



ELAN Smart-Input™ Solutions

Dual Transformation through Edge AI

2025/05/23

Citi's 2025 Taiwan Tech Conference



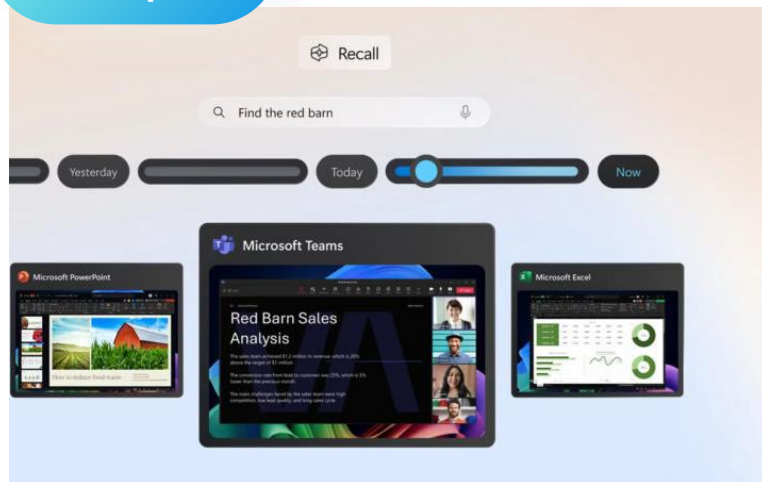
ELAN Microelectronics Corporation

Windows New AI Function & System Requirements



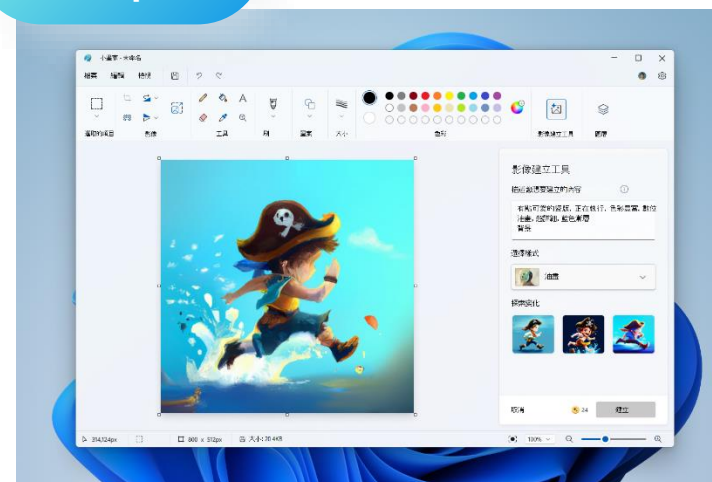
Request:
45 Tops ↑

Recall

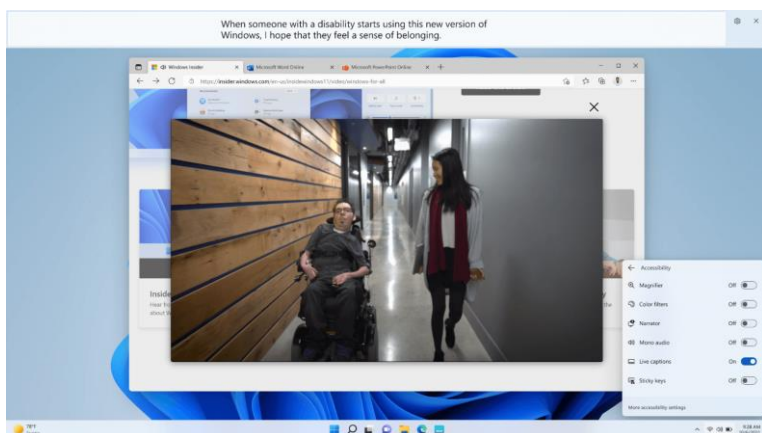


Request:
45 Tops ↑

Cocreator



Live Caption

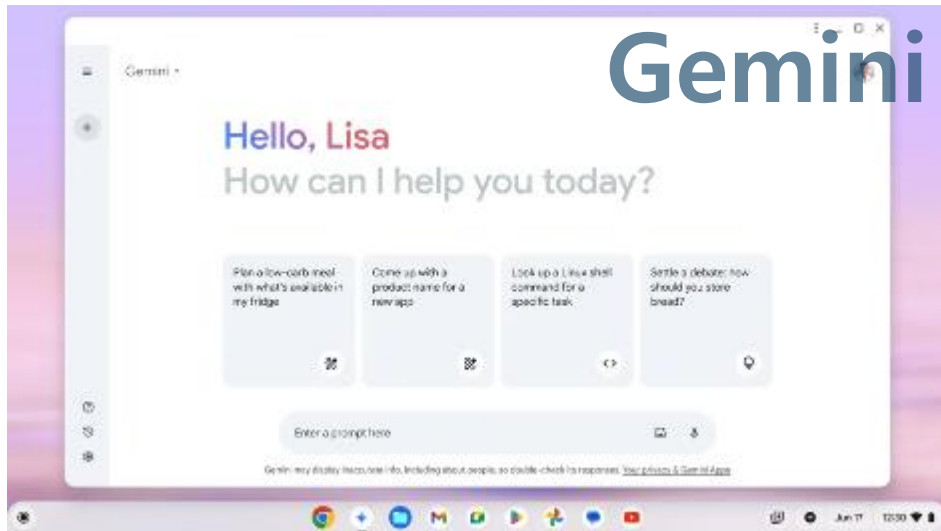


Auto Super Resolution



Google's New Chromebook Plus with AI Features

Google Chromebook Plus



Chromebook CM30 Detachable



Chromebook Plus Spin 714



Chromebook Plus CX34



Chromebook 14 inch

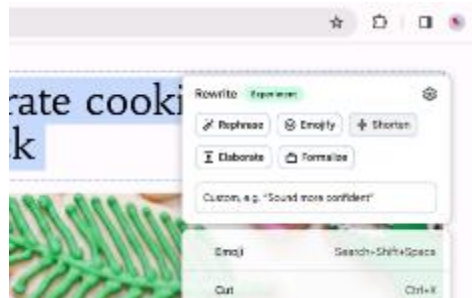


ASUS Chromebook Plus 514



HP Chromebook Plus x360

AI Writing Tool



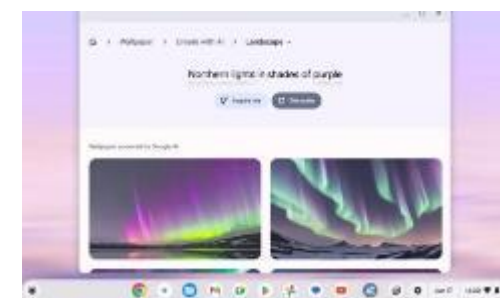
AI Magic Editor



Gemini Workspace



AI Wallpaper Generate



AI PCs: The Hottest Topic in the Market

55+ AI PCs Announced at CES 2024 , ELAN Share 90%



XPS 16
XPS 14
XPS 13



ALIENWARE m16 R2
ALIENWARE x16 R2



OMEN 14



OMEN 16



OMEN 14



OMEN 16



Lenovo Yoga Book 9i (13", 9)



Legion 9i Gen 9 (16" Intel)



Legion 7i Gen 9 (16" Intel)



ThinkBook Plus G5 Hybrid



ThinkBook 13x Gen 4 (13" Intel) & Thinkbook 13x Gen 4 E-Ink Prism (POC)



Zenbook Duo



Zenbook 14



Vivobook S 14 OLED



ExpertBook B9 OLED



Zephyrus G14



Aspire Vero 16



Aspire 3D 15 SpatialLabs™



Swift Go 16



Swift Go 14



Swift X 14



Global PC Shipment Forecast by Market Research Agencies

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%



NB replacement cycle is due to Windows 10 announced to stop upgrading by 4Q25 and PC purchased during COVID-19 have been 6 years.



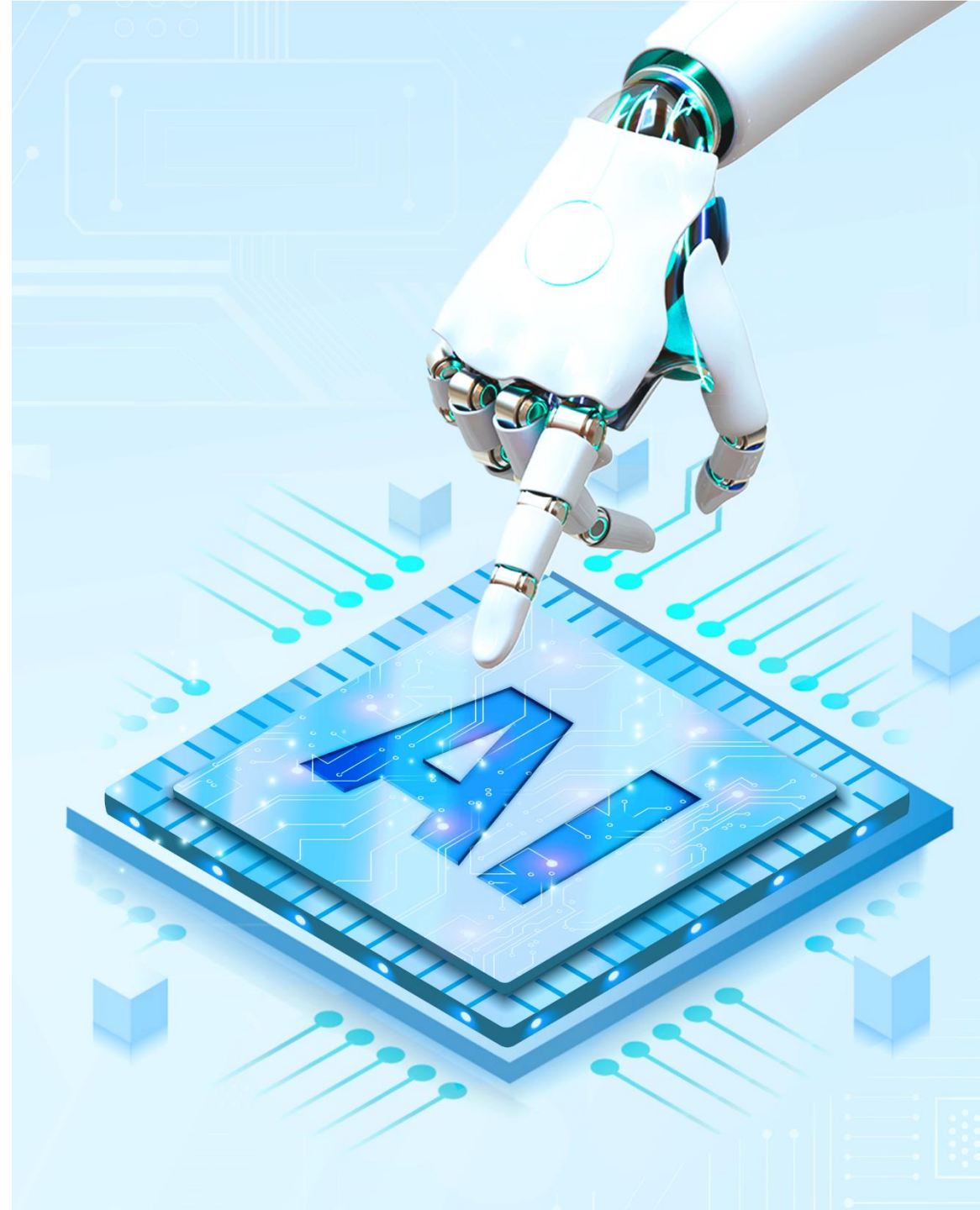
AI PCs and Windows updates have been driving new demand.



Integration of AI hardware and software is the key to determining the future growth potential of AI PCs.



Master the Trend of AI PC & Integrate AI into Products



Why AI at the Edge

- **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**

Operates without internet connectivity

- **Efficiency**

Streamlines operations and reduces energy usage

- **Hyper-Personalization**

Tailors experiences to individual users

- **Environmental Impact (ESG)**

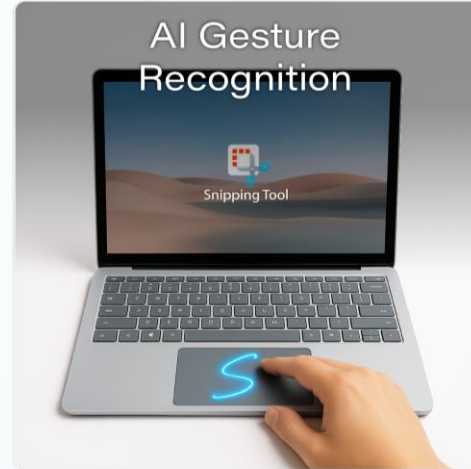
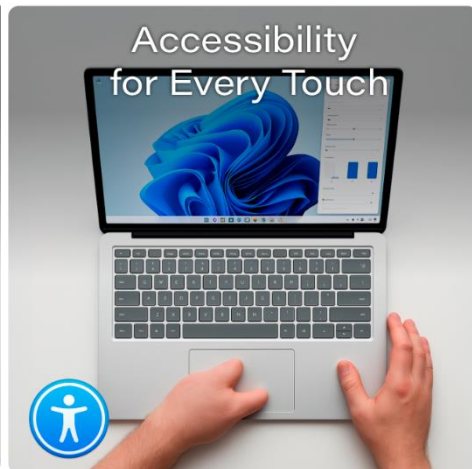
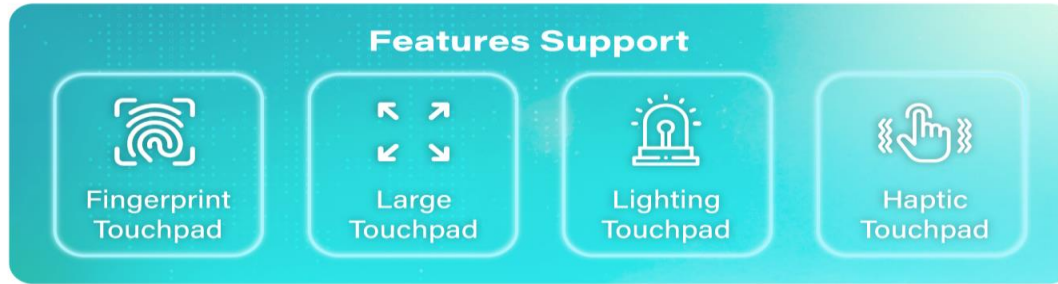
Reduces the carbon footprint of data centers

AI-enabled Touchpad

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



Touchpad Innovations



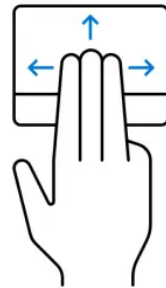
Touchpad Size Trends

Windows Multi-Finger Gesture Drives Large Touchpad Becoming Mainstream

Windows 11 Multi-Finger Gesture

Swipes

Switch apps and show desktop ▾



- ↑ Multitasking view
- ↓ Show desktop
- ← Switch apps
- Switch apps

Taps

1-Finger



Left Click
Double-Click

2-Finger



Right Click

3-Finger



Invoke
Cortana

4-Finger



Invoke
Action Center



Move
Cursor



Scroll / Pan



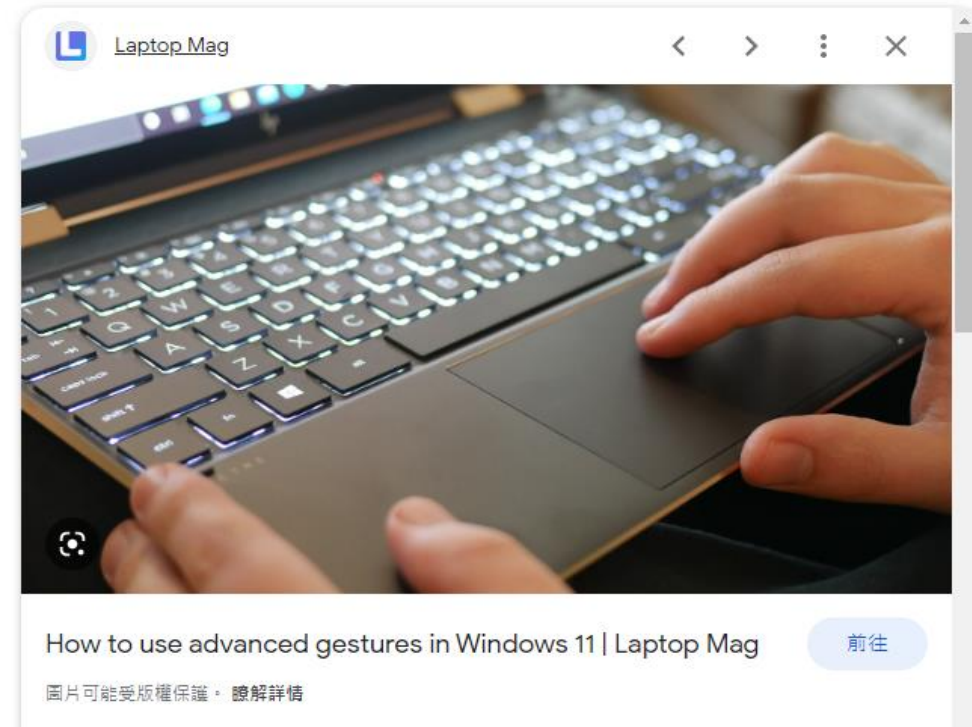
Multitasking
Gestures



Tap + Slide



Pinch / Zoom



Source: Laptop Mag

New Challenge of Large Touchpad

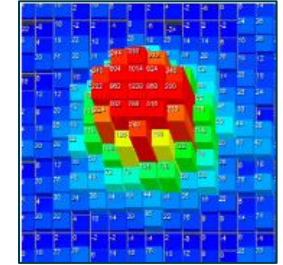
Palm Rejection Become Critical Issue



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

ELAN AlxTouchpad - AI Enabled Palm rejection

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.



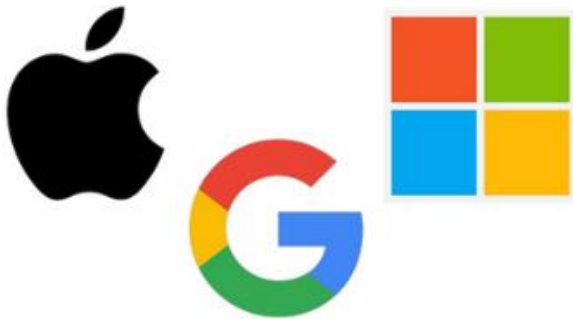
ELAN AI Training Tool



Before Training

Apple, Google, and Microsoft's Latest Accessibility Innovations

ELAN is Ready to Implement Accessibility Mode for Touchpad



Won Five Awards at the 2025 COMPUTEX Best Choice Award



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

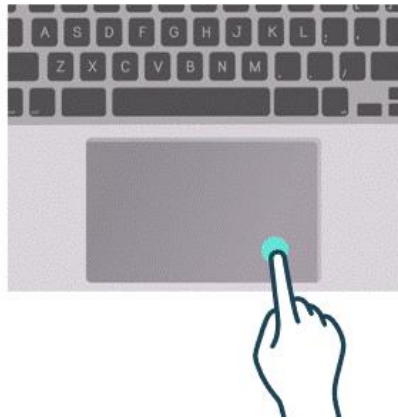
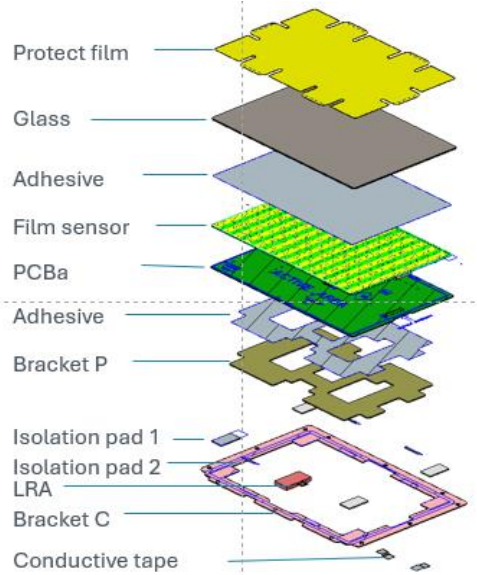


Edge-based Pedestrian AI Safety System
邊緣端行人AI安全保護系統



AlxHapticpad Features and Advantages

Gen2 (Premium)

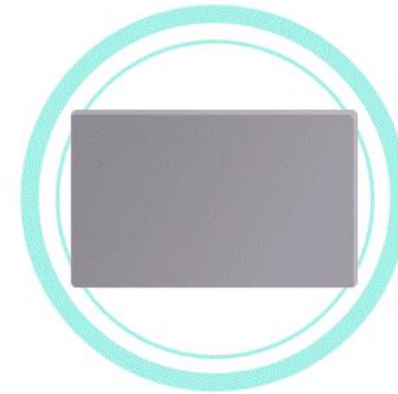
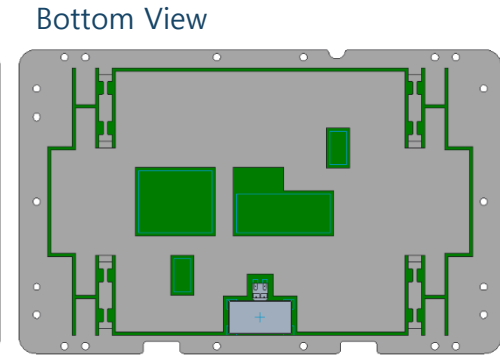
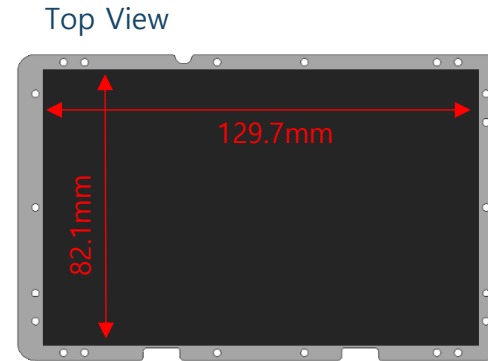


**All-Zone
Clickable**

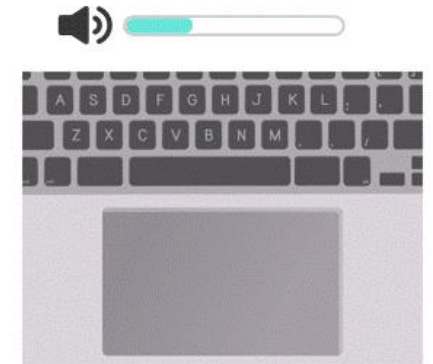


**Silent
Click Sound**

Gen3 (Mainstream)



**Different
Haptic Performs**



**Gesture
Control**

AIx Hapticpad Launching with ELAN Solution



Dragonfly Chromebook
ELAN Gen 1 HapticPad

Lenovo



Lenovo Z13
Piezo Solution

Lenovo



Lenovo Z16
Piezo Solution



Dell XPS 13 Plus
Piezo Solution



HP Dragonfly Pro
ELAN Gen 2 HapticPad



HP Dragonfly Pro
ELAN Gen 2 HapticPad

ASUS



ProArt Studiobook H7604
ELAN Gen 2 HapticPad

20+ Projects
On-going

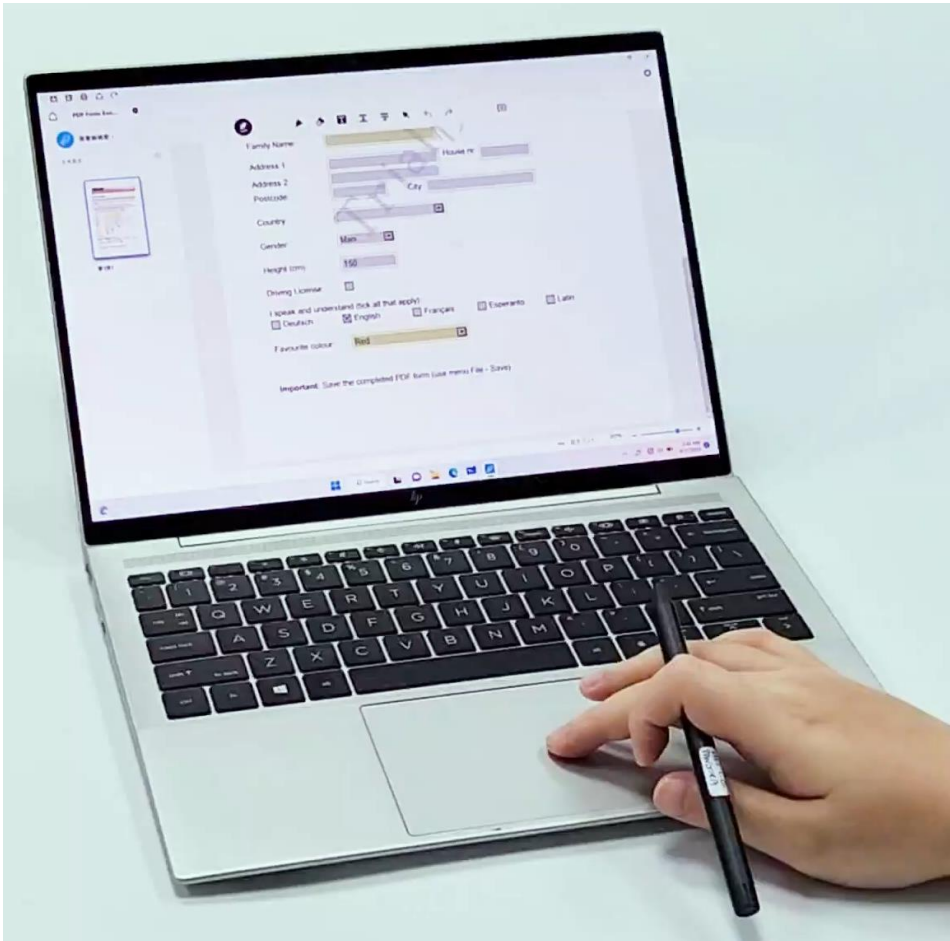
2024



Pen on HapticPad Application



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

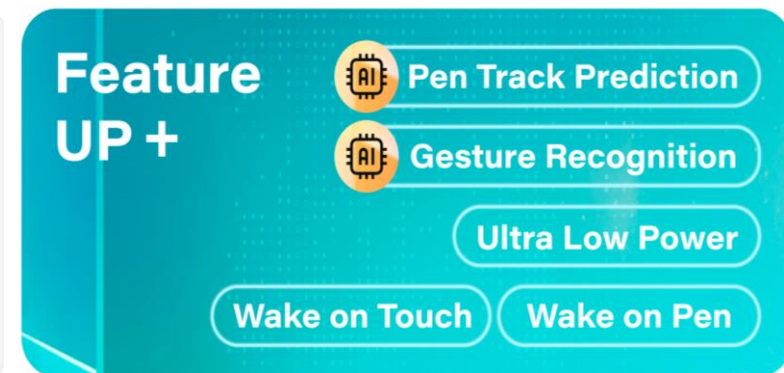
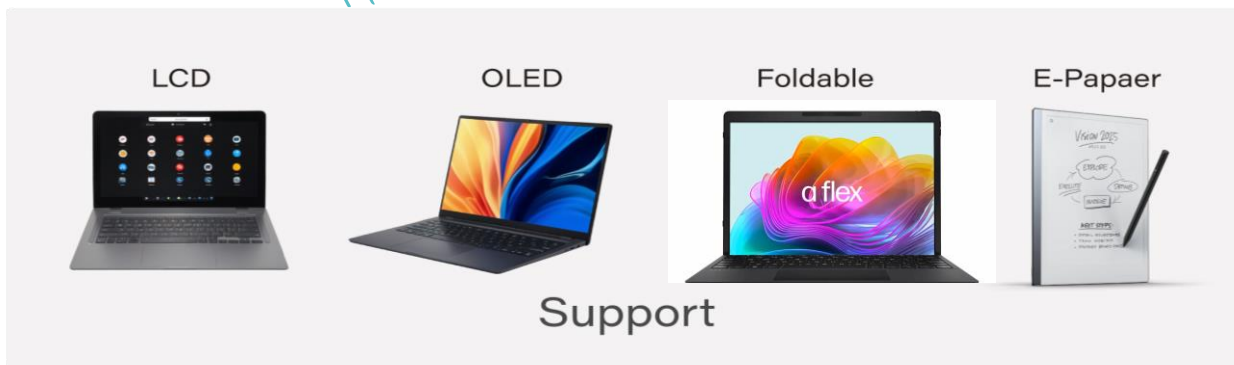


AI-enabled Touchscreen for NB

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



Touchscreen Innovations

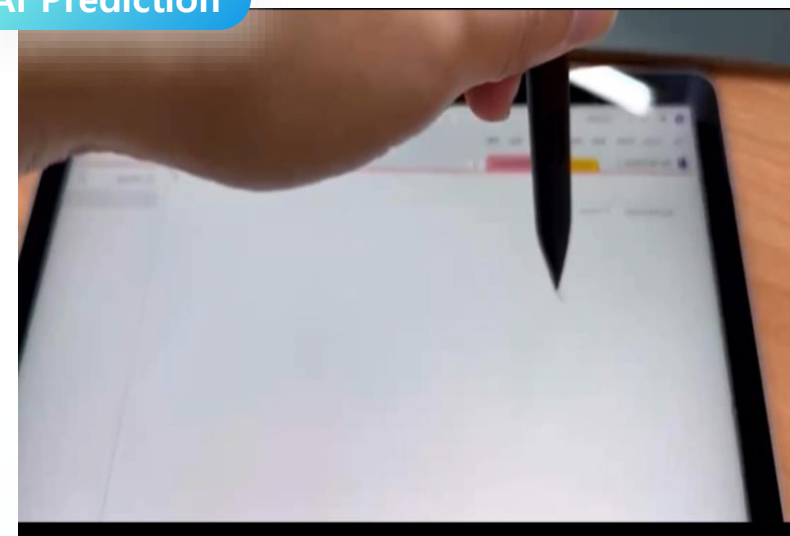


AI Writing Recognition for Copilot Application

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



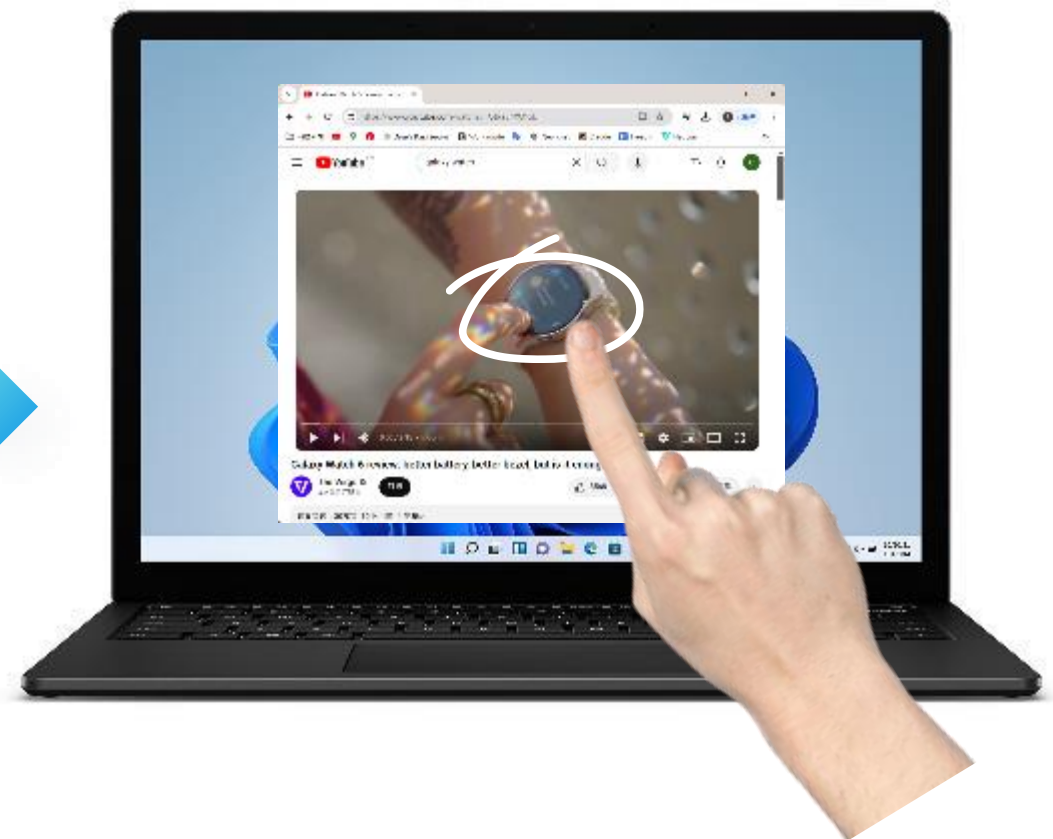
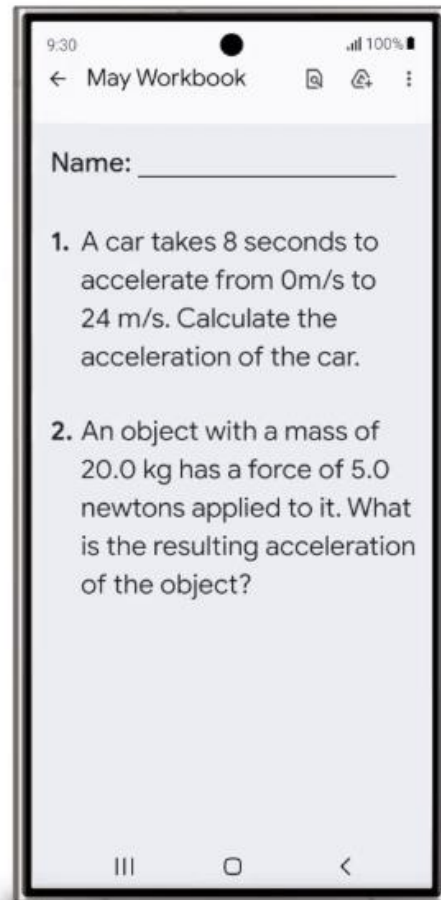
AI Prediction



Circle to Search: Mobile AI Searches with a Vision for Touchscreen Laptops

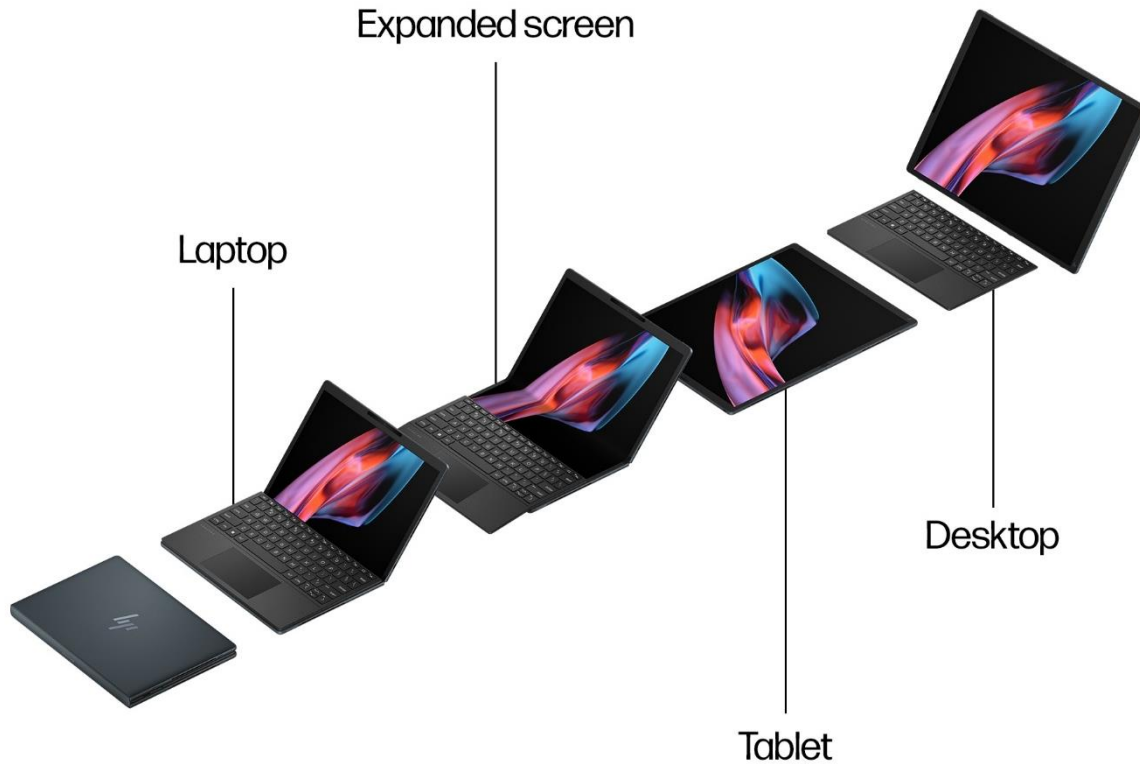
Google Circle to Search

Touchscreen Penetration Rate Increasing!



ELAN AIXTouchscreen Solution for 17.3 Foldable Notebook

Inside HP Spectre Foldable 17 & LG Gram Fold 17 with MPP 2.0



Spectre Foldable 17



Gram Fold 17

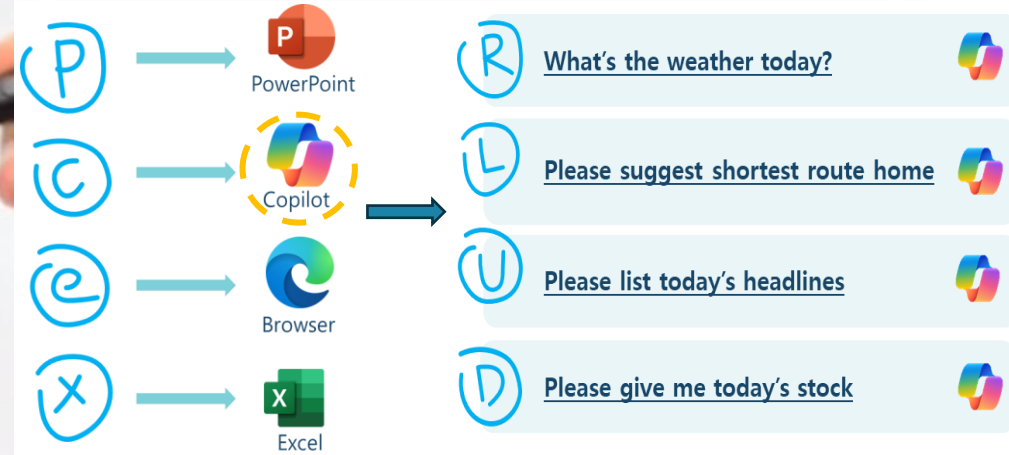


ELAN Gesture with AI Writing Recognition for Copilot Application



Pen Pilot (Open Application with AI Writing Recognition)

Prompt Copilot Quickly by Stylus




Copilot+PC



ELAN AIxTouchscreen - AI Enabled Pen Track Prediction

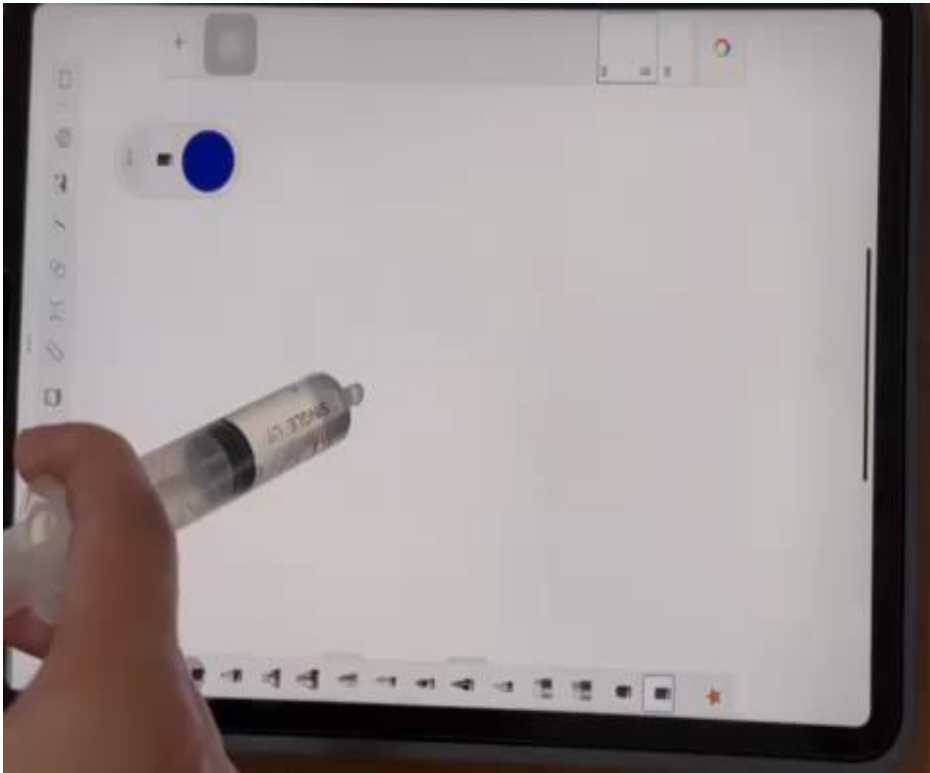
Shorter Latency



AI Prediction

ELAN AIxTouchscreen – Moisture Proof Performance Comparison

w/o AI Moisture Proof



iPad Pro-11

Test Condition : Water 5 mL

w/ AI Moisture Proof

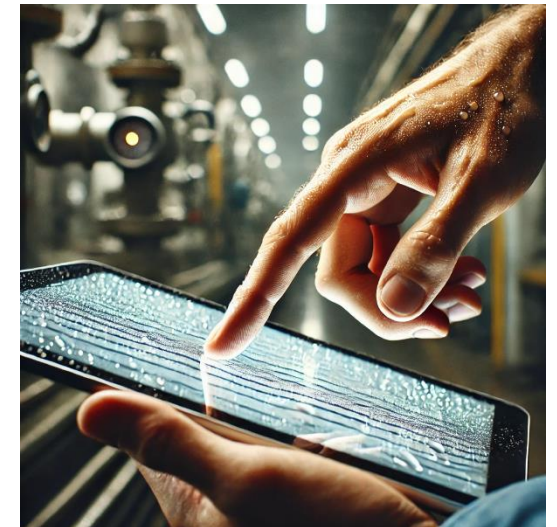


ELAN IPC New Solution For Waterproof And Glove Operation



Industrial Control

Touch Controller with Innovative Geometry Design for Industry



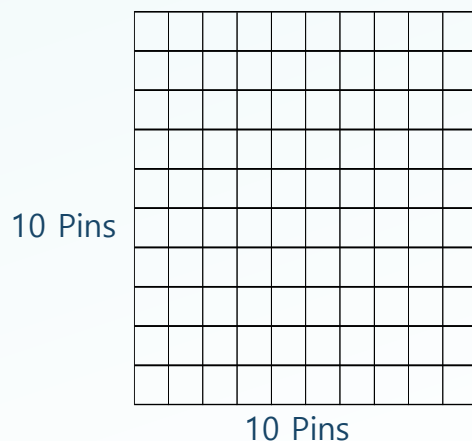
ELAN Single Layer On Cell (SLOC) Touch

ELAN Solution for SLOC

*Example

Multi Layer (Count Line)

Total 20 Pins



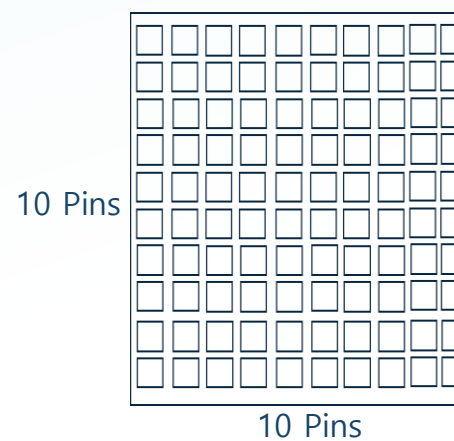
Single Chip

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 Pins



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-enabled Touchscreen for E-paper

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

E-Paper with Capacity Active Pen Solution



R 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



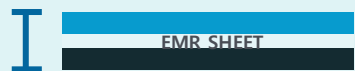
AI Enhanced Stylus

Shorter Latency
Higher Precision



EMR v.s. Capacitive Active Stylus on EPD Comparison

Thickness



EMR

Thinner



Capacitive Active Stylus

Cost

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

EMR Stylus

EMR film

EMR

Cheaper

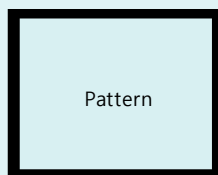


ITO Film

Active Stylus

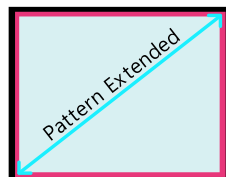
Capacitive Active Stylus

Linearity



EMR

Better



Capacitive Active Stylus

Pen Vendor

wacom

EMR

More

MAXEYE

wacom

SUNWODA

Hanvon

Chicony

Capacitive Active Stylus

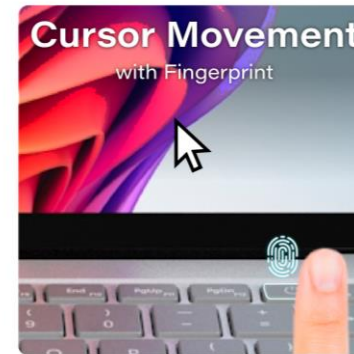
AI-enabled Fingerprint Reader

- 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



Section 1:
Log-in by using Fingerprint on Copilot Key

Certificated by



Mouse



Keyboard



Console



Smart Ring



Smart Glasses

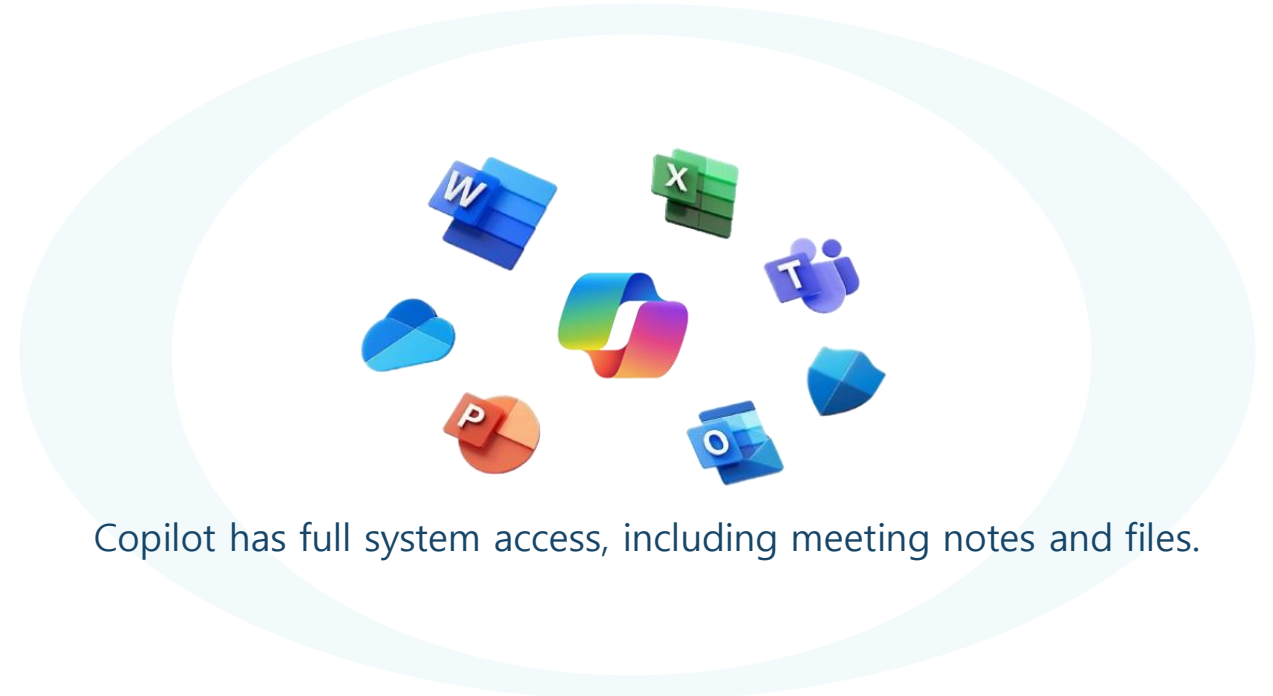
Peripherals with ELAN Fingerprint & Navigation





AI Copilot with ELAN Fingerprint Solution

Fingerprint protects all your personal data



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: Time-Tracking Feature in Copilot + PC

Recall's Powerful Search Capabilities Raises Privacy Concerns.



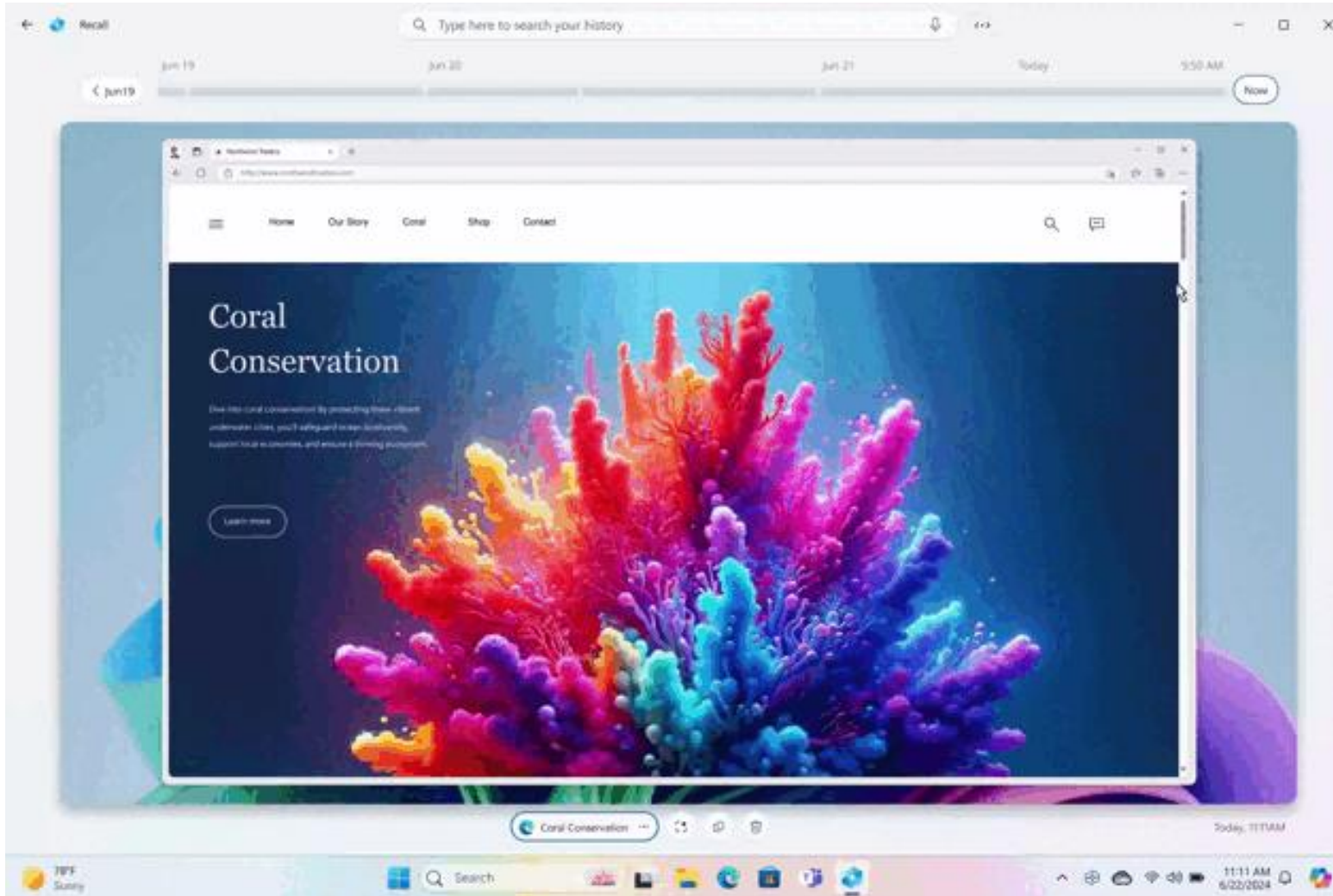
Copilot+PC



Windows Hello



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

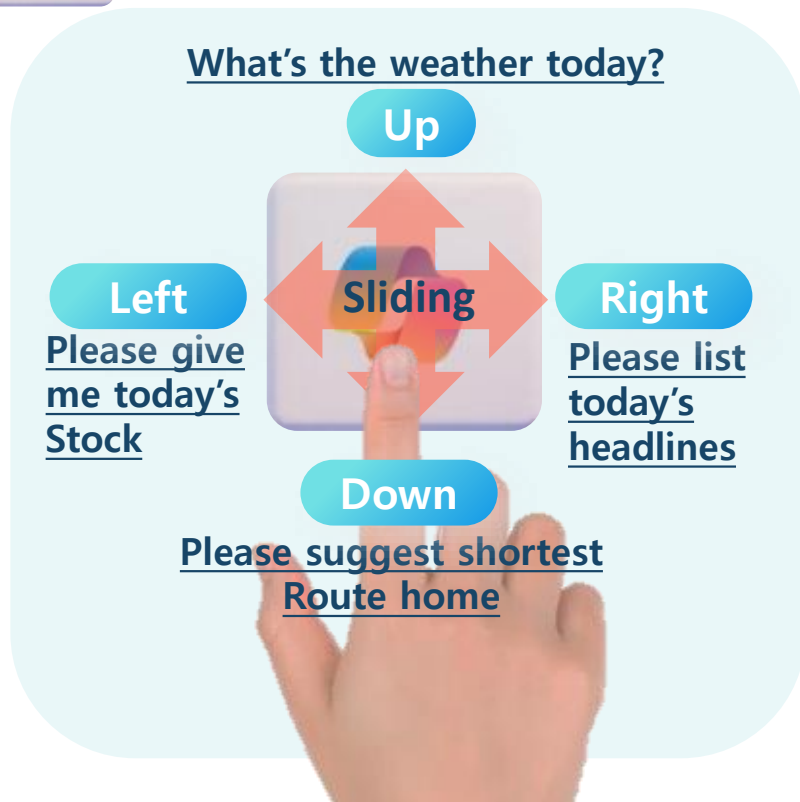


AI Copilot with ELAN Fingerprint & Navigation Function

Prompt Copilot by Sliding Finger with Copilot Key



Keycap (Personalized Short Cut)



Prompt Copilot Quickly by Sliding Finger



1Q25 Income Statement

YoY Comparison (Consolidated)

NT\$M

	1Q25	%	1Q24	%	YoY(%)
Sales	3,119	100.0	3,106	100.0	0.4
Gross profit	1,564	50.1	1,489	47.9	5.0
Sales expense	83	2.7	94	3.0	
G&A expense	118	3.8	129	4.1	
R&D expense	578	18.5	617	19.9	
OPEX	779	25.0	840	27.0	(7.3)
Operating profit	785	25.1	649	20.9	21.0
Non-operating income & exp.	(66)	(2.0)	177	5.7	
Profit before tax	719	23.1	826	26.6	(13.0)
Net profit	515	16.5	647	20.8	
Belong					
Parent company	549	17.6	683	22.0	(19.6)
Non-Controlling Interests	(34)		(36)		
* EPS (NT\$)	1.92		2.40		(20.0)

* 304 million shares issued; 286.2 million shares outstanding as of the end of reporting period.

* Consolidated Statement of Financial Position (Reviewed).

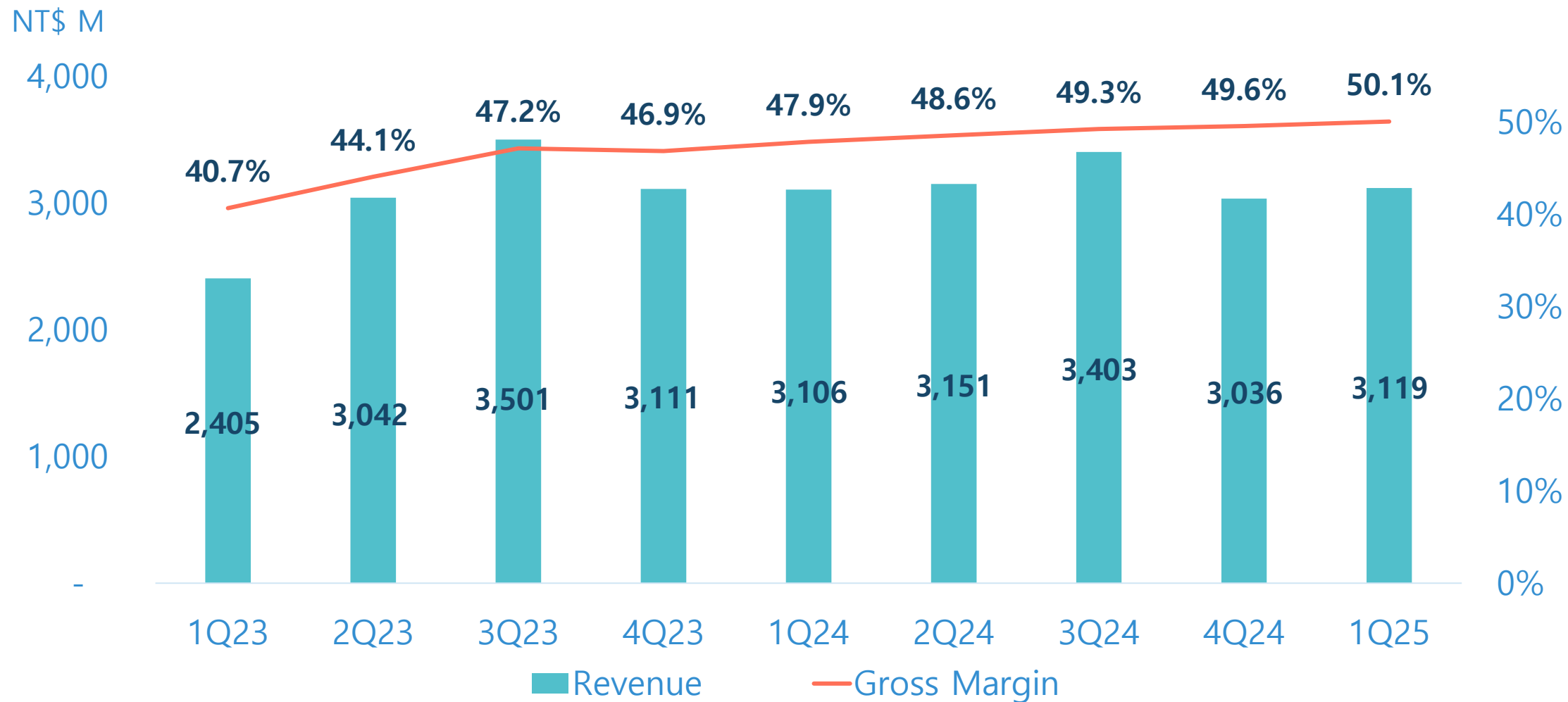


2Q25 Guidance

Based on Current Assumptions of Future Prospects, ELAN Expects:

- Consolidate Revenue to be Approximately between NT\$ 3.0 Billion and NT\$ 3.2 Billion
 - Gross Margin to be about 48% to 51%
 - Operating Margin to be about 21.8% to 26.5%
-
- ELAN's forward-looking statements are subject to significant risks and uncertainties that could cause actual results to differ materially from the forward-looking statements made in this presentation.
 - Except as required by law, we undertake no obligation to update any forward-looking statement, whether as a result of new information, future events, or otherwise.

Performance Highlight



AI-Driven HMI Solutions: From PC Evolution to Market Expansion

I) AI-enabled Current NB Smart Input Devices to Increase Market Leadership

1. Smart Touch Screen

- a) The Multi-Modal UI of AI PC Will Increase Use Cases by User

2. Smart Touch Pad

- a) More Value-Add Applications coming for Haptics on Touchpads
- b) Elan Provides Accessibility Mode/AI Learning/Gesture Recognition/Pen on Touch Pad

3. Smart Fingerprint : Information Security Requirement Increase the Demand of Fingerprint

- a) Elan Provides Copilot Key Module with Integrated Fingerprint & Multi-function to Increase Market Competitiveness & ASP

II) Human Machine Interface into New Markets

1. Elan E-paper Cap. Pen Achieves EMR Functions and is Thinner as a More Competitive Solution

2. TDDI Waterproof & Glove Touch Features Make it Easier to Enter the Automotive & IPC Market

3. Elan and Secure Element IC Provides Collaboration to Provide the Most Power-Efficient & Competitive Cards on the Market



Thank You



ELAN Microelectronics Corporation