2025.07.03
法人說明會 Investor Conference

CSC GROUP

鑫科材料科技股份有限公司
ThinTech Materials Technology Co., Ltd.(TTMC)

議　程

➢ **致歡迎詞及團隊介紹** Welcome speech and team introduction	**李建輝 董事長** Chairman C.H. Lee
➢ **2025Q1營運** 2025Q1 operation	**許銘璁 行政副總** Adm. VP M.T. Hsu
➢ **公司新樣貌與營運展望** New vision of the company and operation outlook	**馮復安 總經理** President F.A. Feng
➢ **提問與回答** Questions and Answers	**經營團隊** Management team

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This cautionary statement is applicable to all forward-looking statements contained in this presentation.

經營團隊 Management team

董事長
Chairman

李建輝
C.H. Lee

- 中鴻鋼鐵(股)公司行政副總經理
  VP of Adm., Chung Hung Steel Corporation
- 中龍鋼鐵(股)公司財務副總經理
  VP of Finance, Dragon Steel Corporation
- 越南中鋼住金(股)公司管理副總經理
  VP of Adm., Vietnam CSC & Sumitomo Metal Corporation

總經理 &
中鋼精材董事長
President &
Chairman of CSPM

馮復安
F.A. FENG

- 中鋼技術部門專案副處長
  Project Deputy General Manager, Technology Division, CSC
- 中鋼冶金技術處特殊合金品管組長
  Manager, Specialty Alloy Quality Control , Metallurgical Department, CSC

生產技術副總
Vice President
of Production
Technology

林景扶
Jeff Lin

- 工業技術研究院研究員
  Researcher, Industrial Technology Research Institute

行政管理副總
Vice President of
Administration

許銘璁
M.T. Hsu

- 中鋼工業工程處 經營發展組組長
  Manager, Business Development Section, Industrial Engineering Department, CSC

I.營運概況 Operational Overview

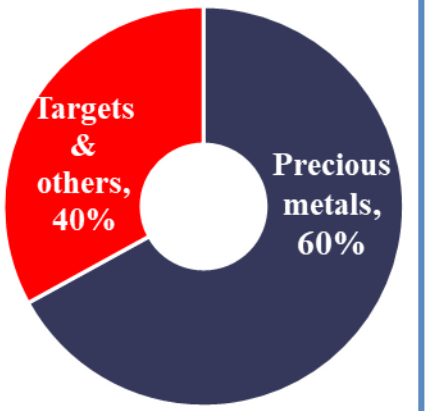
-近期重要紀事 Recent important events

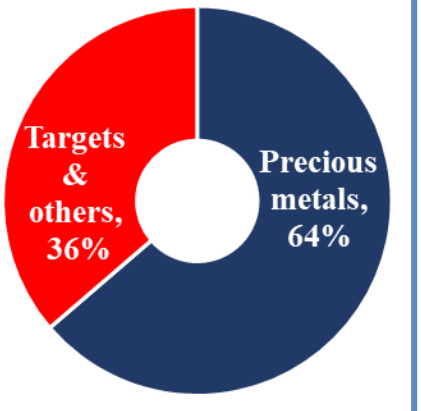
- 成功開發脆性靶材特殊動態澆鑄製程，並取得專利。
  Successfully developed and patented special dynamic casting process for brittle target.
- 成為中國醫藥大學附設醫院新竹分院裝設禾榮公司的台灣首套加速器型硼中子捕獲治療(AB-BNCT)設備的供應鏈夥伴，2025年已取得第二套設備(鋁基複材)訂單，預計可再取得第三套訂單。
  Became a supply chain partner for the first accelerator-type boron neutron capture therapy(AB-BNCT) equipment provided by Heron Neutron Medical Corp. at the Hsinchu Branch of the China Medical University Hospital. Second equipment(AB-BNCT) has been ordered in 2025 and a third equipment order is expected.
- 成為面板級扇出型封裝金屬載板之唯一技轉方認可供應商，2025年配合顧客需求，穩定出貨，並延伸至晶圓載具產品。
  Became the only metal carrier supplier authorized by the technology transfer side for fan-out panel level packaging and fully met the required quantity from end user in 2025 and extended to wafer carrier products.

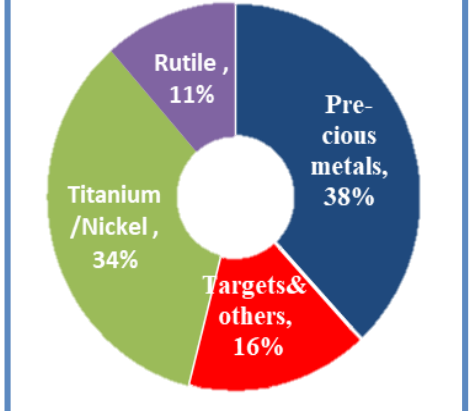
I.營運概況 Operational Overview

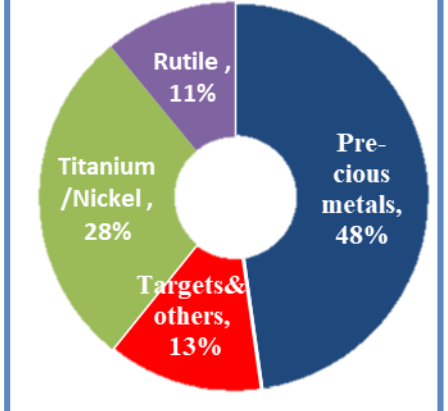
-產品營收比率 Sales Revenue Ratio by Product

2022	2023	2024	2025 Q1









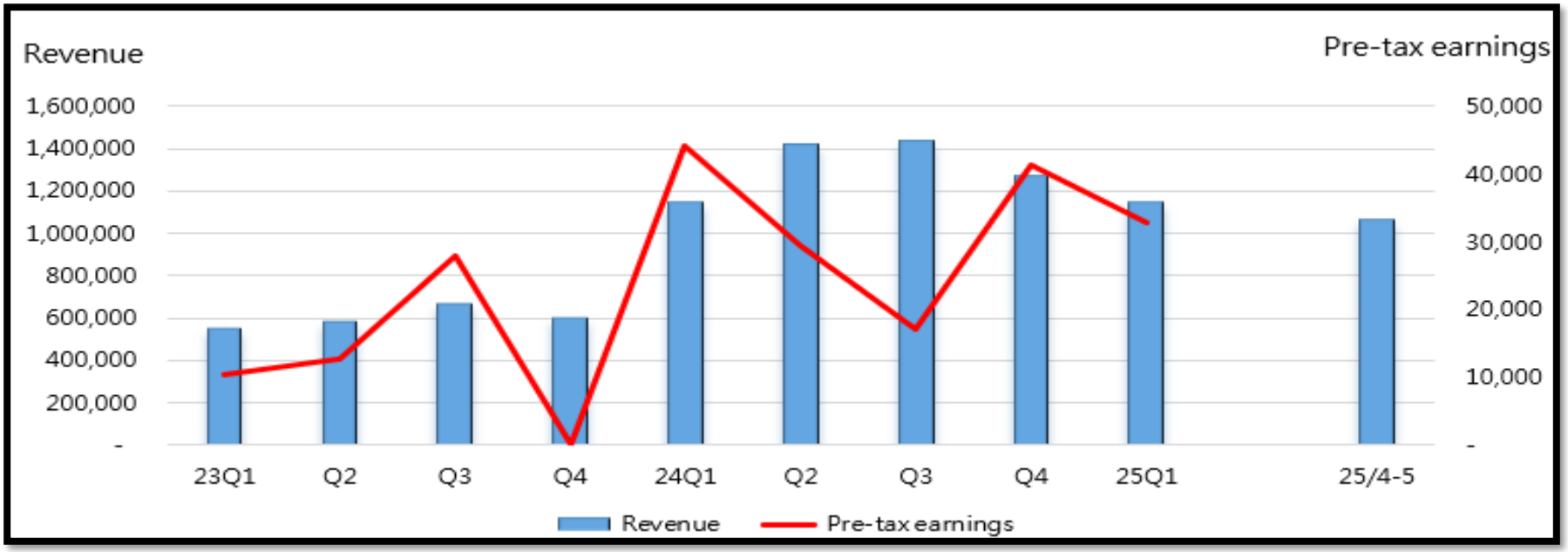
去年(2024)併購中鋼精材，產品類別新增鈦鎳特殊合金，以多樣化產品為公司創造更多收益，促使貴金屬銷售量比重下降，惟2025Q1避險情緒高漲帶動貴金屬價量齊漲，致貴金屬比重較2024年增加。

Titanium and Ni-based specialty alloys were added to the product mix after the acquirement of CSPM in 2024Q2. Product diversification will contribute to higher revenue of the Company. However, high risk aversion in 2025Q1 drove up the price and volume of precious metals, resulting in an increase in the weighting of precious metals compared to 2024.

I.財務績效 Financial Performance

-合併營收及前二年稅前淨利 Consolidated revenue and pre-tax earnings for the past two years

Unit：NT$ thousand

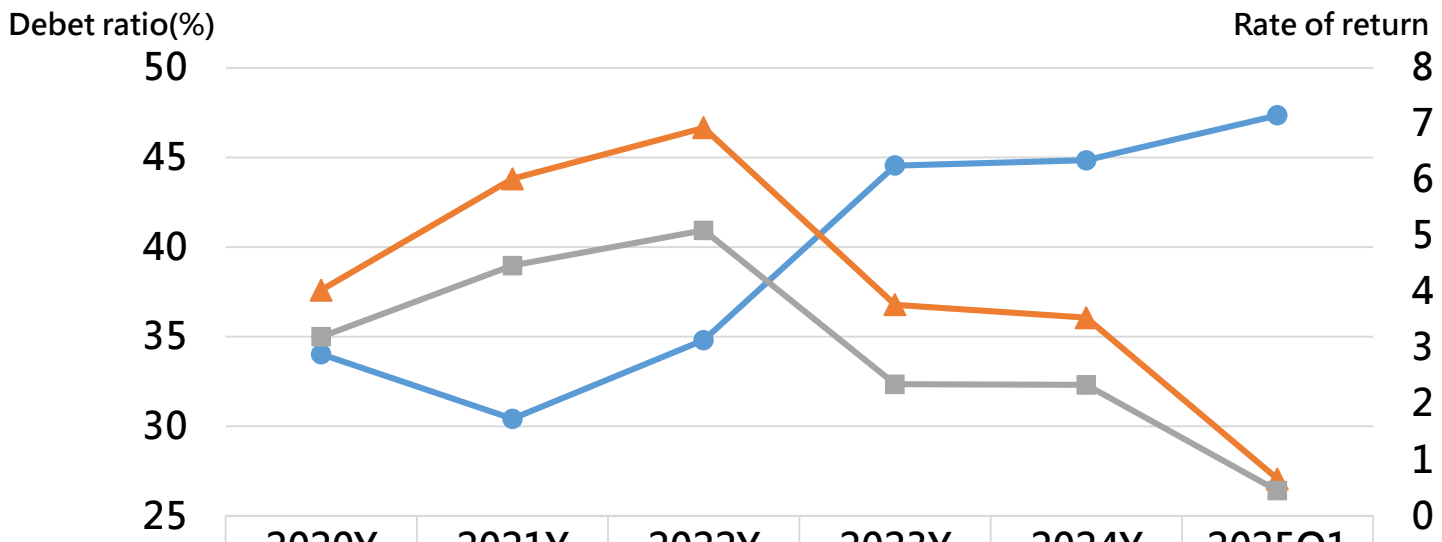


2025Q1營收新台幣1,149 百萬元；稅前淨利新台幣33百萬元。
2025/4-5月營收新台幣1,067 百萬元。
2025Q1 Revenue： NTD 1,149 million ; Pre-tax earnings： NTD 33 million.
2025/4-5 Revenue： NTD 1,067 million.

2024年營收新台幣5,266 百萬元；稅前淨利新台幣133百萬元。
2024Year Revenue： NTD 5,266 million; Pre-tax earnings：NTD 133 million.

I.財務績效 Financial Performance

-重要財務指標 Key financial index

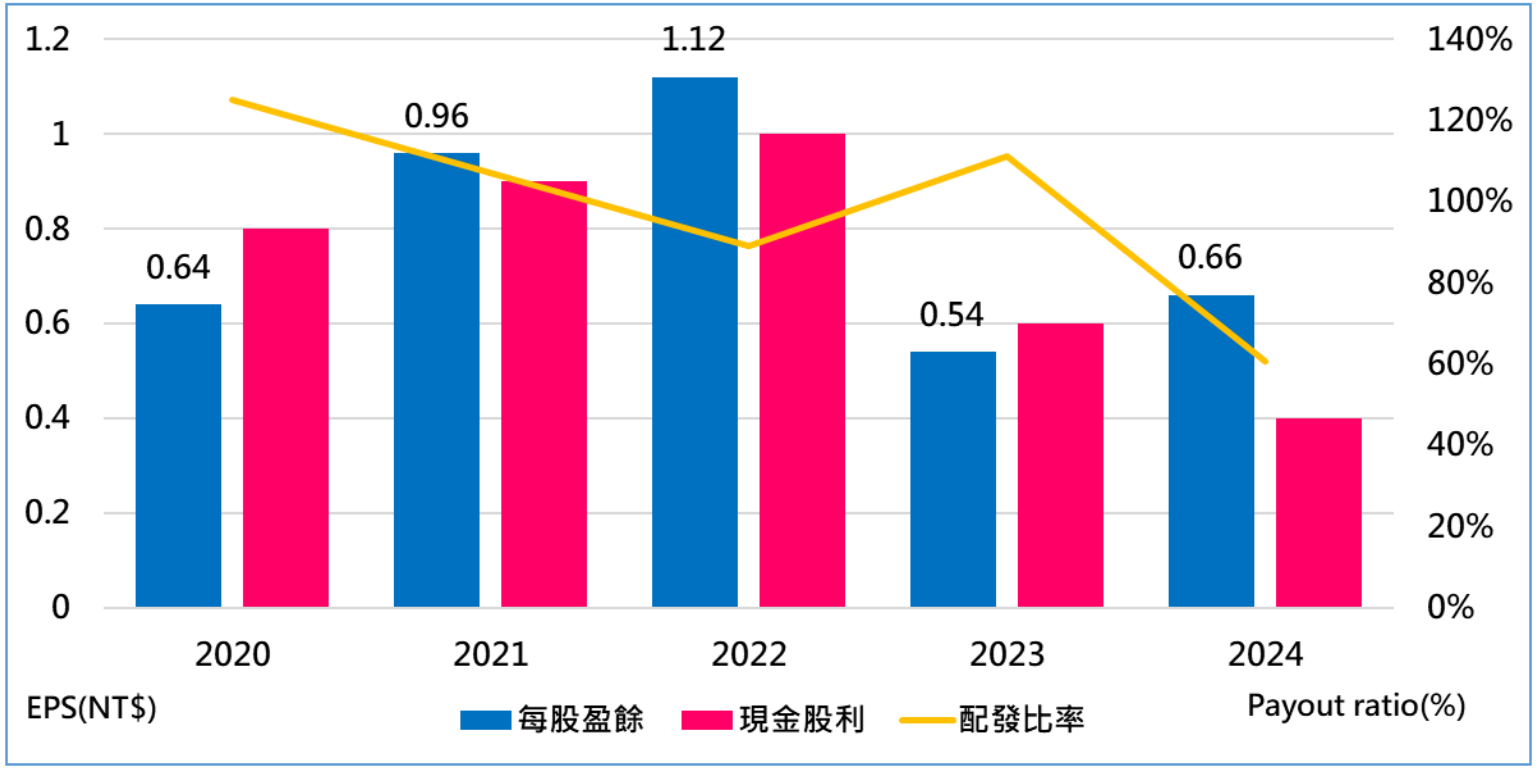


	2020Y	2021Y	2022Y	2023Y	2024Y	2025Q1
負債比/ Debet ratio	34.03	30.42	34.81	44.55	44.85	47.36
股東權益報酬率/ Return on equity	4.03	6.02	6.93	3.77	3.54	0.66
資產報酬率/ Return on assets	3.2	4.47	5.1	2.35	2.34	0.45

I.財務績效 Financial Performance

-每股盈餘及現金股利 EPS & Cash Dividend

Unit : NTD/per share



年度/Years	2020	2021	2022	2023	2024
每股盈餘/EPS	0.64	0.96	1.12	0.54	0.66
現金股利/ Cash Dividend	0.8	0.9	1	0.6	0.4

II.中鋼精材整併 Mergence of CSPM

-上下游整合 Up- and Down-stream integration

CSC GROUP

製造技術垂直整合綜效

Vertical Integration Synergy on Target Manufacturing Technology

Raw Materials → Melting & Casting → Hot Forging → Surface Finishing

中鋼精材 CSPM

鑄錠熔鍛製成粗胚

Ingot Melting and Forging into Slab

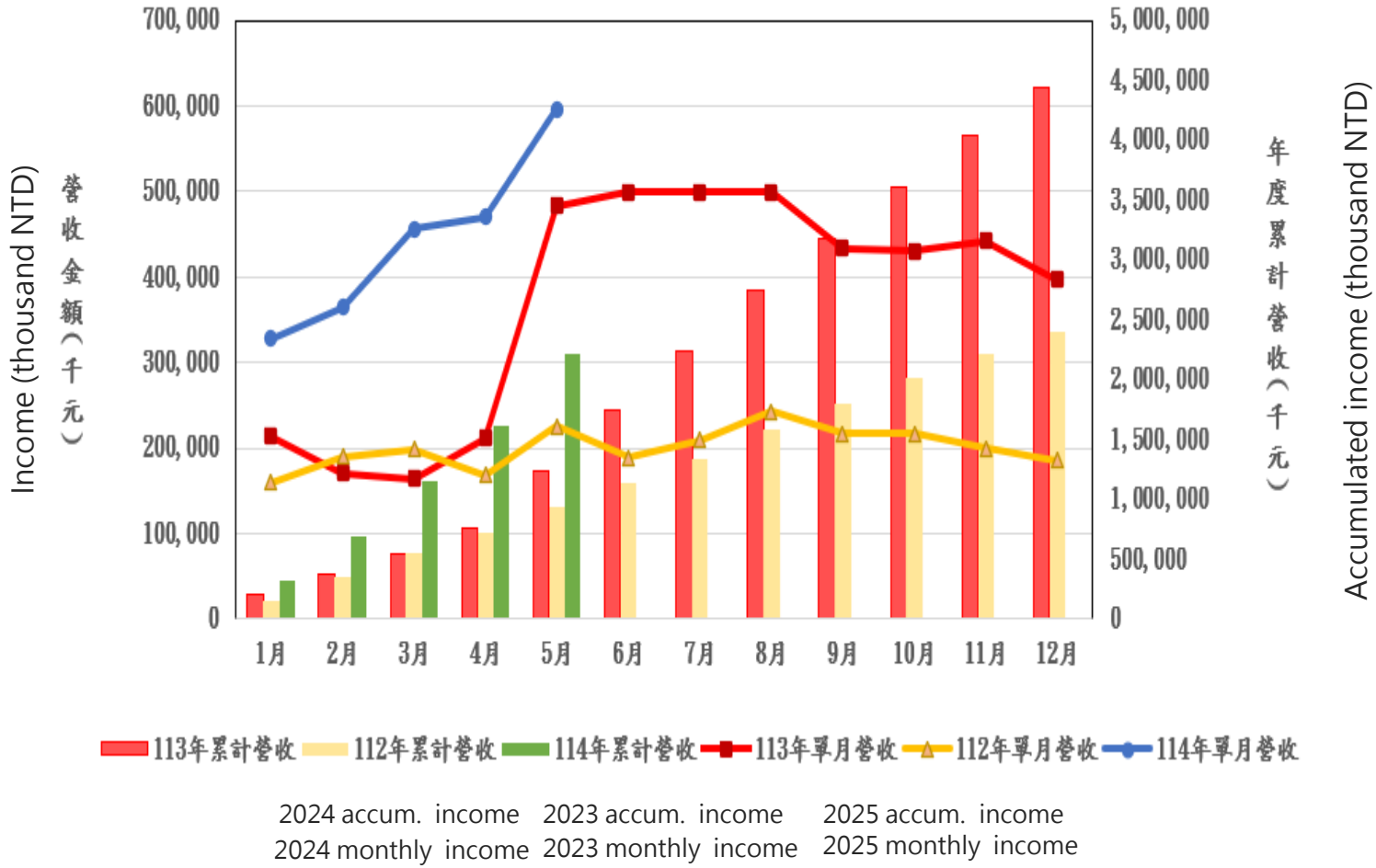
Clean & Packaging ← Machining ← Soldering Bonding Diffusion Bonding ← TMP

鑫科材料 TMC

粗胚熱機處理/背板接合/機加工/清潔包裝

Slab Thermo-Mechanical Processed, Bonded/Machining/Clean & Packaging

II.中鋼精材整併 Mergence of CSPM
-合併財務績效 Consolidated financial performance



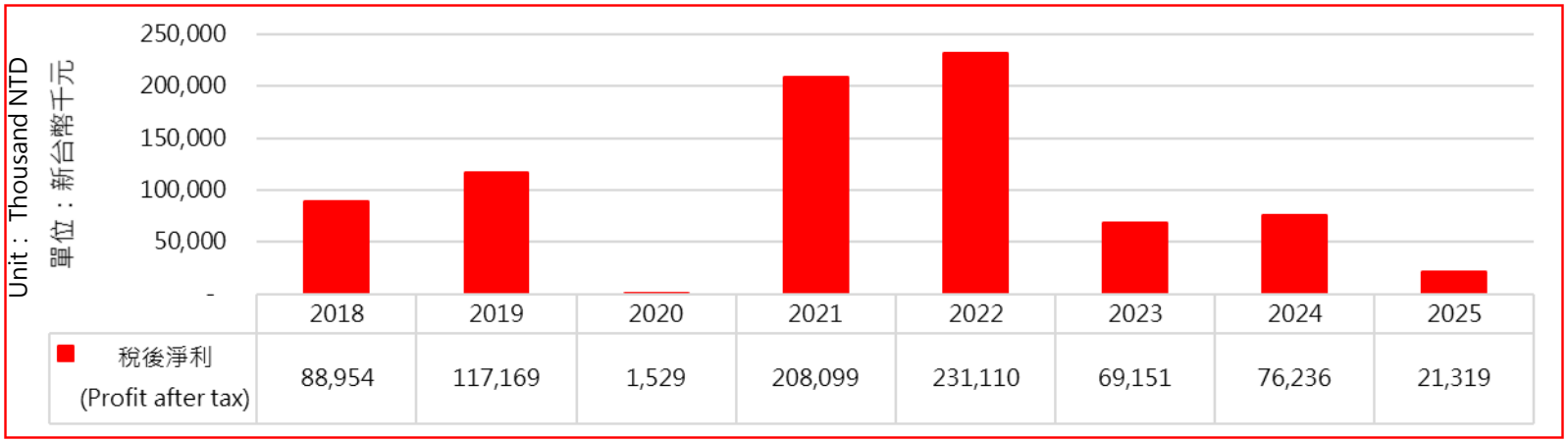
II.中鋼精材整併 Mergence of CSPM
-中鋼精材財務績效 Financial performance of CSPM

- ✓ 2025Q1適逢農曆春節工作天數減少，中國整體需求未如預期，鈦、鎳產品市場行情持續走跌及受到同業競爭影響價格下滑。當季稅後淨利新台幣21百萬元。

  2025Q1 coincided with the Chinese Lunar New Year with fewer working days, the overall demand in China did not improve significantly as expected, the titanium and nickel product markets and metal markets continued to decline, and prices fell due to competition from the industry. Profit after tax for the quarter was NT$21 million.

- ✓ 中鋼精材藉由控制庫存水位及富化產品組合提高產品毛利，增加代工生產量，提高設備稼動率及穩定產品品質，以維持市場競爭優勢。

  CSPM maintains its competitive edge in the market by controlling inventory levels and enriching its product mix to increase gross margins, increasing OEM production volumn work to improve equipment availability, and stabilizing product quality.



	2018	2019	2020	2021	2022	2023	2024	2025
稅後淨利 (Profit after tax)	88,954	117,169	1,529	208,099	231,110	69,151	76,236	21,319

II.中鋼精材整併 Mergement of CSPM

-中鋼精材市況與發展Market situation and development of CSPM

- ✓ 由於中國目前積極推動軍工、航太以及新興綠能產業如新能源車、綠氫儲運與電池儲能等，有利鈦材、鎳材需求增長。惟地緣政治與關稅壁壘衍生外銷回流與需求不振，以及同業競爭，恐影響產品銷量與毛利。試圖透由增拓銷、固品質、增品項，適時調節庫存，抓取市場利基。

  As China is promoting the development of military, aerospace and green energy industries such as new energy vehicles, green hydrogen storage and battery storage, etc., the demand for titanium and nickel-based materials is favorable to grow. However, geopolitical and tariff barriers have led to the return of exports and sluggish demands, and competition in the industry is likely to affect product sales and gross margins. Try to seize the market niche by expanding sales, consolidating quality, and increasing the number of products, as well as adjusting inventory in a timely manner.

- ✓ 為拓展產品品項經2024年底透過上下游資源整合，及鑫科技術挹注，成功建立新靶材精加工線。並於2025年1月正式接單生產，擴大業務量，增加營收與獲利。

  To expand CSPM product line, established a new target finishing line at the end of 2024 through upstream and downstream resources integration and TTMC technology injection. In January 2025, the company will officially begin production, with a view to expanding its business volume and increasing its revenue and profitability.

III.公司新樣貌 Company New Profile

-工業材料事業群 Industrial Material Business Group

CSC Group

- 鋼鐵事業 Steel Business
- 工程事業 Engineering Business
- 工業材料 Industrial Materials Business
- 物流及投資事業 Logistics & Investment Business
- 綠能事業 Green Energy Business

CSAC　CSCC　CHC

TTMC　HIMAG　BETACERA

CSPM

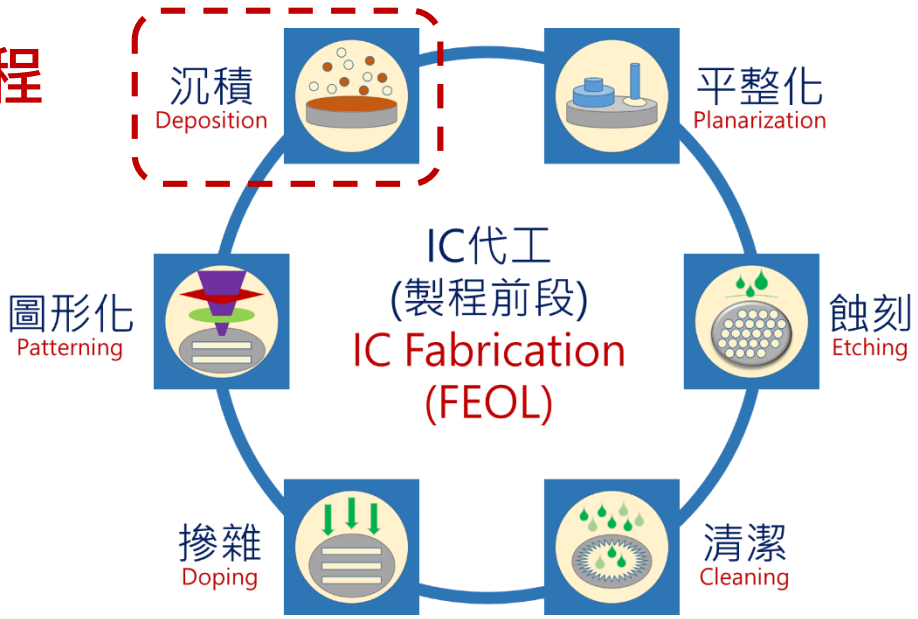
常州中鋼精材

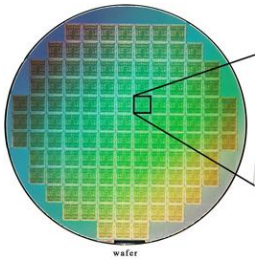
鑫科隸屬工業材料事業群，聚焦光電及半導體靶材，並擴及鈦鎳特殊合金生產，銷售版圖涵蓋台、陸、日、歐、美等。

TTMC belongs to industrial materials business group of CSC group, focusing on the production of opt-electric and semiconductor sputtering targets, and extending to Ti/Ni specialty alloys. The market territory includes Taiwan, China, Japan, Europe and USA etc.

III.濺鍍靶材之應用 Application of Sputtering Targets
- 導電薄膜沉積 Deposition of conduction thin film

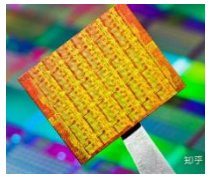
前段製程
FEOL





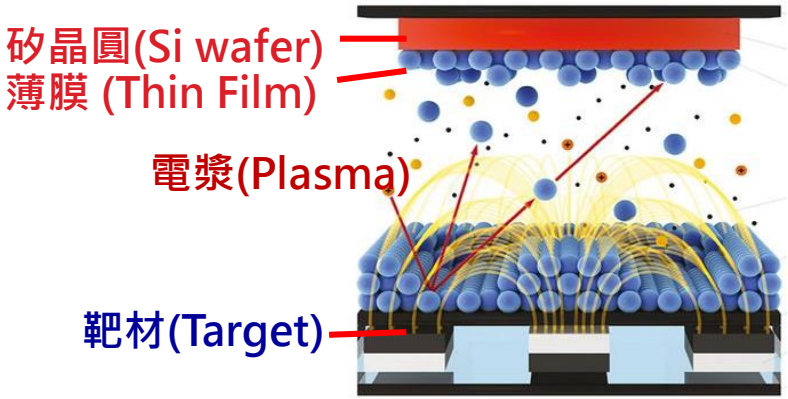
晶圓
Wafer

Source:ttps://www.techpowerup.com/review/nvidia-8800-gtx/



裸晶片
Die

https://arstechnica.com/gadgets/2018/01/whats-behind-the-intel-design-flaw-forcing-numerous-patches/



薄膜物理氣相沉積濺鍍製程
Thin film PVD sputtering process

Source: https://www.researchgate.net/publication/331583709

後段封裝晶片
OSAT chip

III.公司新樣貌 Company New Profile

CSC Group

鑫科材料(TTMC)

2000成立
founded
2006遷入高科園區
move to KHH Science Park
2012 上櫃
TWSE OTC (3663)

Employers員工數(2025)
207(TTMC/TWN)鑫科
166(CSPM/China)精材

Capital 資本額(2025)
US$32.7M
Revenue 合併營收
US$34.6M
Major Holders 主要股東(2025)
CSC Group 中鋼集團(51.93%)
URECO 聯合再生(6.45%)

CSC Group

QC/OHSMS品保/環安衛
ISO 9001
ISO 45001
ISO 14001
ISO 17025
IECQ-QC 080000
IATF 16949
AEO

Location廠址
TTMC鑫科
KHH Sci. Park1, Luke 8th Rd., Lujhu District, Kaohsiung, TWN

高科園區
路科八路1號

CSPM常州中鋼精材
(Changzhou, Jiangsu, China)

Plant area ：30,000m2 ；
Phase 1 ：2 Building , 18000m^2 ,
Phase 2 ： 12000m^2 available

Southern Taiwan Technology Corridor

Main products 主要產品

Sputtering Targets濺鍍靶材

TFT LCD/Touch panel
(Flat/tube, Al, Mo, Cu, Ti)

Optical data storage
(ZnS, TRA-, TRB- series)

Crystal Oscillators/ Passive component
(Ag, Ag-alloy series)

Tool/Decoration
(Al, Cu, Ti, Ni-alloy series)

Semiconductor
(Al-Cu, Ti, NiV, Ag, Au series)

Other products其他

Biomedical composites
(BNCT moderator)

Parts Cleaning
(Au, Ag...)

Sputtering parts
(Taiko ring, sliding plate, FOPLP carrier...)

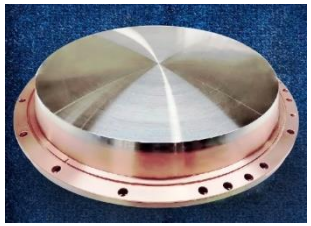
Industrial Ni-base alloy
(Pickling hook, Furnace)

Ti-base alloy
(3C frame, Cu foil roller, roof, curtain wall)

III.產品發展軌跡 Products Development Trace

- 鑫科早期(2000~2005)以光碟片用銀、鋁、介電靶起家；2006~2020則以面板為主，擴及裝飾鍍、被動元件及石英震盪用鋁、鉬、銅、鈦靶；2021~2023則開始發展半導體用靶材，策略為製程由後向前、尺寸由小至大、涵蓋純矽及化合物。2024也跨足鈦/鎳特殊合金及面板級扇出型封裝用Fe-Ni合金載板。
- Early(2000~2005) : Focus on Optical data storage (ODS) targets (Ag, Al, Dielectric)
- Middle(2006~2020) : Extend to optical targets for decoration(DEC), passive components(PAC), Display, Crystal Oscillators (OSC) (Al, Mo, Cu, Ti)
- Near(2021~2023) : Launch into semiconductor(SEMI) industry, strategy: process from back to front end, size from small to large, and application for both Si & compound semiconductor.
- Now(2024~) : Extend the application of Specialty Ti/Ni Alloys, such as FOPLP Fe-Ni carrier plate and Smartphone Ti frame.

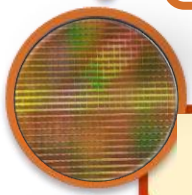
半導體蒸鍍材
Semi Slug



半導體靶材
Semi target

特殊合金
Ti/Ni

2024



半導體
SEMI

2021

晶體振盪器
OSC

面板
Display

2010

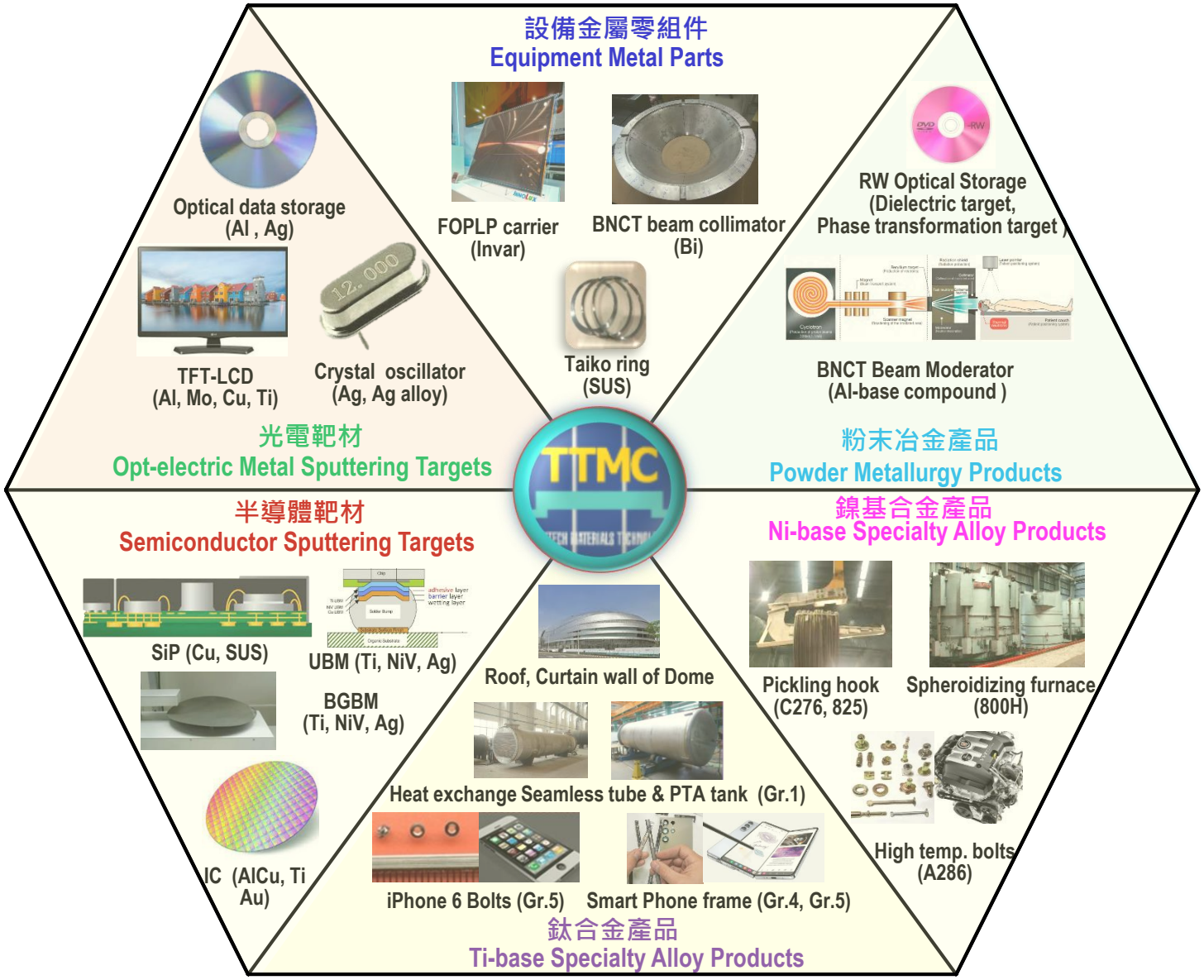
裝飾及被動元件
DEC & PAC

2005

光儲存媒體
ODS

2000

III.鑫科產品組合 Product Mix of TTMC



III.重點產品 Product Highlights

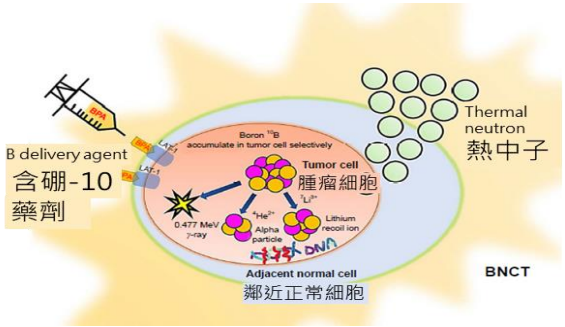
- Biomedical materials 生醫材料

- ✓ 加速器型BNCT硼中子捕獲治療是利用低能量熱中子殺死腫瘤細胞卻又不嚴重影響正常組織細胞。為得到熱中子，加速器生成之高能中子需經調節器減速，中子調節器是由數種鋁基複合材料組合而成，鑫科獨家供應此調節器用生醫材料。

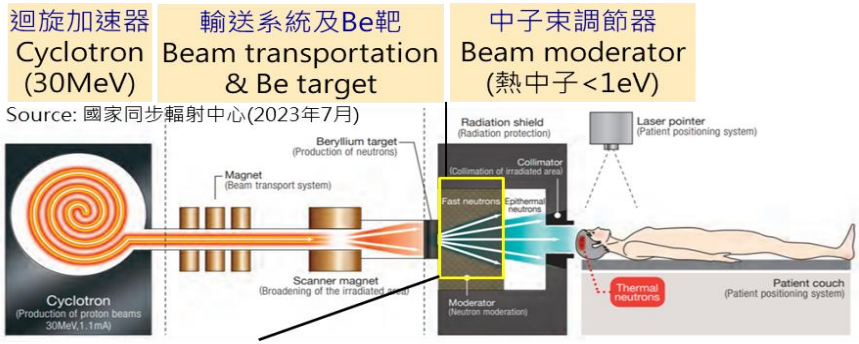
  AB-Boron neutron capture therapy (BNCT) adopts the low energy thermal neutron (< 1eV) to kill tumor cells rather than normal cells. The high energy neutron must be deaccelerated through a moderator to get the thermal neutron. The moderator is mainly composed of various Al-base compounds, which are exclusively supplied by TTMC.

- ✓ 設備已於2024年啟用，陸續取得相關證照等； 2025年已取得第二套設備(鋁基複材)訂單， 預計可再取得第三套訂單。

  The equipment has enabled in 2024, and the relevant certificates and licenses are also obtained. Second equipment(AB-BNCT) has been ordered in 2025 and a third equipment order is expected



Source: 科儀新知，第236期(2023年9月)



Neutron moderator is composed of Al-base compounds

III.重點產品 Product Highlights

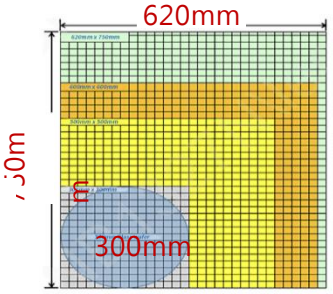
- 面板級扇出型封裝載板 FOPLP Carrier

- ✓ 面板級扇出型封裝比晶圓級扇出型具更高載板利用率及更大面積。載板材質有金屬、玻璃或高分子等，其中金屬載板無玻璃易脆、高分子高熱膨脹係數 (CTE)不匹配等問題，已逐漸成為主流。

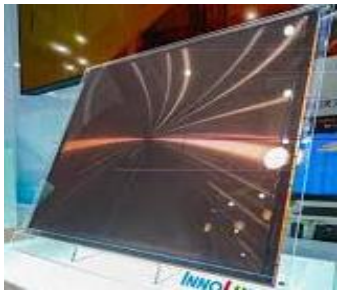
  FOPLP is superior to FOWLP in terms of higher carrier utilization ratio and more space for dies. The carrier for FOPLP used can be metal, glass, or polymer. Since glass carriers are fragile and polymer carriers features high CTE mismatch, the metal carriers have become the mainstream of FOPLP carries.
- ✓ 開發成功與樹脂熱膨脹匹配之大尺寸金屬載板(700mmx700mm)，滿足FOPLP製程嚴苛需求。

  A dedicated alloy carriers with size up to 700mmx 700mm featuring similar CTE to EMC are supplied to meet the severe requirement of FOPLP carrier.
- ✓ 為解決/提高客戶利用率與產品良率，持續進行製程精進；於2024-2025年配合顧客需求，協助重工延伸使用壽命，並穩定出貨。

  To address and improve the utilization and yield of product, the manufacturing process is continuously refined and fully met the required quantity and helping heavy industry extend service life from end user in 2025.



G3.5 Panel (620mm x 750mm)
area ~ 6 times of 300mm wafer
Source: 群創網站



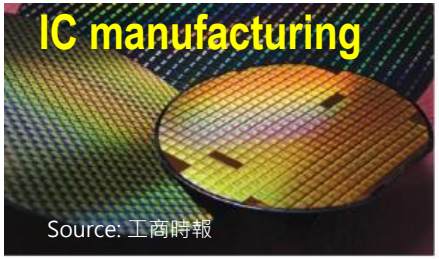
World largest FOPLP (700mm x 700mm)
area ~ 7 times of 300mm wafer
Source:三立新聞網(2023年9月)

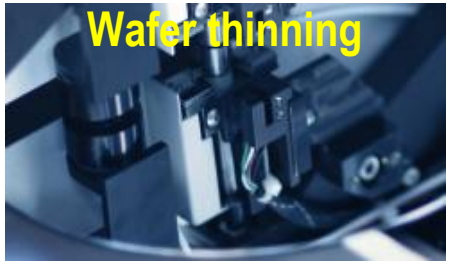
III.重點產品 Product Highlights
-半導體金屬靶材/蒸鍍材 SEMI Metals Targets/Slugs

CSC GROUP

✓ 先進IC生產製程分成前段-IC製造、中段-晶圓減薄、後段-IC封裝。

The advanced IC manufacturing process can be divided into three stages: front-end (FEOL)- IC manufacturing, Middle-end (MEOL) - wafer thinning, and back end (BEOL)- IC packaging.





✓ 半導體靶材及蒸鍍材銷售量及客戶數逐步增加，預估今年銷售額可較去年成長20%，客戶數由11家(2020)增至35家(2025Q1)。

The proportion of targets and evaporation materials used for semiconductor users and the number of customers are gradually increasing. Sales are expected to increase by 20% this year compared to last year and the number of customers has also grown from 11 to 35.

✓ 半導體應用由純矽跨足二、三類化合物。材料種類包括後段封裝用Cu, SUS, Ti，中段晶圓減薄用Ti, Ni-V, Ag，前段IC製造用Ag, Au. Al-Si，和光洋科以銅及鎳白金靶為主，有所區隔。

In addition to first-generation silicon semiconductors, it is also advancing into the field of second- and third-generation compound semiconductors. Its application areas include back-end packaging (Cu target, SUS target, Ti target), mid-end wafer thinning (Ti target, NiV target, Ag target) and front-end IC manufacturing (Ag target, Au target, Al-Si target), which is distinguished from the Cu alloy targets and Ni-Pt target of Solar Applied Materials Co.

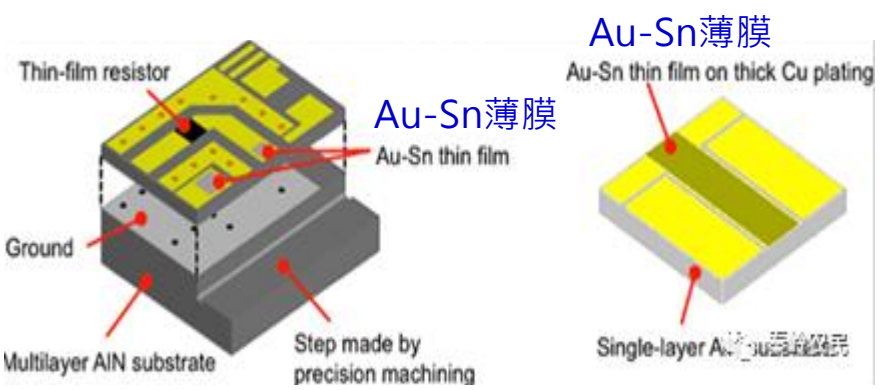
III.重點產品 Product Highlights
-半導體金屬靶材/Au-Sn

- ✓ 為求提高恆溫的能力及散熱的效率等封裝品質，封裝的軟焊製程極為關鍵；為提升產品的使用壽命、可靠度，已廣泛採用Au-Sn合金作為電子封裝的焊料。

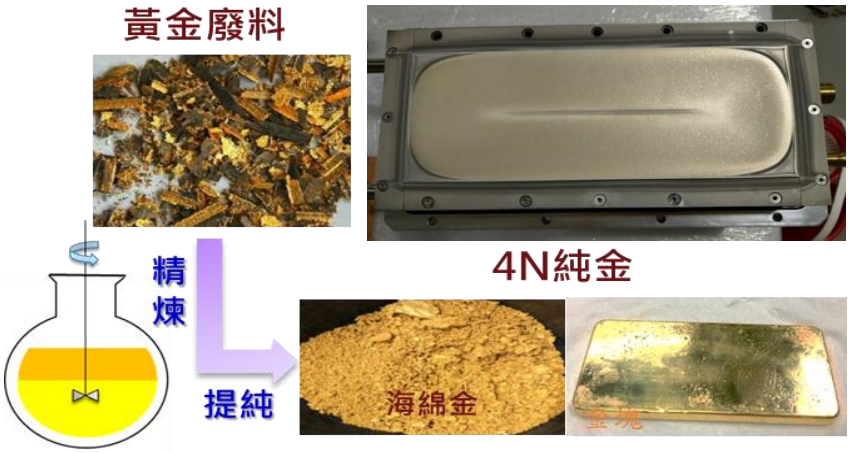
  To improve the quality of the package, such as the ability to maintain constant temperature and the efficiency of heat dissipation, the soft soldering process of the package is the key. To enhance the lifetime and stability of ICs, AuSn alloy has been widely used as electronic packaging solder.

- ✓ 因Au-Sn靶材易脆難以熱機加工，鑫科成功開發專利特殊動態澆鑄製程來產製此靶材，其顯微組織細緻且均勻，已於客戶端完成初期上機驗證，進行產品驗證。另也建立貴金屬回收再生技術

  Since Au-Sn target is quite brittle, it is hard to be thermomechanical processed. TTMC has successfully developed a patented special dynamic casting process to produce An-Sn target with uniform and fine microstructure. The related validation of Au-Sn sputtering target is ongoing. In addition, the recycling and reusing process of Au-Sn scrap target has been established.



https://www.eet-china.com/mp/a83742.html



III.半導體發展策略 SEMI Development Strategy

-由後向前兼顧化合物半導體from BE to FE, inclding. Comp. Semi

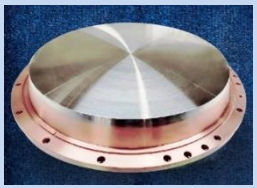
標的客戶 Aimed users

應用 (金屬化薄膜) Application (Metallization film)

鑫科材料 TTMC

Al/Ti / Cu/ Ta/ Au/ Ag/ Ni-V/ SUS
High Purity Metal Target/ Slug

蒸鍍材 Semi Slug



靶材 Semi target

提高市占率
Increase market share

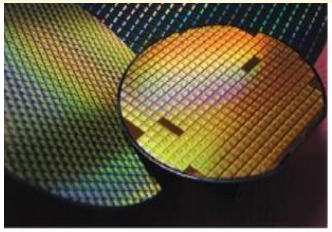
- 台積電 tsmc
- 聯電 UMC
- 世界先進 Vanguard
- 昇陽半 PSI
- iST 宜特
- 微矽 MicroSilicon
- 日月光 ASE
- 矽品 SPIL
- 艾克爾 Amkor

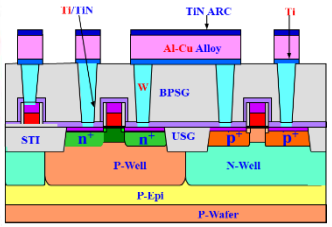
前段製程 FEOL -IC fabrication

中段製程 MEOL -Wafer thinning - FSM/BSM

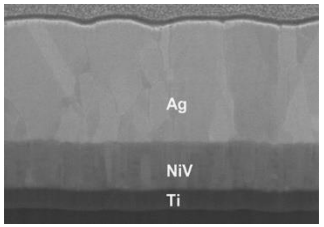
後段製程 BEOL -IC packaging -UBM -Anti EMI

FEOL-IC fabrication targets (Al/Ti/Au)

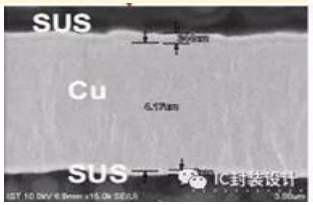




MEOL-FSM/BSM targets (Ti/NiV/Ag)



BEOL-Anti EMI Targets (Cu/SUS)



III.特殊合金商機 Opportunity of Specialty Alloy

鈦材業務開拓 Open up Ti-related business

✓ 中鋼精材研製成功原僅日本才能製作銲接型銅箔陰極鈦輥，已完成示範線生產設備安裝，並於2025年5月產出首捲，預計最快6月完成產品驗證，下半年開始量產。

CSPM has successfully developed welded titanium rollers used as copper foil cathode, which previously can only be produced in Japan. The installation of demonstration production line has be implemented, and is expected to produce the first roller in May 2025. The end user verification will be completed in June 2025, with mass production in the second half of the year.

銅箔陰極鈦輥

Ti Roller used as Cu Foil Cathode

✓ 擴展合併CSPM公司效益，於台灣進行純鈦材及純鈦管產品的應用銷售，將於今年銷售相關鈦材近百噸。

Expand the overall benefits of incorporating CSPM and assist in the application and sales of pure titanium materials and pure titanium tube products in Taiwan, It will sell nearly 100 tons of titanium related products this year.

III.特殊合金商機 Opportunity of Specialty Alloy

CSC GROUP

- ✓ 中鋼精材技術純熟且良好服務，產品廣泛用於中國化工、機械、石化與核能等產業，將積極開發AI人工智慧所涉略的半導體與3C等產業所需高值鎳基合金如C276極薄捲、抗高溫氧化合金與 低膨脹鐵鎳合金(INVAR系產品)與新利基型半導體靶材(Ni-V7)等產品開發，挹注公司運營。

CSPM is technically proficient and provides good service, and its products are widely used in China's chemical, mechanical, petrochemical and nuclear industries. It will actively develop high-value nickel-based alloys, such as C276 ultra-thin rolls, high-temperature oxidation-resistant alloys and low-expansion ferro-nickel alloys (INVAR-series products), and new niche-type semiconductor targets (Ni-V7), which are required by the AI and 3C industries, to inject resources into the company's operations.

III.循環再生商機 Opportunity of Recycle

✓ 發展循環再利用

因應ESG及客戶需求，投入高純材料再利用研發；持續擴大貴金屬零組件清淨業務，近期也投入純鈦材的再利用製程開發。

To respond to ESG and customer demands, TTMC invested in the research and development of high-purity material reuse. The company continued to expand the parts cleaning business of precious metals. Recently, we also invested in the development of a reuse process for high purity titanium.

New Vision Of Materials Application