



2024/2/2

| | |
|-------------|-------------|
| 產業類別 | IC 設計 |
| 投資建議 | 買進 |
| 收盤價 | 目標價 |
| NT\$ 464.50 | NT\$ 507.00 |

本次報告：法說會

交易資料

| | |
|--------------------|---------------|
| 潛在報酬率 (%) | 9.15 |
| 52 週還原收盤價區間 (NT\$) | 312.82-492.00 |
| 市值 (NT\$百萬元) | 238240 |
| 市值 (US\$百萬元) | 7,602 |
| 流通在外股數 (百萬股) | 513.00 |
| 董監持股 (%) | 6.21 |
| 外資持股 (%) | 46.00 |
| 投信持股 (%) | 16.19 |
| 融資使用率 (%) | 2.35 |

財務資料

| | 2022 |
|----------------|--------|
| 股東權益 (NT\$百萬元) | 46,753 |
| ROA (%) | 15.08 |
| ROE (%) | 37.82 |
| 淨負債比率 (%) | 58.87 |

公司簡介

瑞昱為全球網通晶片大廠，若以公司營收排名為全球第八大 IC 設計廠商。瑞昱產品線包括 Ethernet、WiFi、藍芽、Switch 與 TV SoC。

主要客戶：

主要競爭對手：博通、Marvell、高通、聯發科、聯詠

王文雯 wenwen.wang@sinopac.com

瑞昱 (2379 TT)

受惠規格升級與庫存去化有成

永豐觀點

瑞昱庫存水位已屆低檔，後續訂單挹注仍將有助於今年營運保持成長態勢。

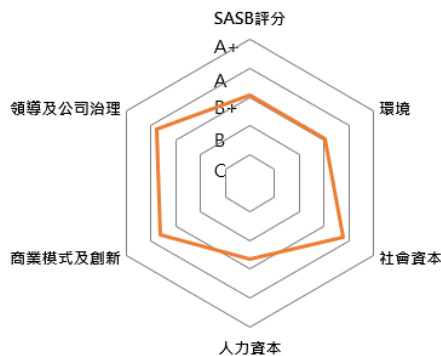
投資評價與建議

維持買進：研究處預估瑞昱 2024 年稅後 EPS 23.01 元(原預估 23.04 元)。考量瑞昱(1) 受惠 WiFi 與乙太網路規格升級、(2) 中國標案沉寂已久，目前已窺見中國電信運營商標案出現回溫跡象、(3) 庫存去化有成，有助於後續訂單挹注，故維持買進評等，目標價維持 507 元(以 2024 年與 22 倍評價)。

ESG 評析

瑞昱企業永續評鑑整體為 A 等，於 SASB 產業永續議題與跨產業五大永續面向平均得分分別為 A 等與 A 等。

SinoPac+ ESG 評鑑系統評等



| 永續構面 | 評等 |
|----------|----|
| 總分 | A |
| SASB評分 | A |
| 跨產業ESG評分 | A |
| 跨產業ESG項目 | |
| 環境 | A |
| 社會資本 | A |
| 人力資本 | B+ |
| 商業模式及創新 | A |
| 領導及公司治理 | A |

資料來源：SinoPac+ ESG 評鑑系統，Feb. 2024 (以 2022 年瑞昱企業社會責任報告書評鑑)

註 1：資誠永續發展服務股份有限公司僅於 ESG 評鑑系統方法學建置過程中，就評分指標提供專業意見，對於評分結果及評估報告內容之完整性及真實性，不負擔保責任，亦不對閱讀或使用本評估報告之第三方負任何責任。

註 2：永豐投顧已獲 SASB 授權，於研究中使用 SASB 重大性地圖之一般議題分類及揭露主題。SinoPac Securities Investment Service licenses and applies the SASB Materiality Map® General Issue Categories and Disclosure Topics in our work.

營運現況與分析

瑞昱為網通晶片大廠：瑞昱為全球網通晶片大廠，若以公司營收排名為全球第八大 IC 設計廠商。瑞昱產品線含括 Ethernet、WiFi、藍芽、Switch 與 TV SoC。網通領域的參與廠商為博通、Marvell、高通與聯發科等，TV SoC 的參與廠商則包括聯發科、聯詠等。

4Q23 本業獲利不如預期：瑞昱 4Q23 營收 225.8 億元(-15.3%QoQ，+3.8%YoY)，毛利率 44.7%，稅後獲利 21.8 億元(-15%QoQ，+2%YoY)，稅後 EPS 4.25 元，本業獲利不如預期，主要是(1) 營收季減 15.3%，各產品線均呈現滑落態勢包括乙太網路需求放緩、Switch 隨全球電信標案遞延使得 4Q23 需求維持低迷態勢、Audio Codec 隨客戶多已於 1H23 開始拉貨使得 4Q23 呈現淡季效應、TV 則今年拉貨高峰已於 2Q23 底~3Q23 初發生。(2) 營業費用 89.48 億元，相較營收季減達 15%，營業費用卻僅季減 3%，營業費用維持高檔水準，係因研發費用、法律一次性費用與光罩費用(工程師傾向於年底前將完成案件的晶圓進行投片)認列。不過毛利率卻由前季的 42%逆勢攀升至 44.7%，則因存貨跌價損失認列金額減少。瑞昱 4Q23 業外收益總計認列 11.28 億元(3Q23 僅認列 6.8 億元)，主要是處份利益、金融資產評價利益與廠商賠償收入所致。整體而言，瑞昱 4Q23 隨 PC 動能趨軟，使得比重已連續攀升三季的 PC，在 4Q23 比重滑落至 31.69(3Q23PC 比重 33%)。

表一：財報數字差異分析

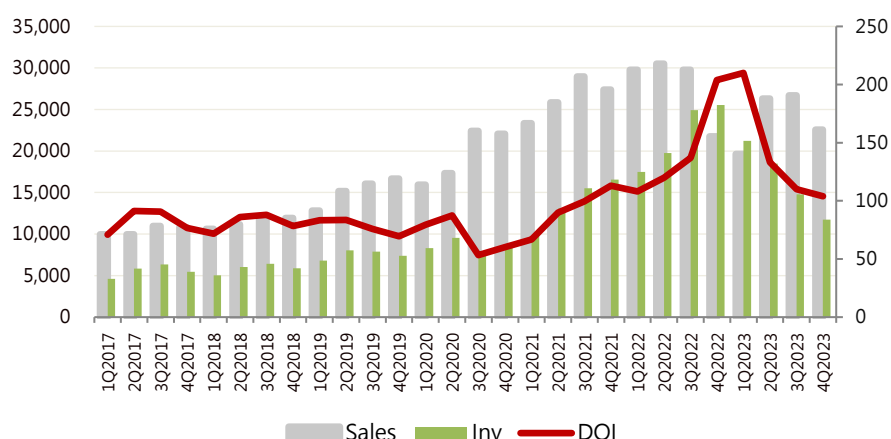
| 百萬元 | 4Q23(N) | 43Q23(O) | 差異(%) | 1Q24(N) | 1Q24(O) | 差異(%) |
|-----------|---------|----------|--------|---------|---------|--------|
| 營業收入 | 22,585 | 25,367 | -11.0% | 23,066 | 24,296 | -5.1% |
| 營業毛利 | 10,105 | 10,756 | -6.1% | 10,325 | 10,305 | 0.2% |
| 營業利益 | 1,157 | 1,834 | -36.9% | 1,523 | 1,725 | -11.7% |
| 稅前淨利 | 2,285 | 2,267 | 0.8% | 1,980 | 2,182 | -9.3% |
| 稅後淨利 | 2,180 | 2,184 | -0.2% | 1,903 | 2,095 | -9.2% |
| 每股盈餘(元) | 4.25 | 4.26 | -0.2% | 3.71 | 4.08 | -9.1% |
| Margin(%) | | | | | | |
| 營業毛利率 | 44.7% | 42.4% | | 44.8% | 42.4% | |
| 營業利益率 | 5.1% | 7.2% | | 6.6% | 7.1% | |
| 稅後淨利率 | 9.7% | 8.6% | | 8.2% | 8.6% | |

資料來源：永豐投顧研究處預估及整理，Feb. 2024

1Q24 展望審慎穩健：雖總體環境與國際情勢不明朗，使得訂單能見度有限，不過隨前季基期已低，以及庫存水準已屆低檔使部分急單回復，瑞昱對 1Q24 營收看法轉為審慎穩健，今年將受惠規格升級(包括 WiFi、乙太網路與管理交換器)、中國標案沉寂已久後開始出現回溫跡象，以及今年終端需求溫和復甦有助於出貨量攀升。研究處預估瑞昱 1Q24 營收 231 億元(+2%QoQ，+17.5%YoY)，毛利率 44.8%，稅後獲利 19.03 億元(-13%QoQ，+6%YoY)，稅後 EPS 3.71 元。

存貨金額逐季滑落：瑞昱庫存天數暨 1Q23 達到高峰 210 天後，已逐季滑落至 4Q23 的 104 天，存貨金額也再季減 20%，整體庫存天數已往公司短期目標值 100 天靠近，反映公司庫存控制已出現成效。

圖一：瑞昱營收與庫存天數



資料來源：永豐投顧研究處整理，Feb. 2024

中長期市場回溫將有助訂單挹注：瑞昱預期 2024 年營運成長性將由網通與車載引領，網通與車載成長性將超逾 PC、消費電子。研究處對瑞昱中長期營運仍持相對正向的看法，係因：

1. 規格升級：規格升級來自於(1) WiFi 規格提升。WiFi6 在整體 PC 搭載率由 2023 年的>70%，可望攀升至 2024 年的>80%~90%，router 搭載率由 2023 年的>60%，可望進一步攀升至>70%，反映 WiFi5 往 WiFi6/6e 滲透率持續進行中。至於 WiFi 7 相容性互通測試於 1Q24 結束後，市場將正式啟動 WiFi7 logo 使用，而瑞昱預計 WiFi7 初期導入將仍以高階路由器與 PC 為主。瑞昱表示 WiFi7 晶片單價>WiFi6/6e 約兩倍以上，並維持預期 WiFi7 第一年市場搭載率僅 5%，研究處認為由於 WiFi7 價格高昂，故初期將以高階應用為主，加以研究處原本即預期 WiFi 7 待 2H24 方有機會開始出現較顯著增幅，因此初期搭載率較低亦屬合理現象。(2) 乙太網路對傳輸需求升級。隨 10GPON、WiF7 與 5G CPE 傳輸性能升級，需要更快速的有線網路設備方能匹配，遂亦將帶動 2.5Gb/5Gb 乙太網路需求增溫。
2. 中國標案沉寂已久，目前已窺見中國電信運營商標案出現回溫跡象。雖因中國總經環境仍較疲軟，使得標案內容出現降規現象(比如 50% PON 未搭載 WiFi、80%~90% STB 僅搭載藍芽)，但至少標案是由零轉有。瑞昱表示中國 2023 年路由器/PON/STB 宣示的標案數量為 20mn~30mn 台/40mn~50mn 台/20mn~30mn 台，2024 年將可望見數量翻倍提升。
3. 庫存去化有成，庫存天數已屆公司短期目標值。雖終端產品能見度不明朗，不過研究處認為至少各產品的終端庫存調整成果已逐步顯現，4Q23 存貨再季減 20%，使得庫存天數 104 天已接近公司短期目標值 100 天，隨後續市場回溫將有效帶動後續訂單挹注。
4. PC 終端需求溫和復甦，可望帶動相關晶片增溫。瑞昱在 PC 領域產品線廣泛包括 audio Codec/camera/card reader/SSD 控制晶片/USB hub 控制晶片/乙太網路/WiFi/藍芽/顯示屏晶片/video 晶片等超逾十種晶片，可望隨 PC 溫和復甦而增溫。

5. 車載端布局延續。瑞昱供應車載 Ethernet PHY 與 switch，市場主要參與者為博通、Marvell 與瑞昱。隨車用乙太網路規格已邁向標準化，使得中國亦開始出現競爭對手，惟瑞昱在車載已布局五年，故已有知名度與口碑建立，使得車廠對瑞昱的關注已由原本的乙太網路/switch，拓展至 WiFi 與 audio DSP，有助於提高瑞昱在車載的 content value。
6. USB4 隨 Intel 與 AMD 已原生支援 US4 介面，有利於刺激週邊元件搭載。瑞昱 USB4 hub 晶片已於 3Q23 將樣品交予客戶，後續可望挹注營收。

維持買進：研究處預估瑞昱 2024 年營收 1072.8 億元(+12.7%)，毛利率 44.45%，稅後獲利 118.8 億元(+29%YoY)，稅後 EPS 23.01 元(原預估 23.04 元)。考量瑞昱 (1) 受惠 WiFi 與乙太網路規格升級、(2) 中國標案沉寂已久，目前已窺見中國電信運營商標案出現回溫跡象、(3) 庫存去化有成，有助於後續訂單挹注，故維持買進評等，目標價維持 507 元(以 2024 年與 22 倍評價)。

表二：財報數字差異分析

| 百萬元 | 2023F(N) | 2023F(O) | 差異(%) | 2024F(N) | 2024F(O) | 差異(%) |
|-----------|----------|----------|-------|----------|----------|-------|
| 營業收入 | 95,179 | 97,960 | -2.8% | 107,283 | 107,200 | 0.1% |
| 營業毛利 | 40,749 | 41,399 | -1.6% | 47,691 | 46,450 | 2.7% |
| 營業利益 | 6,655 | 7,332 | -9.2% | 9,982 | 10,017 | -0.4% |
| 稅前淨利 | 9,545 | 9,527 | 0.2% | 12,275 | 12,321 | -0.4% |
| 稅後淨利 | 9,152 | 9,156 | 0.0% | 11,804 | 11,810 | 0.0% |
| 每股盈餘(元) | 17.84 | 17.85 | 0.0% | 23.01 | 23.04 | -0.1% |
| Margin(%) | | | | | | |
| 營業毛利率 | 42.8% | 42.3% | | 44.5% | 43.3% | |
| 營業利益率 | 7.0% | 7.5% | | 9.3% | 9.3% | |
| 稅後淨利率 | 9.6% | 9.3% | | 11.0% | 11.0% | |

資料來源：永豐投顧研究處預估及整理，Feb. 2024

附表一：當年度損益表

| 單位：百萬元 | 24Q1F | 24Q2F | 24Q3F | 24Q4F | 2024F |
|------------|--------|--------|--------|--------|---------|
| 營業收入 | 23,066 | 25,721 | 29,238 | 29,259 | 107,283 |
| 營業毛利 | 10,325 | 11,451 | 12,969 | 12,946 | 47,691 |
| 營業利益 | 1,523 | 2,074 | 3,280 | 3,104 | 9,982 |
| 稅前淨利 | 1,980 | 2,695 | 3,964 | 3,636 | 12,275 |
| 稅後純益 | 1,903 | 2,590 | 3,813 | 3,498 | 11,804 |
| 稅後 EPS (元) | 3.71 | 5.05 | 7.43 | 6.82 | 23.01 |
| 營收 QoQ 成長率 | 2.13 | 11.51 | 13.67 | 0.07 | -- |
| 營收 YoY 成長率 | 17.54 | -2.16 | 9.60 | 29.55 | 12.72 |
| 毛利率 | 44.76 | 44.52 | 44.36 | 44.25 | 44.45 |
| 營益率 | 6.60 | 8.06 | 11.22 | 10.61 | 9.30 |
| 稅後純益率 | 8.25 | 10.07 | 13.04 | 11.96 | 11.00 |

資料來源：CMoney；永豐投顧研究處整理，Feb. 2024

附表二：五個年度損益表

| 單位：百萬元 | 2020 | 2021 | 2022 | 2023F | 2024F |
|--------------|--------|---------|---------|--------|---------|
| 營業收入 | 77,759 | 105,504 | 111,790 | 95,179 | 107,283 |
| %變動率 | 28.01 | 35.68 | 5.96 | -14.86 | 12.72 |
| 營業毛利 | 33,249 | 53,188 | 54,635 | 40,749 | 47,691 |
| 毛利率 (%) | 42.76 | 50.41 | 48.87 | 42.81 | 44.45 |
| 營業淨利 | 8,640 | 17,325 | 15,724 | 6,655 | 9,982 |
| 稅前淨利 | 9,356 | 17,575 | 16,922 | 9,545 | 12,275 |
| %變動率 | 29.30 | 87.84 | -3.71 | -43.59 | 28.6 |
| 稅後純益 | 8,793 | 16,853 | 16,204 | 9,152 | 11,804 |
| %變動率 | 29.50 | 91.65 | -3.85 | -43.52 | 28.98 |
| 稅後 EPS * (元) | 17.24 | 33.00 | 31.62 | 17.84 | 23.01 |
| 市調 EPS * (元) | 16.79 | 32.58 | 32.75 | 18.24 | 25.01 |
| PER (x) | 26.94 | 14.08 | 14.69 | 26.04 | 20.19 |
| PBR (x) | 8.05 | 6.09 | 5.10 | 5.58 | 4.37 |
| 每股淨值 * (元) | 57.68 | 76.25 | 91.15 | 83.18 | 106.21 |
| 每股股利 (元) | 14.00 | 27.00 | 27.00 | -- | -- |
| 殖利率 (%) | 4.26 | 5.39 | 10.23 | -- | -- |

* 以目前股本計算

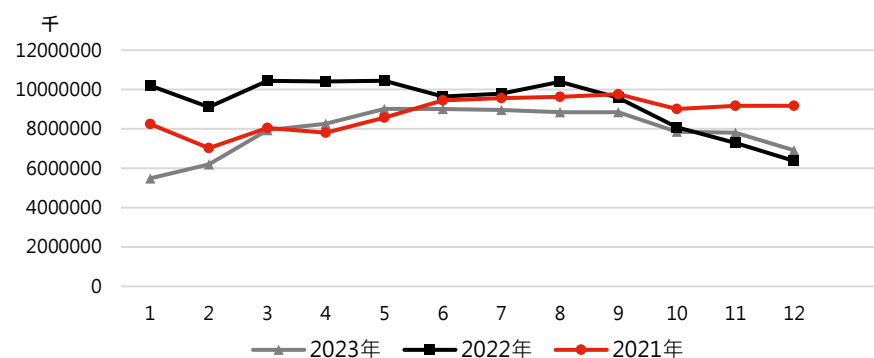
資料來源：CMoney；永豐投顧研究處整理，Feb. 2024

營運基本資料

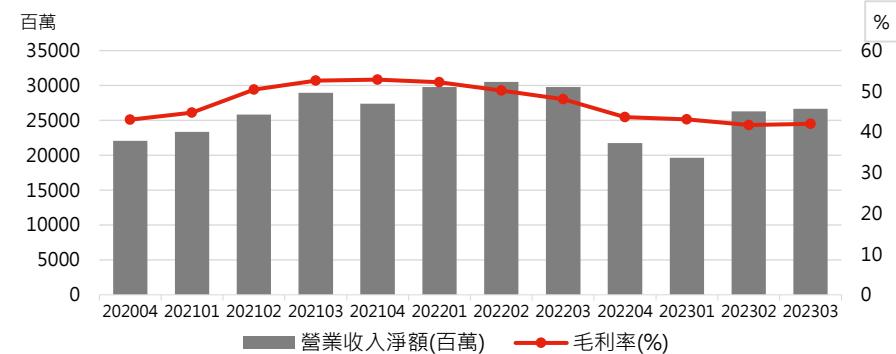
同業比較

| 代號 | 公司 | 投資建議 | 目前股價 | 市值(億) | 稅後 EPS | | PE | | PB | |
|----|----|------|------|-------|--------|------|------|------|------|------|
| | | | | | 2023 | 2024 | 2023 | 2024 | 2023 | 2024 |

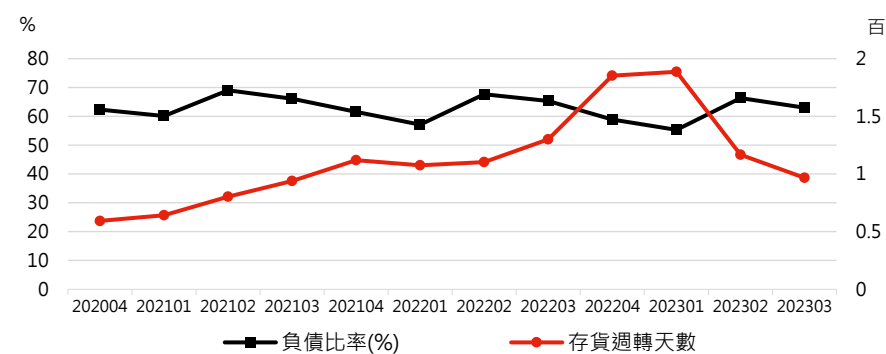
近三年單月營收狀況



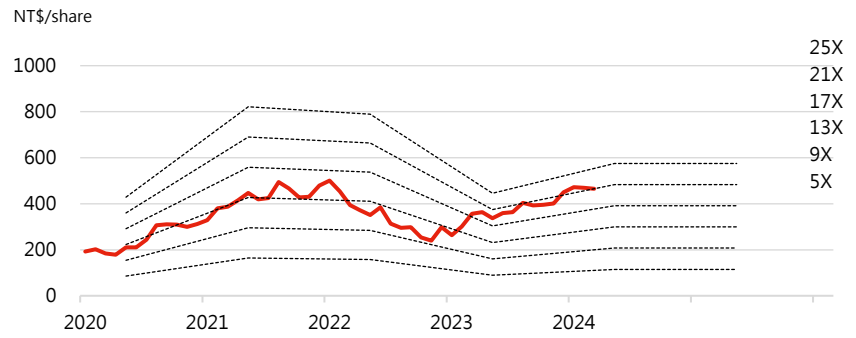
近三年單季營收 VS 毛利率趨勢圖



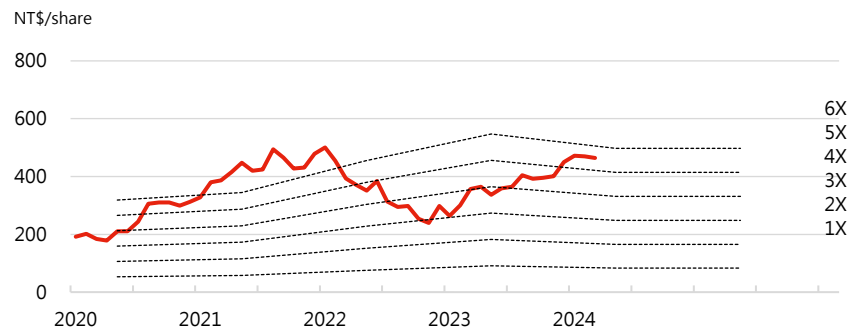
負債比率 VS 存貨周轉天數



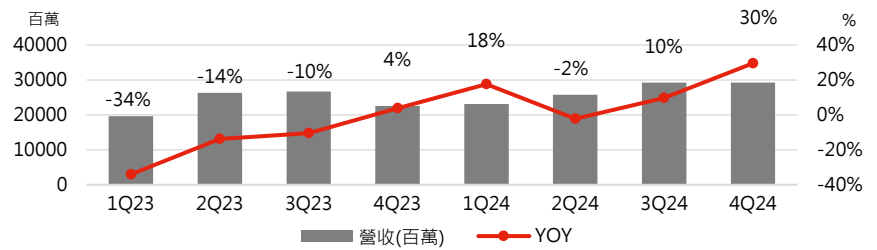
歷史 PE 圖



歷史 PB 圖

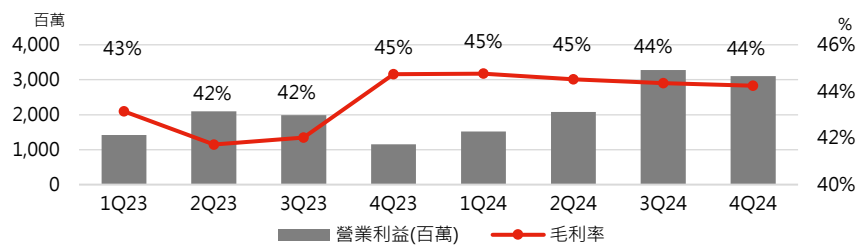


近八季營收及 YoY 趨勢圖



資料來源：CMoney；永豐投顧研究處整理，Feb. 2024

近八季營業利益及毛利率趨勢圖



資料來源：CMoney；永豐投顧研究處整理，Feb. 2024

| | | |
|----|---|---|
| 臺北 | 永豐證券投資顧問股份有限公司 臺北市忠孝西路一段 80 號 14 樓 電話：(886-2) 2361-0868 | 永豐金證券股份有限公司 臺北市重慶南路一段 2 號 17 樓 電話：(886-2) 2311-4345 |
| 香港 | 永豐金證券(亞洲)有限公司 香港銅鑼灣新寧道 1 號 7 樓 電話：(852) 2586-8288 | |
| 上海 | 永豐金證券(亞洲)有限公司上海代表處 中國上海市浦東新區世紀大道 1528 號陸家嘴基金大廈 1903A-2 室 電話：(86-21) 6228-8220 | |
| 倫敦 | 永豐金證券(歐洲)有限公司 6 Lloyds Avenue, London EC3N 3AX, UK 電話：(44-20) 7614-9999 | |

責任聲明

本報告內容僅供參考，客戶應審慎考量本身之需求與投資風險，本公司恕不負任何法律責任，亦不作任何保證。本報告中之內容或有取材於本公司認可之來源，但並不保證其真實性或完整性；報告中所有資訊或預估，變更時本公司將不作預告，若資料內容有未盡完善之處，恕不負責。此外，非經本公司同意，不得將本報告加以複製或轉載。

SinoPac⁺ ESG 評鑑系統為全方位評估企業之永續績效與風險，結合產業指標與跨產業共同指標，其中，產業指標完全依循 SASB 產業準則建置，並參照國際永續相關準則及在地法規，跨產業指標則依循 SASB SICs® 永續產業分類系統，篩選出台灣上市櫃企業共同重視之 SASB 永續議題，並參照國際永續相關準則。主要評估依據為企業最新發布之企業社會責任報告書(或永續報告)。惟此指標不代表提及之數據及預測，不必然代表投資績效。

資誠永續發展服務股份有限公司僅於 ESG 評鑑系統方法學建置過程中，就評分指標提供專業意見，對於評分結果及評估報告內容之完整性及真實性，不負擔保責任，亦不對閱讀或使用本評估報告之第三方負任何責任。

永豐投顧已獲 SASB 授權，於研究中使用 SASB 重大性地圖之一般議題分類及揭露主題。SinoPac Securities Investment Service licenses and applies the SASB Materiality Map® General Issue Categories and Disclosure Topics in our work.

110 年金管投顧新字第 024 號

SinoPac 投資評等

B：Buy 買進：未來 12 個月該股票表現將優於大盤

N：Neutral 中立：未來 12 個月該股票表現將與大盤一致

S：Sell 賣出：未來 12 個月該股票表現將落後大盤

SinoPac⁺ ESG 評鑑系統級距說明

A+ 企業在管理及揭露 ESG 績效的程度在前 20%

A 企業在管理及揭露 ESG 績效的程度在 21%-40%

B+ 企業在管理及揭露 ESG 績效的程度在 41%-60%

B 企業在管理及揭露 ESG 績效的程度在 61%-80%

C 企業在管理及揭露 ESG 績效的程度在 81%-100%

Analyst Certification:

For each company mentioned in this research report, the respective analyst(s) who cover the company certifies (certify) that all of the views expressed in this research report accurately reflect his (their) personal views about any and all of the subject issuer(s) or securities. The analyst(s) also certifies (certify) that no part of her (their) compensation was, is, or will be directly or indirectly related to the specific recommendation(s) or view(s) in this report.

SinoPac Research Stock Rating System:

Buy: We think the stock will outperform the broader market over the next 12 months.

Neutral: We think the stock will perform in line with the broader market over the next 12 months.

Sell: We think the stock will underperform the market over the next 12 months.

Global Disclaimer:**Important Notice for UK Persons**

This Document may only be issued or passed on to any person in the United Kingdom if that person is of a kind described in Article 19 of the Financial Services and Markets Act 2000 (Financial Promotions) Order 2001 or otherwise pursuant to exemptions to section 21 of the Financial Services and Markets Act 2000. In addition, no person who is an Authorized Person may issue or pass on this document, or otherwise promote SPSE, to any person in the United Kingdom other than by the rules of the Financial Conduct Authority (FCA) applicable to such Authorized Persons. This Document is confidential and is intended solely for the use of its recipient.

Important Disclosures for U.S. Persons**Important Disclosures for U.S. Persons**

This research report was prepared by SinoPac Securities Corporation (SinoPac), a company authorized to engage in securities activities in Taiwan. SinoPac is not a registered broker-dealer in the United States and, therefore, is not subject to U.S. rules regarding the preparation of research reports and the independence of research analysts. This research report is provided for distribution to "major U.S. institutional investors" in reliance on the exemption from registration provided by Rule 15a-6 of the U.S. Securities Exchange Act of 1934, as amended (the "Exchange Act").

Any U.S. recipient of this research report wishing to effect any transaction to buy or sell securities or related financial instruments based on the information provided in this research report should do so only through Auerbach Grayson & Company, 20 Wall West 55th Street, New York, NY 10019, a registered broker dealer in the United States. Under no circumstances should any recipient of this research report effect any transaction to buy or sell securities or related financial instruments through SinoPac. Auerbach Grayson & Company accepts responsibility for the contents of this research report, subject to the terms set out below, to the extent that it is delivered to a U.S. person other than a major U.S. institutional investor.

The analyst whose name appears in this research report is not registered or qualified as a research analyst with the Financial Industry Regulatory Authority ("FINRA") and may not be an associated person of Auerbach Grayson & Company and, therefore, may not be subject to applicable restrictions under FINRA Rules on communications with a subject company, public appearances and trading securities held by a research analyst account.

Ownership and Material Conflicts of Interest

Auerbach Grayson & Company or its affiliates does not 'beneficially own,' as determined in accordance with Section 13(d) of the Exchange Act, 1% or more of any of the equity securities mentioned in the report. Auerbach Grayson & Company, its affiliates and/or their respective officers, directors or employees may have interests, or long or short positions, and may at any time make purchases or sales as a principal or agent of the securities referred to herein. Auerbach Grayson & Company is not aware of any material conflict of interest as of the date of this publication.

Compensation and Investment Banking Activities

Auerbach Grayson & Company or any affiliate has not managed or co-managed a public offering of securities for the subject company in the past 12 months, nor received compensation for investment banking services from the subject company in the past 12 months, neither does it or any affiliate expect to receive, or intends to seek compensation for investment banking services from the subject company in the next 3 months.

SinoPac+ ESG Rating System ranking

SinoPac+ ESG Rating System evaluates corporate sustainability using SASB standards, which focus on financially material issues. Specially designed for listed companies in Taiwan, the rating system contains "Industry-specific" criteria, i.e., material issues within an industry, and "Cross-industry" criteria, which are material issues that cut across the 62 industries in Taiwan, categorized according to SASB's Sustainable Industry Classification System® (SICS®), with reference to other globally recognized sustainability standards.

Rating scale explanation

A+: The company falls in the top 20% of all Taiwan's listed companies in managing and disclosing ESG performance)

A: The company falls in the 21-40% of all Taiwan's listed companies in managing and disclosing ESG performance.

B+: The company falls in the 41-60% of all Taiwan's listed companies in managing and disclosing ESG performance.

B: The company falls in the 61-80% of all Taiwan's listed companies in managing and disclosing ESG performance.

C: The company falls in the 81-100% of all Taiwan's listed companies in managing and disclosing ESG performance.

Notes 1) PricewaterhouseCoopers (PwC) Sustainability Services Company Ltd. provides consulting services regarding designing criteria for the SinoPac+ ESG Rating System. It does not guarantee the integrity and accuracy of the score results or analysis, nor having liability to any third party who reads or uses this analysis report. 2) SASB Authorization: SinoPac Securities Investment Service licenses and applies the SASB Materiality Map® General Issue Categories and Disclosure Topics in our work.

Additional Disclosures

This research report is for distribution only under such circumstances as may be permitted by applicable law. This research report has no regard to the specific investment objectives, financial situation or particular needs of any specific recipient, even if sent only to a single recipient. This research report is not guaranteed to be a

complete statement or summary of any securities, markets, reports or developments referred to in this research report. Neither SinoPac nor any of its directors, officers, employees or agents shall have any liability, however arising, for any error, inaccuracy or incompleteness of fact or opinion in this research report or lack of care in this research report's preparation or publication, or any losses or damages which may arise from the use of this research report.

SinoPac may rely on information barriers, such as "Chinese Walls" to control the flow of information within the areas, units, divisions, groups, or affiliates of SinoPac.

Investing in any non-U.S. securities or related financial instruments (including ADRs) discussed in this research report may present certain risks. The securities of non-U.S. issuers may not be registered with, or be subject to the regulations of, the U.S. Securities and Exchange Commission. Information on such non-U.S. securities or related financial instruments may be limited. Foreign companies may not be subject to audit and reporting standards and regulatory requirements comparable to those in effect within the United States.

The value of any investment or income from any securities or related financial instruments discussed in this research report denominated in a currency other than U.S. dollars is subject to exchange rate fluctuations that may have a positive or adverse effect on the value of or income from such securities or related financial instruments.

Past performance is not necessarily a guide to future performance and no representation or warranty, express or implied, is made by SinoPac with respect to future performance. Income from investments may fluctuate. The price or value of the investments to which this research report relates, either directly or indirectly, may fall or rise against the interest of investors. Any recommendation or opinion contained in this research report may become outdated as a consequence of changes in the environment in which the issuer of the securities under analysis operates, in addition to changes in the estimates and forecasts, assumptions and valuation methodology used herein.

No part of the content of this research report may be copied, forwarded or duplicated in any form or by any means without the prior consent of SinoPac and SinoPac accepts no liability whatsoever for the actions of third parties in this respect.

SinoPac Securities (Europe) Limited is regulated by the FCA