



義隆 Smart-Input™ Solutions

Dual Transformation through Edge AI

藉由邊緣AI實現企業轉型

2025/05/19

HSBC Taiwan Conference 2025



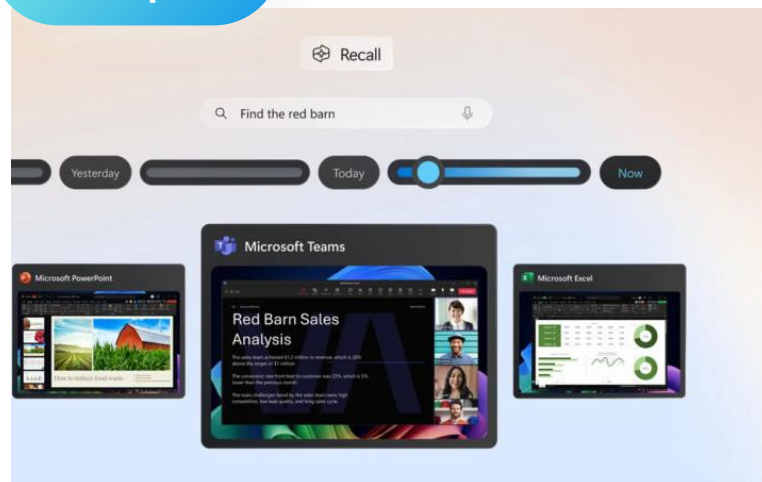
ELAN Microelectronics Corporation

微軟新AI功能及系統要求



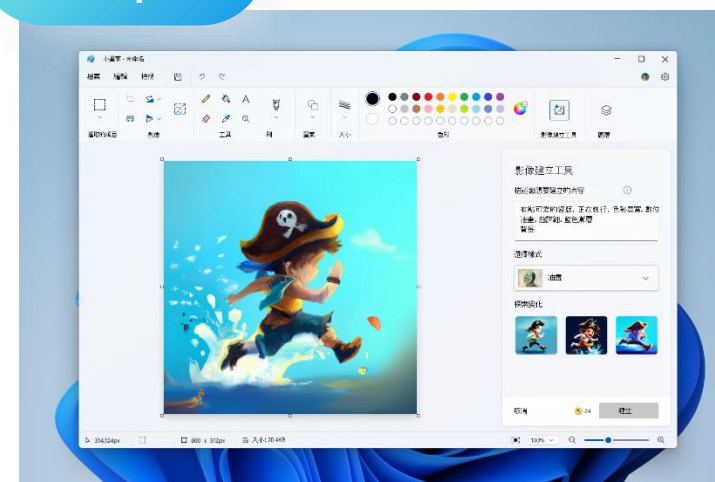
Request:
45 Tops ↑

Recall

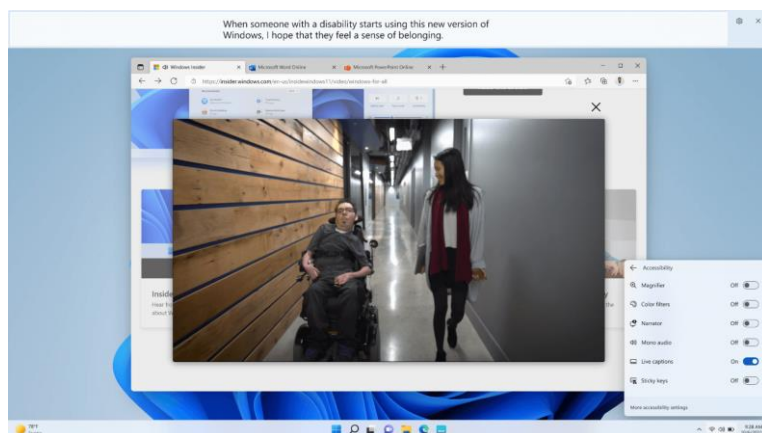


Request:
45 Tops ↑

Cocreator



Live Caption

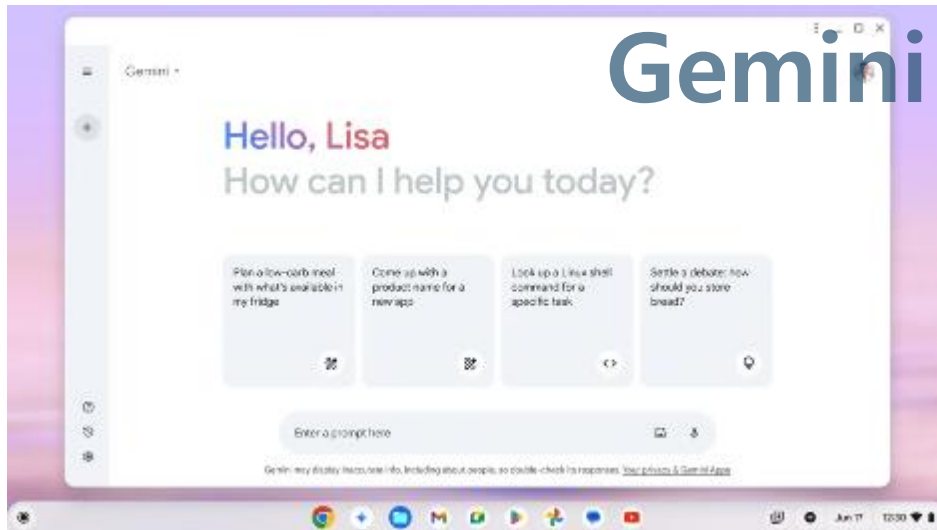


Auto Super Resolution



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

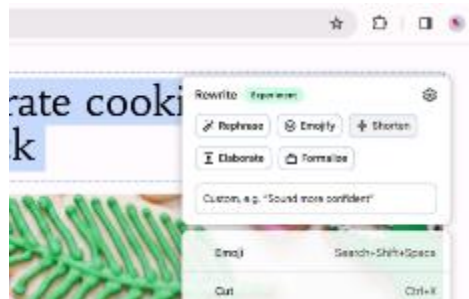


ASUS Chromebook Plus 514



HP Chromebook Plus x360

AI Writing Tool



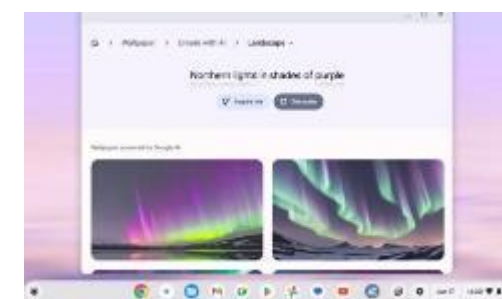
AI Magic Editor



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

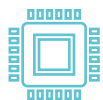
	2023	2024		2025		2026		2027	
	Shipment	Shipment	YoY Growth %	Shipment	YoY Growth %	Shipment	YoY Growth %	Shipment	YoY Growth %
NB	179	183	2.5%	196	7.0%	203	3.4%	215	5.8%
Tablet	114	119	4.60%	123	3.20%	125	2.10%	131.9	5.10%



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



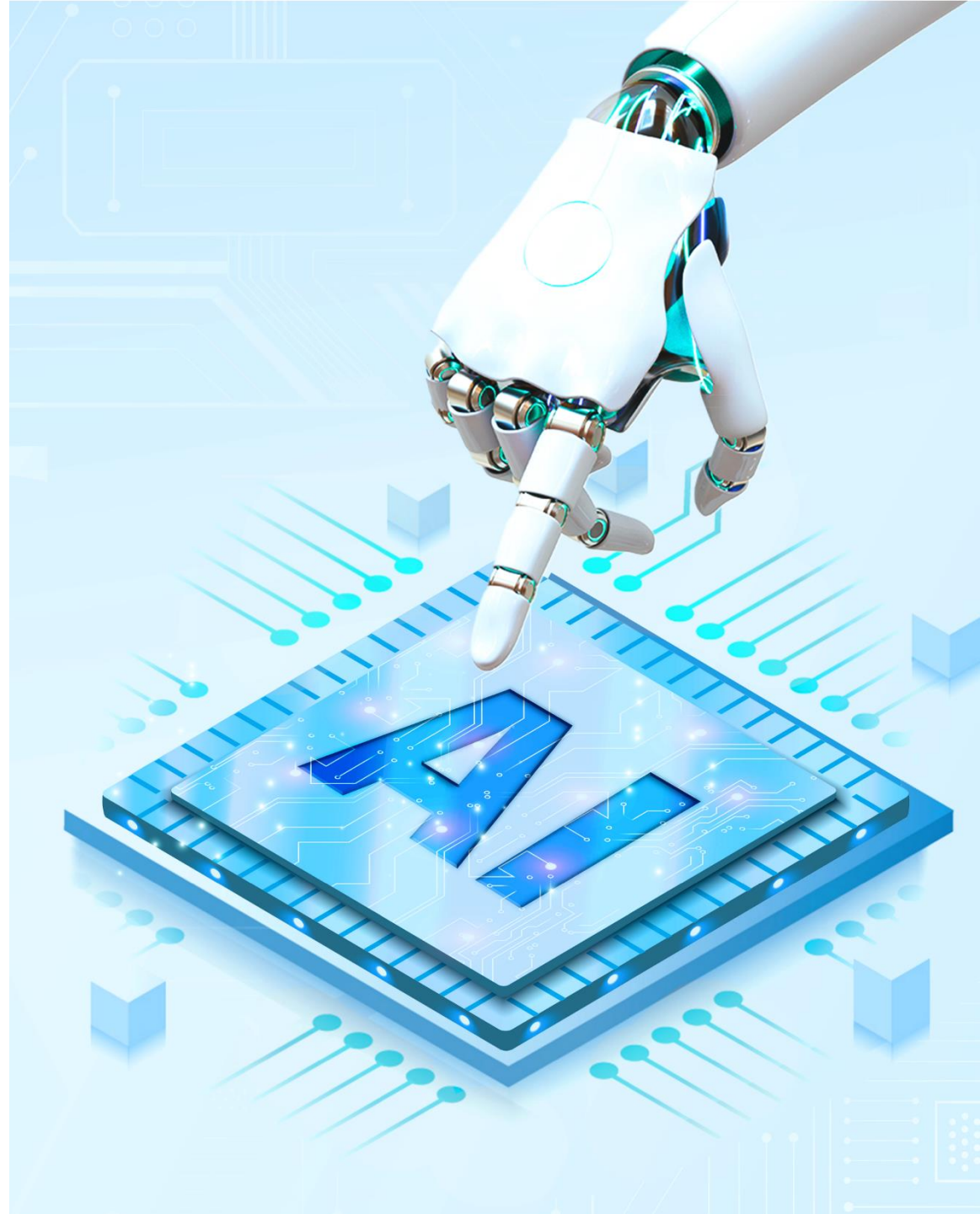
Windows 10停止更新後，資安問題將成為推動換機潮的一個關鍵，我們也因此判斷會優先帶動商務型號換機



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)**

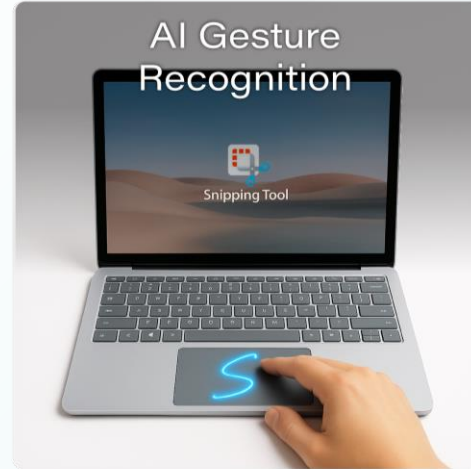
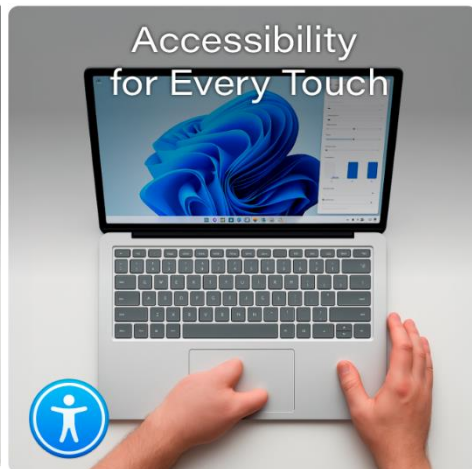
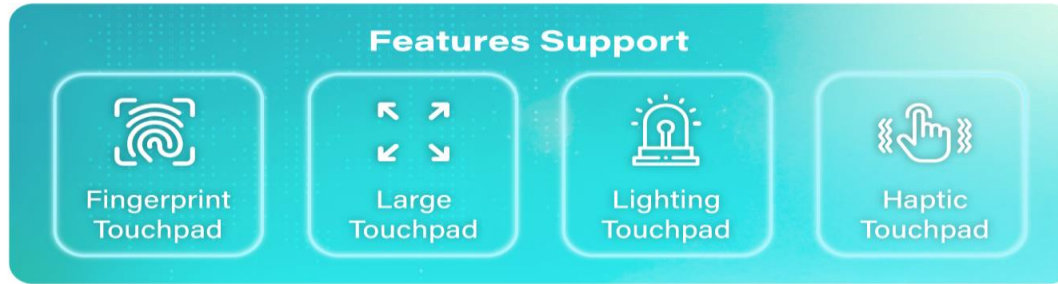
Reduces the carbon footprint of data centers

AI賦能的觸控板模組

- More Value-Add Applications coming for Haptics on Touchpads
- ELAN AI Features Establish Technical Barriers

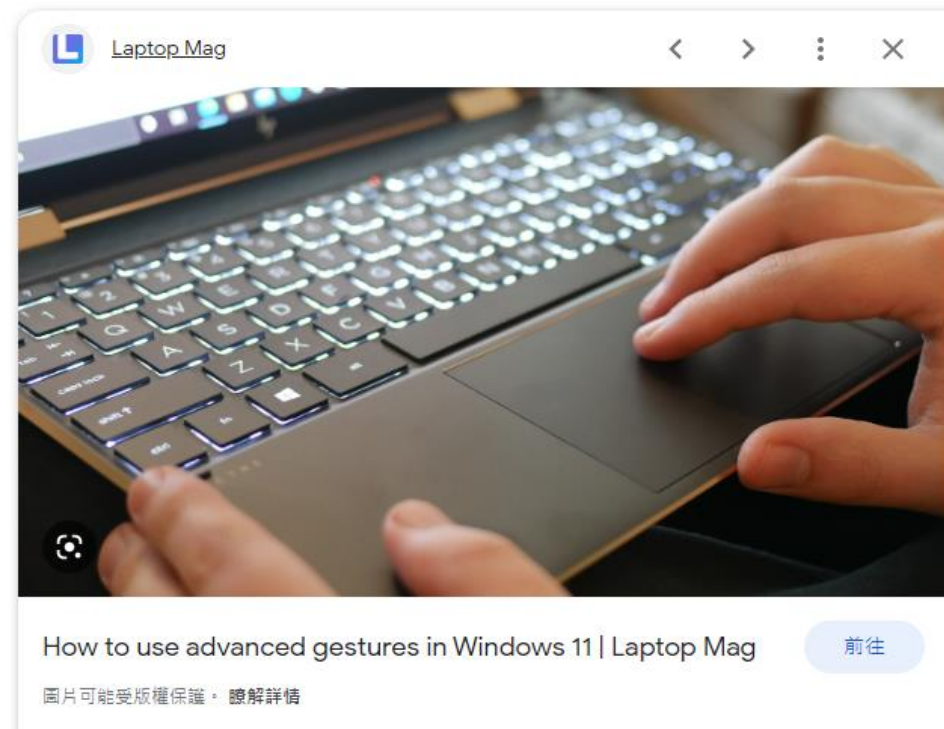
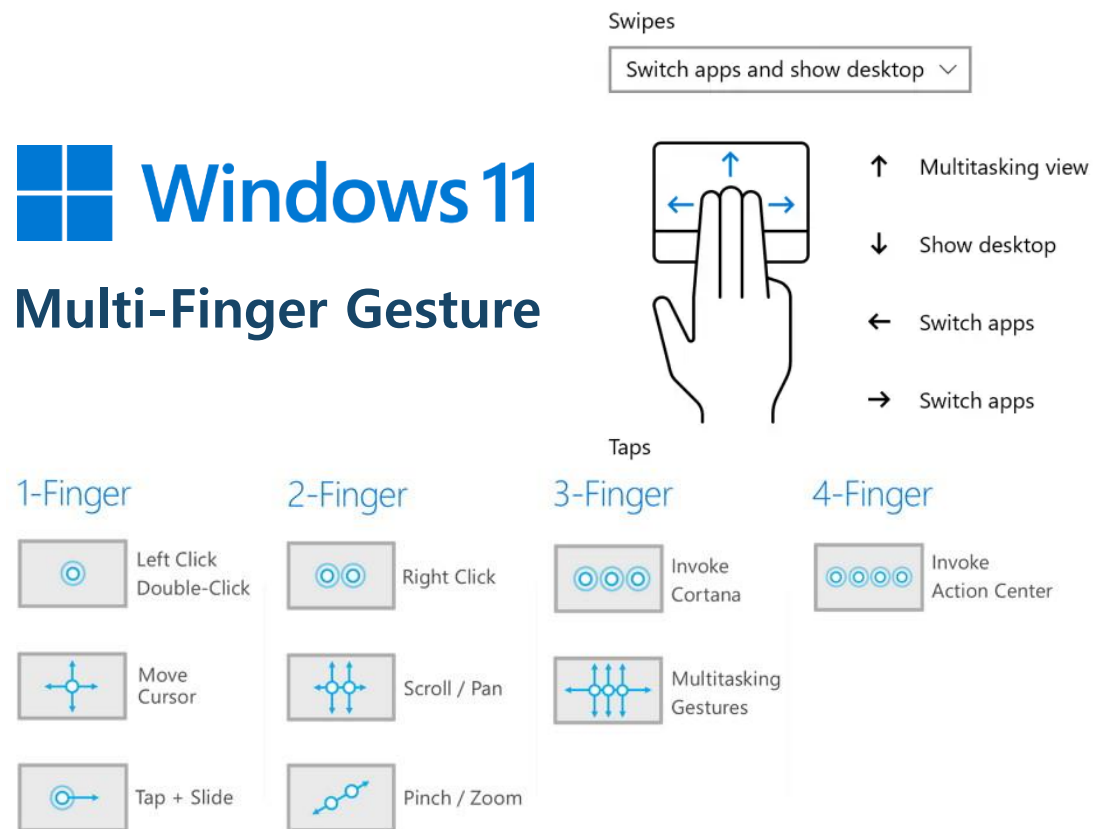


Touchpad Innovations



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

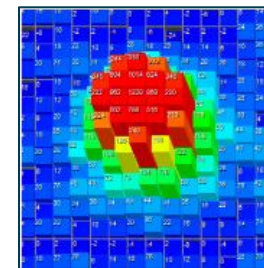
觸控板明顯朝大尺寸面積發展趨勢演進



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

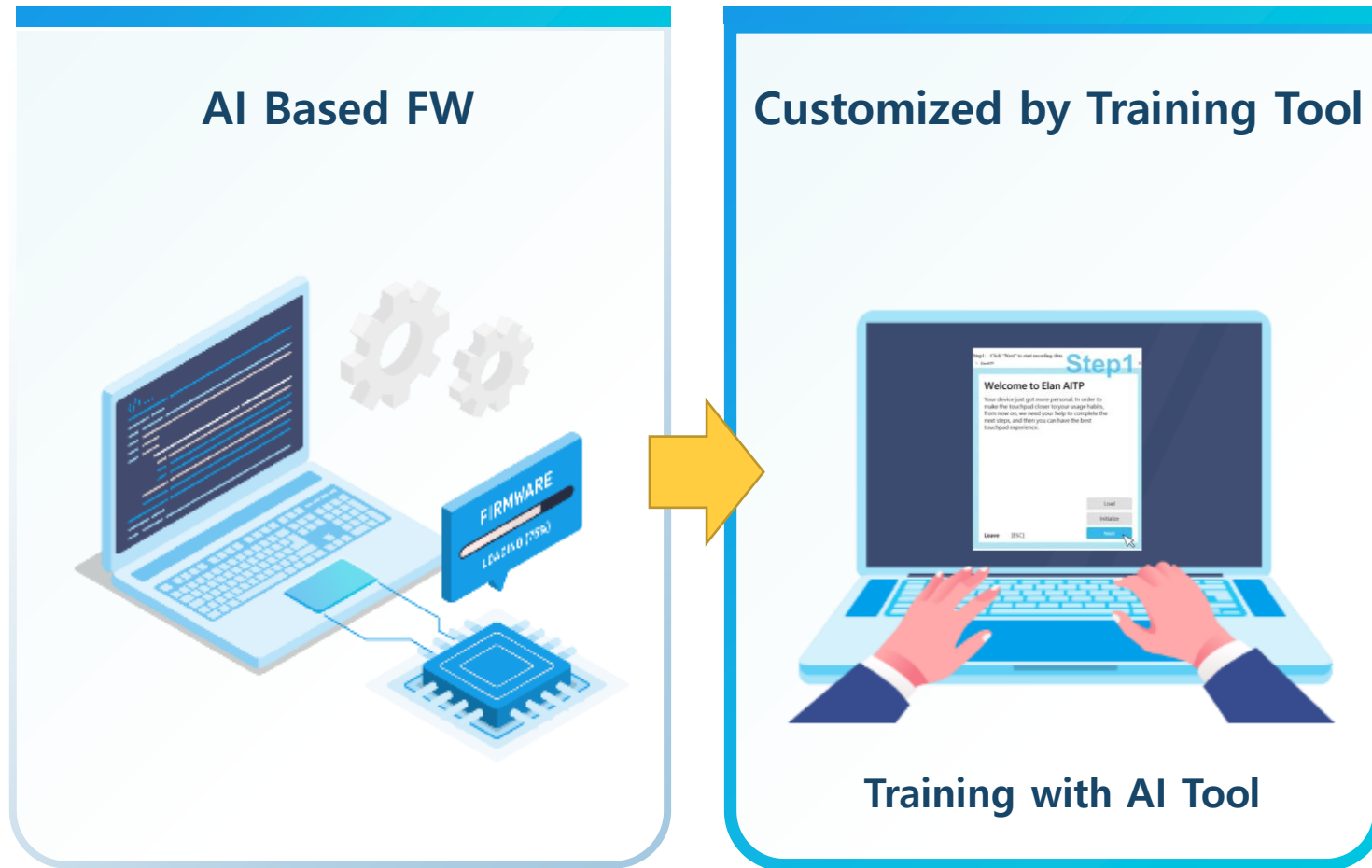
- Two Palm Tapping / Moving / Swiping



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



榮獲2025 COMPUTEX Best Choice Award五座大獎



Edge AI Touchpad with Accessibility Mode
邊緣運算AI輔助殘障筆電觸控板



AI Enabled Touchscreen Solution for IPC
AI賦能工控電腦觸控方案



ELAN3.0
電動巴士AI緊急轉向防護系統



Edge Vision AI Traffic Signal Control
邊緣端AI感知與動態號誌控制系統

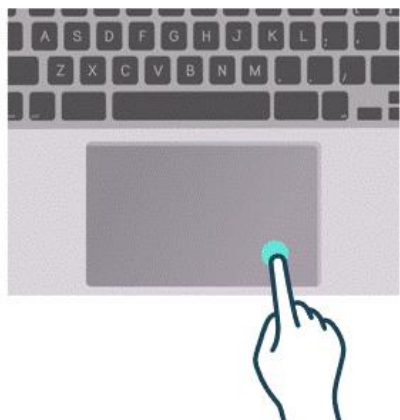
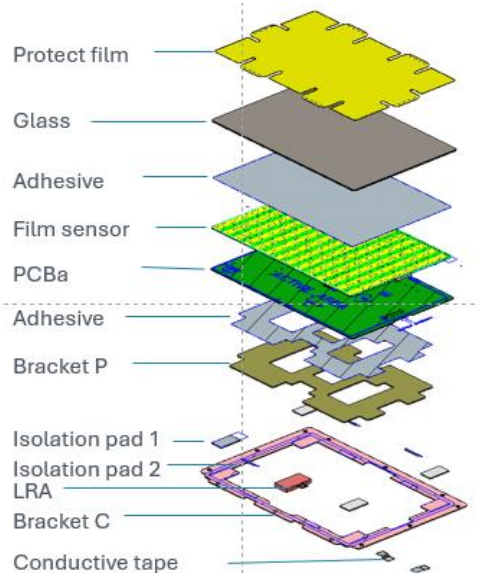


Edge-based Pedestrian AI Safety System
邊緣端行人AI安全保護系統

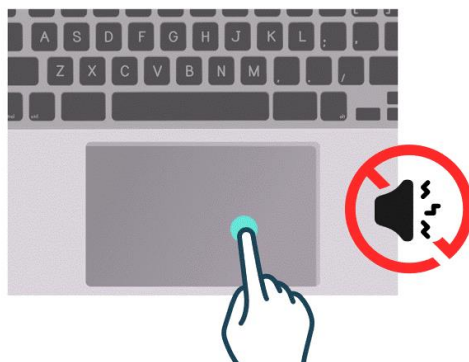


帶有AI功能之觸覺回饋觸控板的特色與優勢

Gen2 (Premium)



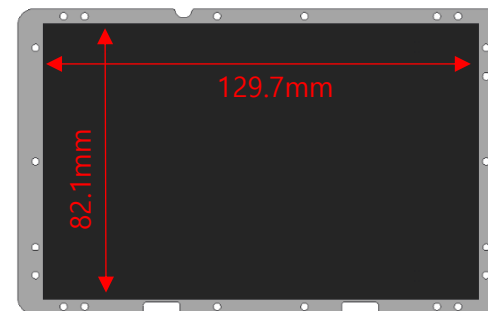
**All-Zone
Clickable**



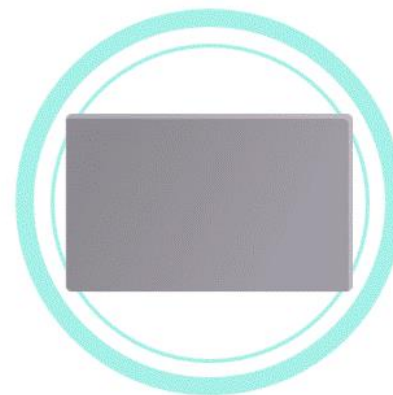
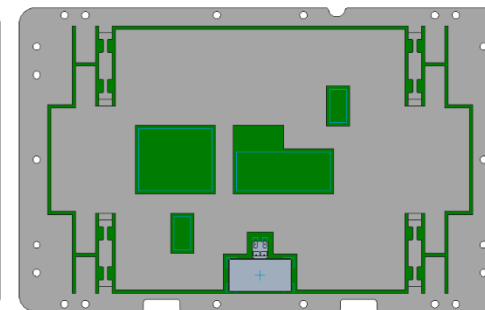
**Silent
Click Sound**

Gen3 (Mainstream)

Top View



Bottom View



**Different
Haptic Performs**



**Gesture
Control**

© 2023 LAN

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

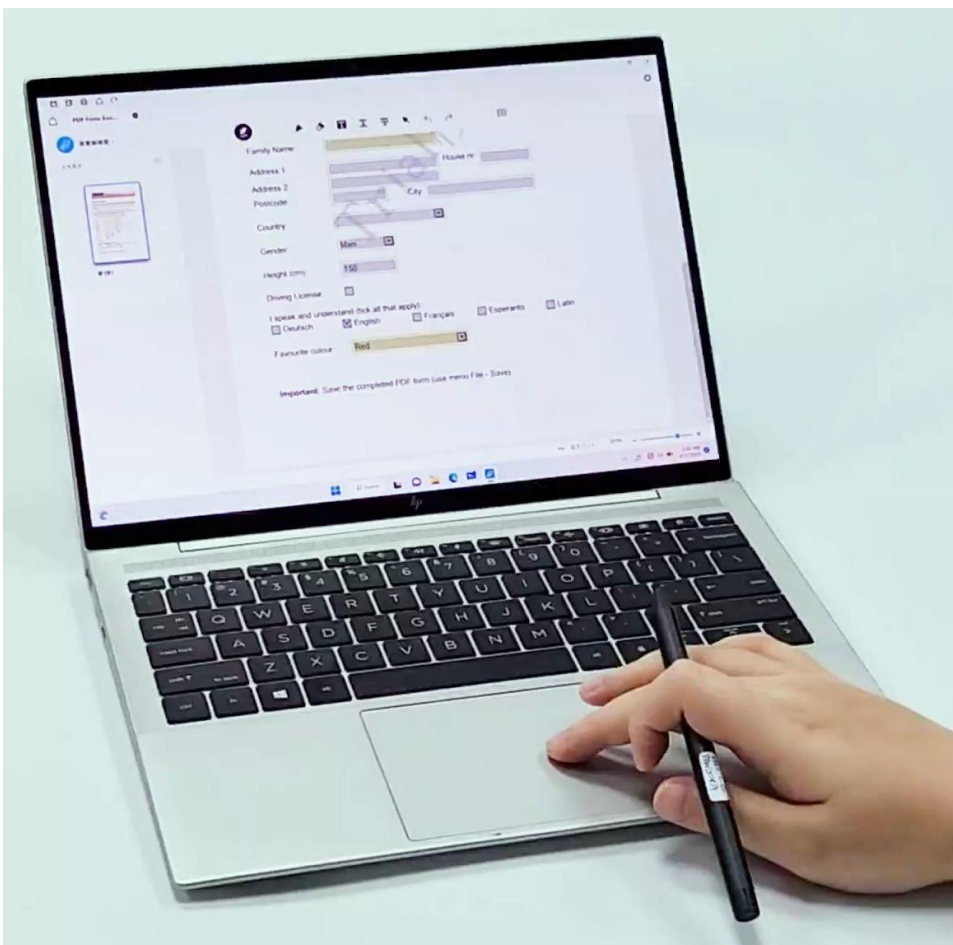


ProArt Studiobook H7604
ELAN Gen 2 HapticPad

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

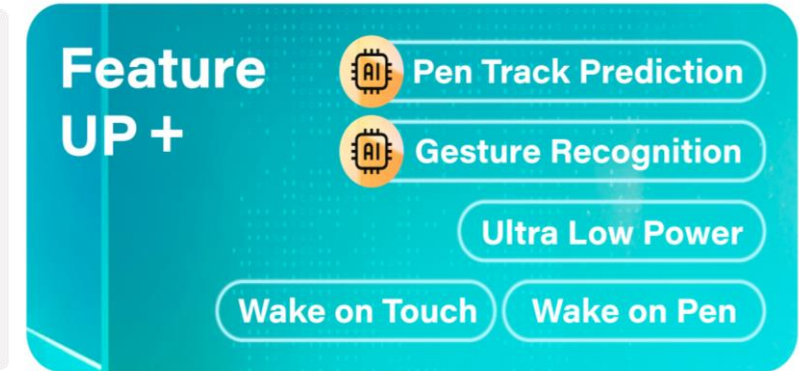
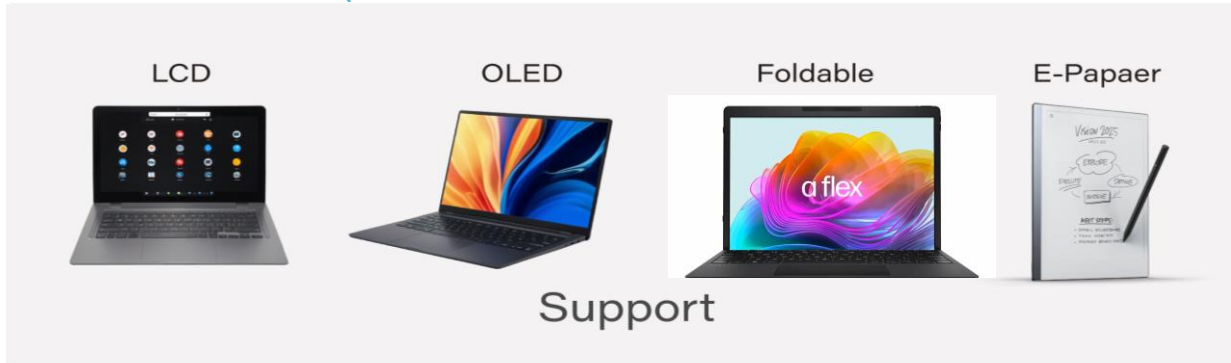


AI賦能的觸控螢幕晶片 – 筆記型電腦

- The Multi-Modal UI of AI PC Will Increase User Scenarios
- ELAN AI Features Increase Market Competitiveness



Touchscreen Innovations

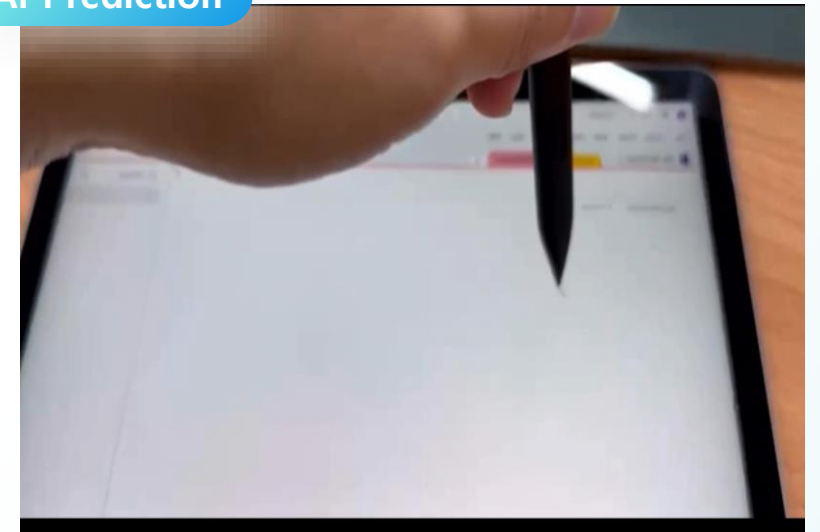


AI Writing Recognition for Copilot Application

- S → Screenshot
- n → Open Notepad
- b → Browser



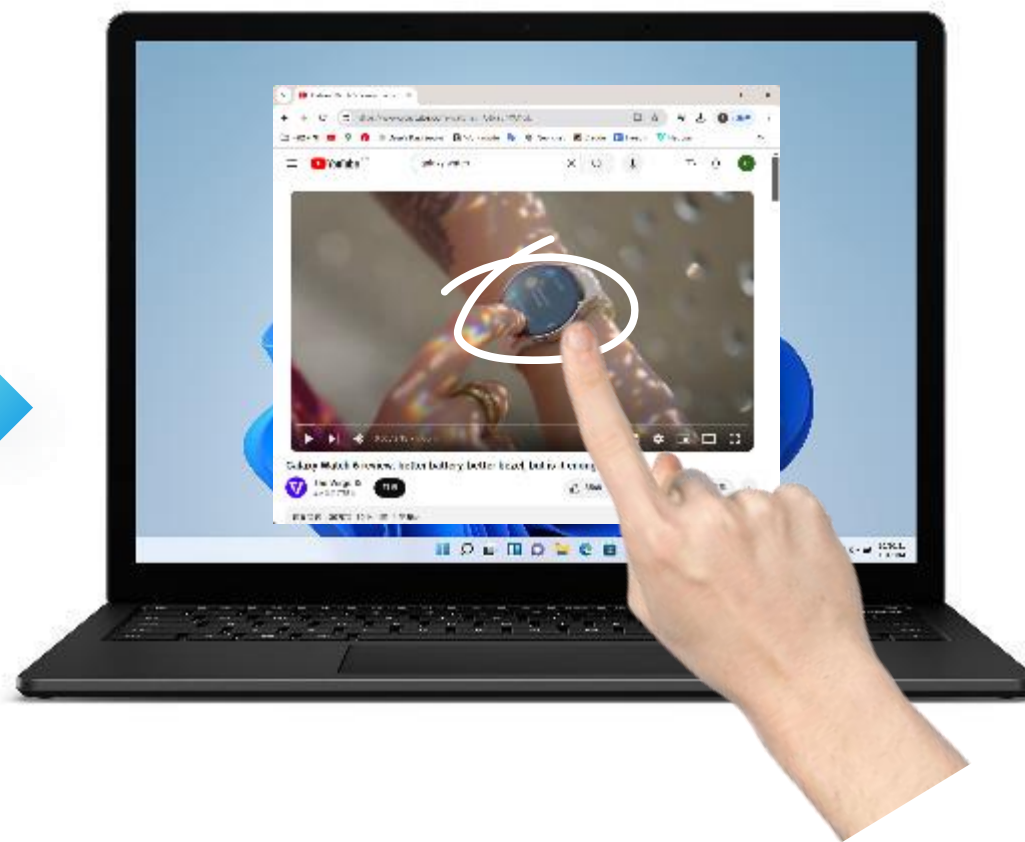
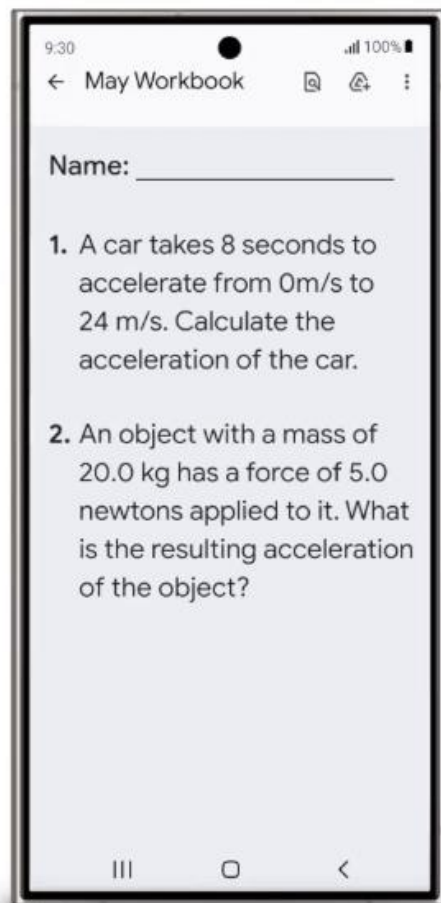
AI Prediction



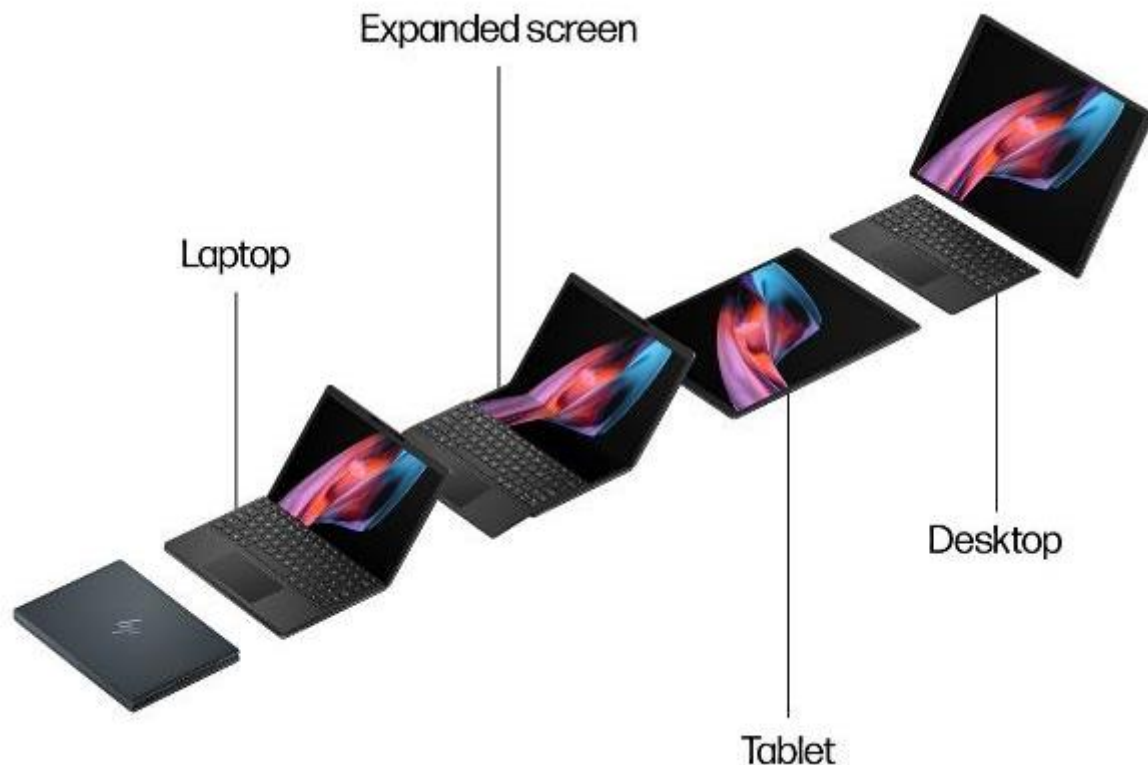
畫圈搜尋:手機端AI搜尋功能衍生應用

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



AI書寫辨識 – Copilot應用



Pen Pilot (Open Application with AI Writing Recognition)

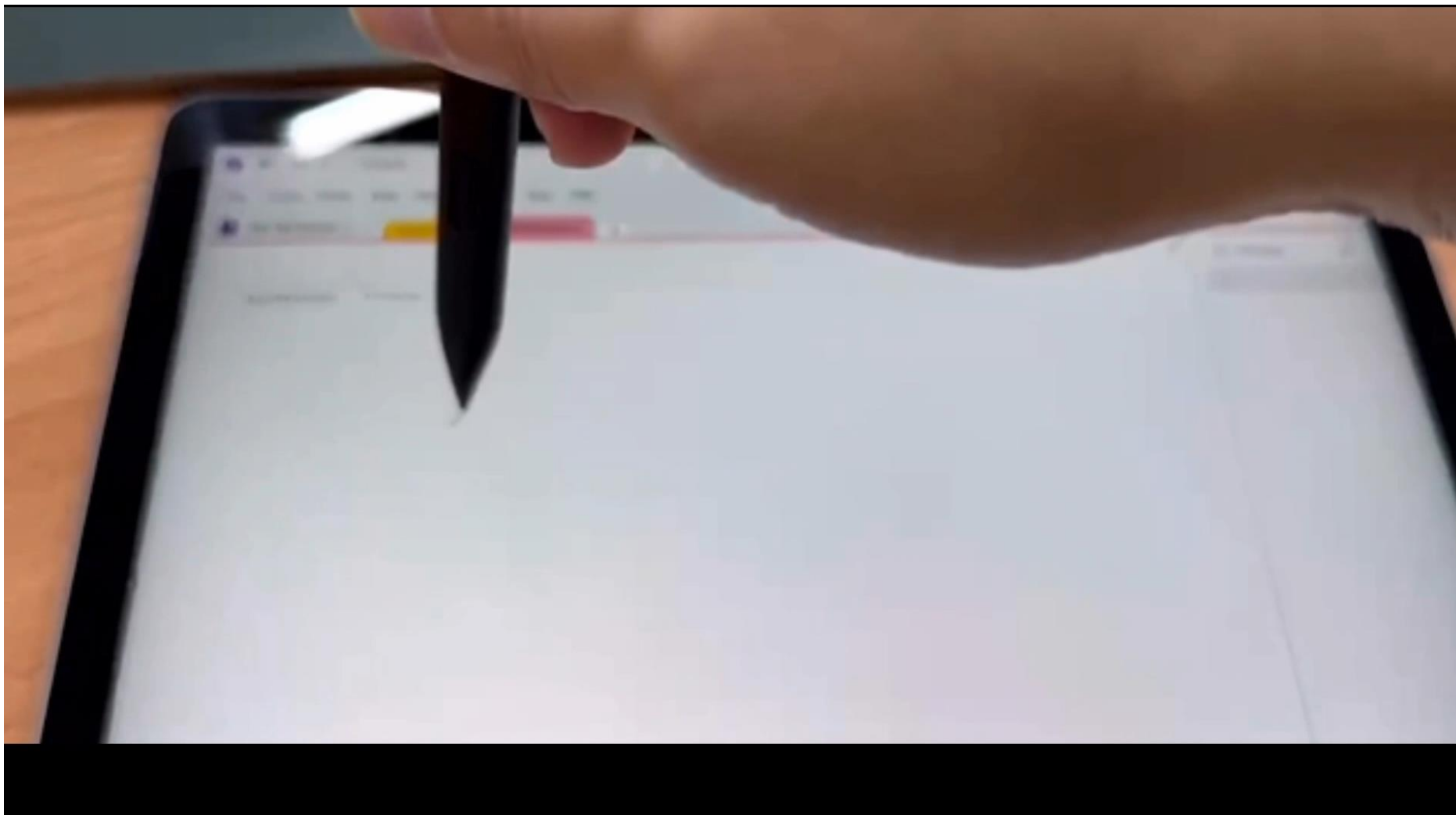
Prompt Copilot Quickly by Stylus




Copilot+PC



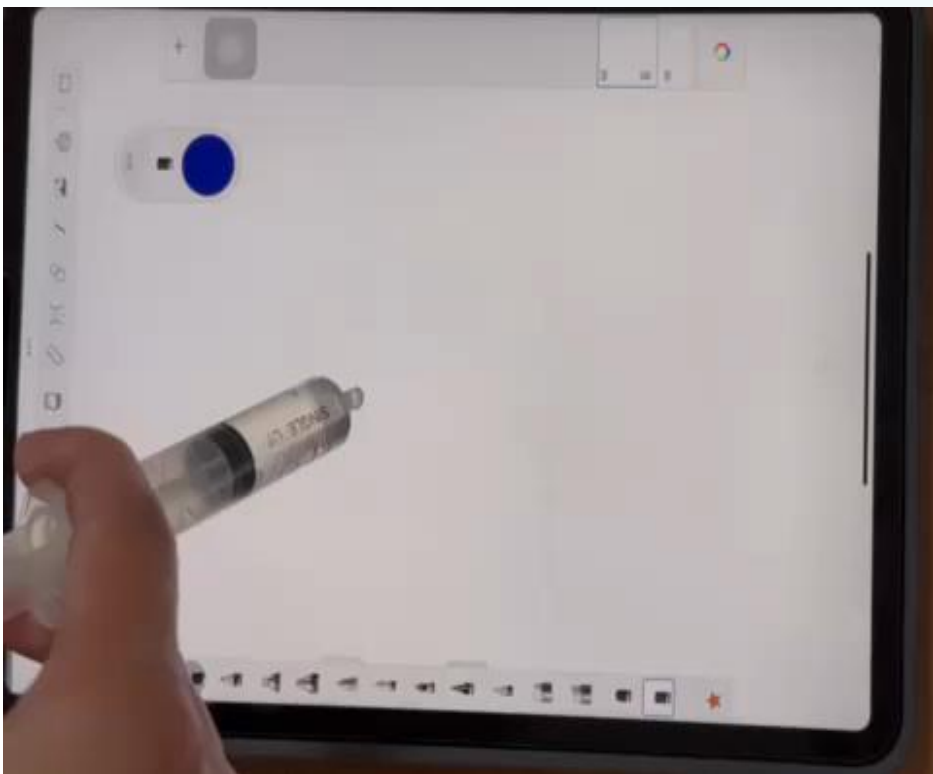
AI 使觸控筆具低延遲、低耗電等功能



AI Prediction

AI防水功能 展現明顯差異

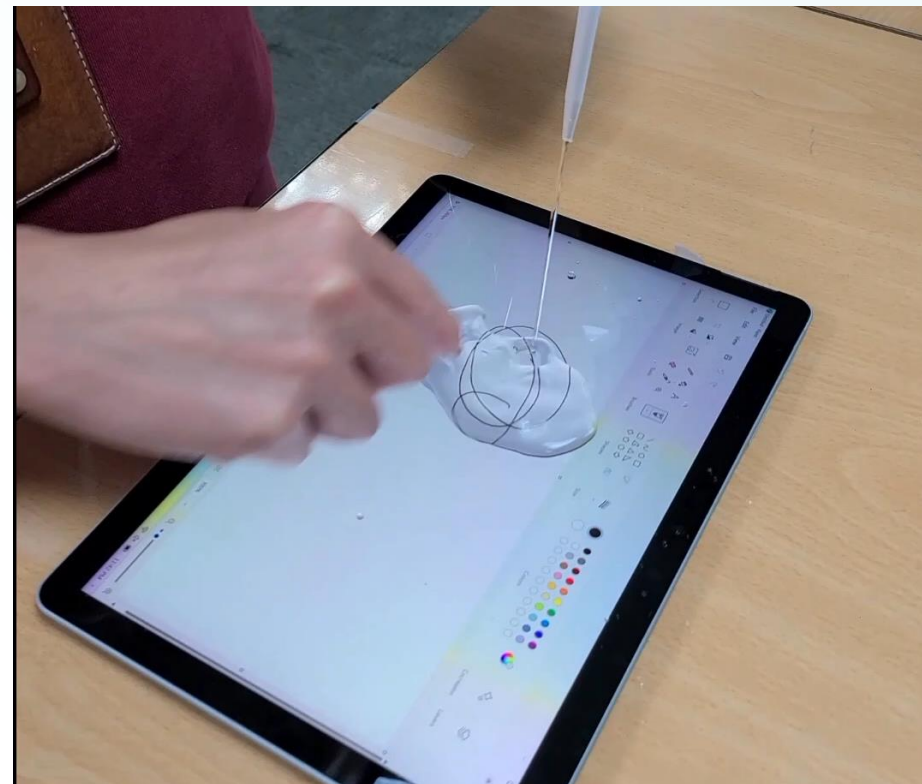
w/o AI Moisture Proof



iPad Pro-11

Test Condition : Water 5 mL

w/ AI Moisture Proof

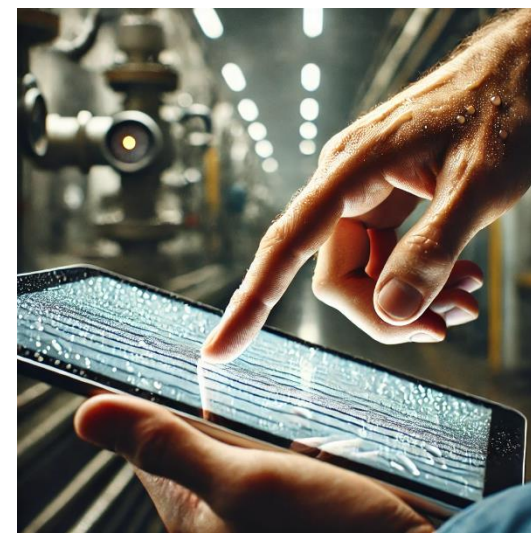


ELAN 工業控制解決方案(防水與手套觸控)



Industrial Control

Touch Controller with Innovative Geometry Design for Industry

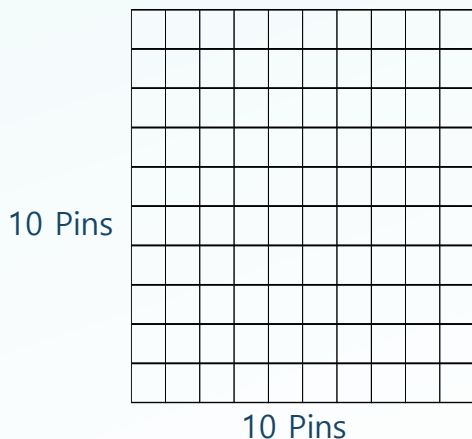


義隆提供單層On-Cell (Single Layer On Cell-SLOC)觸控解決方案

*Example

Multi Layer (Count Line)

Total 20 Pads



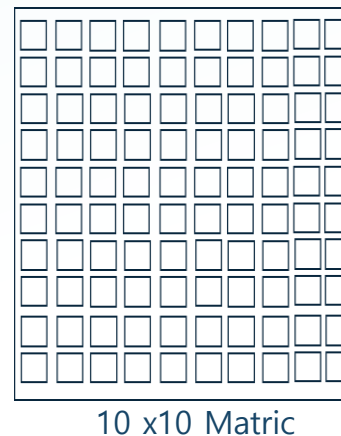
Single Chip

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

AI賦能的觸控螢幕晶片 - 電子紙

ELAN Cap. Pen Achieves EMR Function , is Thinner & Lighter with More Competitive Cost

E-Paper with Capacity Active Pen Solution



kobo

reMarkable

Bigme

mooInk

ONYX
BOOX

掌阅
引领品质阅读



E-Paper with Capacity Active Pen Solution

Feature	EMR	Other Solution	ELAN Solution
		CAPACITY ACTIVE PEN	CAPACITY ACTIVE PEN
Operation	Electromagnet IC Resonance	Digital Signals with Battery	Digital Signals with Battery
Battery	None	Required	Required
Precision	High	Moderate	High
Latency	Fast	Moderate	Fast
Feel	Natural	Moderate	Near as Natural
Cost	high	Lower	Lower
Compatibility	Requires EMR Displays	Board Compatibility	Board Compatibility



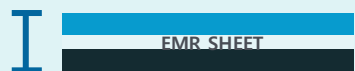
AI Enhanced Stylus

Shorter Latency
Higher Precision



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**

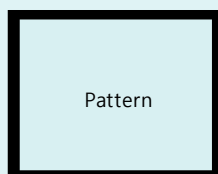


ITO Film

Active Stylus

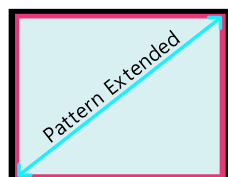
Capacitive Active Stylus

Linearity



EMR

 **Better**



Capacitive Active Stylus

Pen Vendor

Wacom

EMR

 **More**

MAXEYE

Wacom

SUNWODA

Hanvon

Chicony

Capacitive Active Stylus

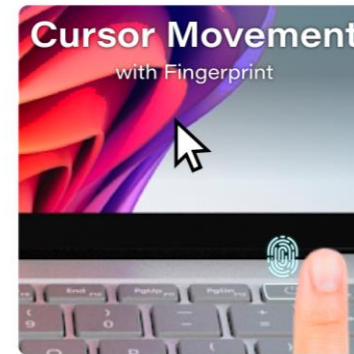
AI賦能的指紋辨識感測器

- AI PC's Requirements for Information Security Increase the Demand of Fingerprint
- ELAN Provides Copilot Key Module with Integrated Fingerprint & Multi-function to Increase Market Competitiveness & ASP

Copilot Key + Fingerprint + Navigation
3 in 1



Fingerprint Innovations



Certificated by



Mouse



Keyboard



Console



Smart Ring



Smart Glasses

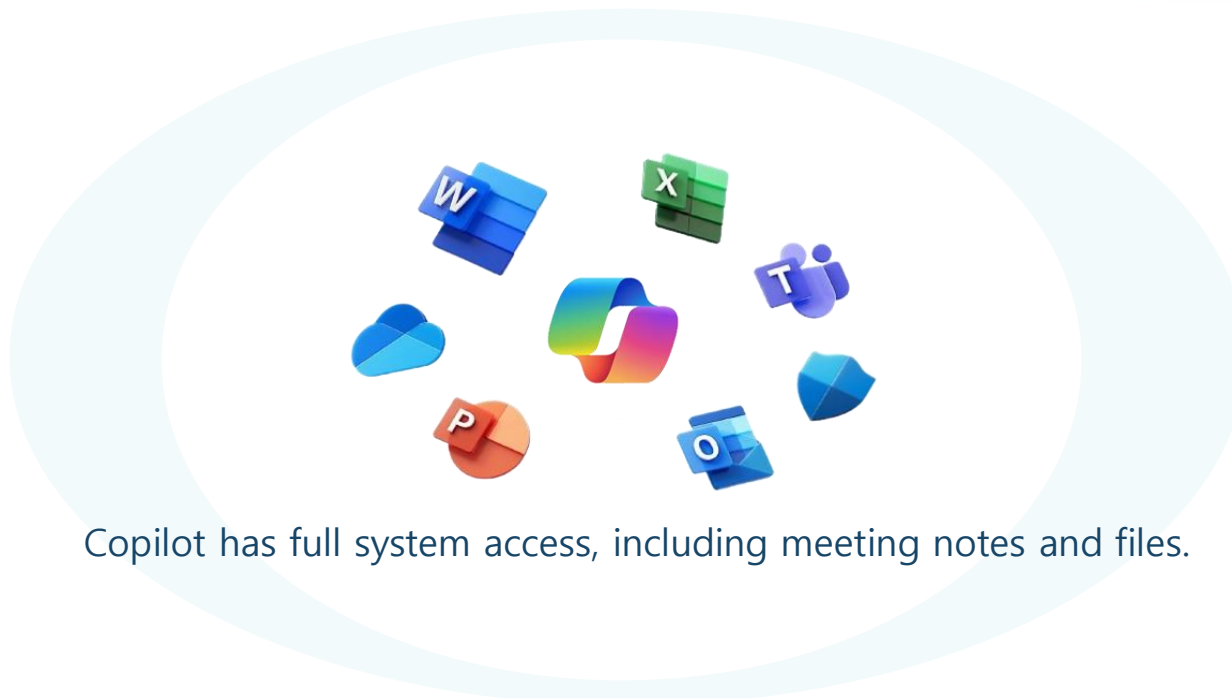
Peripherals with ELAN Fingerprint & Navigation





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



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



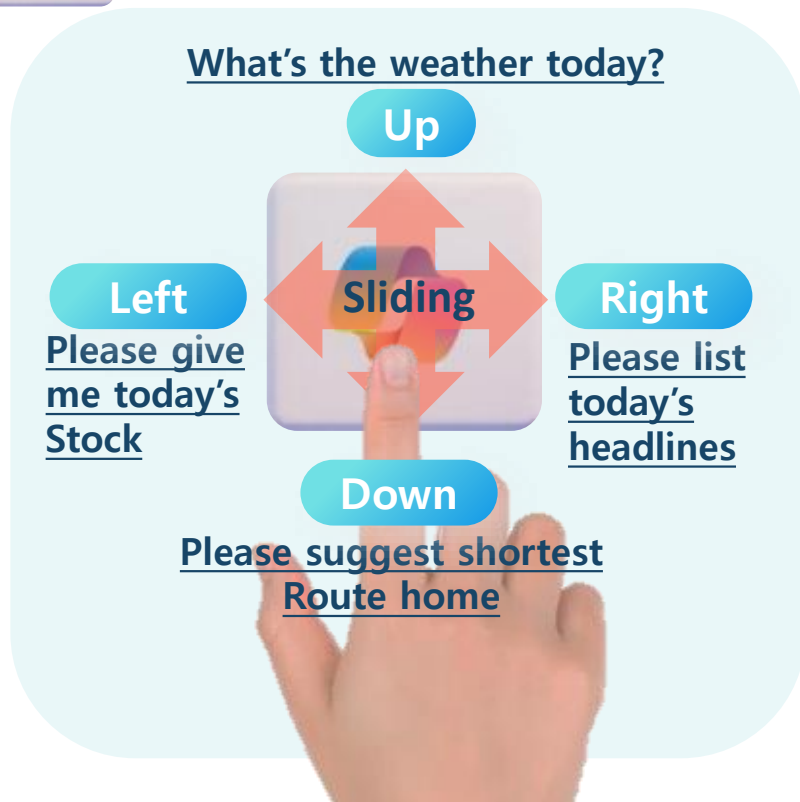
Each time you use Recall,
Windows Hello Authentication is
Required to Unlock
and Access Content.
**Only ESS can Enable
Recall Function**

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



合併損益表 - 2025年第1季 vs. 2024年第1季

單位:新台幣佰萬元

	2025年第1季	%	2024年第1季	%	YoY(%)
營業收入淨額	3,119	100.0	3,106	100.0	0.4
營業毛利	1,564	50.1	1,489	47.9	5.0
銷售費用	83	2.7	94	3.0	
管理費用	118	3.8	129	4.1	
研發費用	578	18.5	617	19.9	
營業費用	779	25.0	840	27.0	(7.3)
營業淨利	785	25.1	649	20.9	21.0
業外收入及支出	(66)	(2.0)	177	5.7	
稅前淨利	719	23.1	826	26.6	(13.0)
稅後淨利	515	16.5	647	20.8	
本期淨利歸屬於					
母公司業主	549	17.6	683	22.0	(19.6)
非控制權益	(34)		(36)		
* 每股盈餘 (元)	1.92		2.40		(20.0)

- 期末發行股數: 3.04億股; 流通在外股數: 2.862億股
- 財務資料來源: 會計師核閱

2025年第2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21.8% ~ 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

NT\$ M

4,000

3,000

2,000

1,000

-

1Q23

2Q23

3Q23

4Q23

1Q24

2Q24

3Q24

4Q24

1Q25

Revenue

Gross Margin

2,405

3,042

3,501

3,111

3,106

3,151

3,403

3,036

3,119

40.7%

44.1%

47.2%

46.9%

47.9%

48.6%

49.3%

49.6%

50.1%

50%

40%

30%

20%

10%

0%

結論

I) AI賦能的筆電智慧輸入裝置，提升市場競爭力

1. 智慧觸控螢幕:

a) AI PC推出多模態互動，帶動觸控螢幕需求

2. 智慧觸控板模組:

a) 更多具附加價值的Haptics應用即將出現在觸控板模組中

b) Elan提供無障礙模式、AI 學習、手勢辨識及帶筆觸控板功能

3. 智慧指紋：資訊安全需求提升，推動指紋辨識成長

a) Elan推出整合指紋辨識與多功能的 Copilot Key 指紋辨識模組，提升市場競爭力與平均售價 (ASP)

II) 將創新的人機介面導入新興市場

1. Elan電子紙的電容筆具備 EMR 功能，且設計更薄、成本更具競爭力

2. TDDI 支援防水與手套操作，有助進軍車載與工控市場

3. Elan與安全晶片製造商 (Secure Element) 合作，提供市場上最節能且具競爭力的指紋辨識智慧卡方案



THANK YOU

ELAN MICROELECTRONICS

