



義隆 Smart-Input™ Solutions

Dual Transformation through Edge AI

藉由邊緣AI實現企業轉型

2025/03/06

元富證券2025春季投資論壇



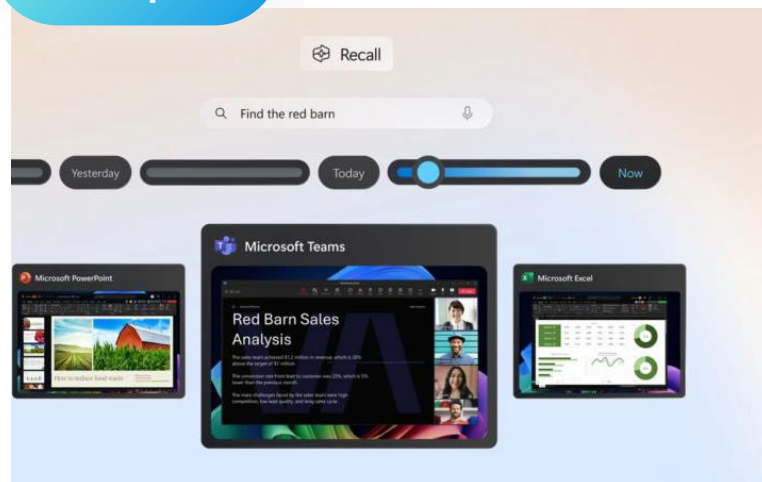
ELAN Microelectronics Corporation

微軟新AI功能及系統要求



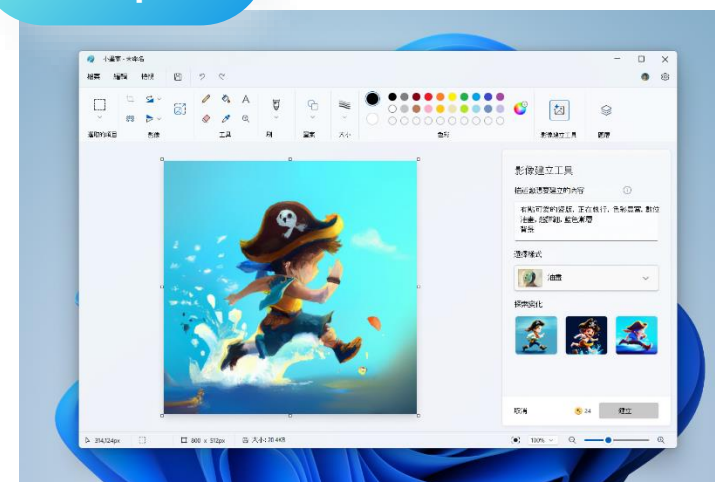
Request:
45 Tops ↑

Recall

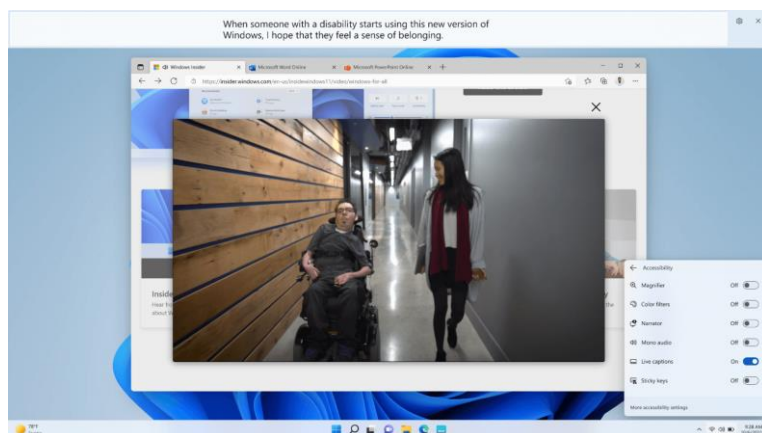


Request:
45 Tops ↑

Cocreator



Live Caption

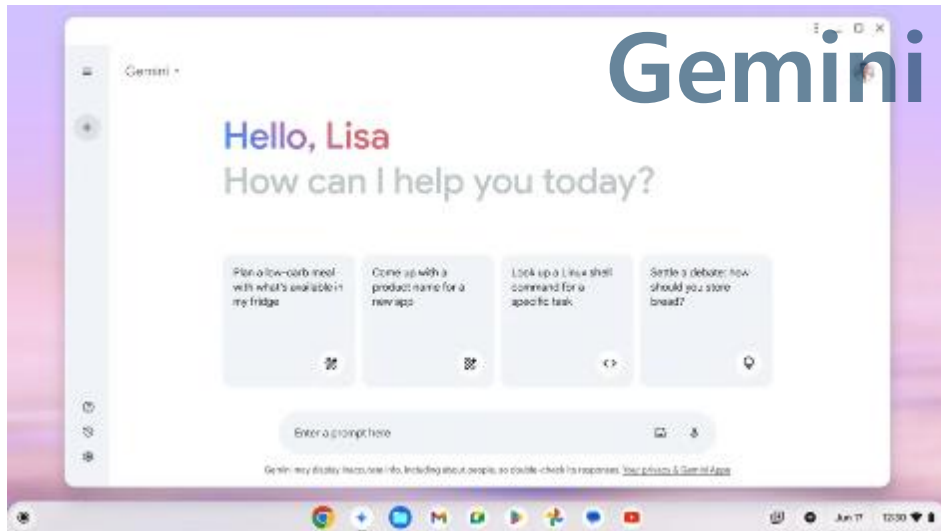


Auto Super Resolution



Google新產品Chromebook Plus 搭載AI功能

Google Chromebook Plus



Chromebook CM30 Detachable



Chromebook Plus Spin 714



Chromebook Plus CX34



Chromebook 14 inch

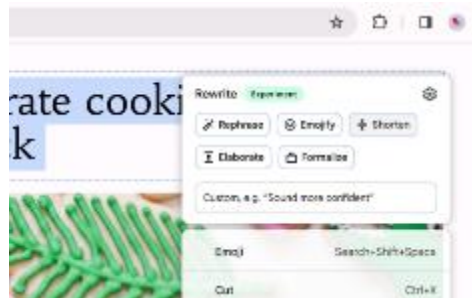


ASUS Chromebook Plus 514



HP Chromebook Plus x360

AI Writing Tool



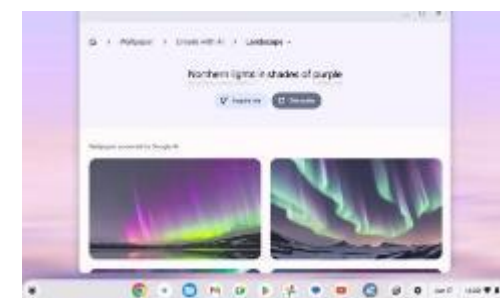
AI Magic Editor



Gemini Workspace



AI Wallpaper Generate



AI PC 是當今市場最熱門的話題

CES 2025 發表 69 款以上 AI PC，義隆佔 90%



Dell 16



Pro 14 Premium



Pro Max



Pro Plus



Alienware 16 Ares



EliteBook X Flip G1i



OmniBook Ultra Flip 14



OMEN Max



Zbook Ultra 14



Yoga 7i 2-in-1



X1 Carbon Aura Edition



ThinkBook Plus Hybrid



ThinkBook Plus Gen 6 Rollable



Zenbook 14



Zenbook S14



Zenbook S



ProArt P16



ProArt PZ13



Aspire 14 AI



Swift Edge 14 AI



Aspire Vero 16

市調機構對全球筆記型電腦出貨量的預測

Unit in million

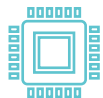
	2023	2024		2025		2026		2027	
	Shipment	Shipment	YoY Growth%	Shipment	YoY Growth%	Shipment	YoY Growth%	Shipment	YoY Growth%
NBPC	179.0	183.3	2.4%	196.1	7.0%	202.7	3.4%	214.5	5.8%



Windows 10宣布4Q25停止更新及COVID-19期間購買的NB已使用五年，將有利於NB換機潮的發生



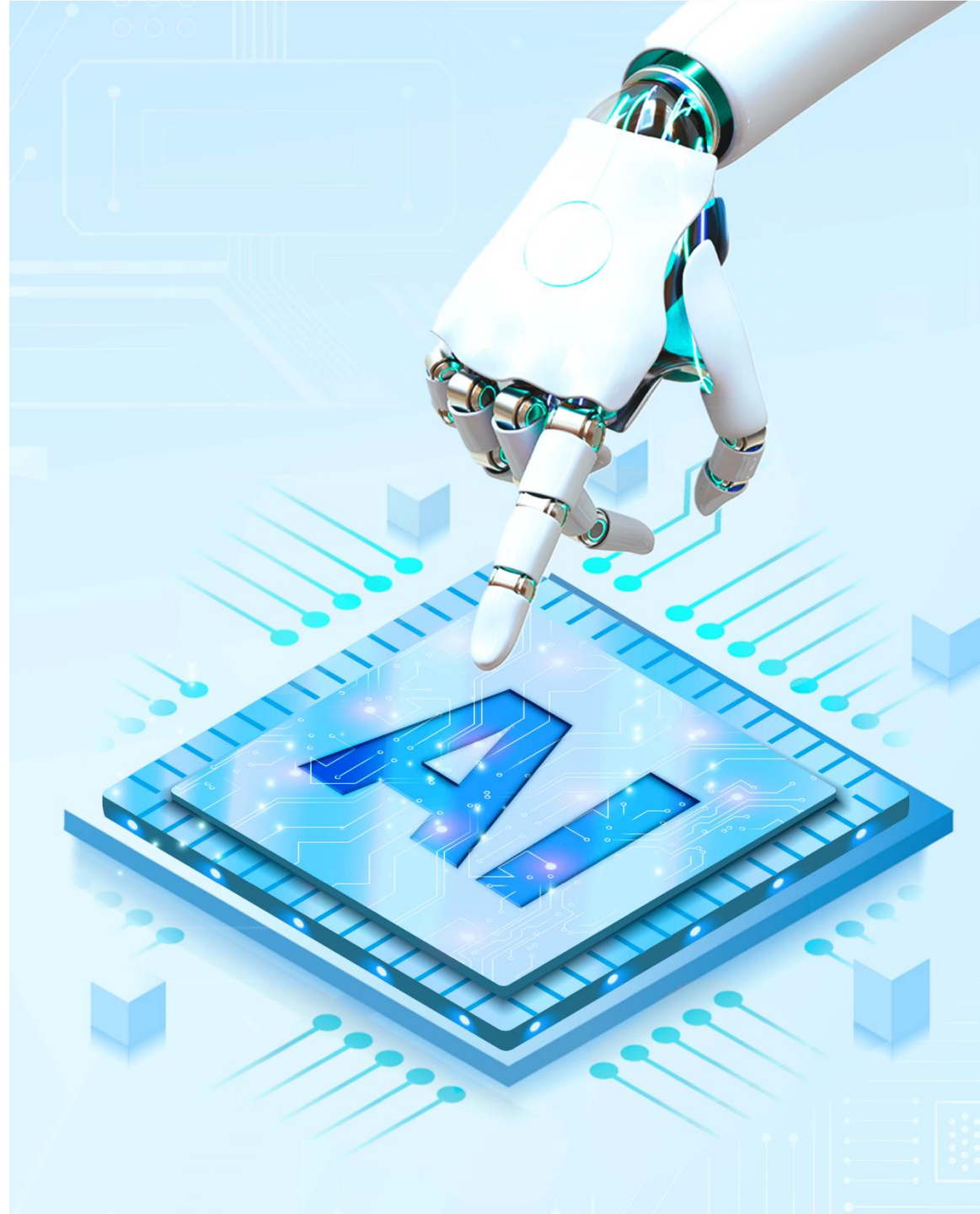
Windows 10停止更新後，資安問題將成為推動換機潮的一個關鍵，我們也因此判斷會優先帶動商務型號換機



隨著知識蒸餾技術（如DeepSeek）的發展，使精簡版大型語言模型（Distilled LLM）能夠在邊緣裝置上運行，預期將帶動AI PC 的成長



我們已掌握 AI PC 的趨勢
將產品AI化



邊緣運算展現在人工智慧的最佳效能

- **Faster Response Time**

Immediate processing reduces latency

- **Cost**

Decreases data transmission and storage costs

- **Hardware Utilization**

Optimizes hardware resources

- **Privacy & Security**

Local data processing enhances security

- **Offline Functionality**

Ability to operate Distilled LLM without internet connectivity

- **Efficiency**

Streamlines operations and reduces energy usage

- **Hyper-Personalization**

Tailors experiences to individual users

- **Environmental Impact (ESG)**

Reduces the carbon footprint of data centers

AI 高效能之觸控板模組

#1

Touchpad Market

50%+

Market Share

Smart-UsabilityTM

Best In-Class Palm Prevention

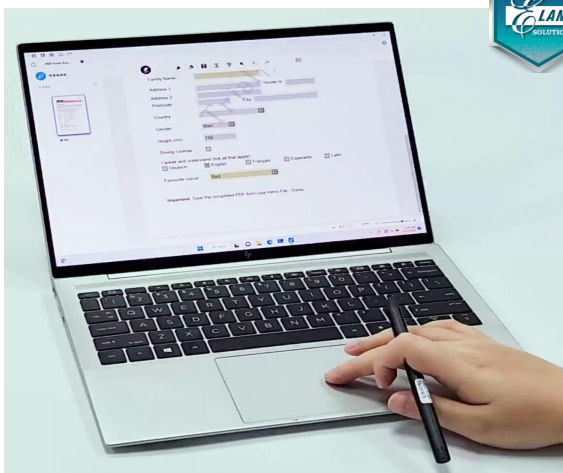
100⁺

MP Projects / YR

AI Enabled

Palm Rejection
Gesture
Noise Immunity
Moisture Proof

Touchpad



Pen on Touchpad



Lighting Pad



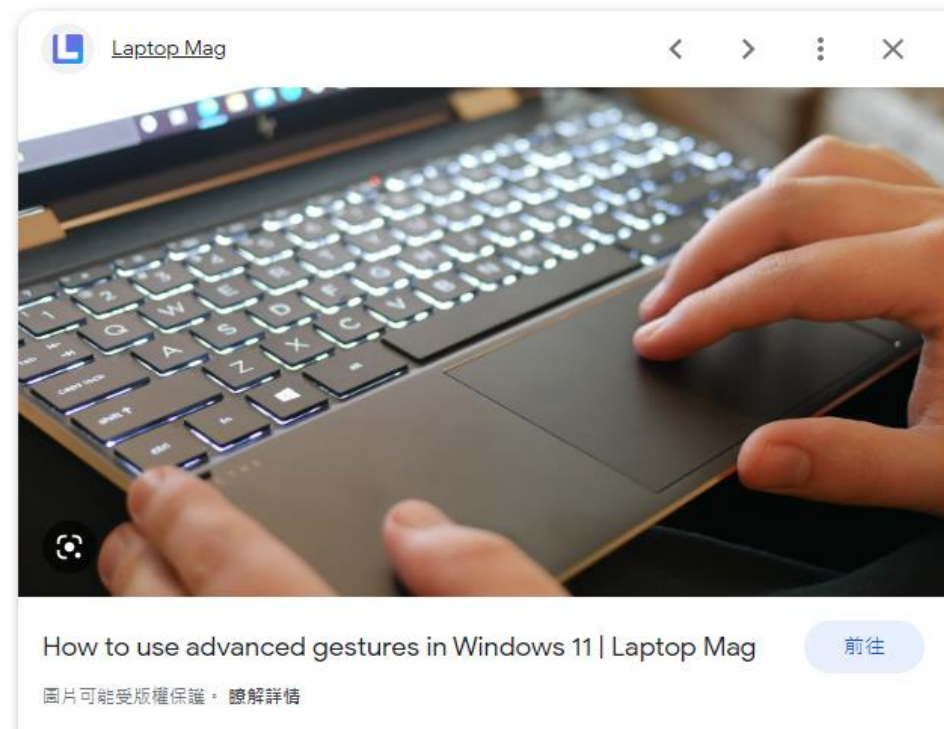
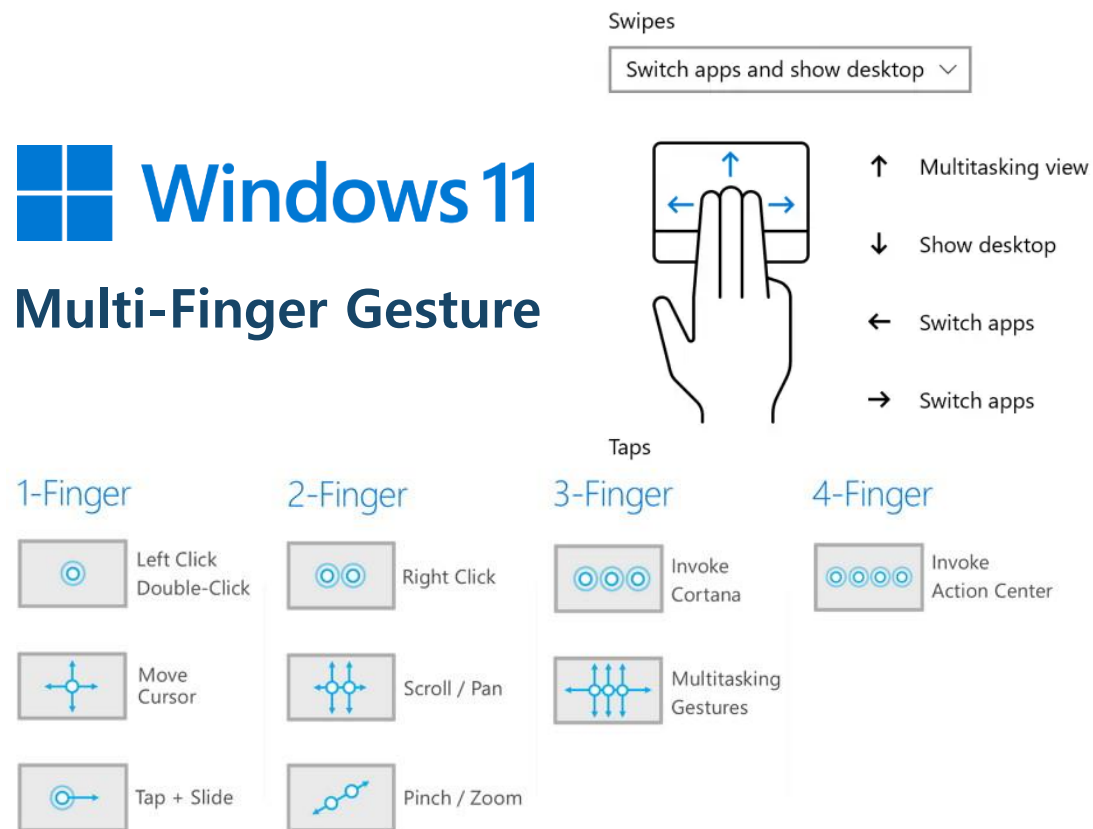
Training with AI Tool



Handicap with AI Training

Windows 11 多指觸控驅動大尺寸觸控板成為市場主流

Windows 11 Multi-Finger Gesture



Source: Laptop Mag

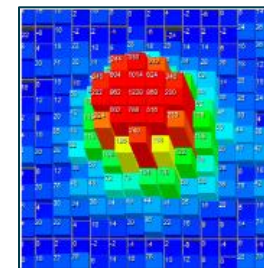
觸控板明顯朝大尺寸面積發展趨勢演進



Expansion of Palm Contact Area



ELAN AI×Touchpad



Self/Mutual Hybrid Sensing
for Best In-Class 3D Images



Keep Best Palm Rejection Performance
With Automatic Multi-Testing

- Two Palm Tapping / Moving / Swiping



Low Accidental Touch Rate
as Normal Size Touchpad

義隆AIxTouchpad – AI防手掌誤觸

Some User's Thumbs Are Similar To Other's Light Palm Touch, So Elan Uses Edge AI That Allows The Touchpad To Learn Characteristics Of Their Thumb and Palm.



ELAN AI Training Tool



Before Training

Google, Microsoft 推出無障礙功能

ELAN is Ready to Implement Accessibility Mode for Touchpad

AI Training

Cursor Moving

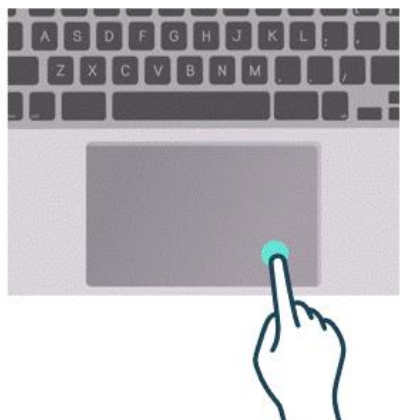
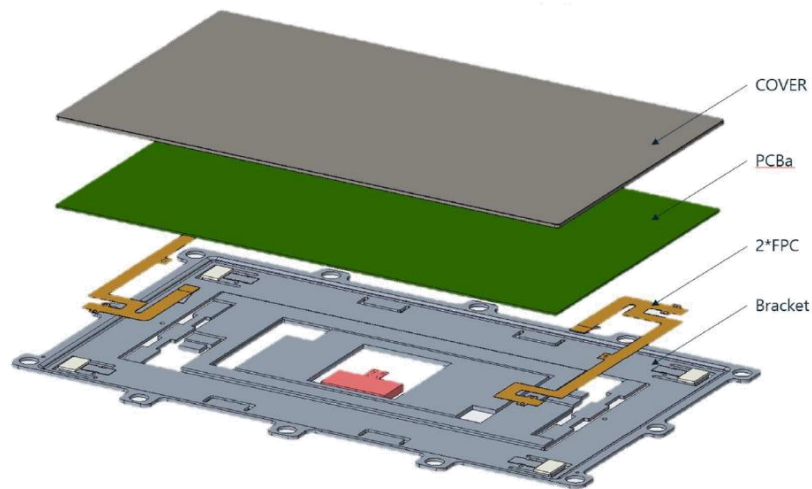


Global Accessibility Awareness Day

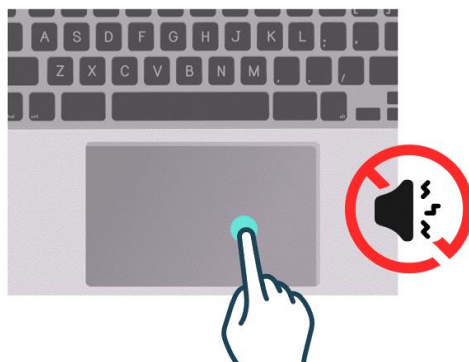


帶有AI功能之觸覺回饋觸控板的特色與優勢

Gen2 (Premium)

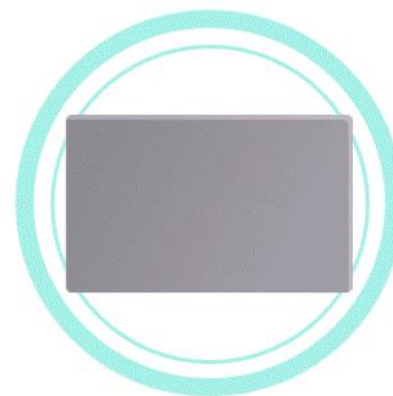
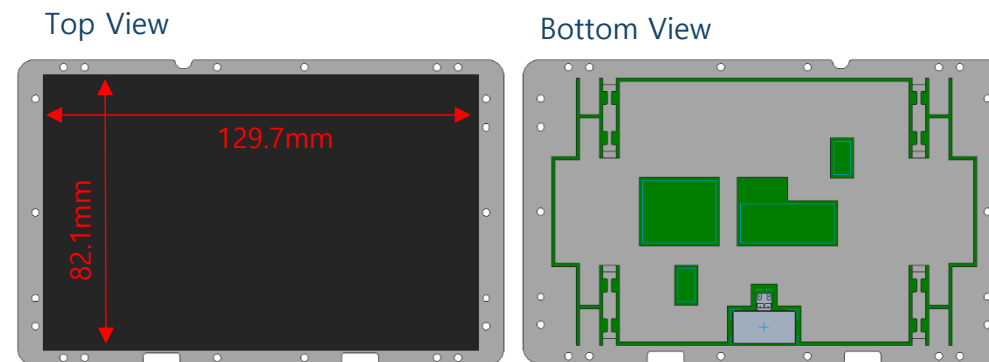


**All-Zone
Clickable**



**Silent
Click Sound**

Gen3 (Mainstream)



**Different
Haptic Performs**



**Gesture
Control**

搭載AI之觸覺回饋觸控板解決方案已陸續上市

hp



Dragonfly Chromebook
ELAN Gen 1 HapticPad

Lenovo



Lenovo Z13
Piezo Solution

Lenovo



Lenovo Z16
Piezo Solution

DELL



Dell XPS 13 Plus
Piezo Solution

hp

Windows



HP Dragonfly Pro
ELAN Gen 2 HapticPad

hp

Chrome OS



HP Dragonfly Pro
ELAN Gen 2 HapticPad

ASUS

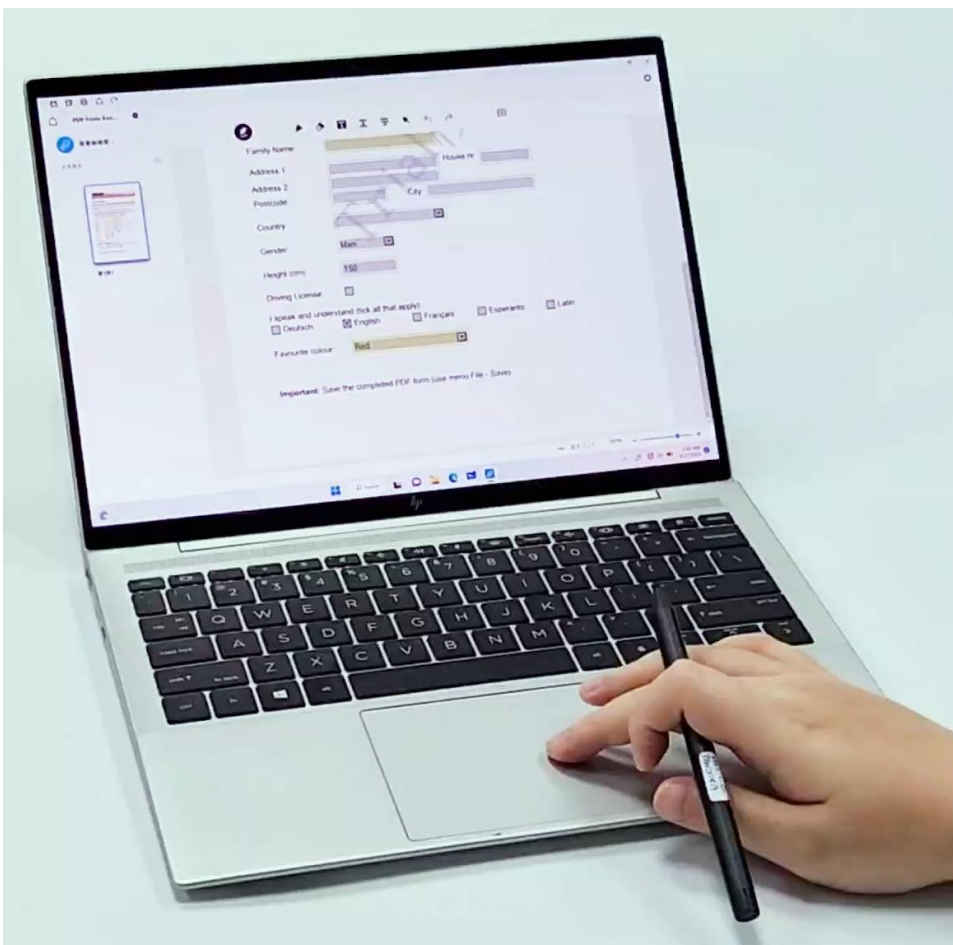


ProArt Studiobook H7604
ELAN Gen 2 HapticPad

20+ Projects
On-going

2024

Application Fields



Education

- Digital Note-taking
- Textbook Notes
- Whiteboard



Creativity

- Drawing
- Design
- Video Editing
- Music Editing
- 3D Modeling



Business

- Signatures
- Note-taking
- Whiteboard
- Precise Control



具競爭力的AI觸控螢幕晶片

#1

Touch IC Market

10 – 18"

Support Size

Development with
Stylus Manufactures

MAXEYE

wacom®

SUNWODA

Hanvon

Chicony

AI Enabled

Pen Track Prediction
Palm Rejection
Gesture Recognition
Moisture Proof

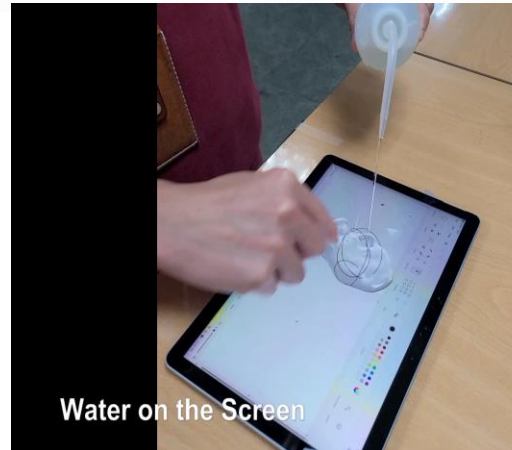
Touchscreen

50%+

Market Share

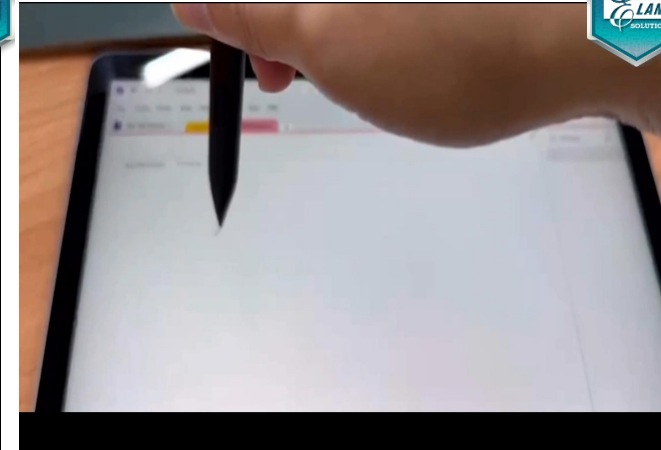


500Hz Pen report



Water on the Screen

Waterproof & Glove Solutions

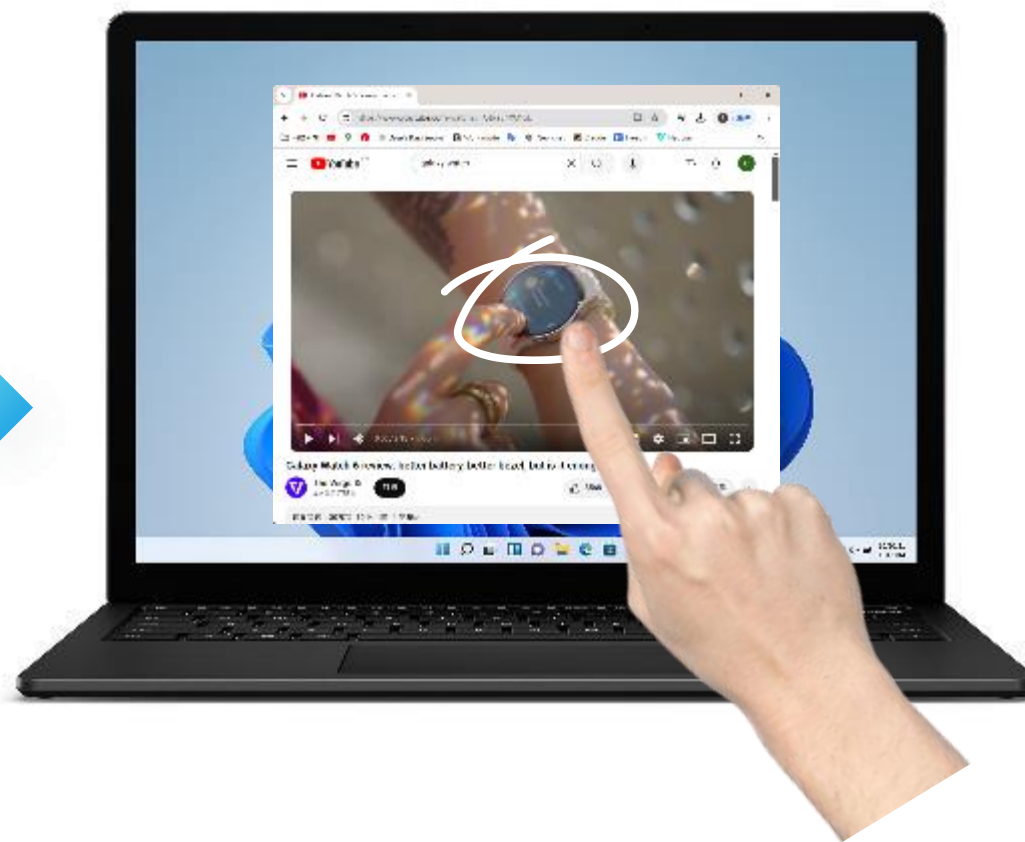
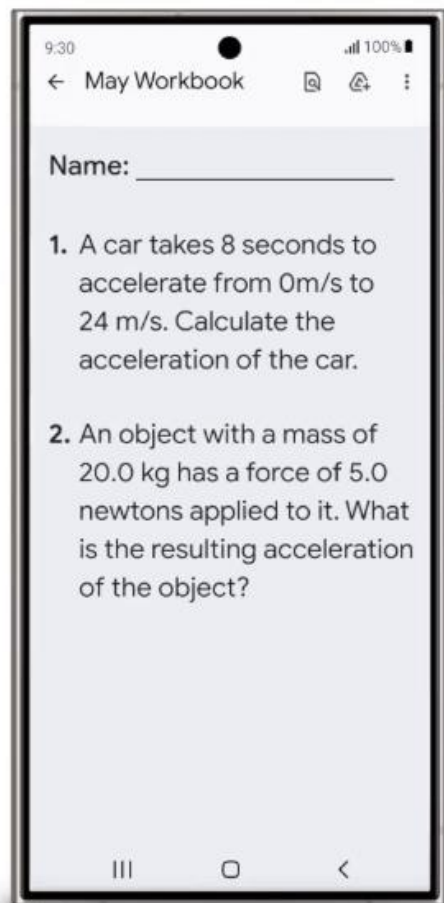


AI Prediction – Short Latency

畫圈搜尋:手機端AI搜尋功能衍生應用

Google Circle to Search

Touchscreen Penetration Rate Increasing!



AI書寫辨識 – Copilot應用



Pen Pilot (Open Application with AI Writing Recognition)

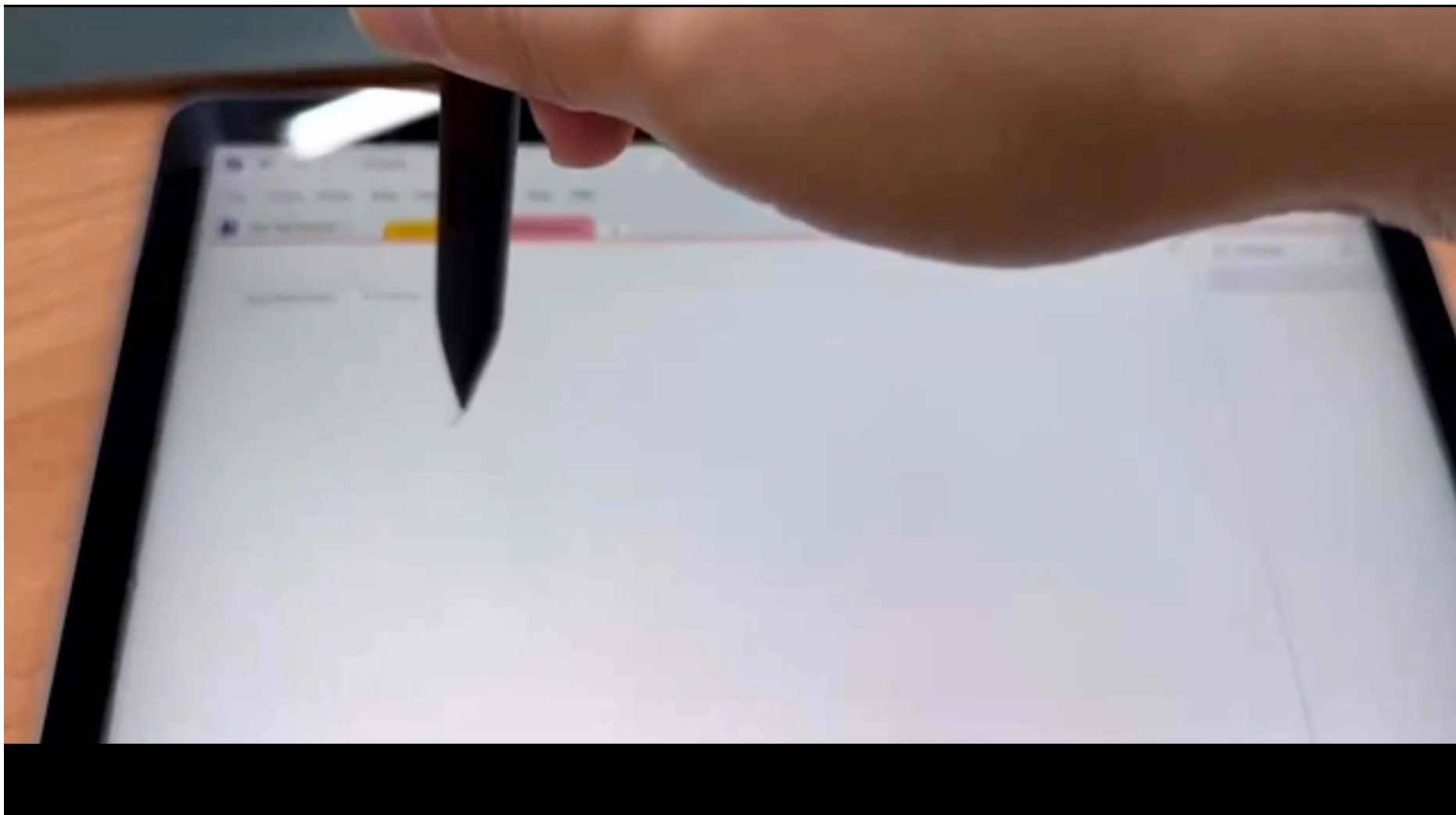
Prompt Copilot Quickly by Stylus




Copilot+PC



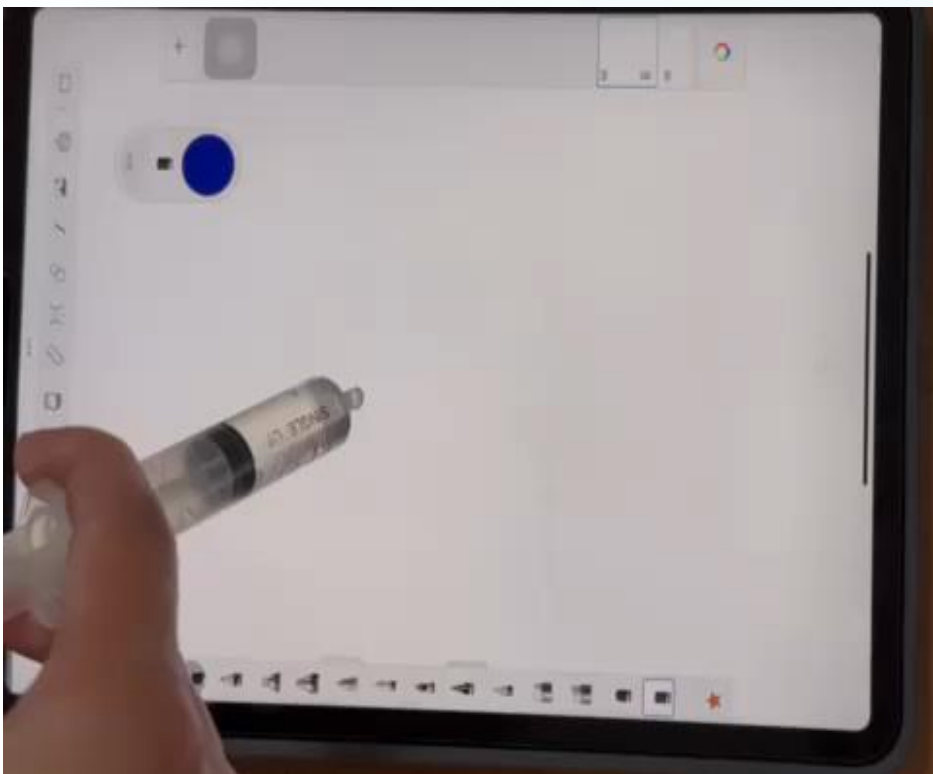
AI 使觸控筆具低延遲、低耗電等功能



AI Prediction

AI防水功能 展現明顯差異

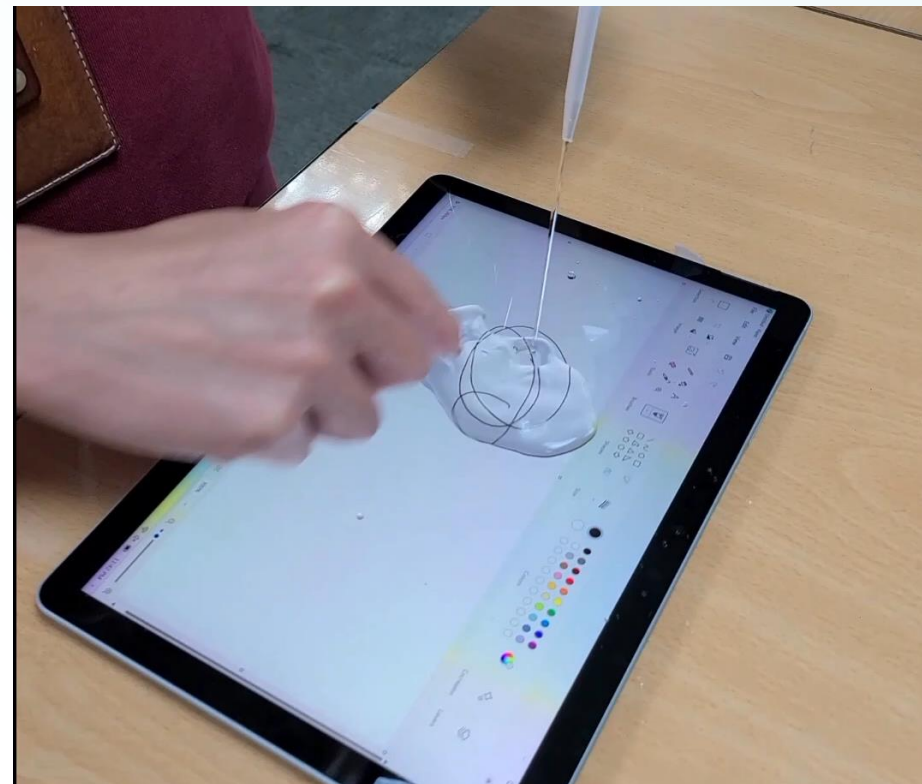
w/o AI Moisture Proof



iPad Pro-11

Test Condition : Water 5 mL

w/ AI Moisture Proof

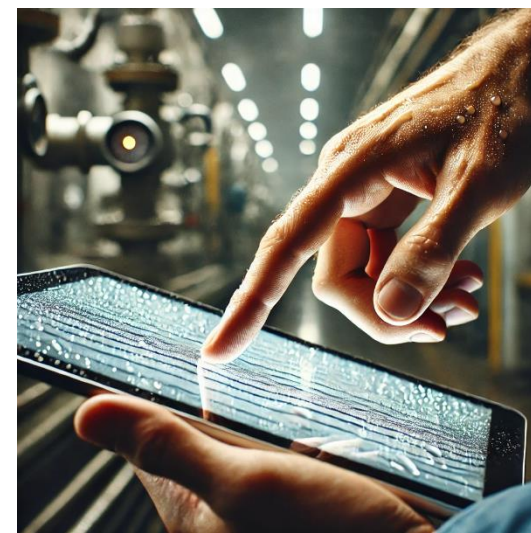


ELAN 工業控制解決方案(防水與手套觸控)

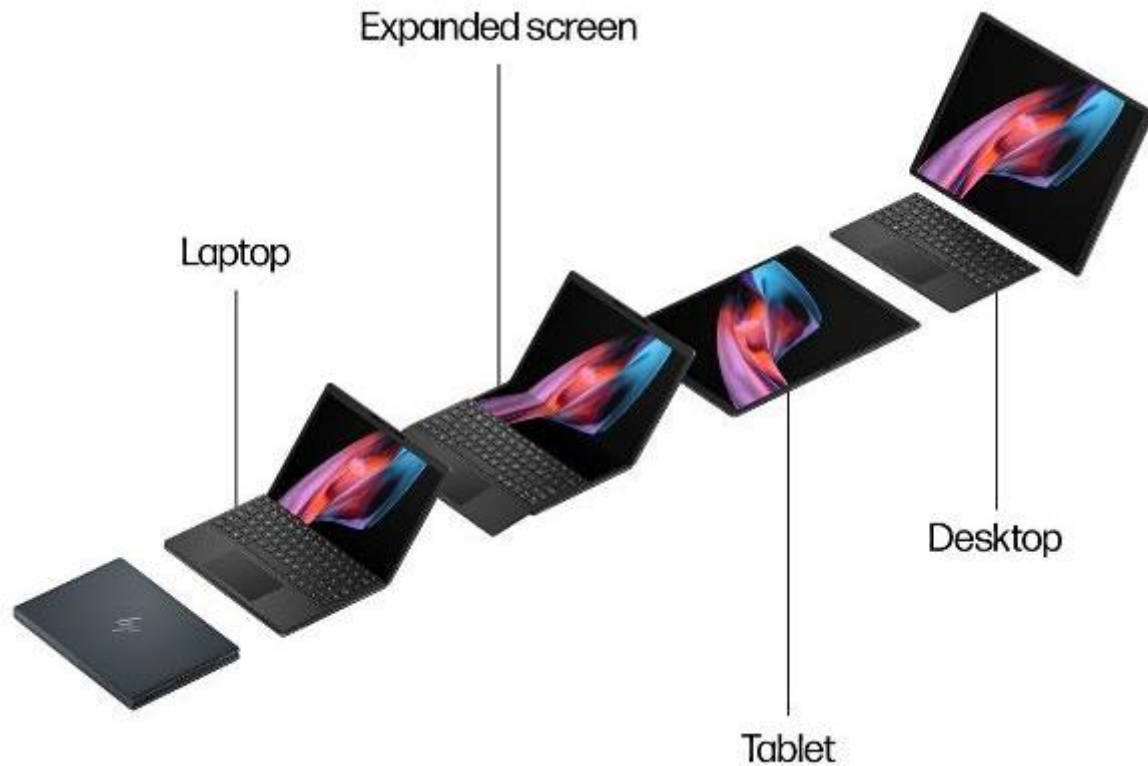


Industrial Control

Touch Controller with Innovative Geometry Design for Industry



AI觸控螢幕晶片解決方案應用於17.3吋折疊式筆記型電腦



World First's Largest Foldable Laptop Launched



Spectre Foldable 17



Gram Fold 17

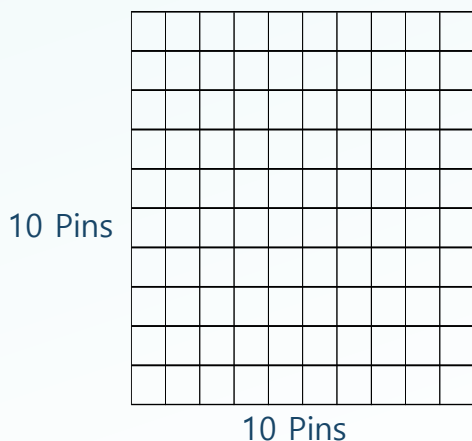


義隆提供單層On-Cell (Single Layer On Cell-SLOC)觸控解決方案

*Example

Multi Layer (Count Line)

Total 20 Pads



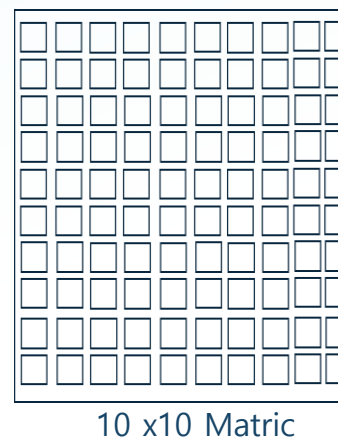
Single Chip

ELAN Solution for SLOC

- ✓ Up to 16.0"
- ✓ Support Windows/Chrome OS
- ✓ Support On Cell LCD/On Cell OLED

Single Layer (Count Pad)

Total 100 Pads



Multi (3~4pcs) Chips



Better Display Performance

High Transparency
Less reflection



Higher SNR / Report Rate

165 Hz for Gaming
Self mode sensing
Glove support
Water Proof



On-Cell LCD/OLED

Support
High Resistance
Heavy C_loading



Simple Process

Shorter process cycle
time for Panel maker

全球知名電子書品牌 採用義隆觸控螢幕晶片

Black & White E-paper

Paper Pro

R kobo



Libra 7"

R kobo



Optional

Sage 8"
MPP2.0

R kobo



Standard

Elipsa 10.3"
MPP2.0

Color E-paper

mooInk



Plus 2C 7.8"

Bigme



Bigme 10.3"

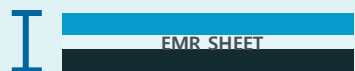
rM

reMarkable Paper Pro
500Hz Pen report



電磁式 VS. 電容式主動筆應用於電子書之比較

Thickness



EMR

Thinner



Capacitive Active Stylus

Cost

10.3" ~ 13": <30%~50%

EMR Stylus

EMR film

EMR

Cheaper

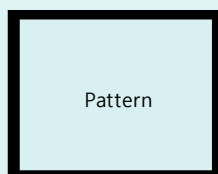


ITO Film

Active Stylus

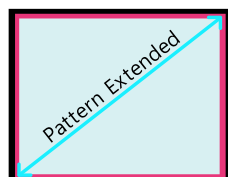
Capacitive Active Stylus

Linearity



EMR

Better



Capacitive Active Stylus

Pen Vendor

Wacom

EMR

More

MAXEYE

Wacom

SUNWODA

Hanvon

Chicony

Capacitive Active Stylus

AI之指紋辨識感測器的亮點

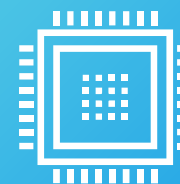
#2

Notebook Market

100%

In-House
Algorithm

MOH & MOC Single-Chip Encryption



AI Enabled

2.5D/3D
Anti-Spoof

Fingerprint



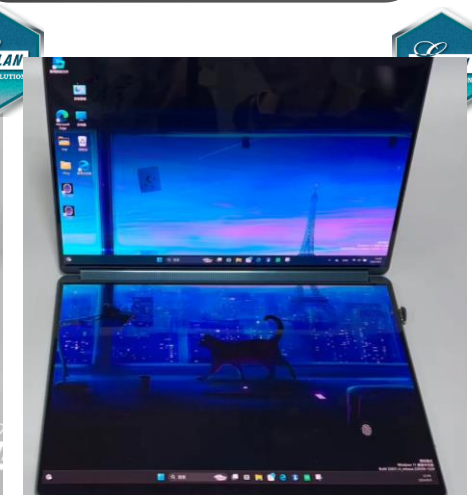
Copilot Key



FP in Smart Card Solution



Anti-spoofing Solution



Optical FP



義隆提供優質的AI Copilot 二合一指紋解決方案

指紋將保護您所有的個人資料



Copilot has full system access, including meeting notes and files.



Enhanced Security

Ensures only the user can access their personal Copilot.



AI Data Protection

Secures sensitive information with fingerprint.



User-Friendly

Seamless one-touch Copilot activation.



Recall AI : Copilot+ PC 的時間追蹤功能

Recall 強大的搜尋功能，引發隱私疑慮



Copilot+PC



Windows Hello



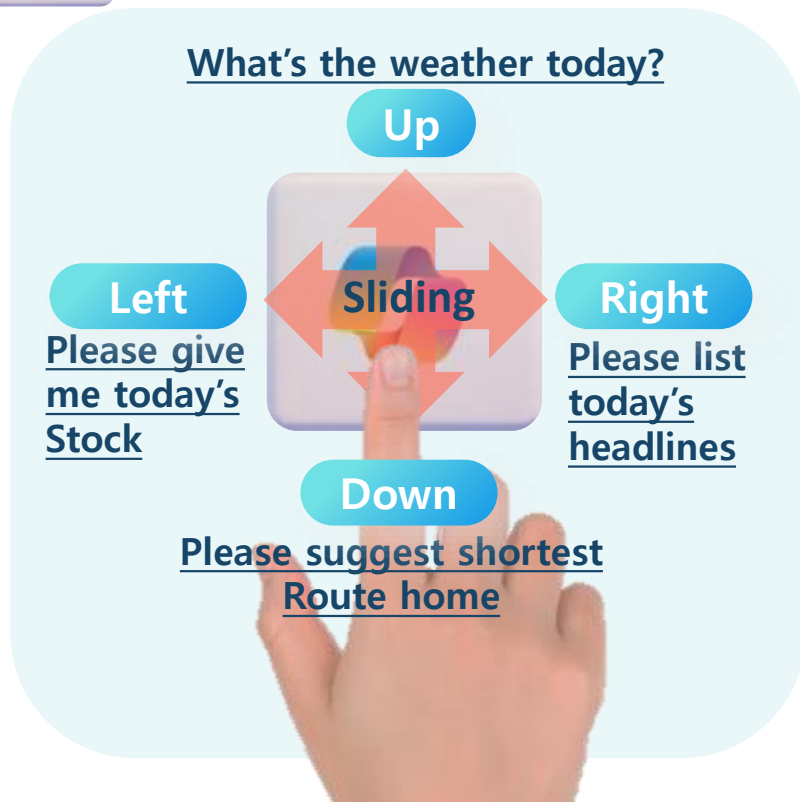
Each time you use Recall,
Windows Hello Authentication is
Required to Unlock
and Access Content.
**Only ESS can Enable
Recall Function**

義隆專屬的指紋與Navigation解決方案 – AI Copilot

透過 Copilot 按鍵與滑動手指快速操作 Copilot



Keycap (Personalized Short Cut)



Prompt Copilot Quickly by Sliding Finger



Pointstick 產品亮點

#1

Trackpoint Market

70%⁺

Market Share



Ultra
Low
Power

< 4.1mm

Thinner Sensor



ELAN
In-house
Design
And
Manufacturing

Adopted Brands



Lenovo

ASUS

Tracking Performance

Better Sensitivity
Better Linearity



~10M

Annual Shipment

Pointstick 全球市場

新功能帶動ASP上揚



Unit: NT\$M

2,500

2,000

1,500

1,000

500

140

120

100

80

60

40

20

0

2020

2021

2022

2023

2024

Global Market

ELAN Share

Market Share

ASP

合併損益表 – 2024年 vs. 2023年

單位:新台幣佰萬元

	2024年	%	2023年	%	YoY(%)
營業收入淨額	12,696	100.0	12,059	100.0	5.3
營業毛利	6,204	48.9	5,432	45.0	14.2
銷售費用	352	2.8	370	3.1	
管理費用	501	4.0	479	3.9	
研發費用	2,285	18.0	2,149	17.8	
營業費用	3,138	24.8	2,998	24.8	4.7
營業淨利	3,066	24.1	2,434	20.2	26.0
業外收入及支出	207	1.7	38	0.3	
稅前淨利	3,273	25.8	2,472	20.5	32.4
稅後淨利	2,593	20.4	1,985	16.5	
本期淨利歸屬於					
母公司業主	2,736	21.6	2,143	17.8	27.7
非控制權益	(143)		(158)		
* 每股盈餘 (元)	9.57		7.53		27.1

* 期末發行股數: 3.04億股; 流通在外股數: 2.862億股 (2024年12月底)、2.846億股 (2023年12月底)

* 財務資料來源: 會計師查核

2025年第1季業績展望

基於目前對未來營運展望之假設，義隆公司預期：

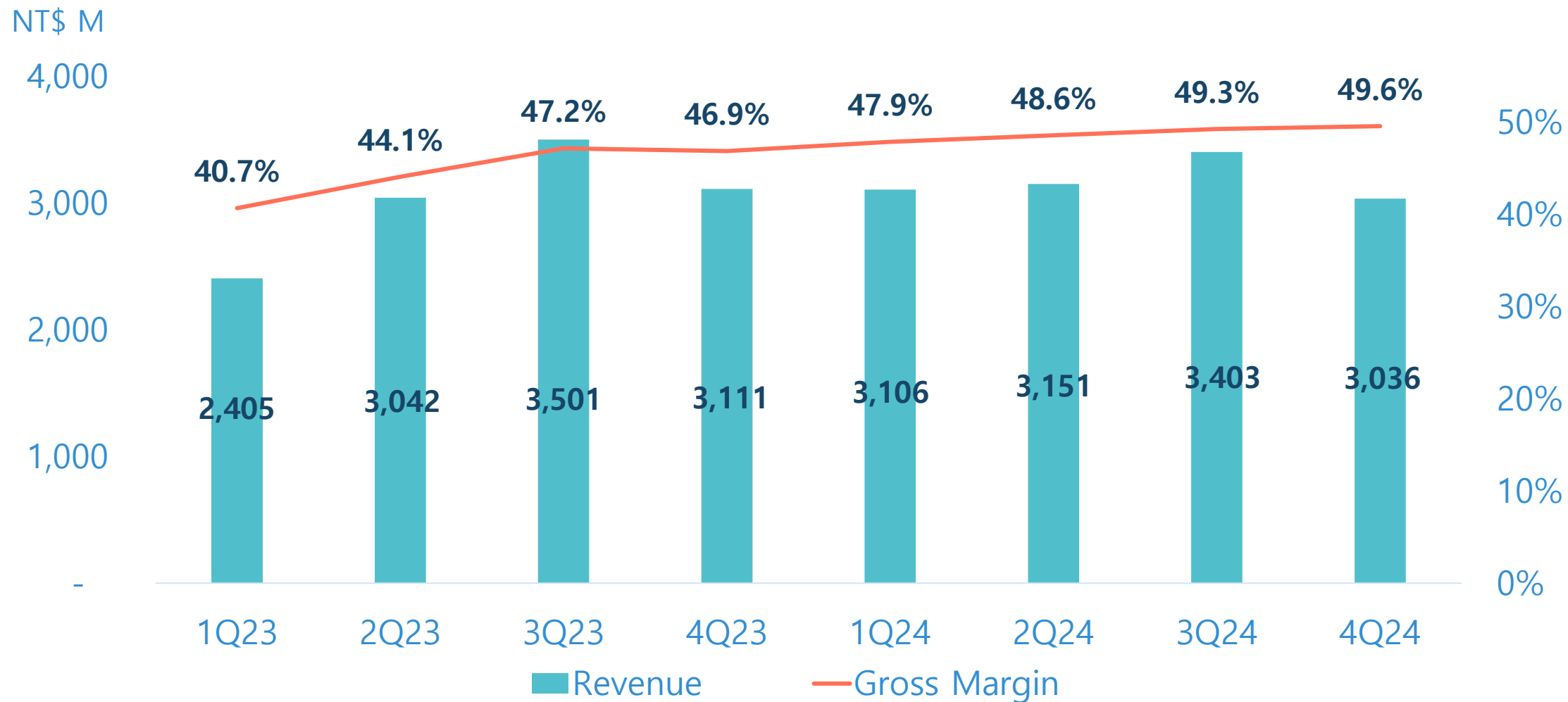
★合併營收約介於新台幣30億～ 新台幣32億之間

★ 銷貨毛利率約於48% ~ 51%之間

★ 營業利益率約介於21.9% ~ 26.5%之間

- 簡報內所含之前瞻性敘述將受各項風險與不確定因子影響而與本公司之表示有所差異。
- 除受法令要求外，本公司並無義務於日後情況變動時更新簡報內所為之前瞻性敘述。

義隆營運績效



即將崛起的AI產業趨勢

1. 隨著 Windows 10 於 2025 年第四季度終止支援且不再提供資安系統更新，筆記型電腦的更換週期即將到來，加速換機需求
2. AI PC 不只為企業帶來競爭優勢，更可提升個人生產力。AI PC 將推廣精簡版大型語言模型（如 DeepSeek）在地端邊緣運算裝置上運行，以提升效率並保護隱私
3. AI Copilot搭載 ELAN的指紋解決方案，可提供更高的安全性、更全面的AI資料保護以及更簡便的使用者體驗
4. Google 的「圈選搜尋」（Circle to Search）功能已支援觸控與手寫筆，未來有潛力發展更多觸覺回饋觸控板（Haptics Touchpad）相關的功能，推動人機介面持續進化。



THANK YOU

ELAN MICROELECTRONICS

