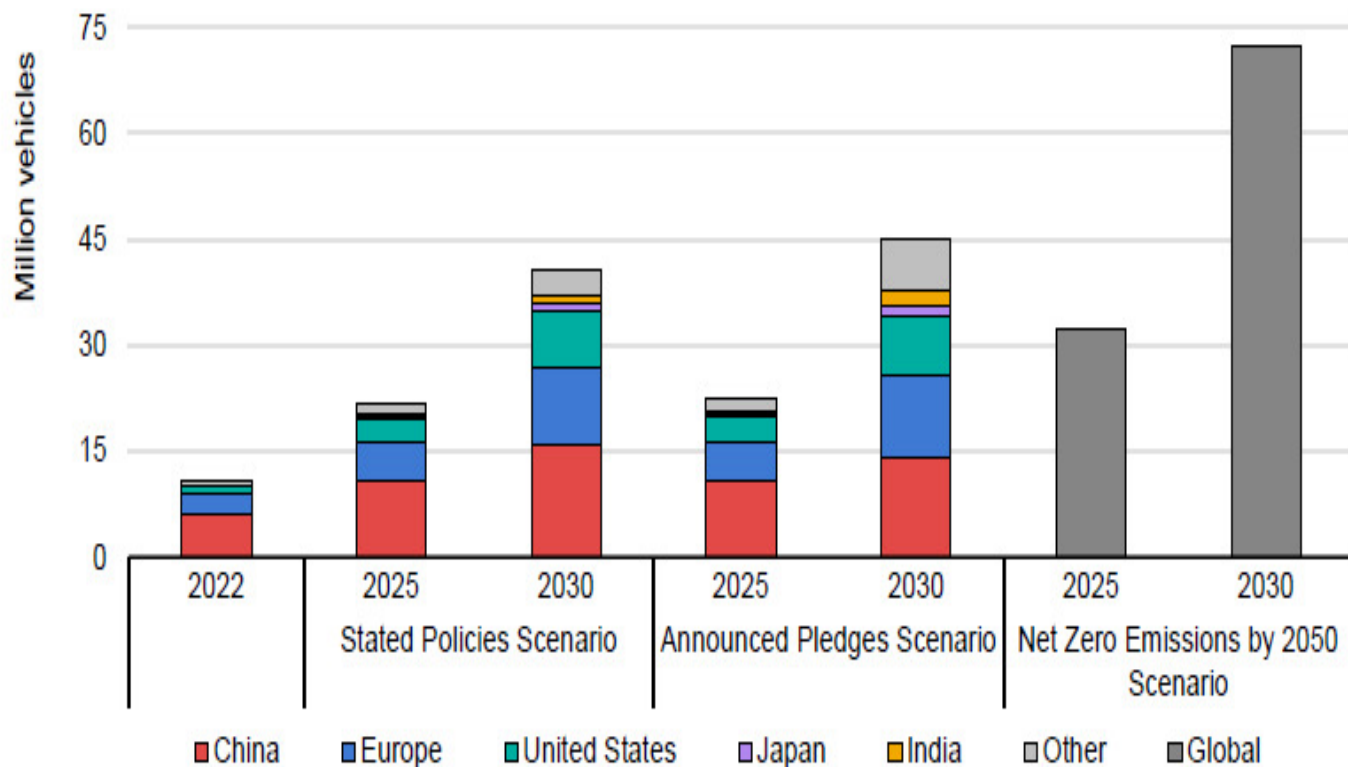
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在今年第一季已售出超過 **230 萬輛** 電動車的基礎上，我們目前預計 **2023 年** 電動車銷量將接近 **1,400 萬輛**。這意味著 **2023 年** 電動車銷量將比 **2022 年** 增長 **35%**，全球電動車銷量份額將從 **2022 年** 的 **14%** 增至 **18%** 左右。

Sources: Global EV Outlook 2023 (IEA April 2023)

# 全球電動車銷售：未來 3

Figure 3.2. Electric vehicle sales by region, 2022-2030



IEA. CC BY 4.0.

在已既定政策情景 ( Stated Policies Scenario ) 中，2025 年全球電動汽車銷量將達到 2000 萬輛，2030 年將超過 4000 萬輛，分別佔所有道路車輛銷量的 13% 和超過 20%。

在宣布承諾情景 ( Announced Pledges Scenario ) 中，2025 年全球電動汽車銷量將超過 2200 萬輛，2030 年將達 4500 萬輛。2030 年佔所有道路車輛銷量的 33%。

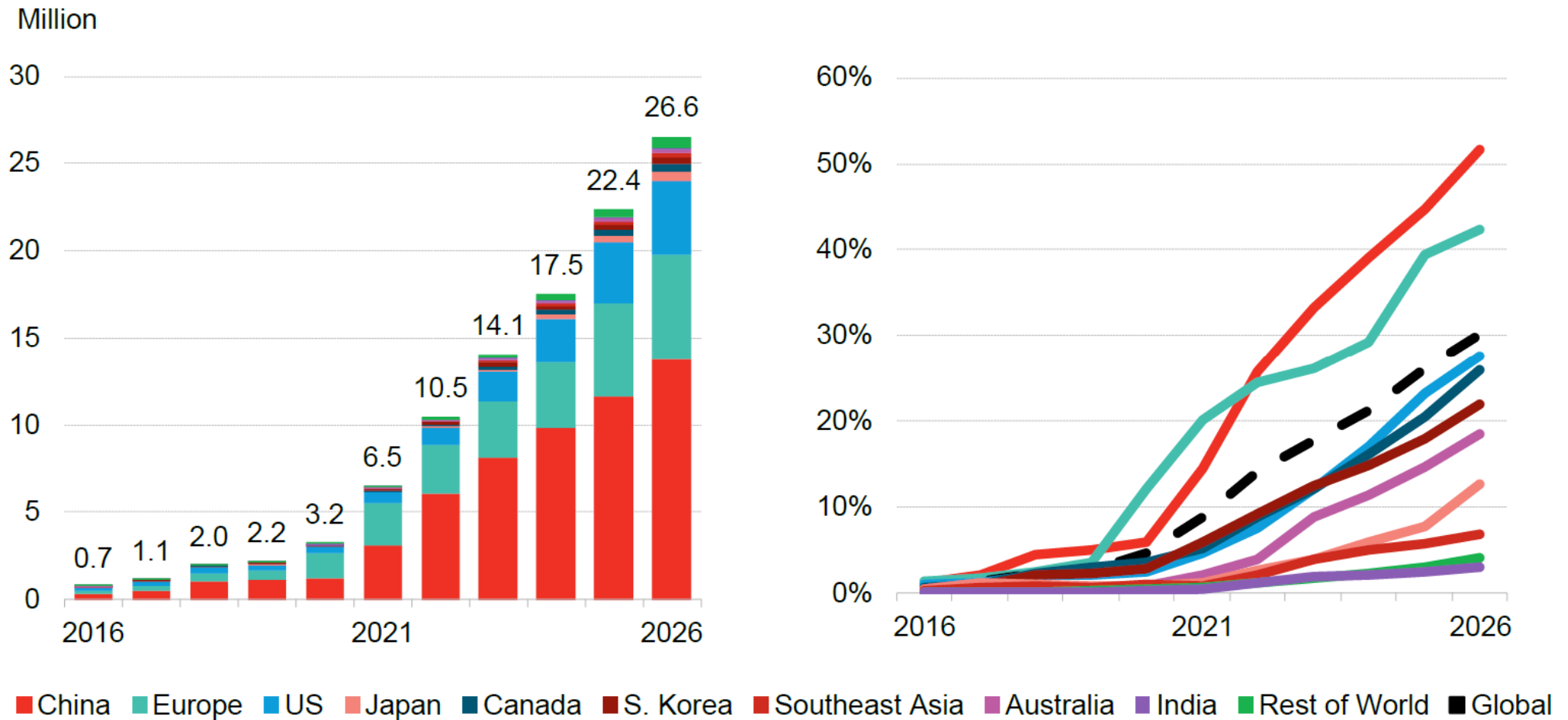
在淨零排放情景 ( Net Zero Scenario ) 中，2025 年全球電動汽車銷量將超過 3000 萬輛，2030 年將超過 7000 萬輛。2030 年佔所有道路車輛銷量各為 30% 及 60%。

Global EV sales increase around fourfold from 2022 to 2030 under both stated policies and announced ambitions.

Sources: Global EV Outlook 2023 (IEA April 2023)

# 全球電動車銷售：未來 4

Global near-term passenger EV sales and share of new passenger vehicle sales by market

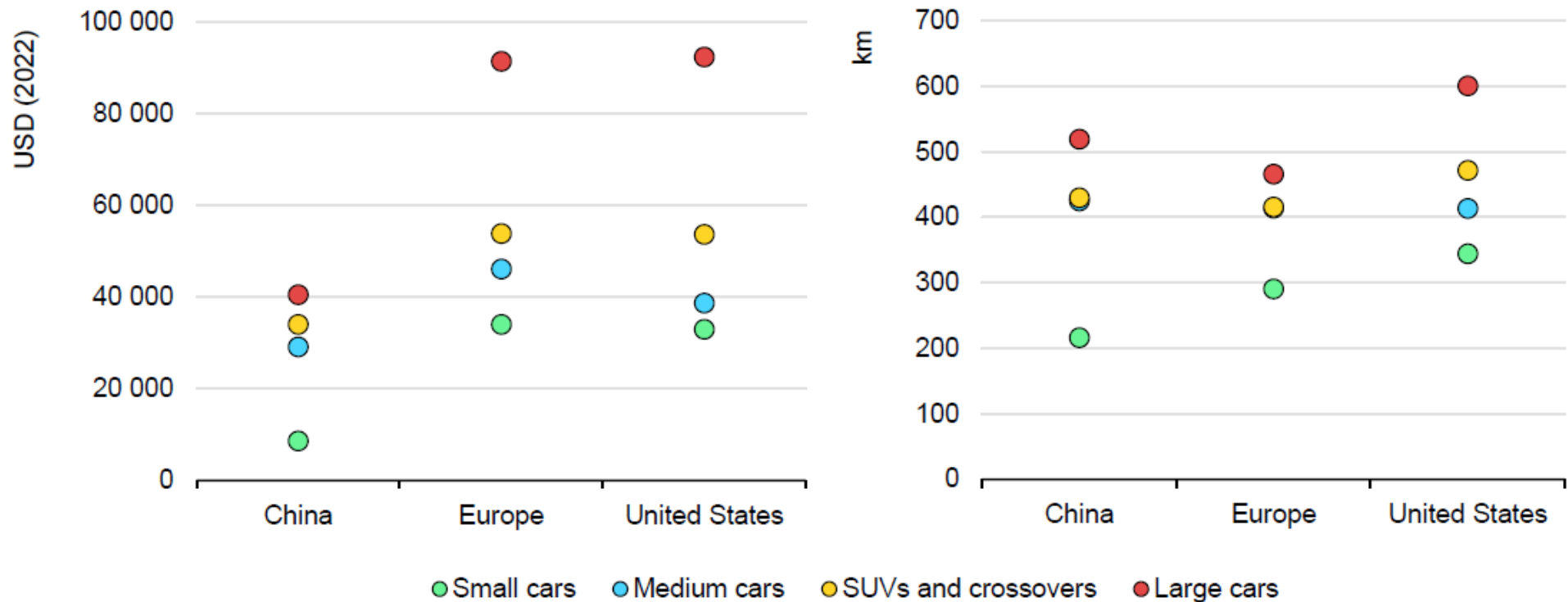


Source: BloombergNEF. Note: Europe includes the EU, the UK and EFTA countries. EV includes BEVs and PHEVs.

Sources: BloombergNEF's 2023 Electric Vehicle Outlook (Bloomberg Finance L.P.2023)

# 2022 年平均EV售價與行駛里程

**Figure 1.7** Sales-weighted average retail price (left) and driving range (right) of BEV passenger cars in selected countries, by size, in 2022



IEA. CC BY 4.0.

Notes: BEV = battery electric vehicle; SUV = sports utility vehicle. 'Europe' is based on data only from France, Germany and the United Kingdom. Retail prices collected in 2022-2023, before subsidy.

Source: IEA analysis based on EV Volumes.

Sources: Global EV Outlook 2023 (IEA April 2023)

# 1 GWh電池可生產幾輛電動車？ 1

電池產能	每車配置 kWh 數	可生產幾輛電動車
1 GWh	100	10,000
1 GWh	80	12,500
1 GWh	70	14,285
1 GWh	60	16,666
1 GWh	50	20,000

註:

1. 瓦特·小時(Wh)是一個能量單位，相當於一件功率為1瓦的電器在使用1小時之後所消耗的能量，等於3600焦耳。
2. 2022年電池每千瓦時 (kWh)為150美元。(IEA April 2023)
3. 2022年，小型電動車的銷售加權平均電池裝機容量，各地區不同，中國為25 kWh，法國、德國和英國為35 kWh，美國約為60 kWh。相較之下，這些國家的純電動 SUV 平均電池容量則皆是約為 70-75 kWh，大型車型平均電池容量則皆在 75-90 kWh 範圍內。(IEA April 2023)



# 1 GWh電池可生產幾輛電動車？ 2

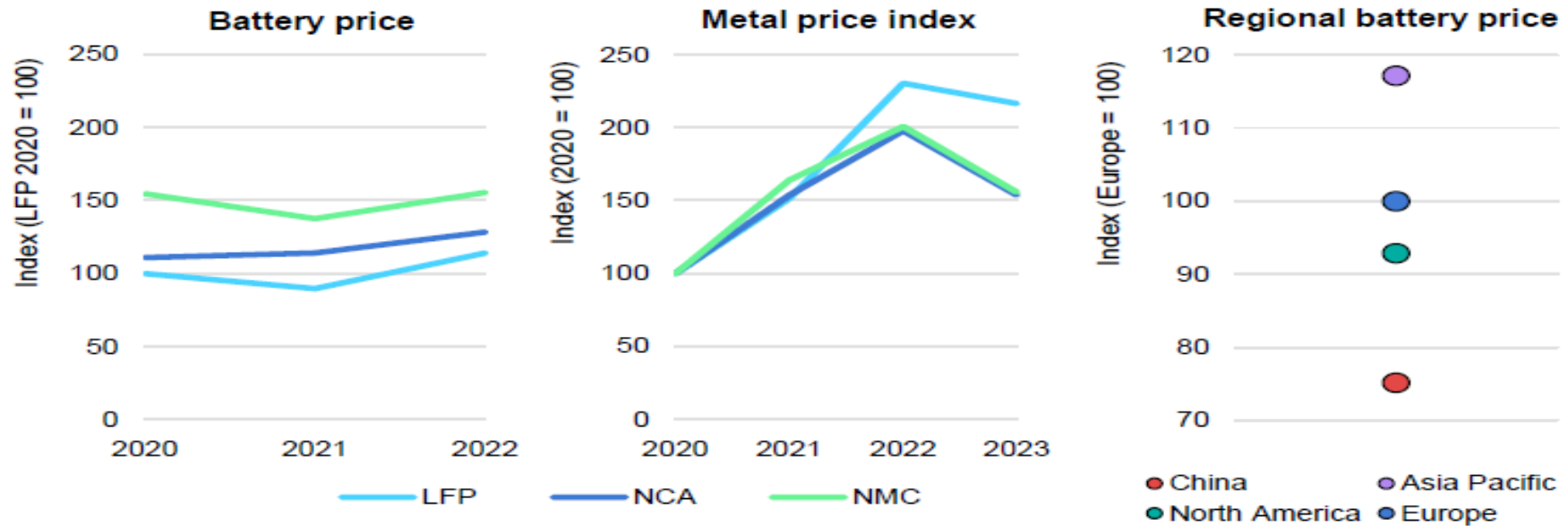
電池產能	每車配置 kWh 數	可生產幾輛電動車
1 GWh	100	10,000
1 GWh	80	12,500
1 GWh	70	14,285
1 GWh	60	16,666
1 GWh	50	20,000

註:

4. 在全球範圍內，2022 年推出的純電動車型的平均續航里程為 **337 公里**，高於 2018 年的 230 公里。在此期間，平均電池組尺寸每年增加 10%，從 40 kWh 增加到 **60 kWh**。儘管如此，大多數市場和細分市場的續航里程仍低於消費者的預期，促使汽車製造商推出續航里程更長的車型，以緩解續航里程焦慮。  
( BloombergNEF's 2023 Electric Vehicle Outlook )

# 電池價格 2020~2022

**Figure 1.22 Price index for selected battery chemistries, regions and metal price, 2020-2023**



IEA. CC BY 4.0.

Note: LFP = Lithium iron phosphate; NMC = Lithium nickel manganese cobalt oxide; NCA = Lithium nickel cobalt aluminium oxide. The metal price index is based on the price evolution of four commodities (lithium carbonate, cobalt, nickel and copper) weighted by their use in each battery chemistry. For this metal price index, NMC uses the NMC622 chemistry. The 2023 value of the metal price index covers only the first 3 months of the year. Asia Pacific excludes China. Regional battery (pack) price refers to 2022.

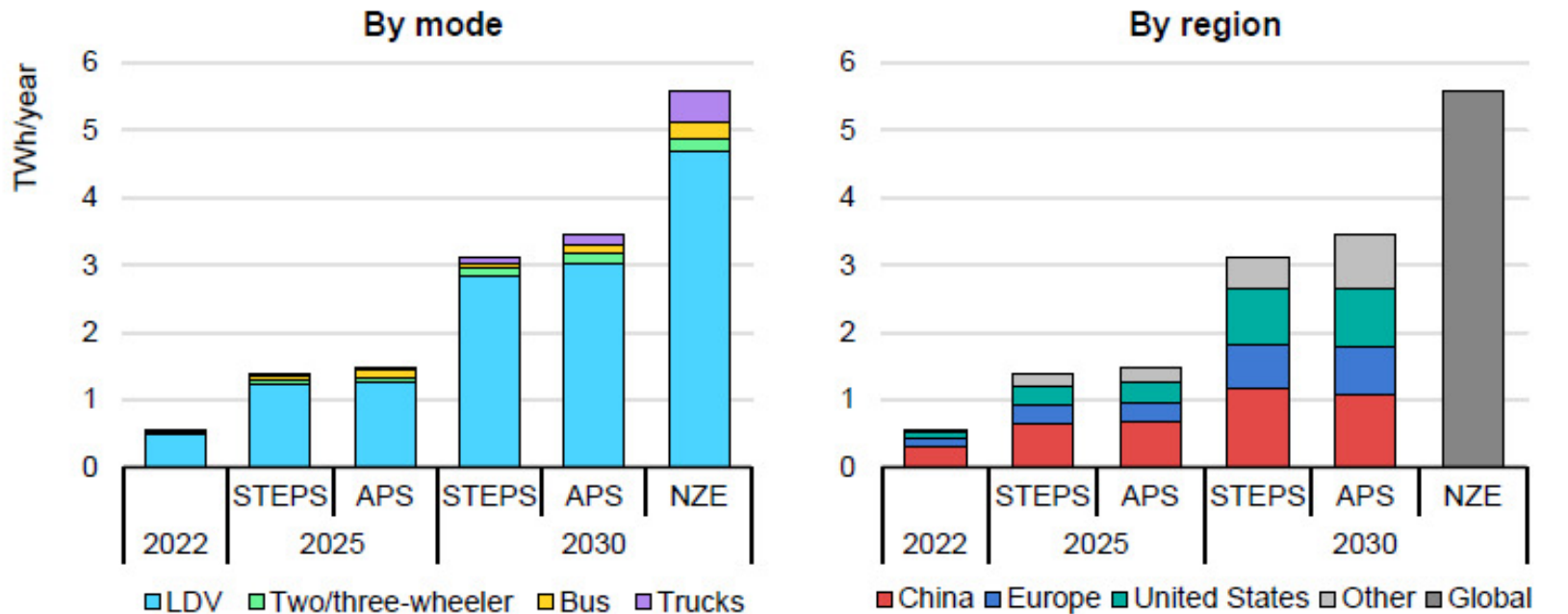
Source: IEA analysis based on material price data by S&P, 2022 Lithium-Ion Battery Price Survey by BNEF, [BatPaC v4](#) by Argonne Laboratory and Lithium-Ion Batteries: State of the Industry 2022 by BNEF.

**Despite a higher relative increase in price compared to other battery chemistries, LFP batteries remain the lowest price per kWh.**

Sources: Global EV Outlook 2023 (IEA April 2023)

# 全球電動車電池需求: 未來 1

Figure 3.7. Projected battery demand by mode and region, 2022-2030



IEA. CC BY 4.0.

Notes: STEPS = Stated Policies Scenario; APS = Announced Pledges Scenario; NZE = Net Zero Emissions by 2050 Scenario; LDV = light-duty vehicle.

**Battery demand increases more than sixfold from 2022 to 2030 in the Announced Pledges Scenario and tenfold in the Net Zero Scenario.**

Sources: Global EV Outlook 2023 (IEA April 2023)

至2030年的電池需求在既定政策情景 ( Stated Policies Scenario ) 中達到每年超過3 TWh ( 太瓦時 ) ，在宣布承諾情景 ( Announced Pledges Scenario ) 中每年約 3.5 TWh ( 太瓦時 ) 。

# 全球電動車電池需求: 未來 2

Figure 12: Lithium-ion battery demand for passenger BEVs in China, the US and Europe by battery pack size scenario

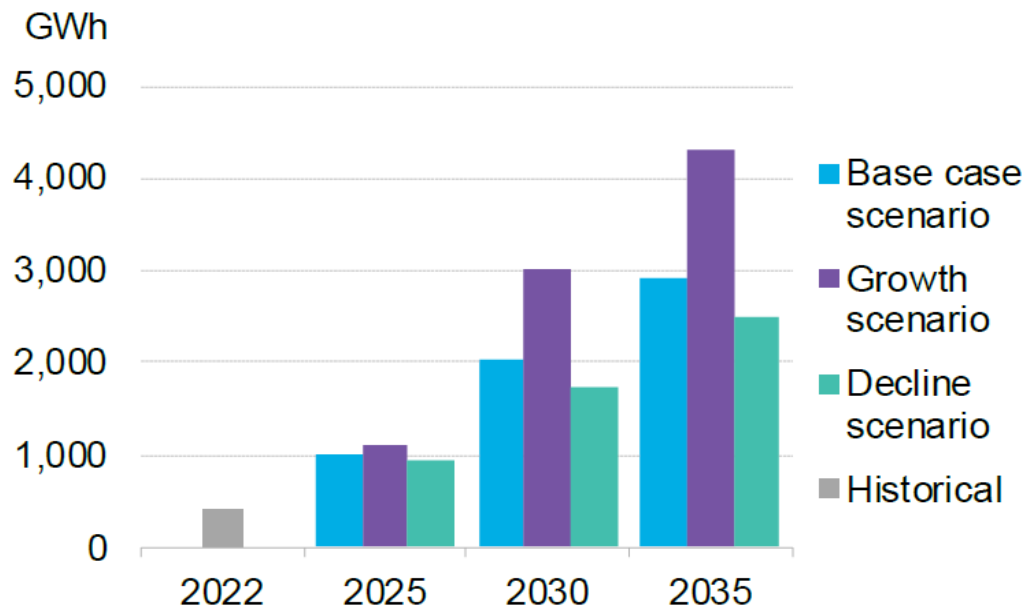
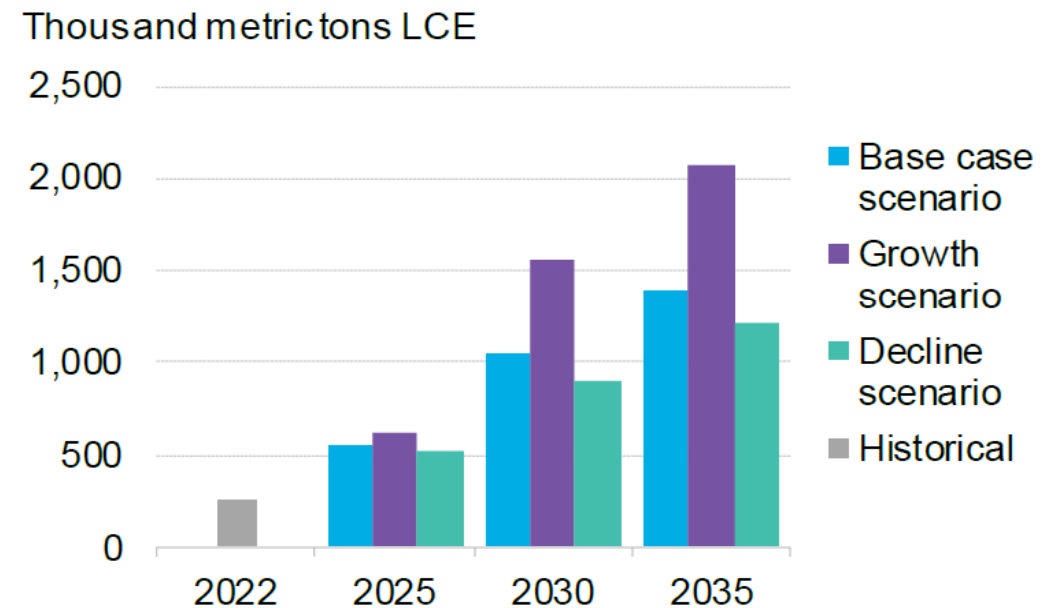


Figure 13: Lithium demand for passenger BEVs in China, the US and Europe by battery pack size scenario



Source: BloombergNEF. Note: Growth scenario assumes 5% growth in average BEV range from 2023 to 2030. Decline scenario assumes 2% annual decline in average range from 2025 onwards. Includes lithium carbonate and lithium hydroxide.

到 2030 年，在基本情景中，電動汽車電池需求將增長至約 **2,000 GWh (即 2 TWh)**，在成長情景中，電動汽車電池需求將增長至約 **3,000 GWh (即 3 TWh)**

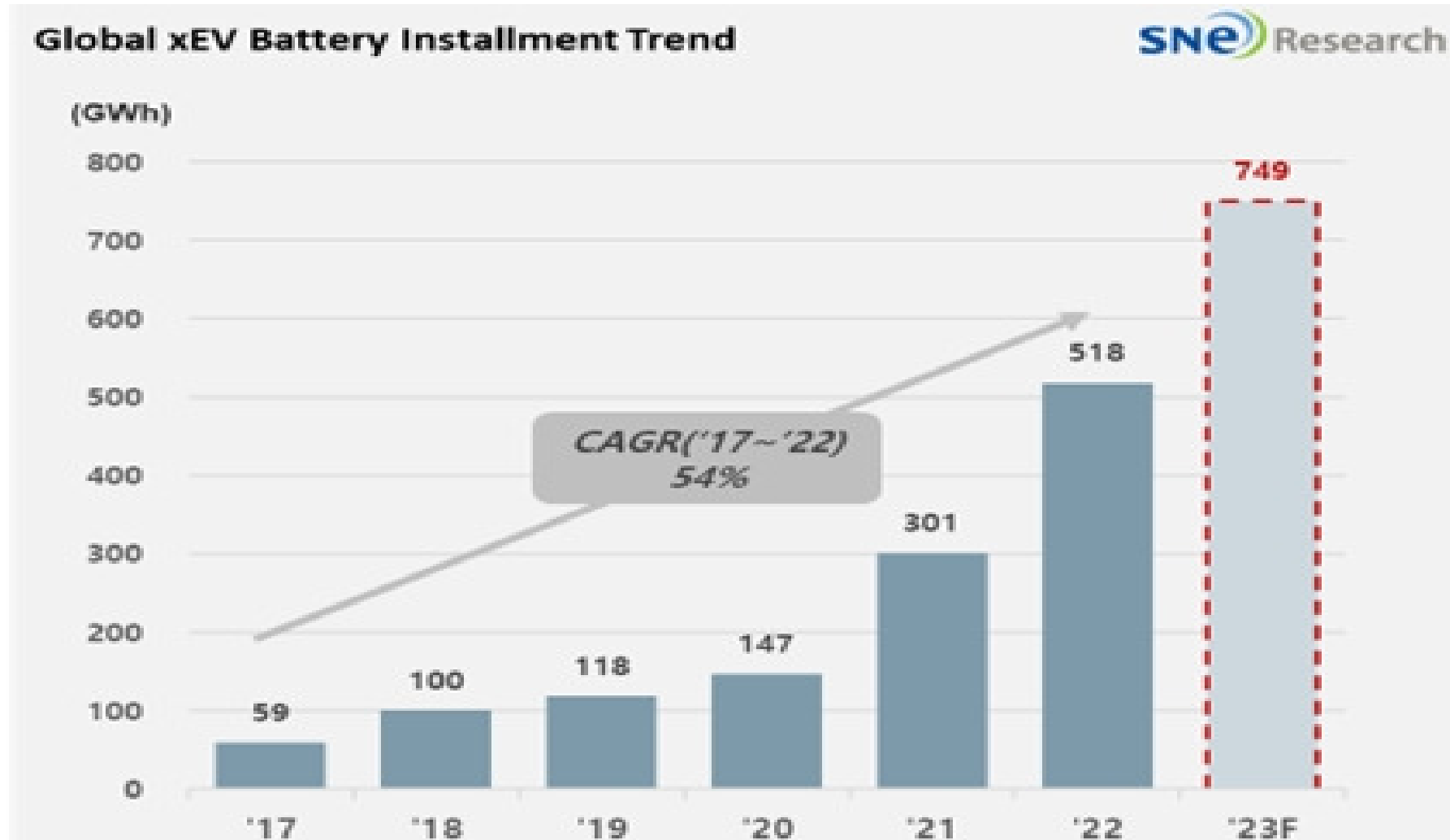
Sources: BloombergNEF's 2023 Electric Vehicle Outlook (Bloomberg Finance L.P.2023)

# 2021 全球電動車電池產能

地區	GWh	佔比
China	655	75.2%
EU	60	6.9%
USA	57	6.5%
Korea	41	4.7%
Japan	36	4.1%
Southeast Asia	8.7	1.0%
Other	13.3	1.5%
合計	871	100%

Sources: Global Supply Chains of EV Batteries (IEA July 2022)

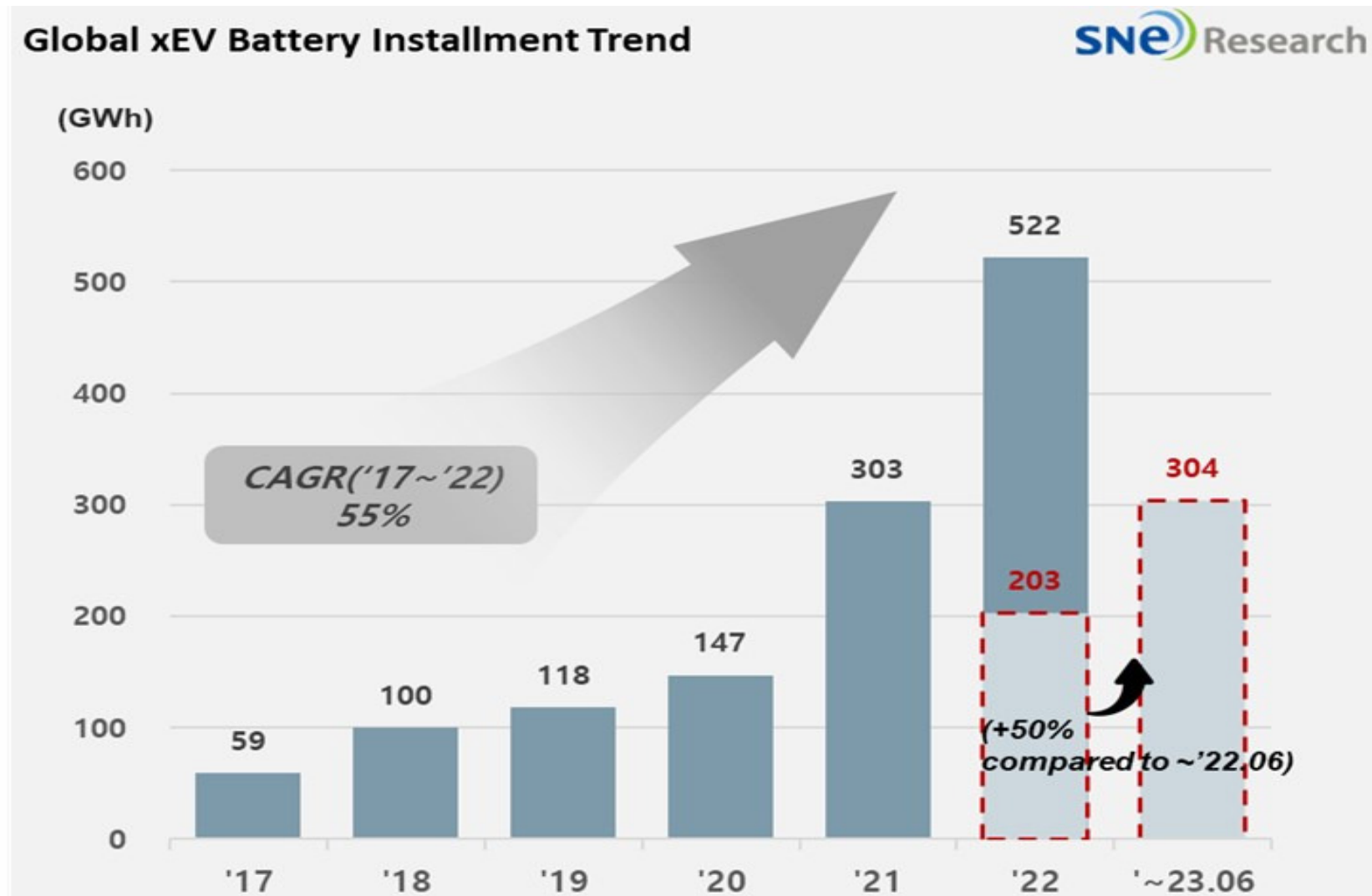
# 2023 全球電動車電池裝機趨勢 1



Sources: SNE Research January 2023

[https://www.sneresearch.com/en/insight/release\\_view/68/page/0](https://www.sneresearch.com/en/insight/release_view/68/page/0)

# 2023 全球電動車電池裝機趨勢 2



Sources: SNE Research August 2023

[https://www.sneresearch.com/en/insight/release\\_view/150](https://www.sneresearch.com/en/insight/release_view/150)

# 2023 全球電動車電池使用量

\* Annual Cumulative Global Battery Usage for xEV

(Unit: GWh)

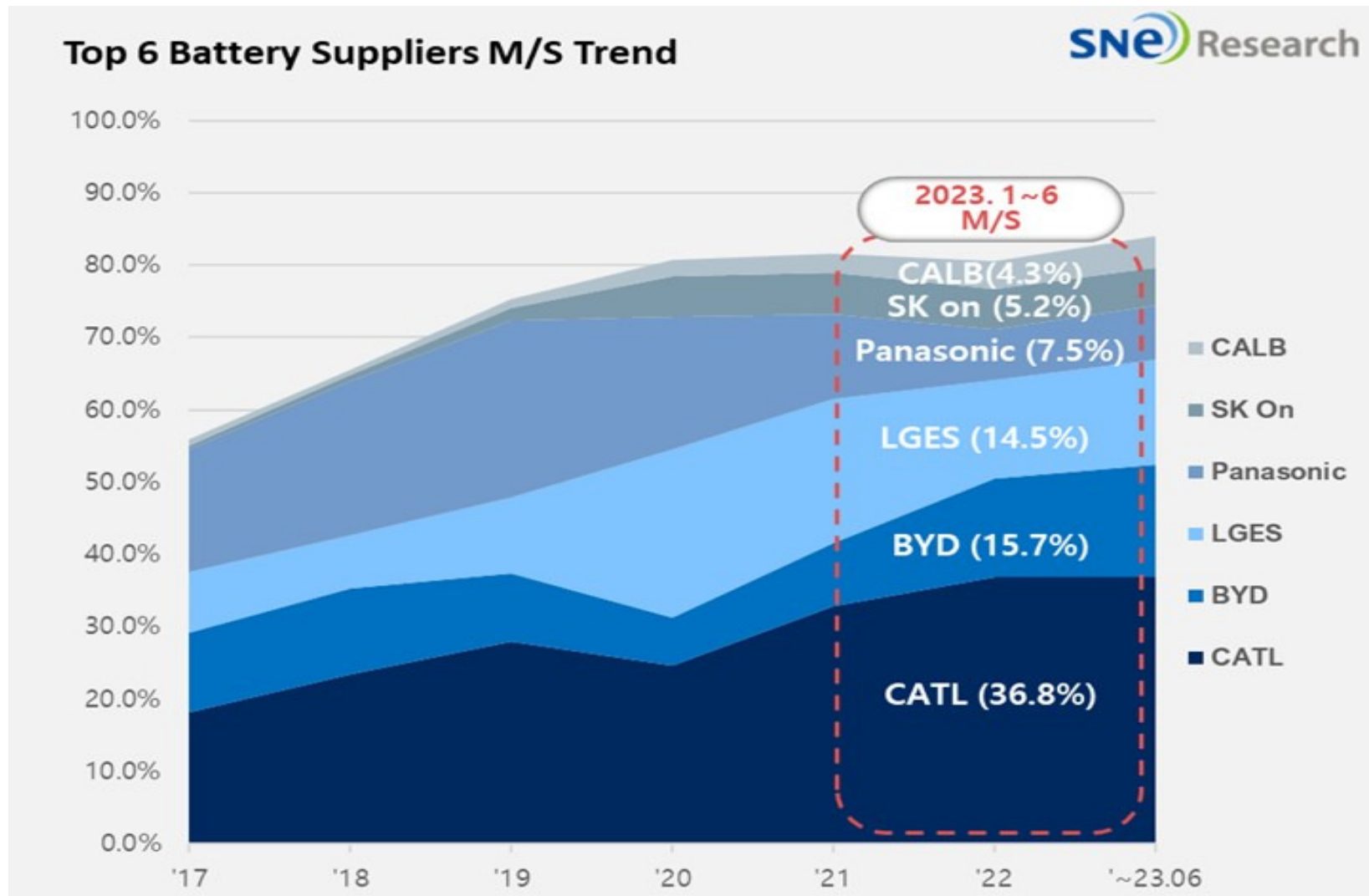
Rank	Battery Supplier	2022. 1~6	2023. 1~6	Growth Rate	2022 M/S	2023 M/S
1	CATL	71.7	112.0	56.2%	35.4%	36.8%
2	BYD	23.6	47.7	102.4%	11.6%	15.7%
3	LG Energy Solution	29.3	44.1	50.3%	14.5%	14.5%
4	Panasonic	16.4	22.8	39.2%	8.1%	7.5%
5	SK On	13.7	15.9	16.1%	6.8%	5.2%
6	CALB	8.2	13.0	58.8%	4.1%	4.3%
7	Samsung SDI	9.8	12.6	28.2%	4.8%	4.1%
8	EVE	2.6	6.6	151.7%	1.3%	2.2%
9	Gotion	5.5	6.5	17.8%	2.7%	2.1%
10	Sunwoda	3.2	4.6	44.9%	1.6%	1.5%
	Others	18.6	18.3	-2.0%	9.2%	6.0%
	Total	202.8	304.3	50.1%	100.0%	100.0%

Sources: SNE Research August 2023

[https://www.sneresearch.com/en/insight/release\\_view/150](https://www.sneresearch.com/en/insight/release_view/150)



# 2023 全球電動車電池市占率

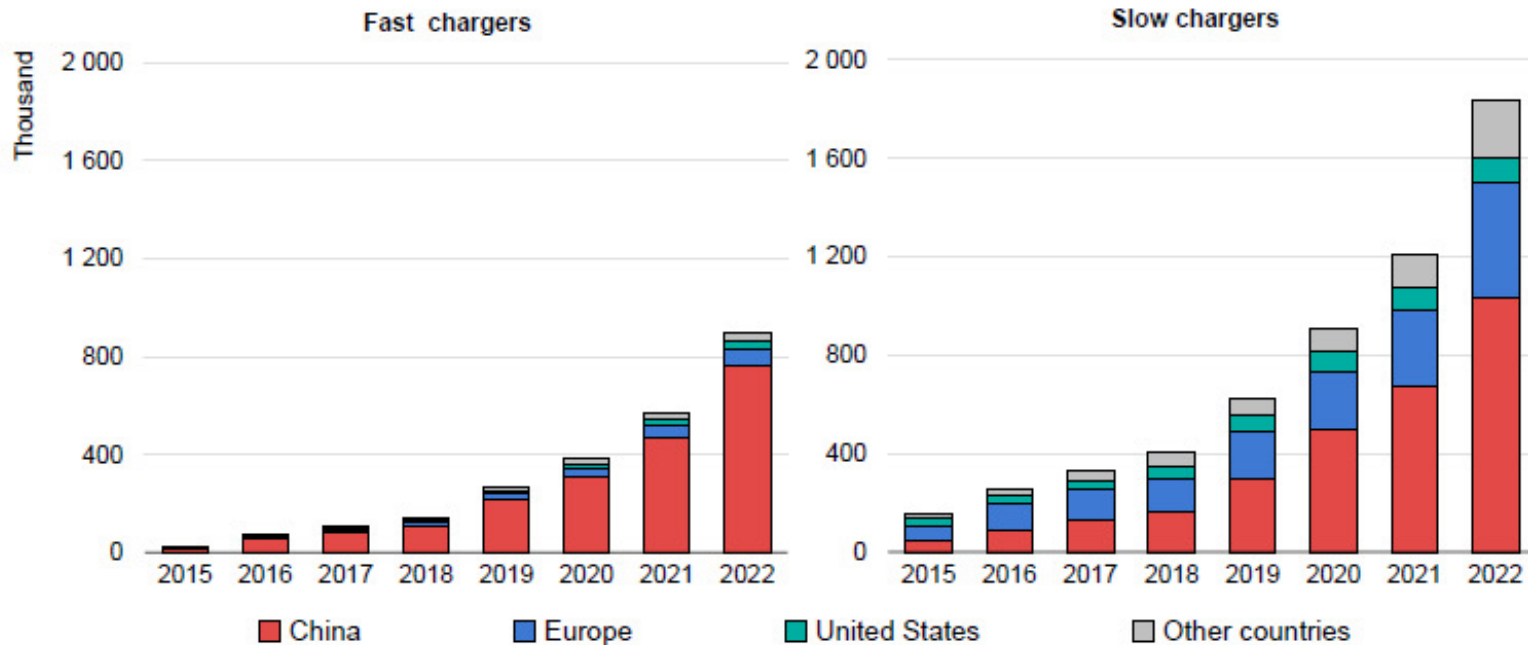


Sources: SNE Research August 2023

[https://www.sneresearch.com/en/insight/release\\_view/150](https://www.sneresearch.com/en/insight/release_view/150)

# 全球電動車公共充電樁 2015-2022

Figure 1.13 Installed publicly accessible light-duty vehicle charging points by power rating and region, 2015-2022



IEA. CC BY 4.0.

Note: Values shown represent number of charging points.

Source: IEA analysis based on country submissions.

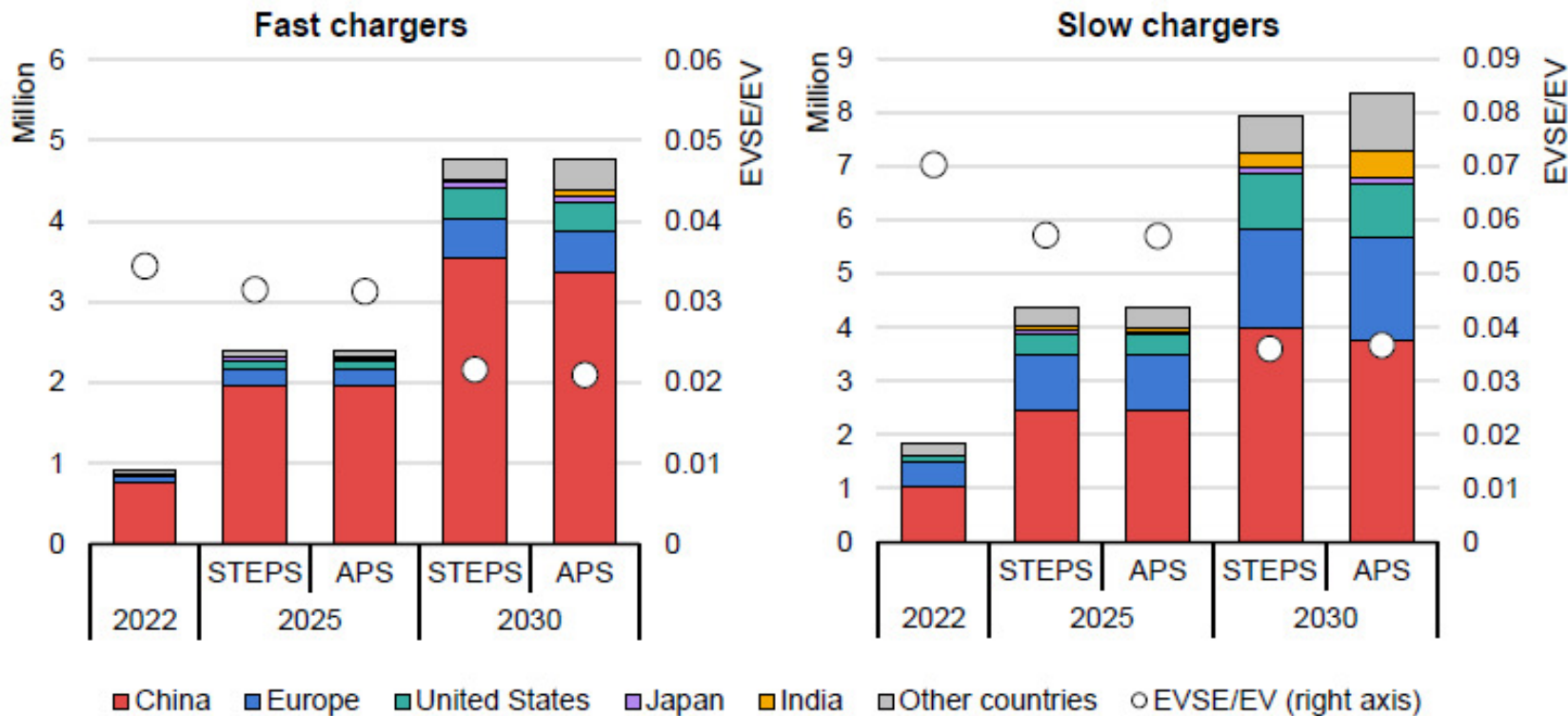
Installed publicly accessible charging points have increased by around 55%, with accelerated deployment led by China and Europe.

2022 年，全球高速充電樁數量增加了 33 萬個，但成長的大部分（幾乎 90%）來自中國。高速充電樁的部署彌補了人口稠密城市缺乏家用充電樁的問題，並支持中國快速推展電動車的目標。

Sources: Global EV Outlook 2023 (IEA April 2023)

# 全球電動車充電樁 1: 公共充電樁

Figure 3.10. Number of public light-duty vehicle chargers installed by region, 2022-2030



IEA. CC BY 4.0.

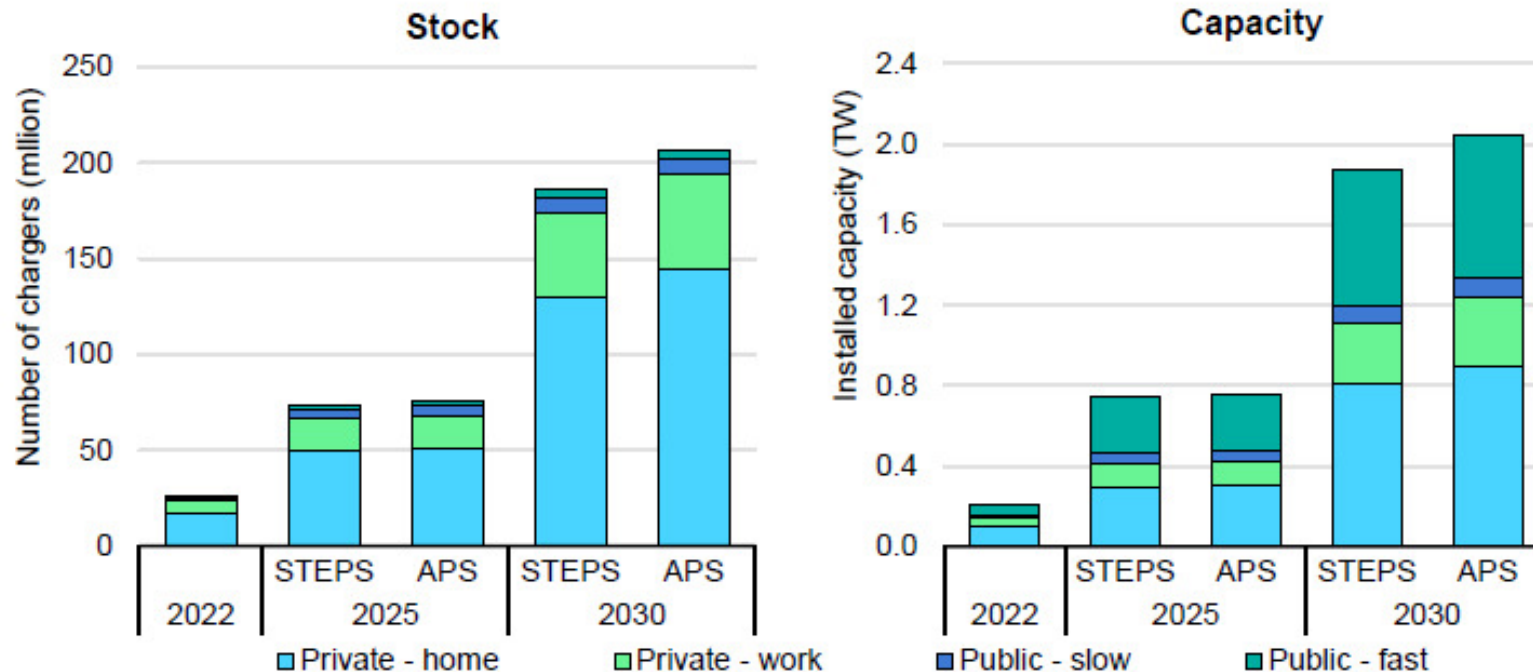
Notes: STEPS = Stated Policies Scenario; APS = Announced Pledges Scenario; EVSE = electric vehicle supply equipment. Regional projected EVSE stock data can be interactively explored via the [Global EV Data Explorer](#).

在已宣布承諾情景 (Announced Pledges Scenario) 中，輕型汽車用公共充電樁的數量從 2022 年的約 300 萬個增加到 2030 年的約 1300 萬個。

Sources: Global EV Outlook 2023 (IEA April 2023)

# 全球電動車充電樁 2: 所有種類充電樁

Figure 3.8. Light-duty vehicle charger installations by number and capacity, 2022-2030



到 2030 年，公共充電樁僅占輕型汽車充電樁的比例不到 10%，但佔充電容量的 40%。

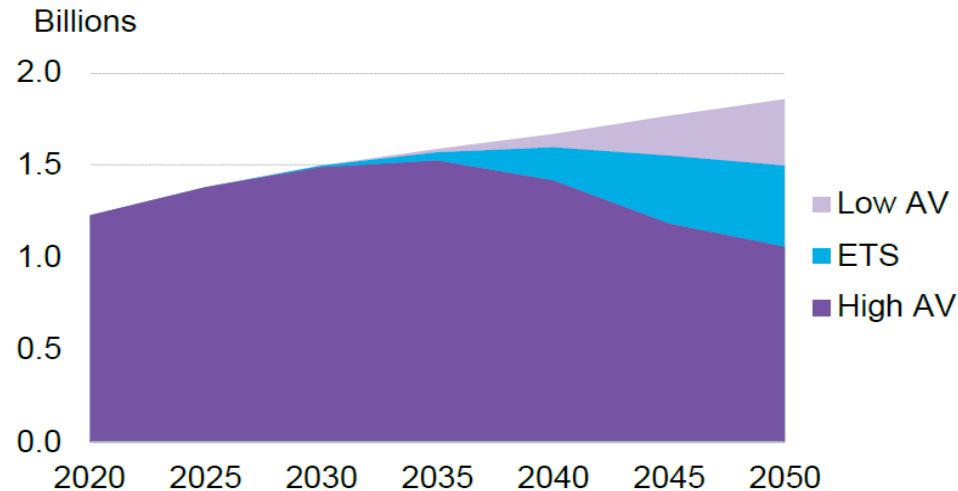
IEA. CC BY 4.0.

Notes: STEPS = Stated Policies Scenario; APS = Announced Pledges Scenario; LDV = light-duty vehicle. Regional projected electric vehicle supply equipment (EVSE) stock data can be interactively explored via the [Global EV Data Explorer](#).

Sources: Global EV Outlook 2023 (IEA April 2023)

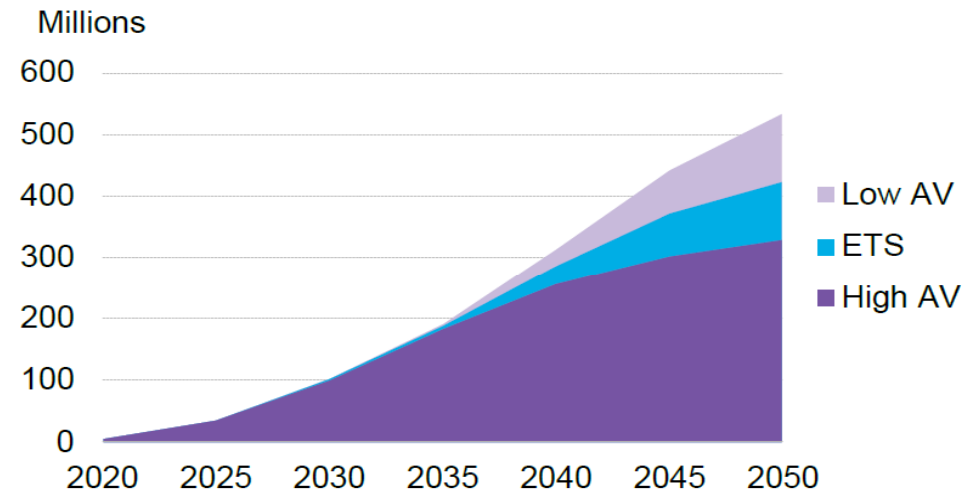
# 全球電動車充電樁 3: 高度全自駕車情景

Figure 15: Global passenger vehicle fleet outlook under varying autonomous vehicle adoption scenarios



Source: BloombergNEF. Note: ETS is BNEF's Economic Transition Scenario. High and Low AV scenarios reflect varying AV adoption.

Figure 16: Outlook for number of charging connectors under varying autonomous vehicle adoption scenarios



Source: BloombergNEF. ETS is BNEF's Economic Transition Scenario. High and Low AV scenarios reflect varying AV adoption.

根據營運區域的不同，機器人計程車的年行駛距離是私人乘用車的三到五倍。這意味著在AV（自動駕駛汽車）高度採用的場景中，消費者相同水準的移動需求，僅需更少的車輛即可滿足其要求。到 2050 年，高 AV 場景所需的電動車充電樁比低 AV 場景少 40%。

Sources: BloombergNEF's 2023 Electric Vehicle Outlook (Bloomberg Finance L.P.2023)

# Q & A

## 問答時間

# 感謝參與

發言人 蕭公彥

電話：(03)322-2226

e-mail:[spokesman@cppcb.com.tw](mailto:spokesman@cppcb.com.tw)