



ELAN Smart-Input™ Solutions

Dual Transformation through Edge AI

2025/02/18

Nomura Asia Tech Tour



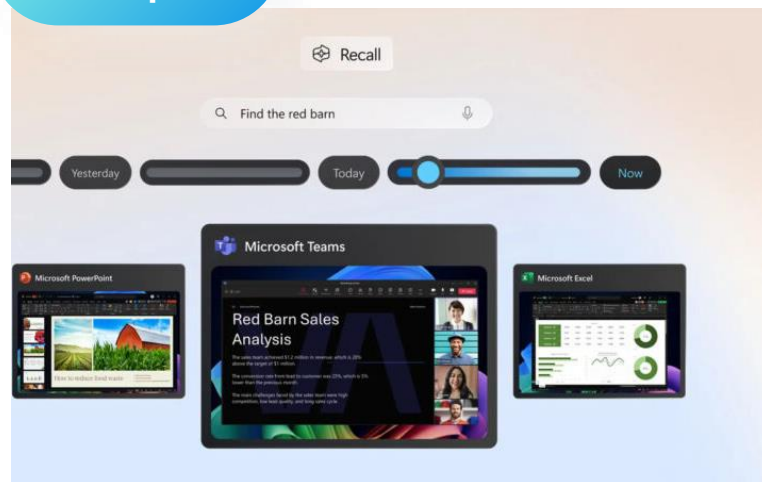
ELAN Microelectronics Corporation

Windows New AI Function & System Requirements



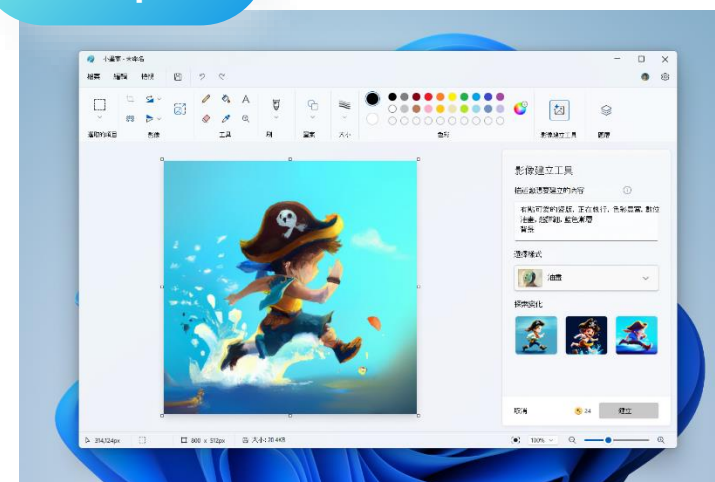
Request:
45 Tops ↑

Recall

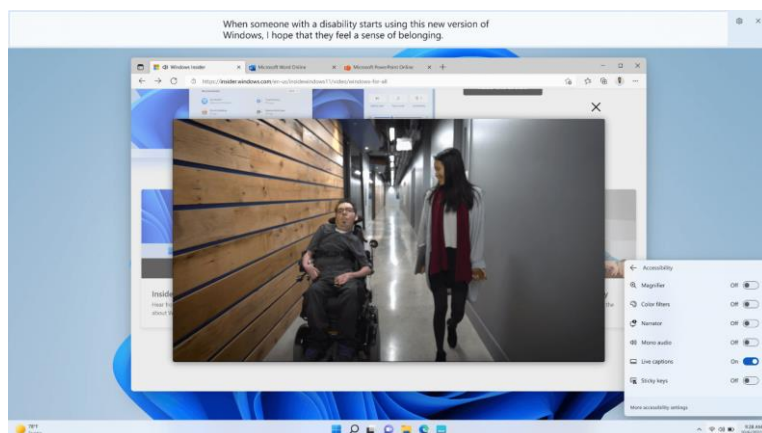


Request:
45 Tops ↑

Cocreator



Live Caption

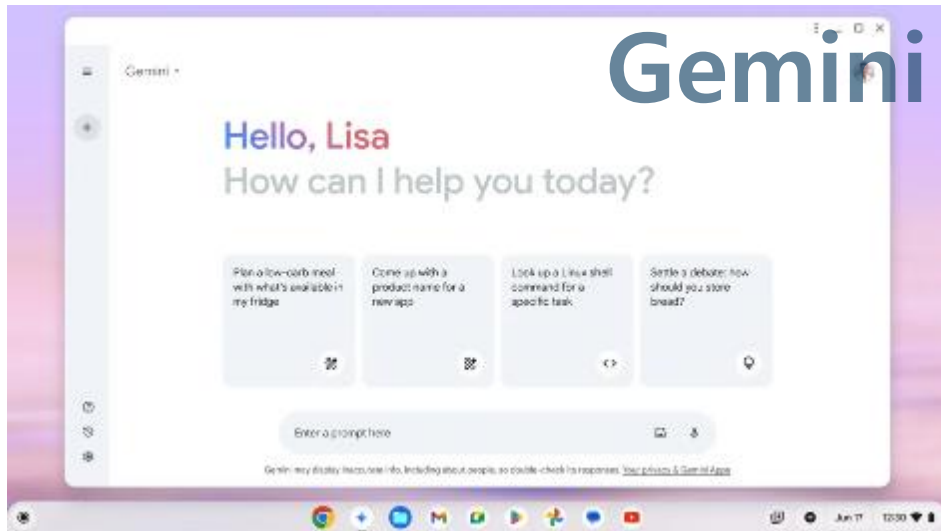


Auto Super Resolution



Google's New Chromebook Plus with AI Features

Google Chromebook Plus



Chromebook CM30 Detachable



Chromebook Plus Spin 714



Chromebook Plus CX34



Chromebook 14 inch

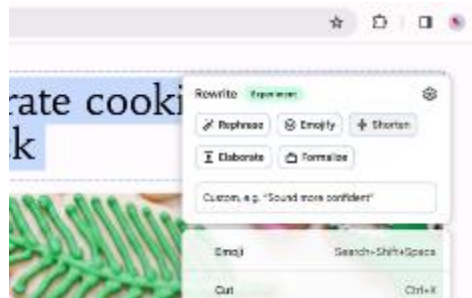


ASUS Chromebook Plus 514



HP Chromebook Plus x360

AI Writing Tool



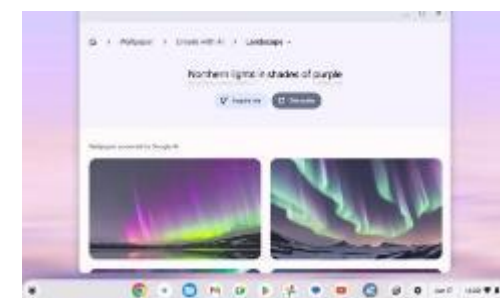
AI Magic Editor



Gemini Workspace



AI Wallpaper Generate



AI PCs: The Hottest Topic in the Market

69+ AI PCs Announced at CES 2025 , ELAN Share 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

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%
NBPC	179.0	183.3	2.4%	196.1	7.0%	202.7	3.4%	214.5	5.8%



NB replacement cycle is due to end of support for Windows 10 by 4Q25 and PC purchased during COVID-19 have been 5 years.



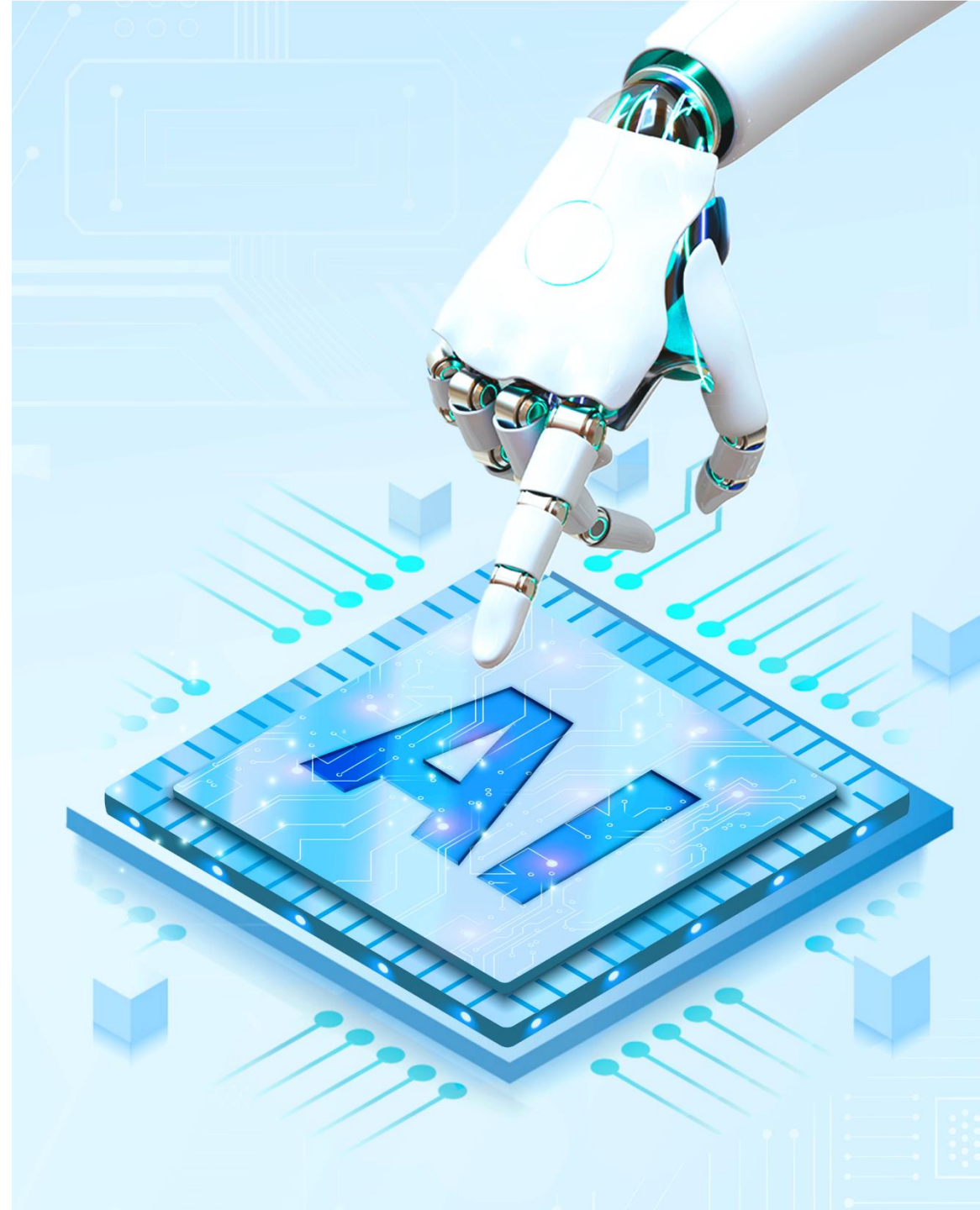
Windows 10 will no longer receive security updates, accelerating the replacement cycle and prioritizing commercial products.



With the potential for Distilled LLM (Knowledge Distillation), such as DeepSeek, to run on edge devices, this may lead to growth for the AI PC



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**

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

ELAN AlxTouchpad Highlights

#1

Touchpad Market

50%+

Market Share

Smart-UsabilityTM

Best In-Class Palm Prevention

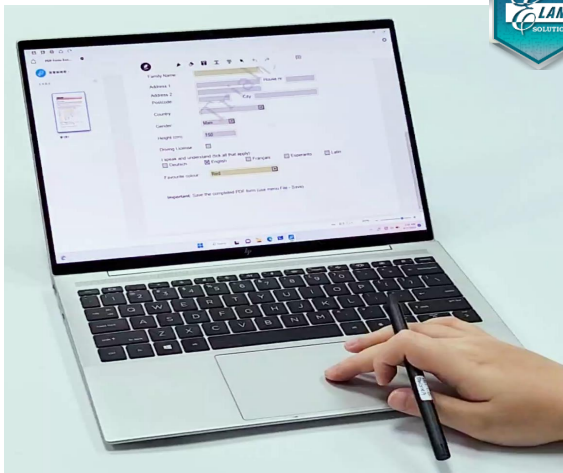
100⁺

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

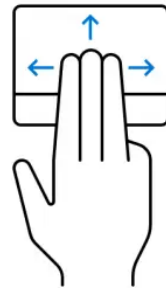
Touchpad Size Trends

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



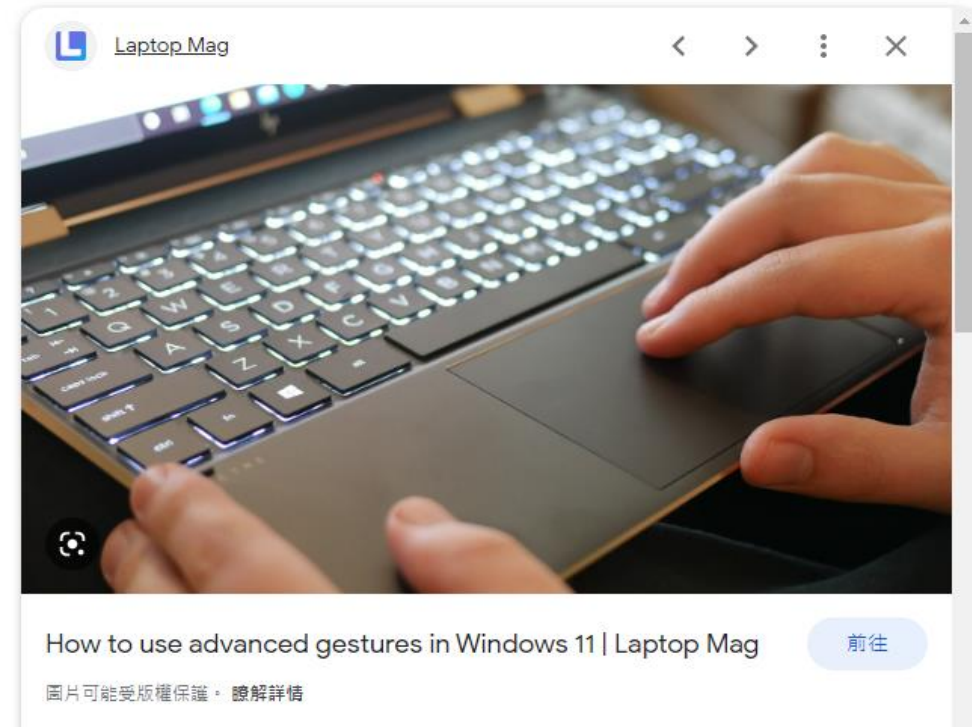
Multitasking
Gestures



Tap + Slide



Pinch / Zoom



Source: Laptop Mag

New Challenge of Large Touchpad

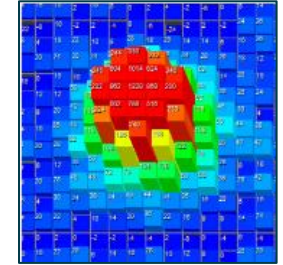
Palm Rejection Become Critical Issue



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.



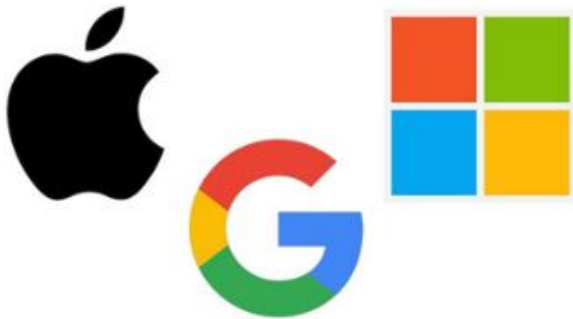
ELAN AI Training Tool



Before Training

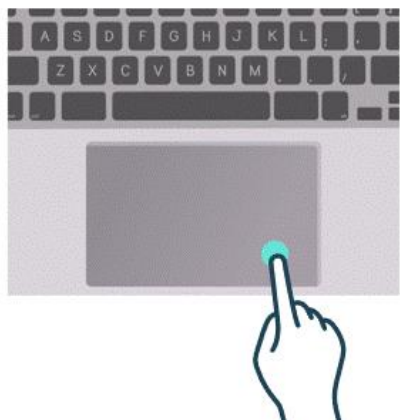
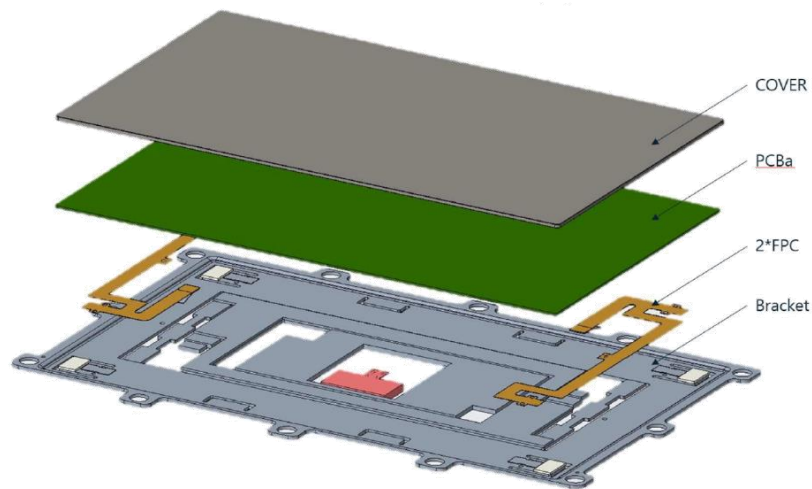
Apple, Google, and Microsoft's Latest Accessibility Innovations

ELAN is Ready to Implement Accessibility Mode for Touchpad

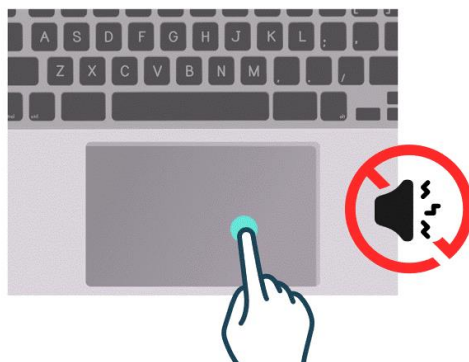


AlxHapticpad Features and Advantages

Gen2 (Premium)

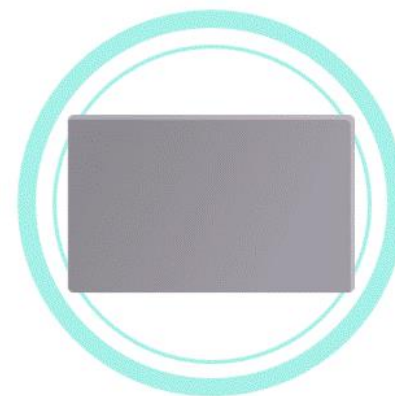
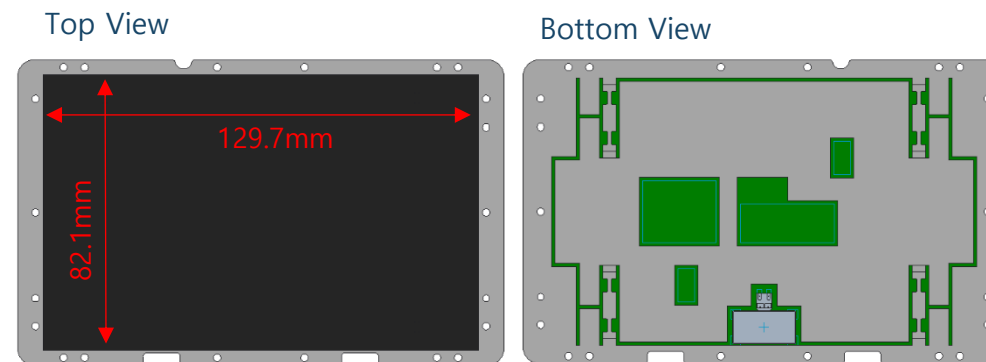


**All-Zone
Clickable**



**Silent
Click Sound**

Gen3 (Mainstream)



**Different
Haptic Performs**



**Gesture
Control**

AlxHapticpad 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

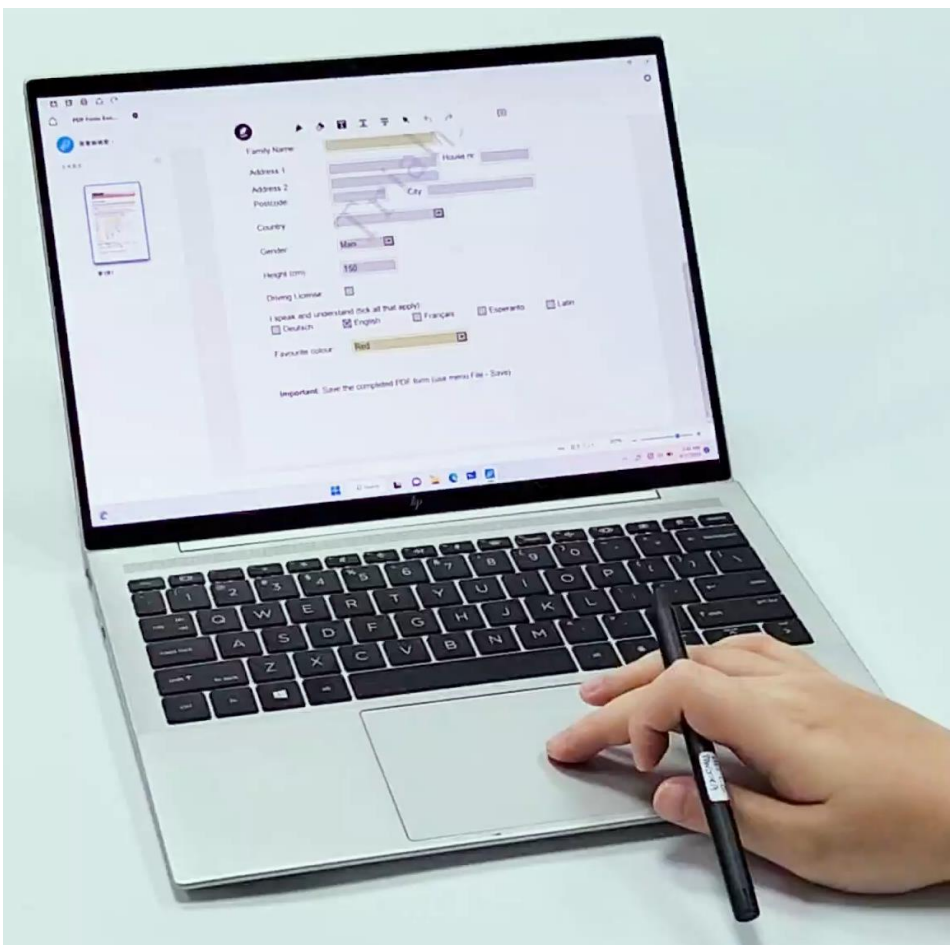
2025



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



ELAN AlxTouchscreen Highlights

#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

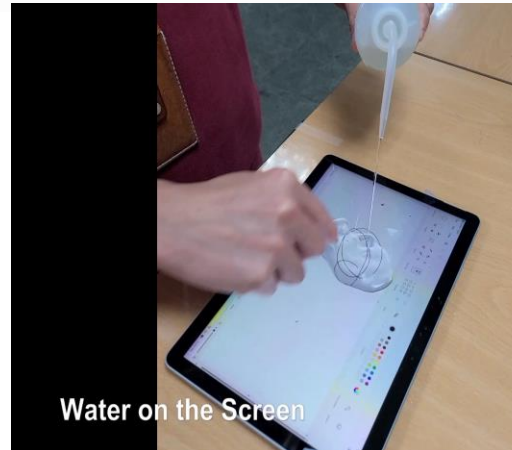
Touchscreen

50%+

Market Share

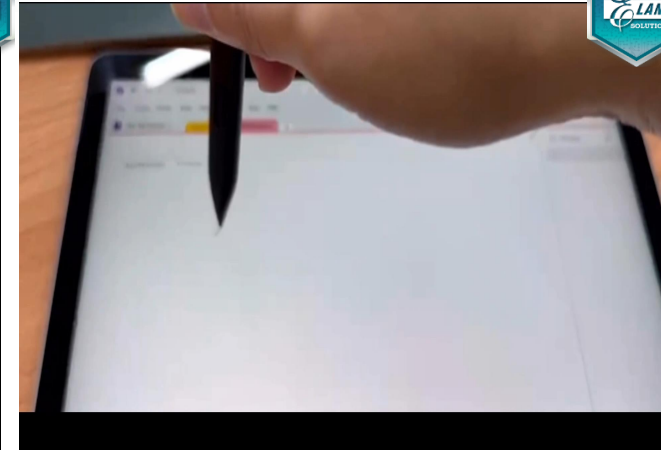


500Hz Pen report



Water on the Screen

Waterproof & Glove Solutions



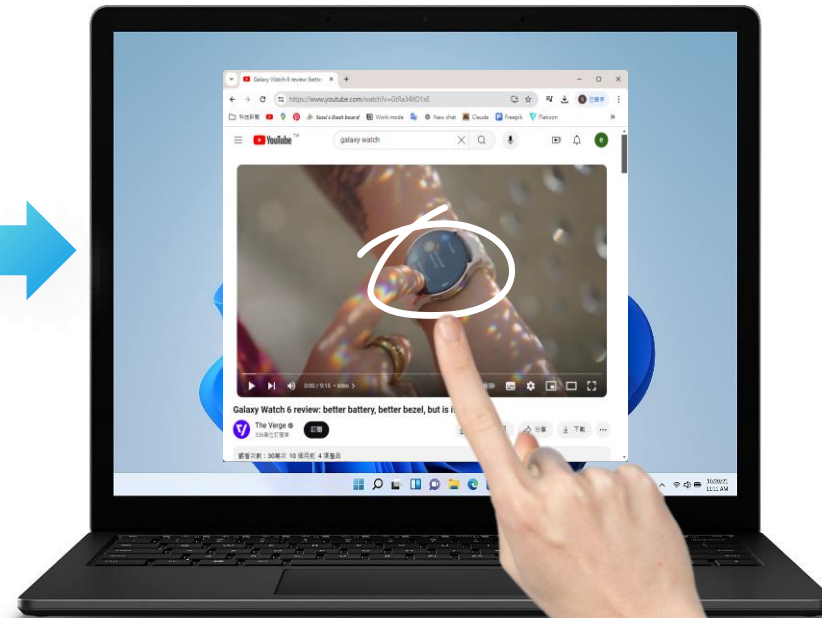
AI Prediction – Short Latency

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

ELAN Gesture with AI Writing Recognition for Copilot Application

Google Circle to Search

Touchscreen Penetration Rate
may Increase!



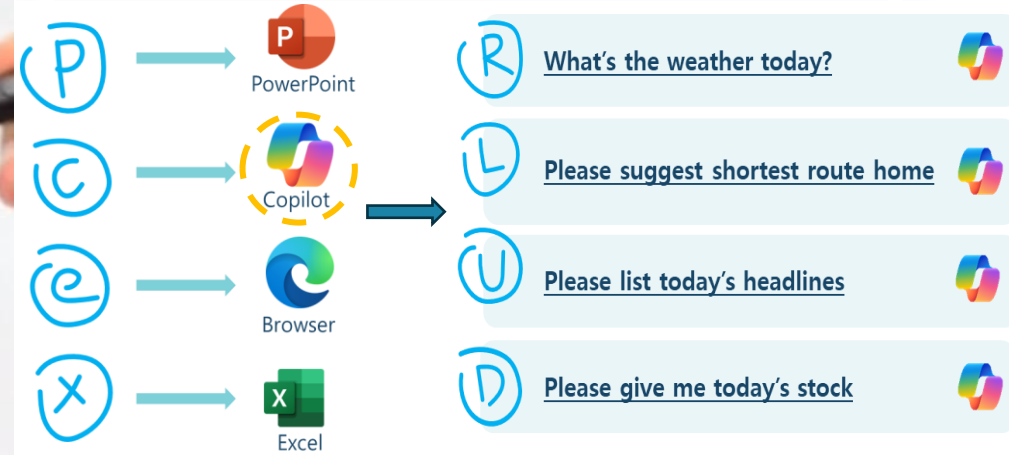
Now on Browser

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

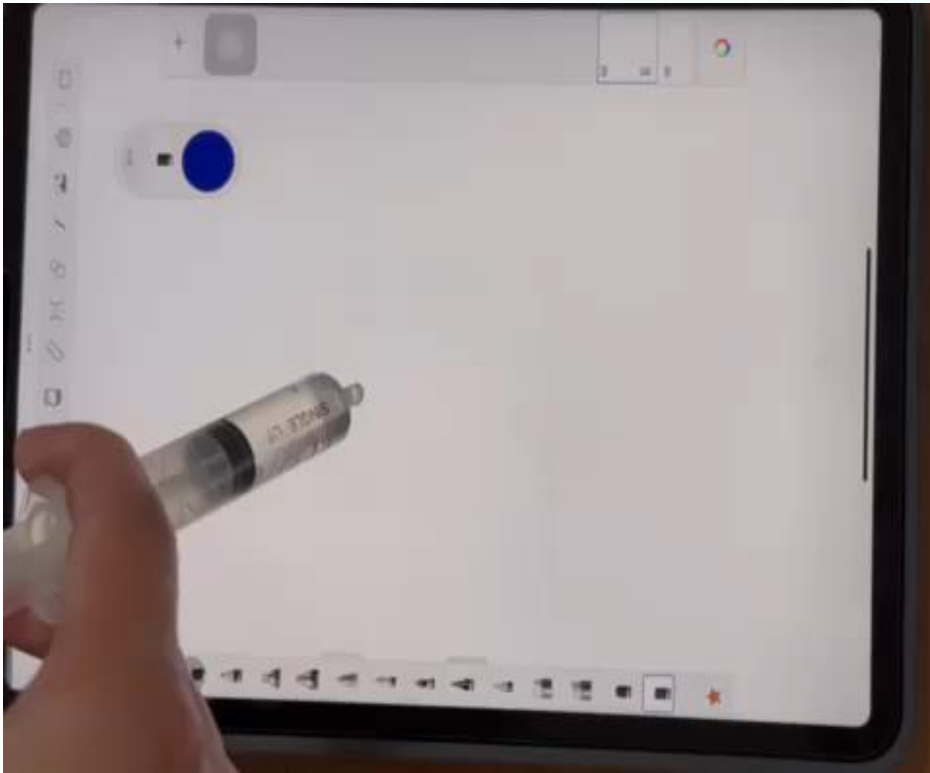
Shorter Latency



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

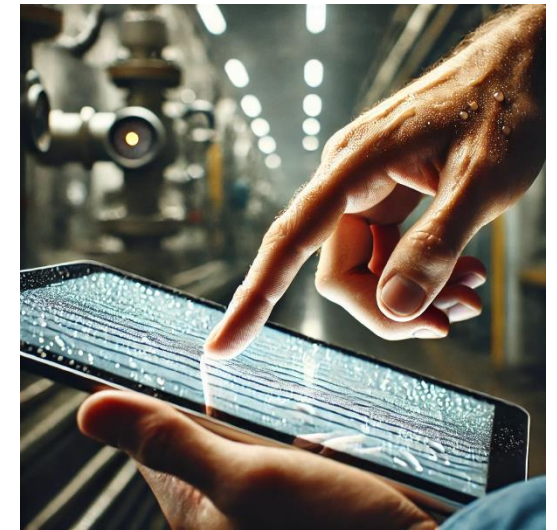


ELAN IPC New Solution For Waterproof And Glove Operation



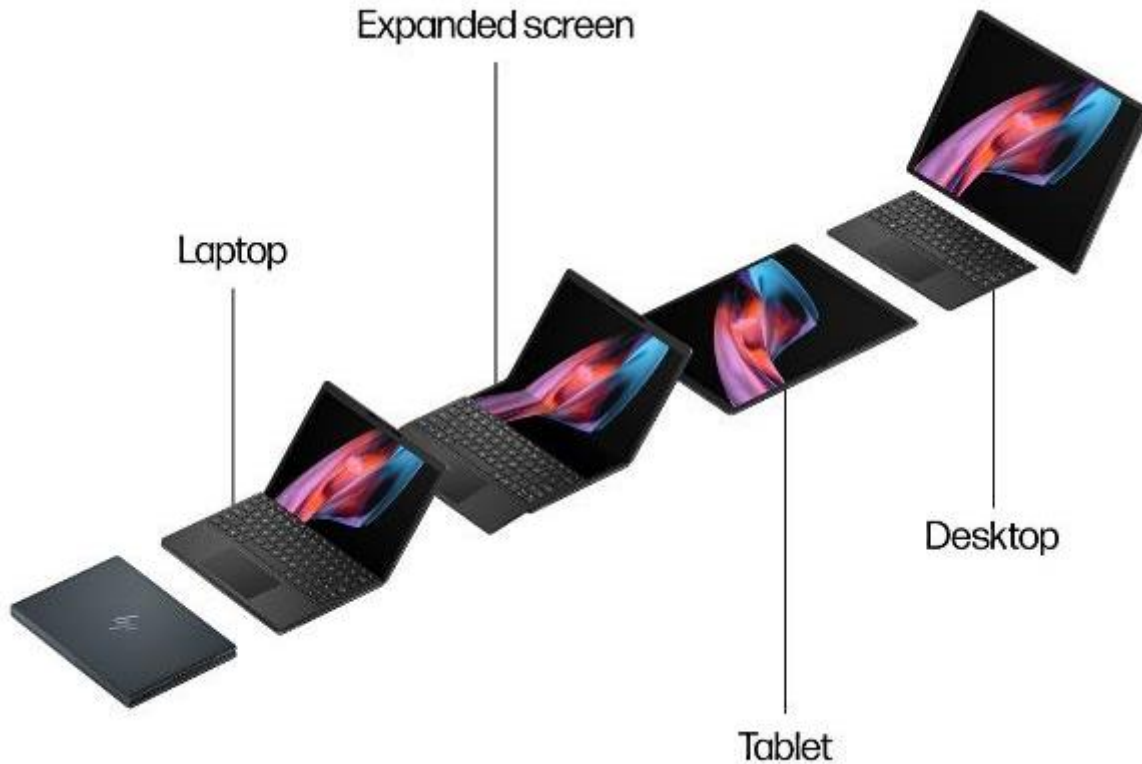
Industrial Control

Touch Controller with Innovative Geometry Design for Industry



ELAN AlxTouchscreen Solution for 17.3 Foldable Notebook

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



World First's Largest Foldable Laptop Launched



Spectre Foldable 17



Gram Fold 17



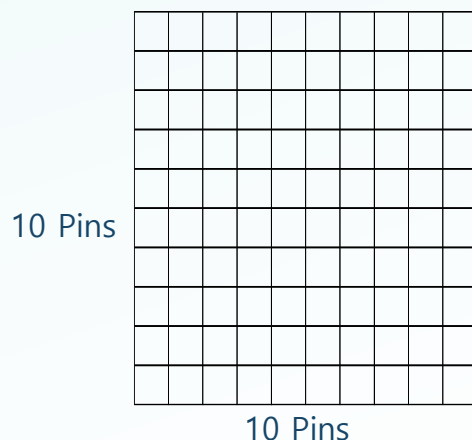
ELAN Single Layer On Cell (SLOC) Touch

ELAN Solution for SLOC

*Example

Multi Layer (Count Line)

Total 20 Pads



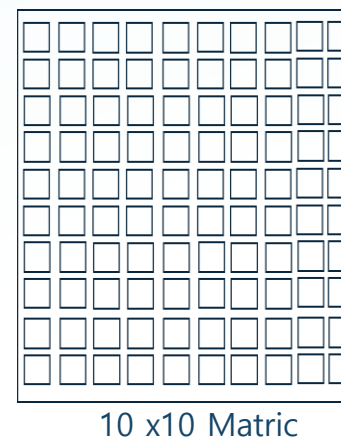
Single Chip

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

ELAN Touchscreen IC Shipping Record for EPD

Black & White E-paper

Paper Pro

R kobo



Libra 7"

R kobo



Sage 8"
MPP2.0

Optional

R kobo



Elipsa 10.3"
MPP2.0

Standard

mooInk



Plus 2C 7.8"

Bigme



Bigme 10.3"

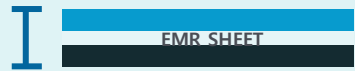
rM

reMarkable Paper Pro
500Hz Pen report



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

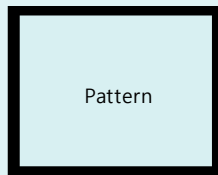


ITO Film

Active Stylus

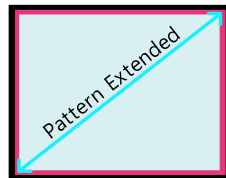
Capacitive Active Stylus

Linearity



EMR

Better



Capacitive Active Stylus

Pen Vendor

wacom

EMR

More

MAXEYE wacom

SUNWODA Hanvon Chicony

Capacitive Active Stylus

ELAN AlxFingerprint Highlights

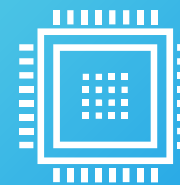
#2

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

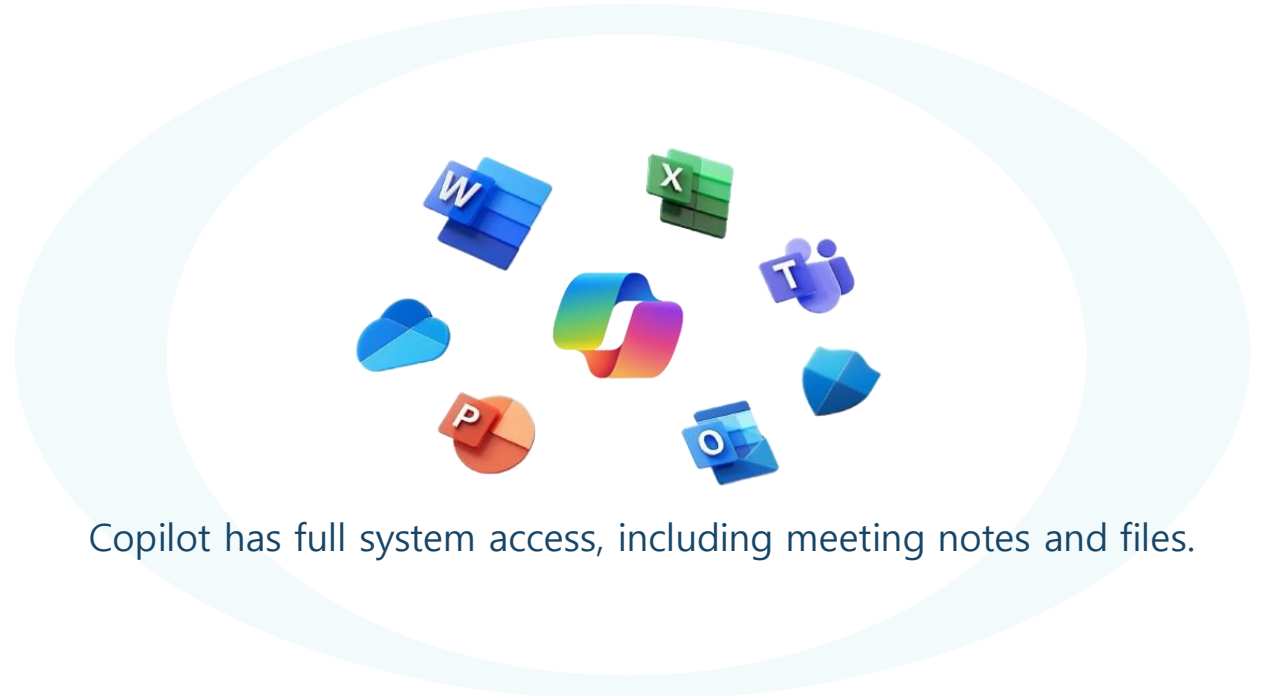


Optical FP



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.

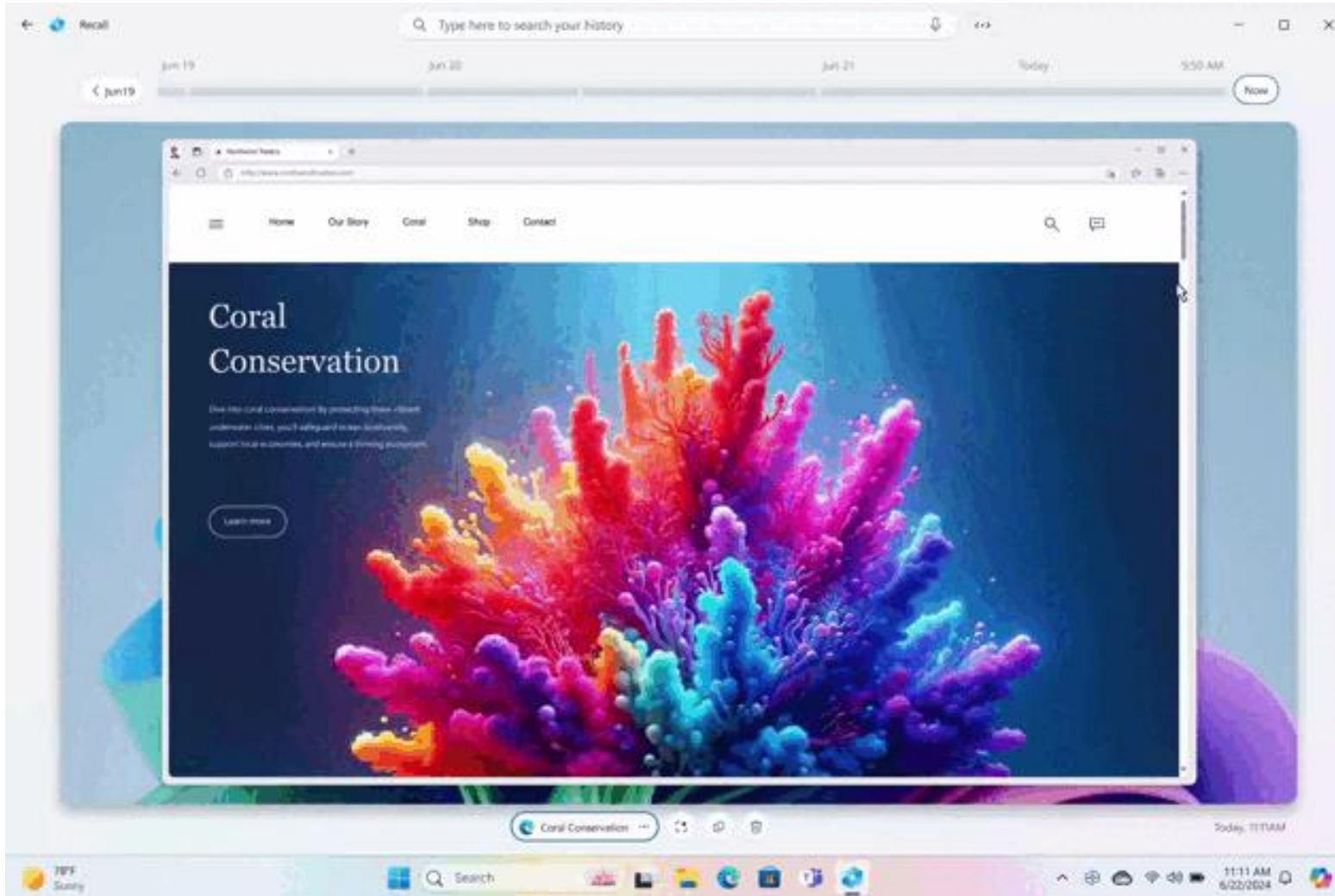


User-Friendly
Seamless one-touch Copilot activation.



Recall AI: Time-Tracking Feature in Copilot + PC

Recall's Powerful Search Capabilities Raises Privacy Concerns.



Copilot+PC



Windows Hello



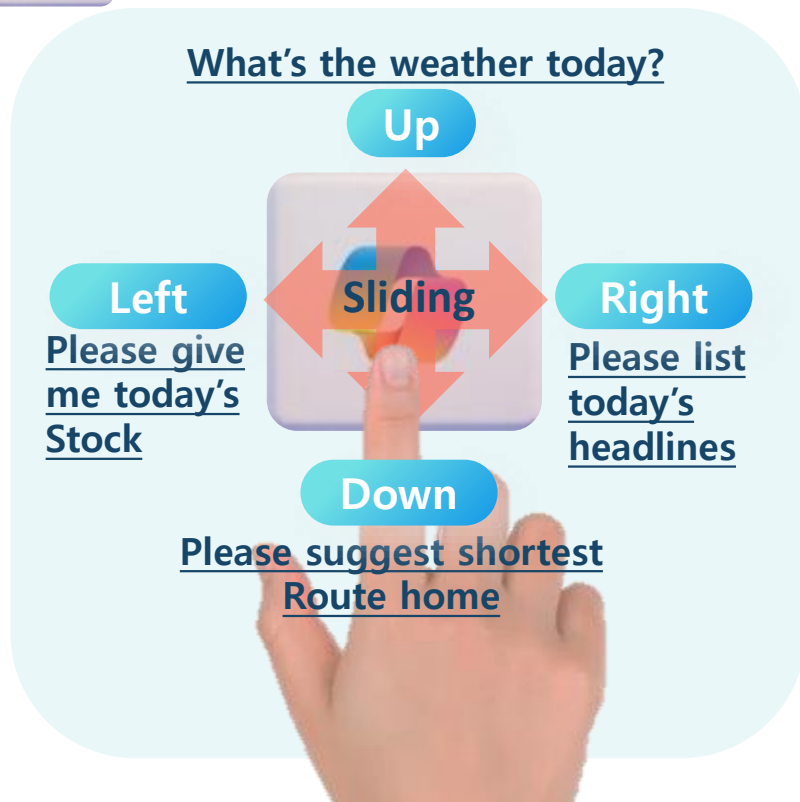
Each time you use Recall,
Windows Hello Authentication is
Required to Unlock
and Access Content.
**Only ESS can Enable
Recall Function**

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



ELAN Pointstick Highlights

#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 Global Market

Increased ASP with New Features



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(F)

Global Market

ELAN Share

Market Share

ASP

1Q24~3Q24 Income Statement

YoY Comparison (Consolidated)

NT\$M

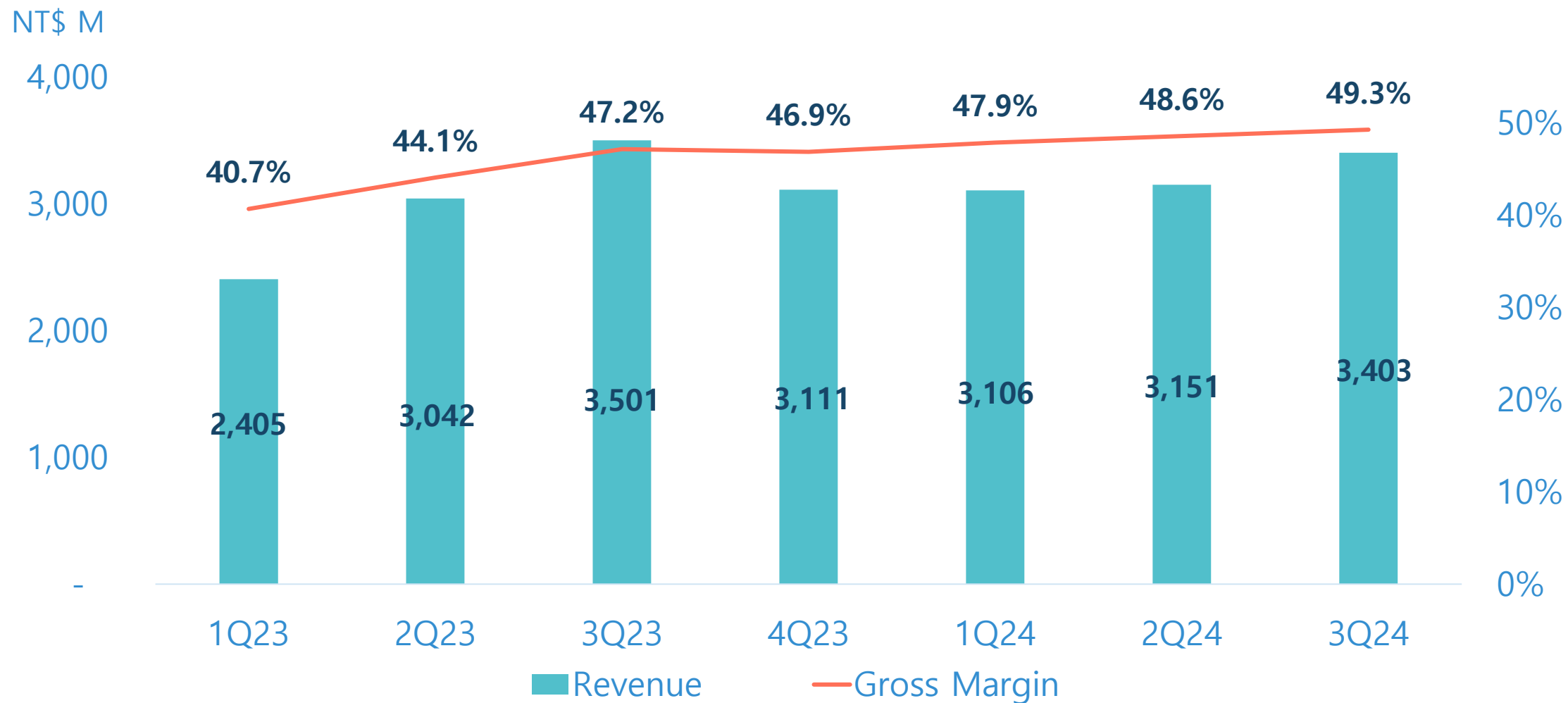
	1Q24~3Q24	%	1Q23~3Q23	%	YoY(%)
Sales	9,660	100.0	8,948	100.0	8.0
Gross profit	4,697	48.6	3,974	44.4	18.2
Sales expense	264	2.7	289	3.2	
G&A expense	382	3.9	367	4.1	
R&D expense	1,707	17.7	1,610	18.0	
OPEX	2,353	24.3	2,266	25.3	3.8
Operating profit	2,344	24.3	1,708	19.1	37.2
Non-operating income & exp.	201	2.0	105	1.2	
Profit before tax	2,545	26.3	1,813	20.3	40.4
Net profit	2,038	21.1	1,453	16.2	
Belong					
Parent company	2,133	22.1	1,567	17.5	36.1
Non-Controlling Interests	(95)		(114)		
* EPS (NT\$)	7.47		5.51		35.6

* 304 million shares issued: 286.2/ 284.6 million shares outstanding as of the end of Sep. 2024/ Sep. 2023.

* Consolidated Statement of Financial Position (Unreviewed).



Performance Highlight



Evolving Trend of Edge AI is On The Horizon

1. NB replacement cycle is coming due to end of support for Windows 10 by 4Q25 and Windows 10 no longer receiving security updates, accelerating the replacement cycle.
2. AI PC gives enterprise a competitive edge and improve personal productivity. AI PC will popularize running distilled LLM like DeepSeek locally on the edge, for better efficiency and privacy.
3. AI Copilot with ELAN Fingerprint solution can provide enhanced security, AI data protection and user-friendly features.
4. With Google's "Circle to Search" feature compatible with touch and pen, and potentially more features coming for haptics touchpad, the human-interface will continue to evolve.



THANK YOU

ELAN MICROELECTRONICS

