



義隆 Smart-Input™ Solutions

Dual Transformation through AI

藉由AI實現企業轉型

2022/05/06

Daiwa Taiwan Corporate Day 2022



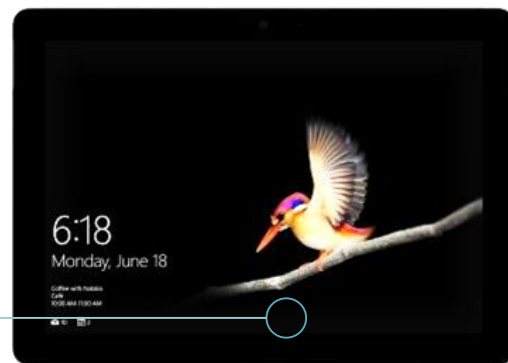
ELAN Microelectronics Corporation

義隆智慧裝置解決方案應用在筆記型電腦

Multi-Finger Touchscreen IC Market Share: WW#1



LTDI



NB Market
~220M in 2022F

Consumer & Commercial Percentage
65% & 35%

Multi-Finger Touchpad Market Share: WW#1



Trackpad



Lighting-Pad



Haptic-Pad



ID-Pad



Fingerprint
Market Share: WW#2
Target → Market Leader



MOH (Encryption)
MOC (Secure Bio)



FP Keycap



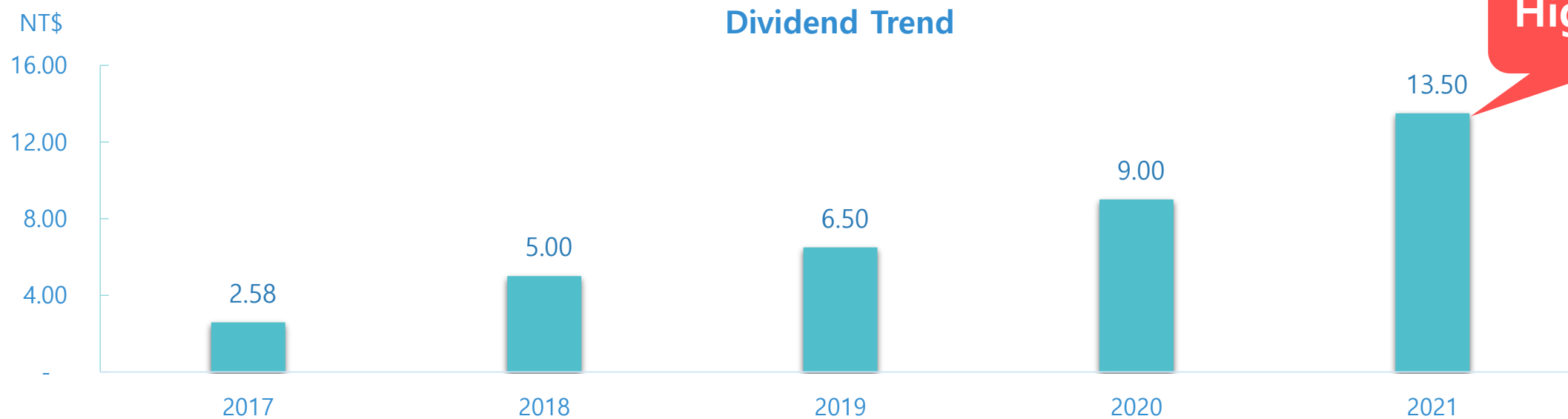
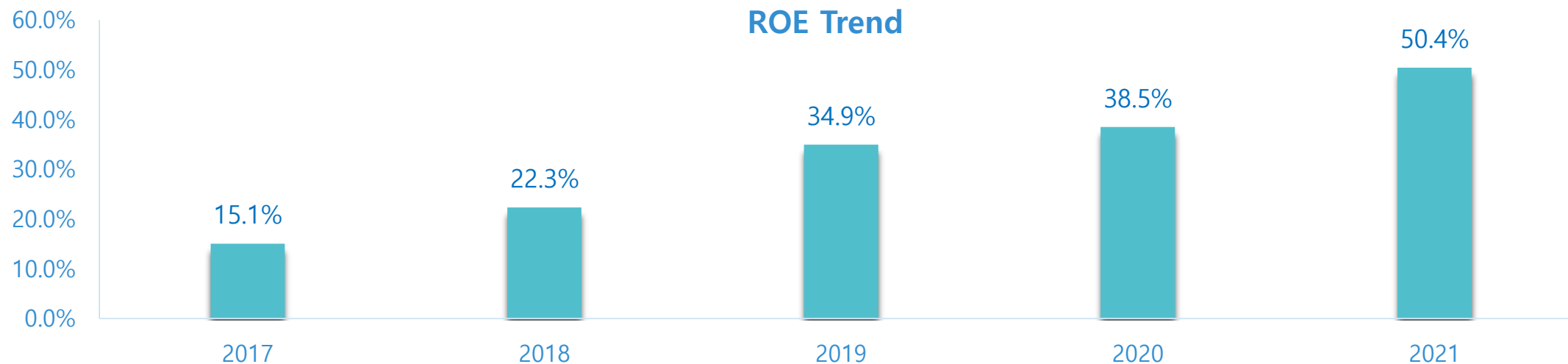
Pointstick Market Share: WW#1



Pointing Stick Generations

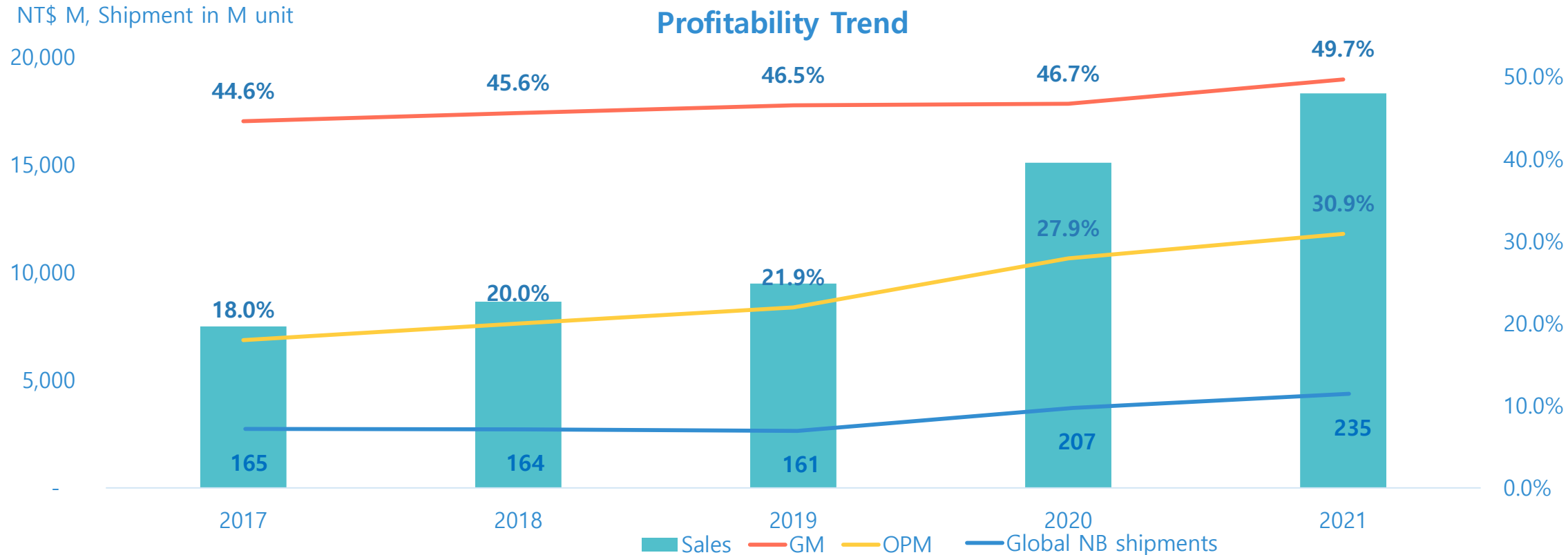


股東權益報酬率&股利配發持續攀升



義隆營運績效卓越 屢屢超越筆電市場平均成長率

NT\$ M, Shipment in M unit



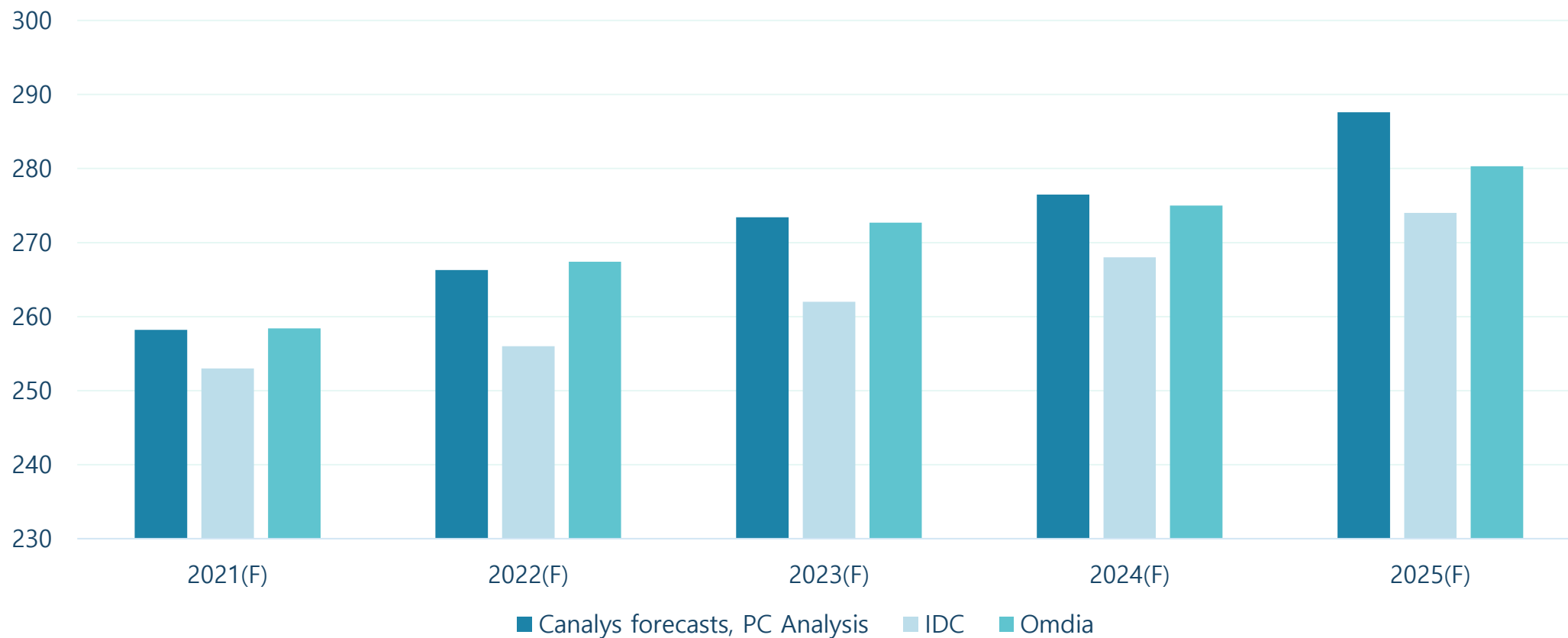
- 2018~2021 Revenue CAGR : 20%
- Global NB shipments in 2022 are expected to be 220M.

	2017	2018	2019	2020	2021
ELAN Rev (NT\$M)	7,503	8,651	9,488	15,100	18,328
ELAN Rev YoY	14%	15%	10%	59%	21%
Global NB Shipment YoY	2%	-1%	-2%	29%	14%

Note: Financial data are on consolidated basis.

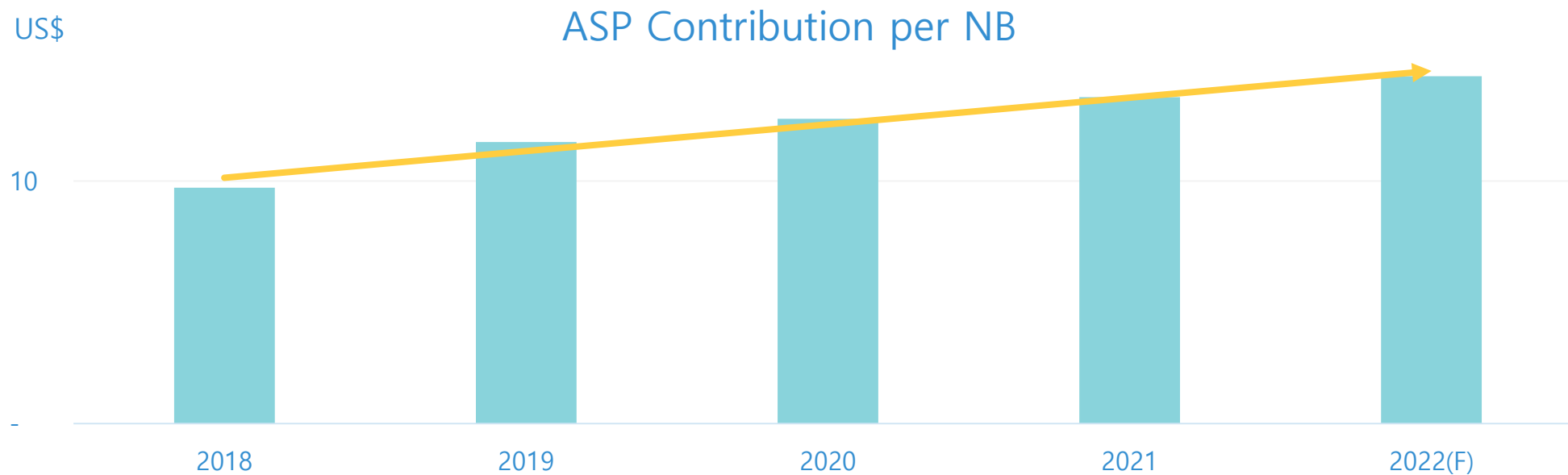
人機介面應用的產值不斷增加

Unit: M units



Source	2021(F)	2022(F)	2023(F)	2024(F)	2025(F)	CAGR
Canalys forecasts,PC Analysis (2021/02)	258.2	266.3	273.4	276.5	287.6	2.7%
IDC (2021/12/13)	253	256	262	268	274	2.0%
Omdia (2021/12/7)	258.4	267.4	272.7	275	280.3	2.1%

新規格新功能上市 帶動義隆在每台筆電的產值不斷增加



ASP Drivers:

Fingerprint

- KeyCap solution
- Higher security level (MOC, anti-spoof)

Touchpad

- Haptic pad
- Lighting pad
- Full-deck pad
- Pen supporting

Touchscreen

- Pen-supporting TSC solution
- In-cell LTDI
- SLOC solution

Pointstick

- New features, incl. lighting, etc.

非蘋陣營陸續推出創新的功能媲美蘋果的商品



MOC FPR on
Power-Button
(Touch ID)

Haptic Touchpad

Windows 11軟硬體的升級可望帶動換機潮

Win 8 Upgrade to Win 10 Take 3 Years ; Win 10 To Win 11 is 6 Years



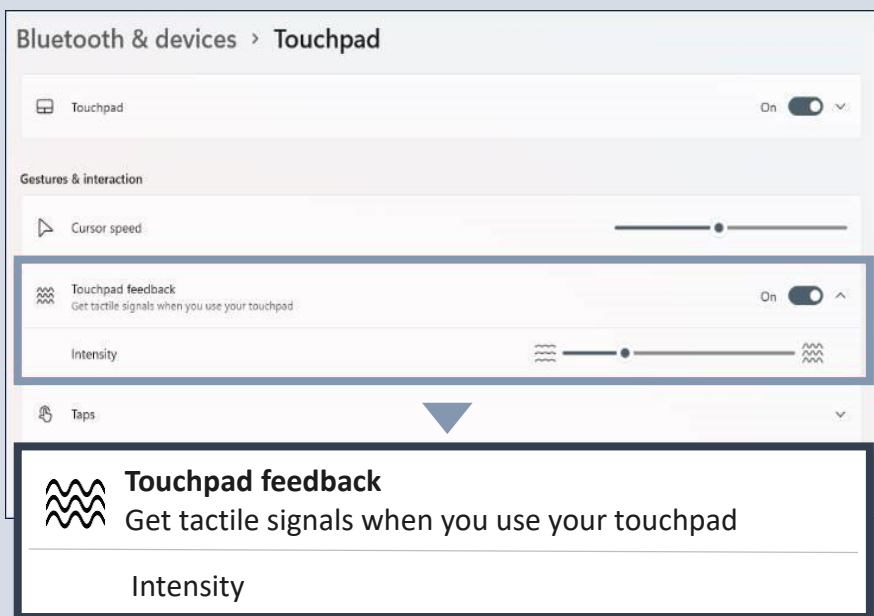
Windows 11

Windows 11 觸控板使用介面將提高觸覺回饋觸控板的搭載率

Windows 11 是第一個內建Haptic 軟體的 Windows 作業系統

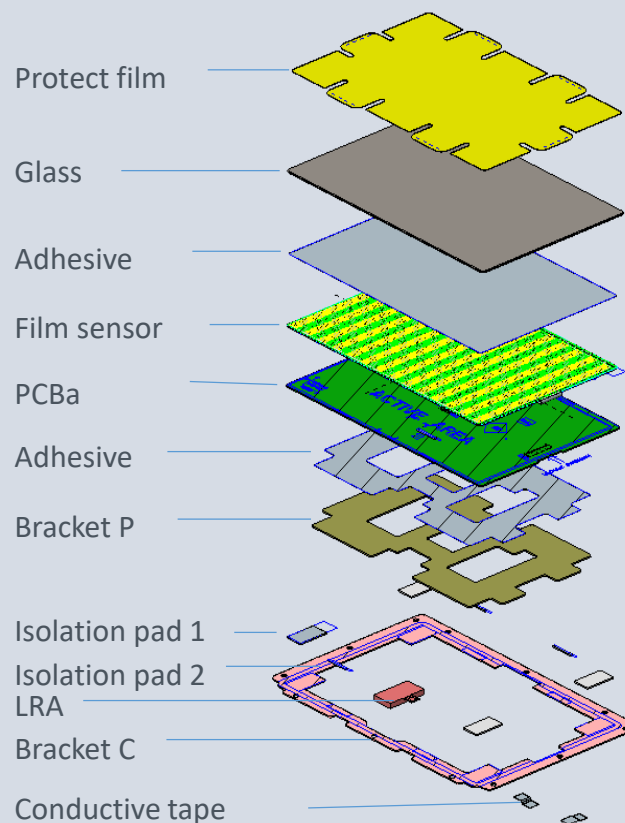
New Touchpad UI/Features:

- Global on/off toggle switch
- Haptic feedback intensity slider

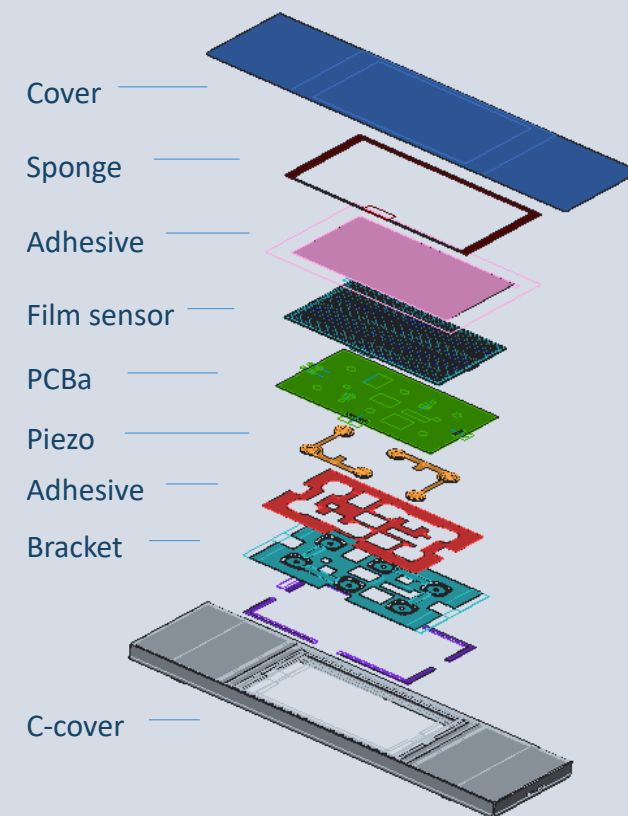


Adjustable Haptic Feedback Intensity

ELAN LRA Stack up



ELAN Piezo Stack up



ASP > US\$2x

Windows 11 要求指紋辨識模組支援晶片上解鎖(MOC)

Commercial: required on devices launched from **2022/1**

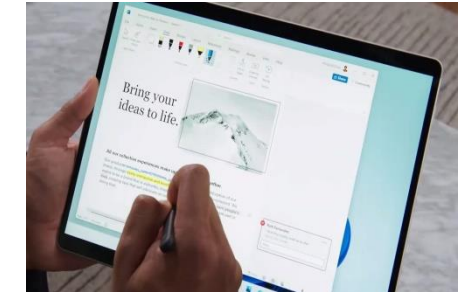
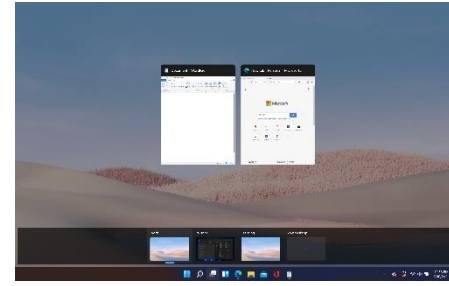
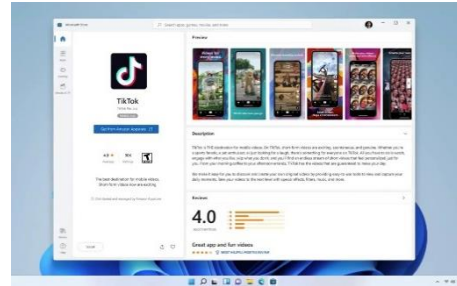
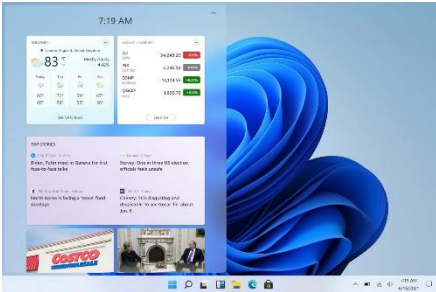
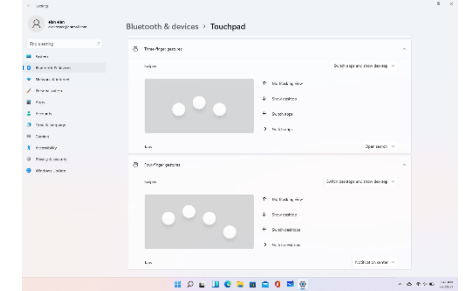
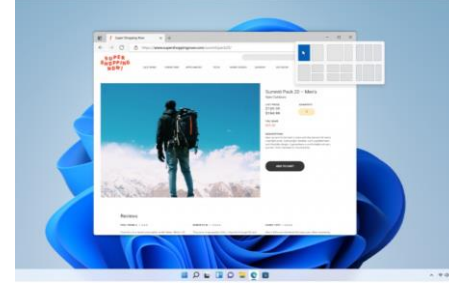
Consumer: required on devices launched from **2022/4**

Year	Windows 11 L2 Security Requirement: Fingerprint Module must Support Match-on-Chip (MOC)
CY2022	L2 required for Commercial Modern Devices and Featured Devices Plus - L2 required on all Back-to-school 2022 consumer Featured Devices that meet the supported hardware configuration* - L2 required on all Holiday 2022 (SV2) consumer and Commercial Devices that meet the supported hardware configuration*
CY2023	L2 required for all consumer and commercial devices

*AMD Ryzen™ 5/ Intel Core i5 / Qualcomm Snapdragon 8CX and above, 8GB+ Ram, 664 GB + SSD

Window11：導入手機應用程式以提升筆記型電腦更完善的用戶體驗

Win 11 在觸控螢幕上導入3指/4指手勢



Personalization

Widget

Dark Mode

Frictionless

Android APP

Build-in Teams

Productivity

Snap Layout/Docking

Multiple Desktop

Intuitive

Gesture Controls

Pen Updates





義隆亮點產品
@ 2022年美國消費電子展
(CES)

CES 2022 – 內含義隆技術的新旗艦產品

Lenovo



Lenovo Thinkpad Z13/Z16

- ELAN: Haptic Touchpad
- ELAN: Pointstick

hp



HP Elite Dragonfly Chromebook

- ELAN: Haptic Touchpad
- ELAN: Touchscreen IC with USI 1.0

DELL



Dell XPS 13 Plus

- ELAN: Haptic Touchpad
- ELAN: Touch Function Row
- ELAN: Touchscreen IC on OLED

CES 2022 – 內含義隆指紋辨識技術的新旗艦產品

Lenovo

Lenovo Thinkpad Z13/Z16

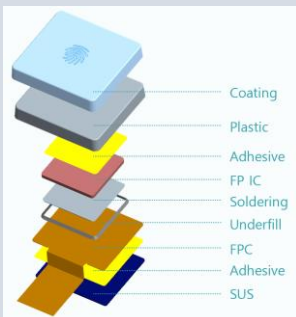


HP Probook 400



ASUS

Asus Zenbook 14X OLED



All of Fingerprint Modules from ELAN are already M-O-C and fully compliant to Windows 11 Level 2 Security

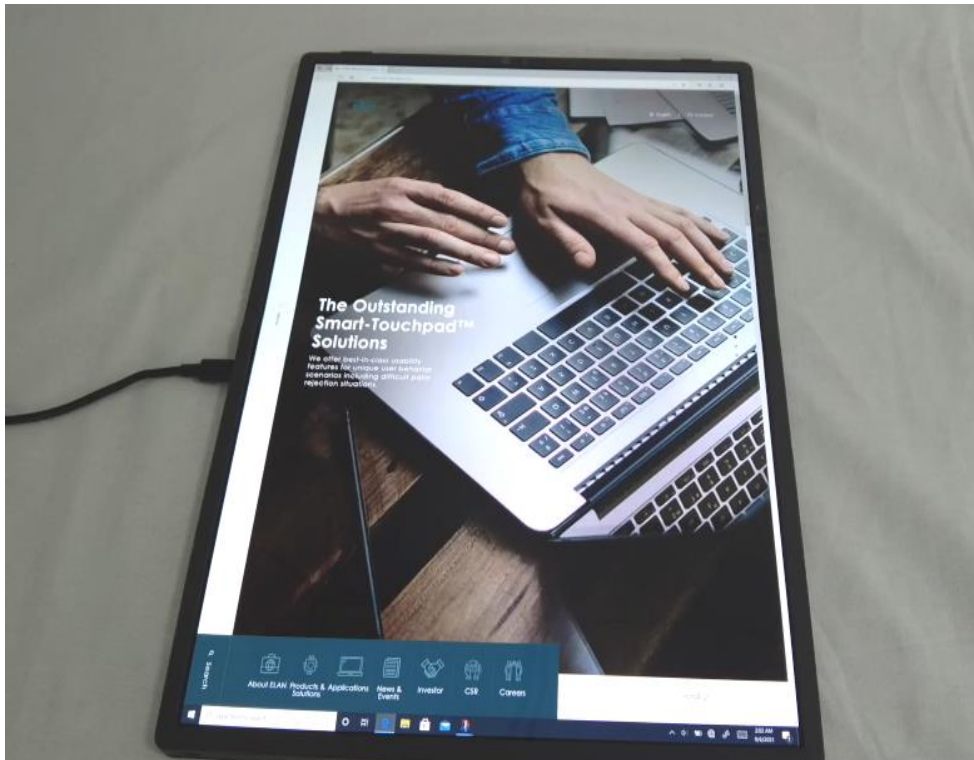
+ Industry Leading Anti-Spoofing Capabilities built-in



CES 2022 亮點產品 – 義隆折疊觸控帶筆技術

義隆成功地將折疊觸控技術導入筆電市場

17.3" OLED panel with MPP 2.0



Increased loading and noise with thinner thickness

2022 CES Innovation
Asus Zenbook 17 Fold OLED



義隆整體解決方案--指紋辨識模組

2022 年主要成長的產品

- 40%+ penetration rate in NB
- Strong shipment with double-digit growth
- Win 11 brings shipment mix of high ASP MOC (match on chip) > 60%
- To be market leader within 3 years

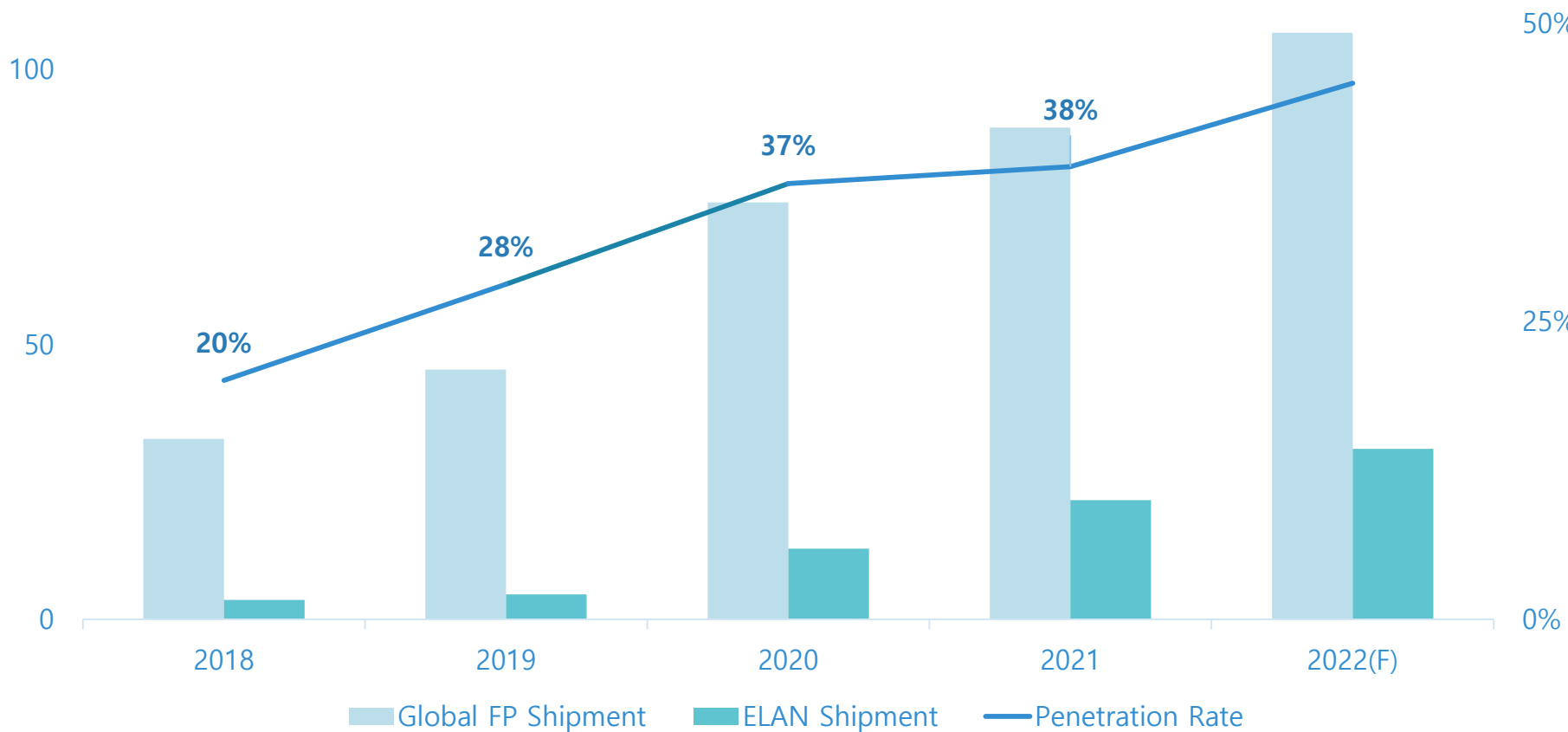


義隆筆電指紋辨識模組出貨不斷刷新紀錄

資安意識抬頭使筆電搭載指紋辨識率提高

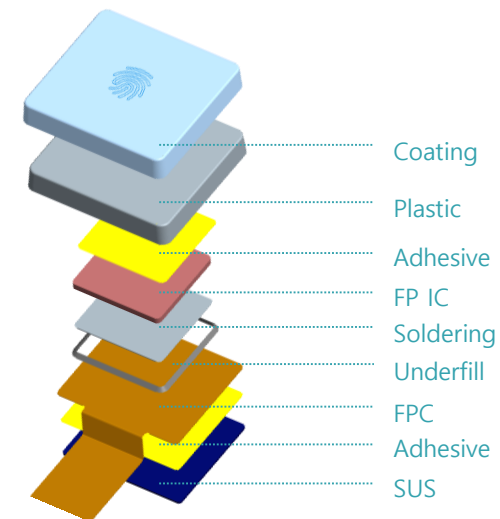
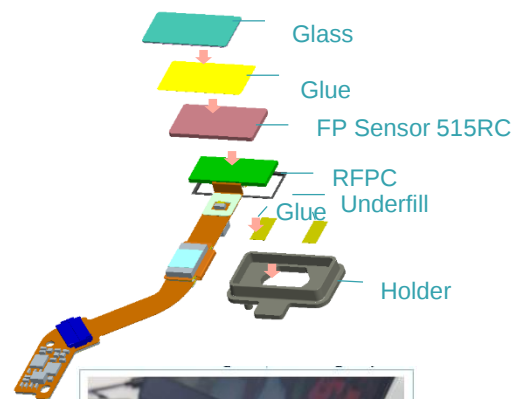
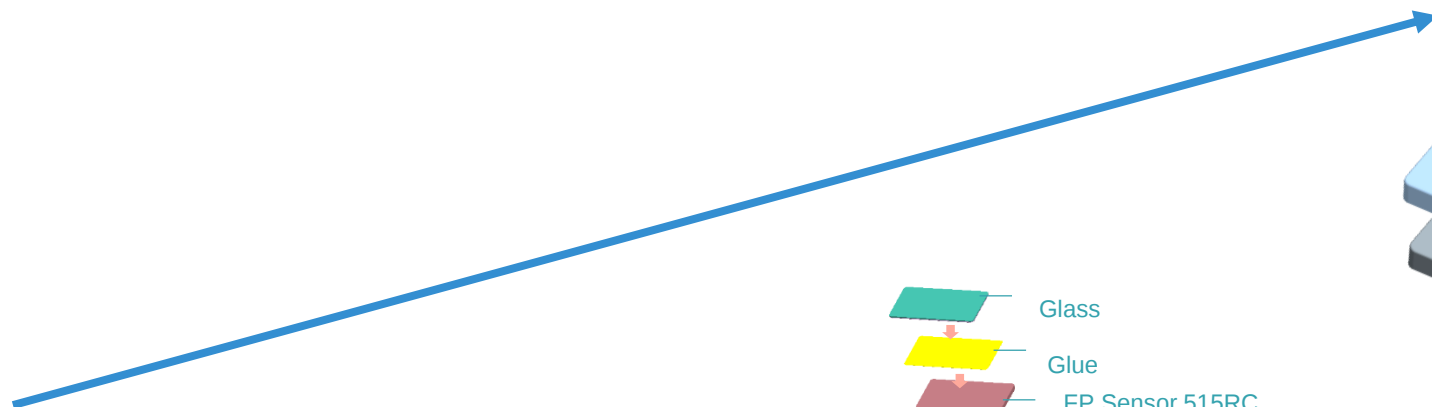


Unit in Millions



筆電指紋模組多樣化帶動平均價格上揚

ASP
\$2.x ~ >\$10



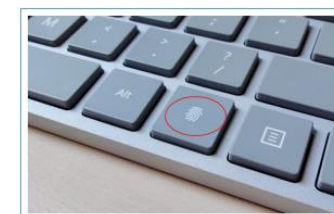
Fingerprint on C cover
Gen 1 Fingerprint Sensor Location



Smart-ID™ Pad
Touchpad



Smart-ID™ Button
Power Button



Smart-ID™ KeyCap
KeyCap

義隆整體解決方案 -- 觸控板模組



- Commercial NB market share gain
- ASP trends up from growing touchpad size
- NB aspect ratio changes to 16:10 from 16:9, raising ASP with enlarged Touchpad
- Apple-compatible haptic pad ramps and increases ASP

義隆觸控板屢創新高

商用機款佔有率增長



Microsoft

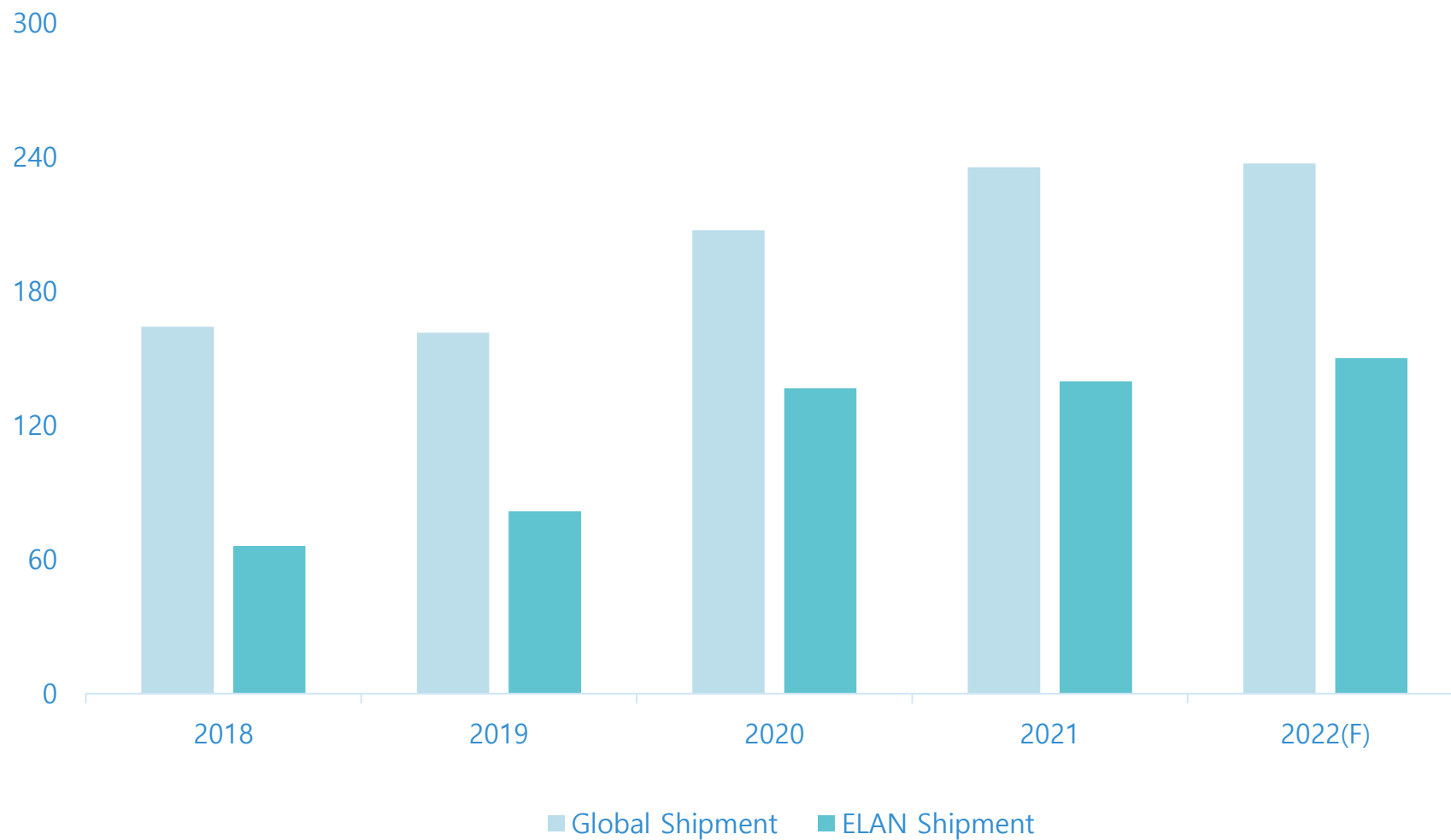


chrome



iOS

Unit in Millions



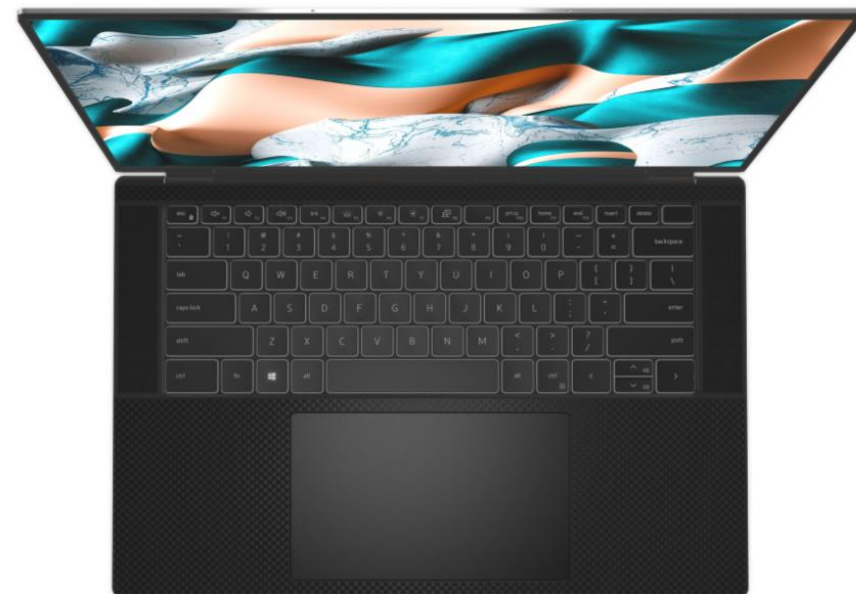
高單價大尺寸觸控板的需求逐漸增加



100*66 mm
ASP: X



130*90 mm
ASP: 1.5*X



150*90 mm
ASP: >2*X



義隆整體解決方案 -- 觸控螢幕晶片

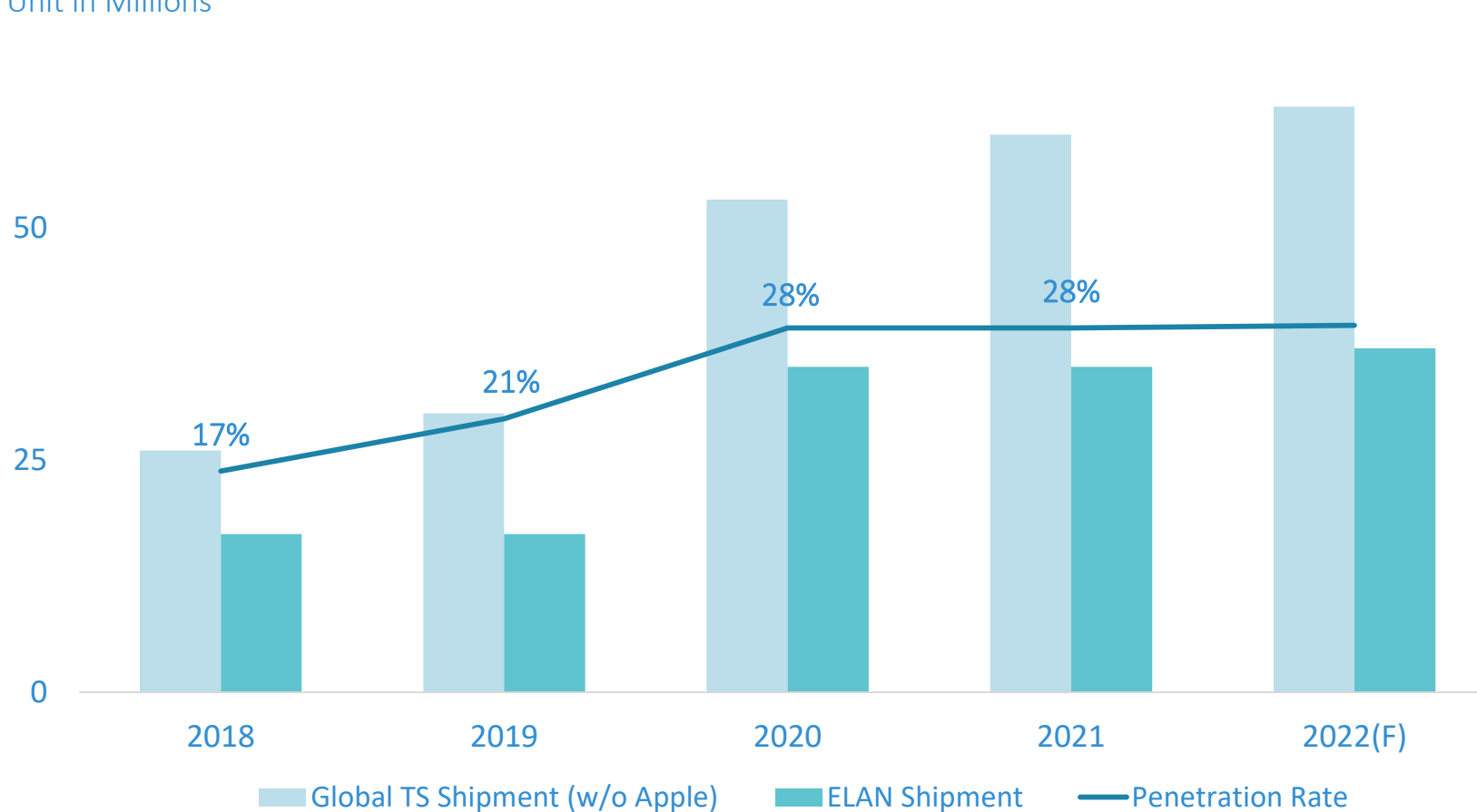
- Win 11 Android APP提高觸控螢幕的搭載率
- MPP Next & USI 2.0帶筆規格提升使平均單價上揚

義隆觸控螢幕晶片在筆電市場持續保持領先

搭載率提高



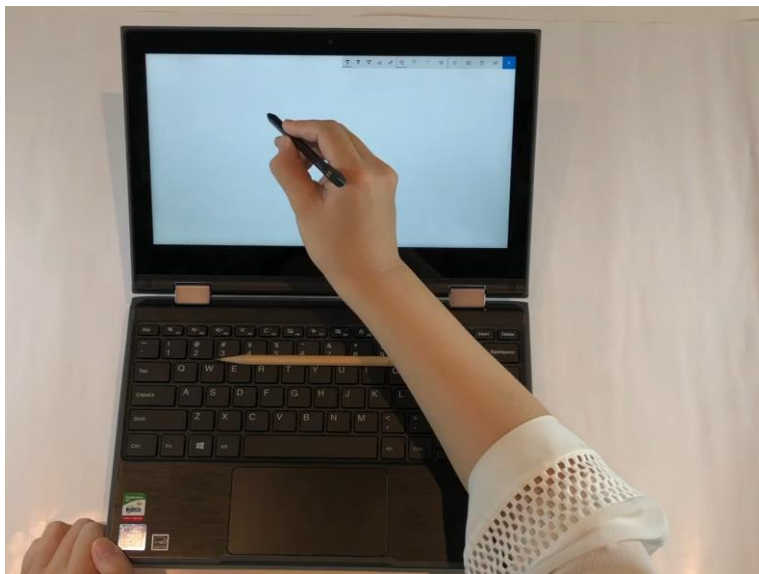
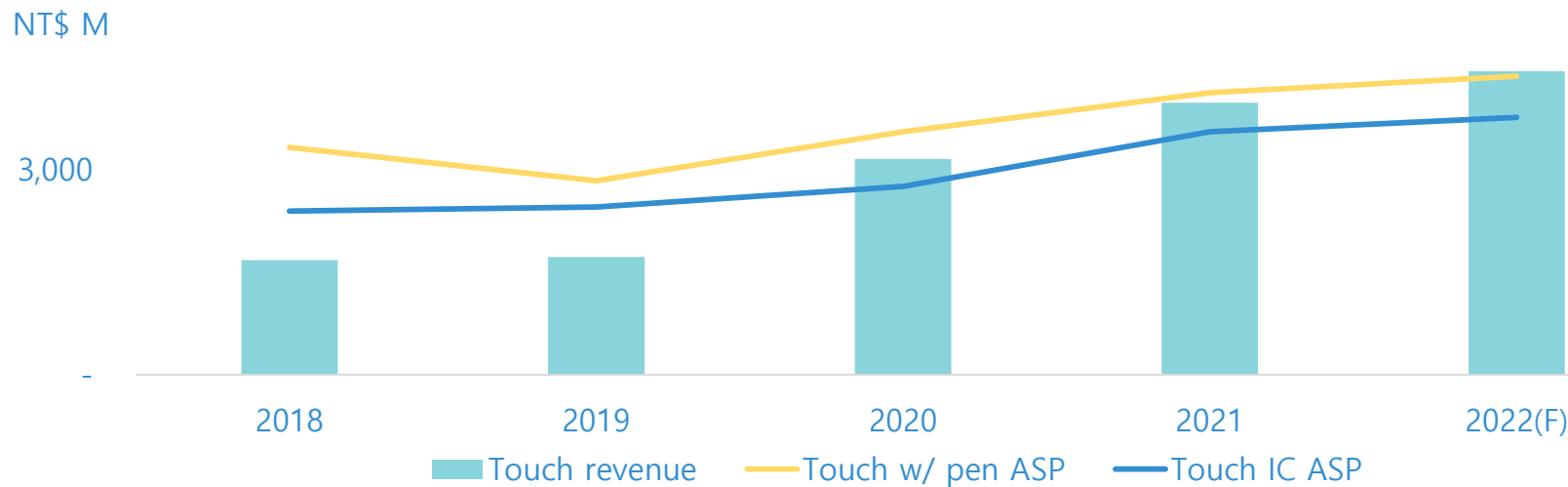
Unit in Millions



觸控螢幕帶筆晶片新規格上市 有利平均售價提高

觸控筆功能帶動價值提升

Touch Revenue & Pricing



Pen across Multiple Device ▶

US\$

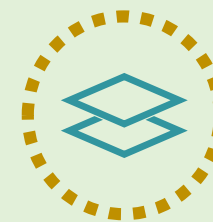
3.00

0.00



Protocol

MPP1.51/2.0/2.5/Next
AES1.0/2.0
US1.0 /1.0+Tilt/2.0
WGP



Stack Up

Out-Cell/On-Cell
In-Cell



Display

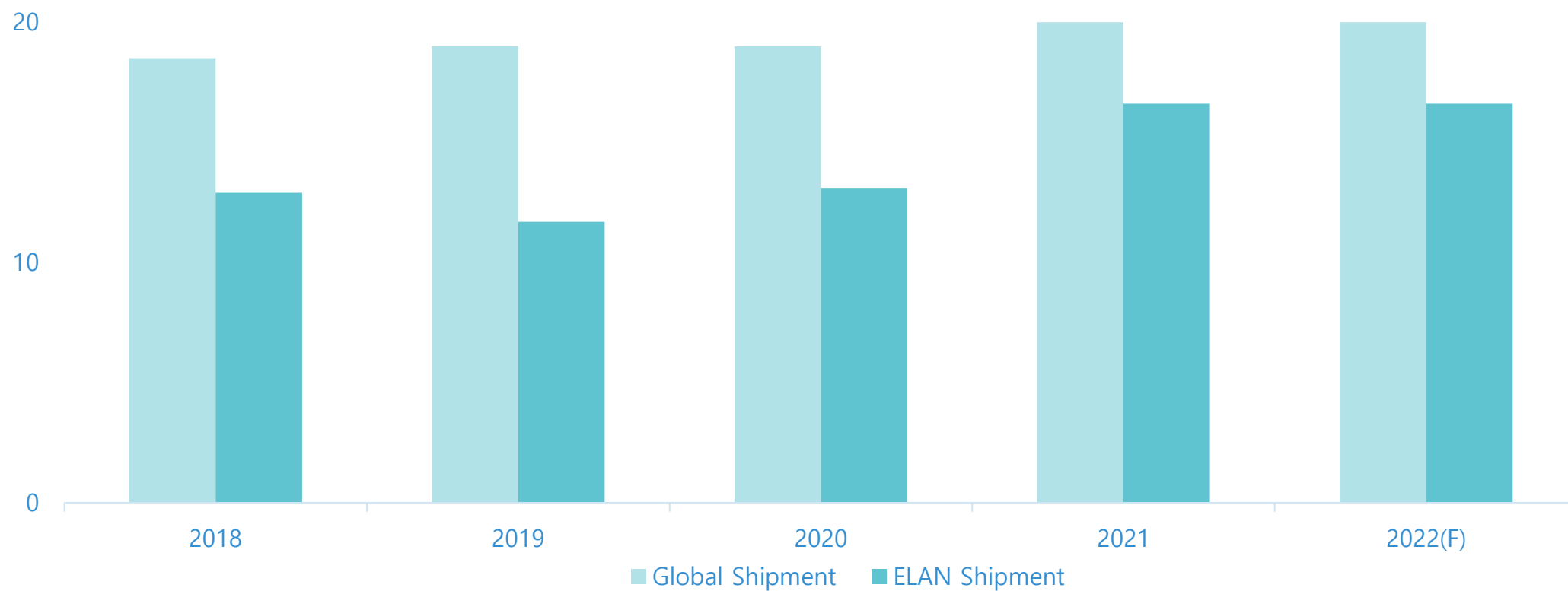
LCD/R.OLED/F.OLED
/EPD

指向裝置新晶片上市 提升平均售價

新功能帶動平均單價上揚

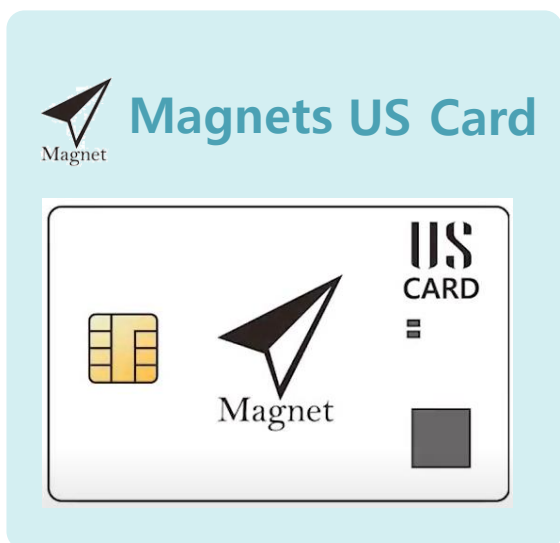


Unit in Millions

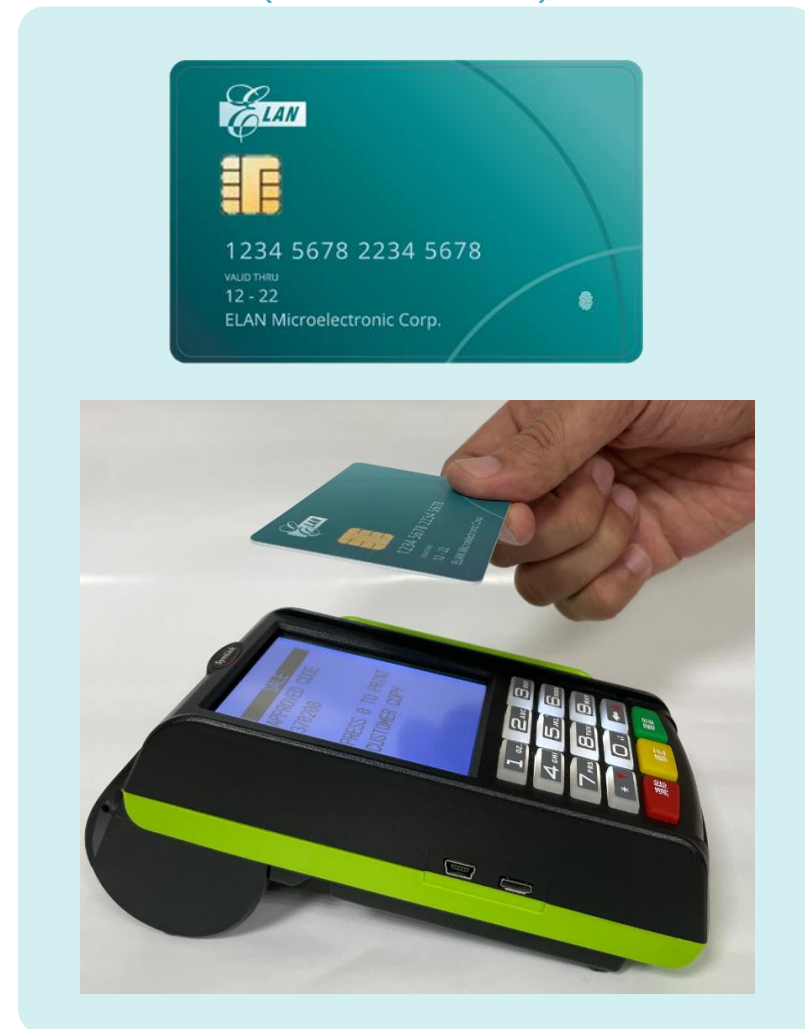


義隆生物辨識智慧卡解決方案 (無電池)

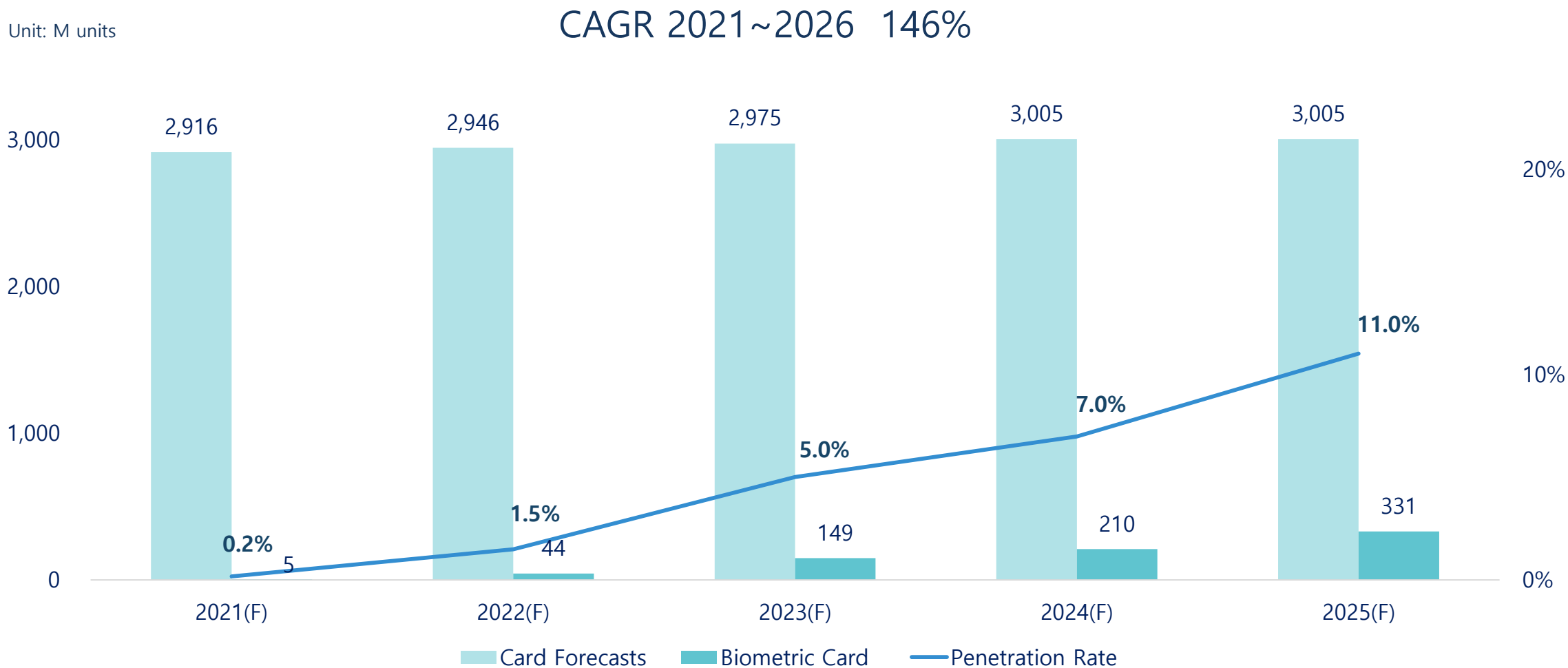
2nd Generation Fingerprint Sensor



3rd Generation Fingerprint Sensor (Under PVC)



資安意識抬頭帶動生物辨識信用卡市場爆發性成長



生物辨識資安需求 為智慧卡開啟新機會

Smart Lock

Student ID

Multi-function Card

Employee ID

Travel Pass

Security Pass

指紋を登録した本人なら使えます

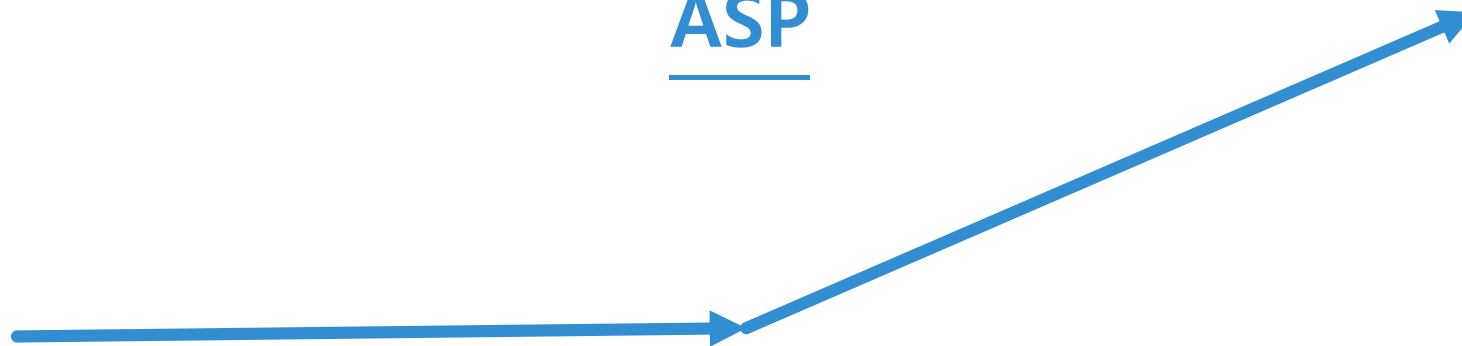


Elan's solutions are widely adopted across Asia, Europe & North America

- Battery type: 4 projects
- Battery-less type: 5 projects

筆電觸控技術演化的趨勢: 外掛式 → On-cell內嵌式 → In-cell內嵌式

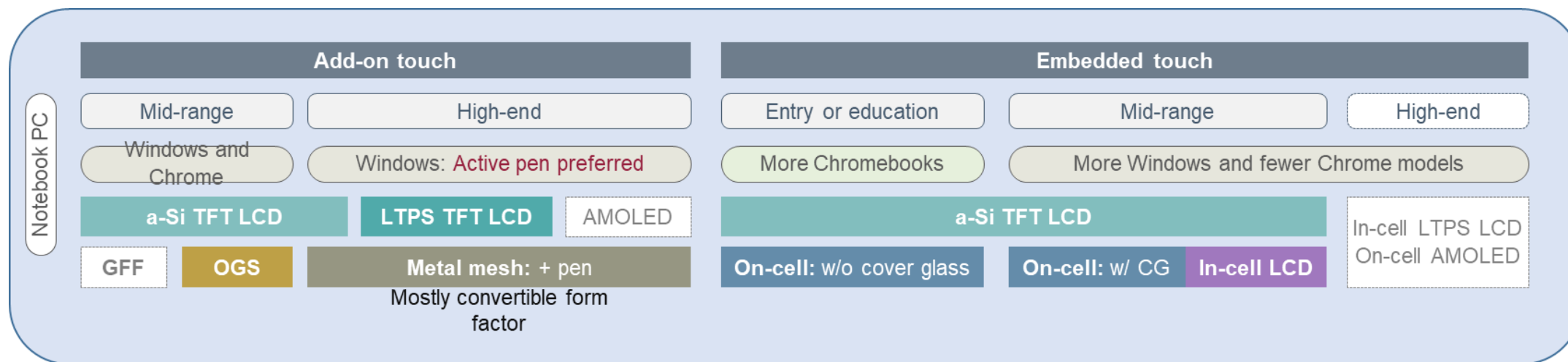
ASP



Out-cell

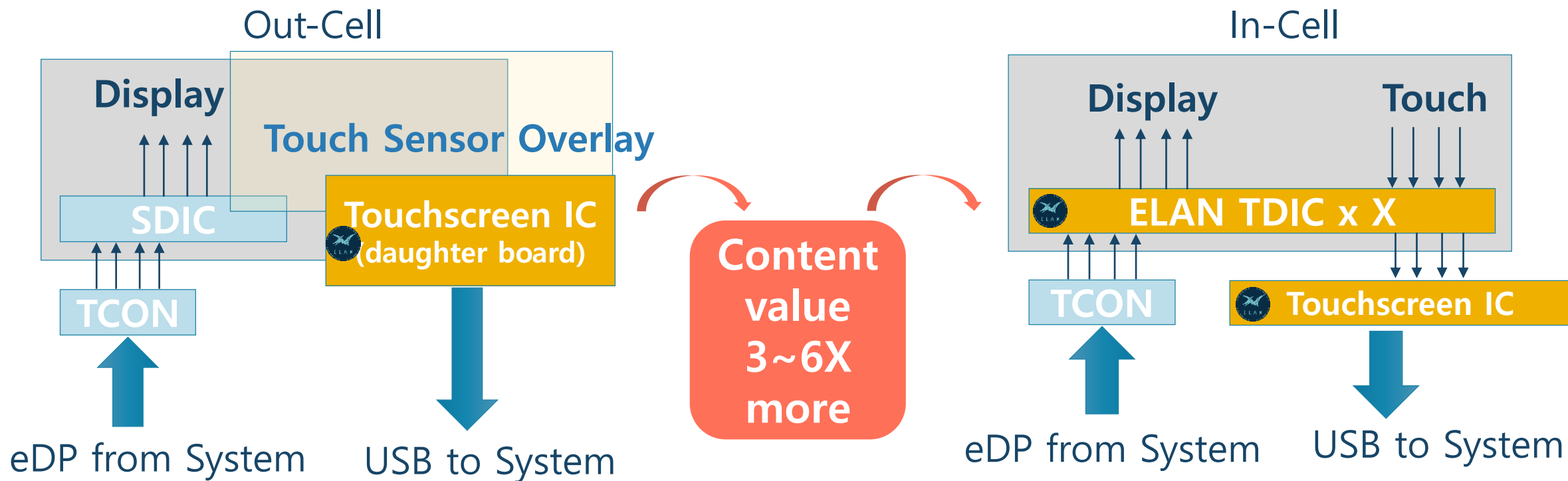
On-cell

In-cell



In-Cell內嵌式觸控 IC使用量大增 提升平均售價

義隆的LTDI方案是市場第一個支援微軟 MPP2.5 及 Wacom WGP 雙協定的產品



Out-cell Panel IC Demand – 1 pcs

- Touchscreen IC x1

In-Cell Panel IC Demand – 8 pcs

- Touchscreen IC x1
- (Source + Touch IC) x 6
- Level Shifter x1

合併損益表 - 2022年第1季 vs. 2021年第1季

單位:新台幣佰萬元

	2022年第1季	%	2021年第1季	%	YoY(%)
營業收入淨額	4,099	100.0	4,156	100.0	(1.4)
營業毛利	1,937	47.3	1,993	48.0	(2.8)
銷售費用	143	3.5	153	3.7	
管理費用	114	2.8	116	2.8	
研發費用	567	13.8	532	12.8	
營業費用	824	20.1	801	19.3	2.9
營業淨利	1,113	27.2	1,192	28.7	(6.6)
業外收入及支出	(100)	(2.5)	130	3.1	
稅前淨利	1,013	24.7	1,322	31.8	(23.4)
稅後淨利	773	18.9	1,083	26.1	(28.6)
本期淨利歸屬於					
母公司業主	798		1,100		
非控制權益	(25)		(17)		
* 每股盈餘 (元)	2.81		3.77		(25.5)

* 期末發行股數: 3.04億股; 流通在外股數: 2.846億股 (2022年3月底)、2.914億股 (2021年3月底)

* 財務資料來源:本公司自結數

合併損益表 - 2022年第1季 vs. 2021年第4季

單位:新台幣佰萬元

	2022年第1季	%	2021年第4季	%	QoQ(%)
營業收入淨額	4,099	100.0	4,162	100.0	(1.5)
營業毛利	1,937	47.3	2,056	49.4	(5.8)
銷售費用	143	3.5	143	3.4	
管理費用	114	2.8	142	3.5	
研發費用	567	13.8	638	15.3	
營業費用	824	20.1	923	22.2	(10.7)
營業淨利	1,113	27.2	1,133	27.2	(1.8)
業外收入及支出	(100)	(2.5)	257	6.2	
稅前淨利	1,013	24.7	1,390	33.4	(27.1)
稅後淨利	773	18.9	1,305	31.4	(40.8)
本期淨利歸屬於					
母公司業主	798		1,321		
非控制權益	(25)		(16)		
* 每股盈餘 (元)	2.81		4.64		(39.4)

* 期末發行股數: 3.04億股; 流通在外股數: 2.846億股

* 財務資料來源: 本公司自結數

2022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：

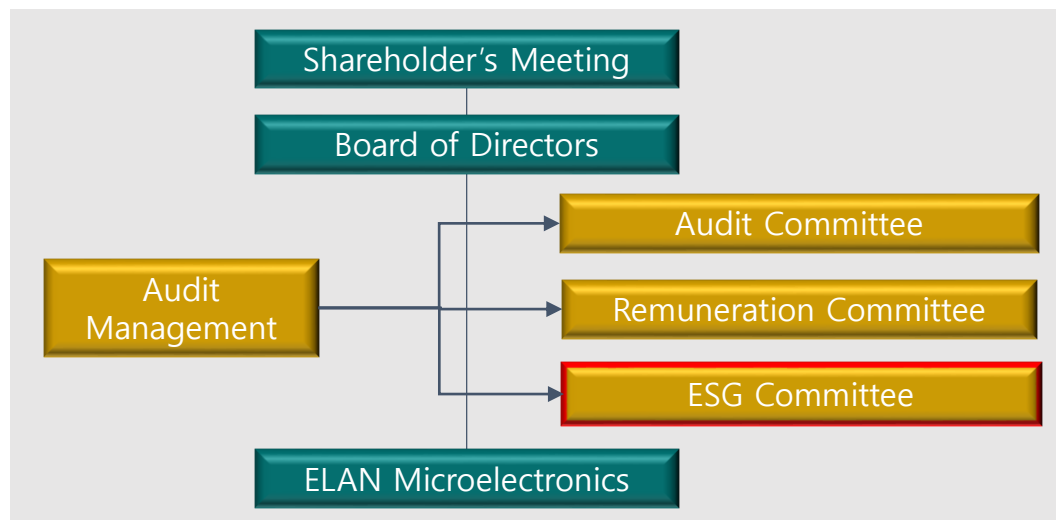
★ 合併營收約介於新台幣42億~ 45億之間

★ 銷貨毛利率約於48% ~ 50%之間

★ 營業利益率約介於28.0% ~ 31.3%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。

義隆電子追求永續經營ESG



100%材料符合RoHS，無鹵及Reach要求

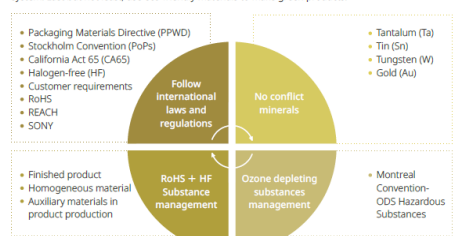
4.5 Product and labeling 417-1

Green product policy

- Comply with relevant international regulations and directives on hazardous substances.
- Meet the requirements of customers and ELAN hazardous substances

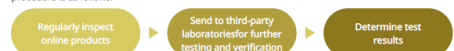
Green product

ELAN builds our green products based on the banned/restricted requirements of hazardous substances regulated by international, industrial, and customer standards, establishes the Hazardous Substance Management Procedure to manage hazardous substances as well as to serve as a standard for our suppliers. Make routine audits and updates to ensure the effectiveness of the system. Last but not least, use eco-friendly materials to make green products.



Note: RoHS: Restriction of Hazardous Substances in Electrical and Electronic Equipment
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

To meet company standards, ELAN inspects the products annually and monitors whether any products violate the requirements. Violations of regulations are strictly prohibited. The inspection procedure is as follows.



Green product management results

ELAN insists on using Green products. All ELAN product series are in accordance to RoHS, Sony GP, REACH, and Halogen-free requirements. Hazardous substance declaration forms are provided.

- RoHS: Raw materials 100% comply with regulatory requirements
- HF: Raw materials 100% comply with regulatory requirements
- REACH: Finished product 100% comply with regulatory requirements
- OTHERS: Comply with customer/ international requirements

To this date, there were no violations of health and safety regulations on product and services. 416-2

To this date, there were no violations of product/service information and labeling. 417-2



HALOGEN



重點 Highlight

	2018年	2019年	2020年
女性員工比例 (%)	38%	40%	42%
教育訓練人均時數 (小時/年)	9.9	13.2	9.9
員工健康檢查參與人數 (人)	895	905	992
職災發生件數	0	0	0

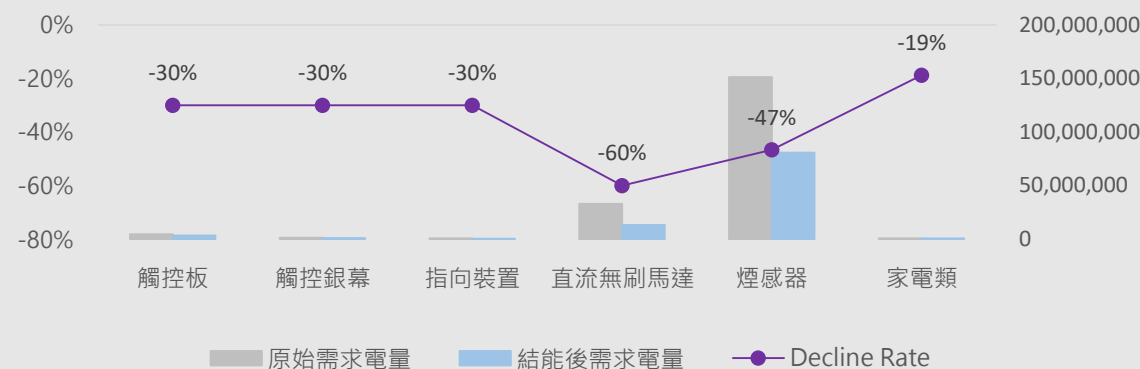
27年零職災

CSR 天下永續公民

2016 - 中堅企業						
名次	企業	總分	公司治理	企業承攬	社會參與	環境永續
1	信義房屋	9.238	9.58	8.93	9.43	9.02
2	廣聚隆科技	8.972	9.00	8.90	8.83	9.16
3	廣聚隆科技	8.815	8.93	8.48	8.82	9.04
4	宏正日科科技	8.640	8.03	8.66	8.04	8.94
5	瑞陽建設	8.221	7.13	8.42	8.78	8.56
6	永城商業銀行	8.163	8.13	8.12	8.11	8.30
7	上緯企業	8.102	8.13	8.17	7.67	8.44
8	建錫工程科技	8.027	8.65	8.20	7.60	7.66
9	順興紡織	8.005	8.20	8.40	7.96	7.46
10	中緯中島聯機	7.953	8.08	7.75	8.12	7.86
11	振華企業	7.929	7.10	8.42	8.33	7.86
12	榮德電子	7.890	7.65	8.26	7.75	7.90
13	尚品企業	7.837	6.88	8.52	8.71	7.24
14	廣聚隆科技	7.829	8.68	7.58	8.77	7.16

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獲中堅企業獎項

Product Energy Saving and Carbon Reduction



Important suppliers with "Supplier Social Responsibility and Business Ethics Consent"



Important suppliers with the ISO 9001 & ISO 14001 certificates





Thank You



ELAN Microelectronics Corporation