

Sensortek Technology Corp. Investor Conferences



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昇佳電子股份有限公司

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Agenda

- I . Company Introduction
- II . Market Outlook
- III . Our Products
- IV . Financial Performance
- V . Future Development

I . Company Introduction

About Us

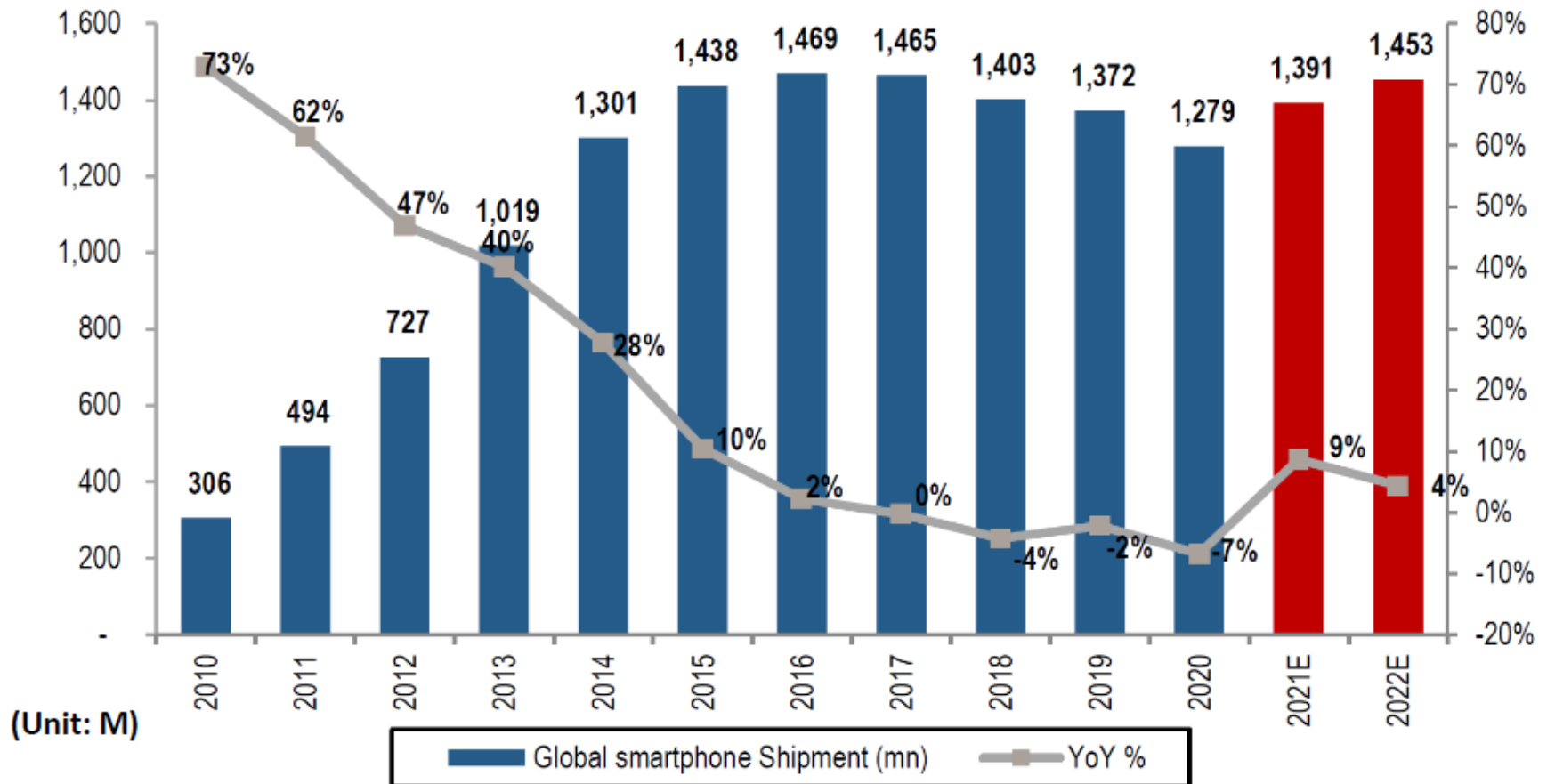
Company Name	Sensortek Technology Corp.	
Founded	December 1, 2009	
Capitalization	NT 489,126,180	
Chairman and CEO	Sheng-Su Lee	
Number of Employees	163	
Location	Tai Yuen Hi-Tech Industrial Park, Jhubei City, Hsinchu County	
Products	• 光學感測晶片 Optical Sensor - 近接感測晶片 Proximity Sensor (PS) - 環境光感測晶片 Ambient Light Sensor (ALS) - 色彩感測晶片 Color Temperature Sensor (RGB) • 微機電感測晶片 MEMS Sensor - 加速度感測晶片 Accelerometer Sensor (GS)	
Listing	上櫃 Taipei Exchange Market (TPEX) 06/08/2020 興櫃 Emerging Stock Market (TESM) 06/18/2019	

Milestones

- 2009: Team established
- 2010: [Optical] Proximity (PS) & ambient light sensors (ALS)
- 2012: [MEMS] Accelerometers (g-sensors)
- 2013: Spinoff
- 2017: [Optical] Invisible PS+ALS solution
- 2018: [Optical] Under display & slit type PS+ALS solution
[MEMS] Low-power g-sensors
- 2019: [Optical] RGB sensors for smartphone screens
- Listed at the Emerging Stock Market (TESM) 興櫃
- 2020: Listed at the Taipei Exchange Market (TPEX) 上櫃
[Optical] RGB + flicker sensors for smartphone cameras

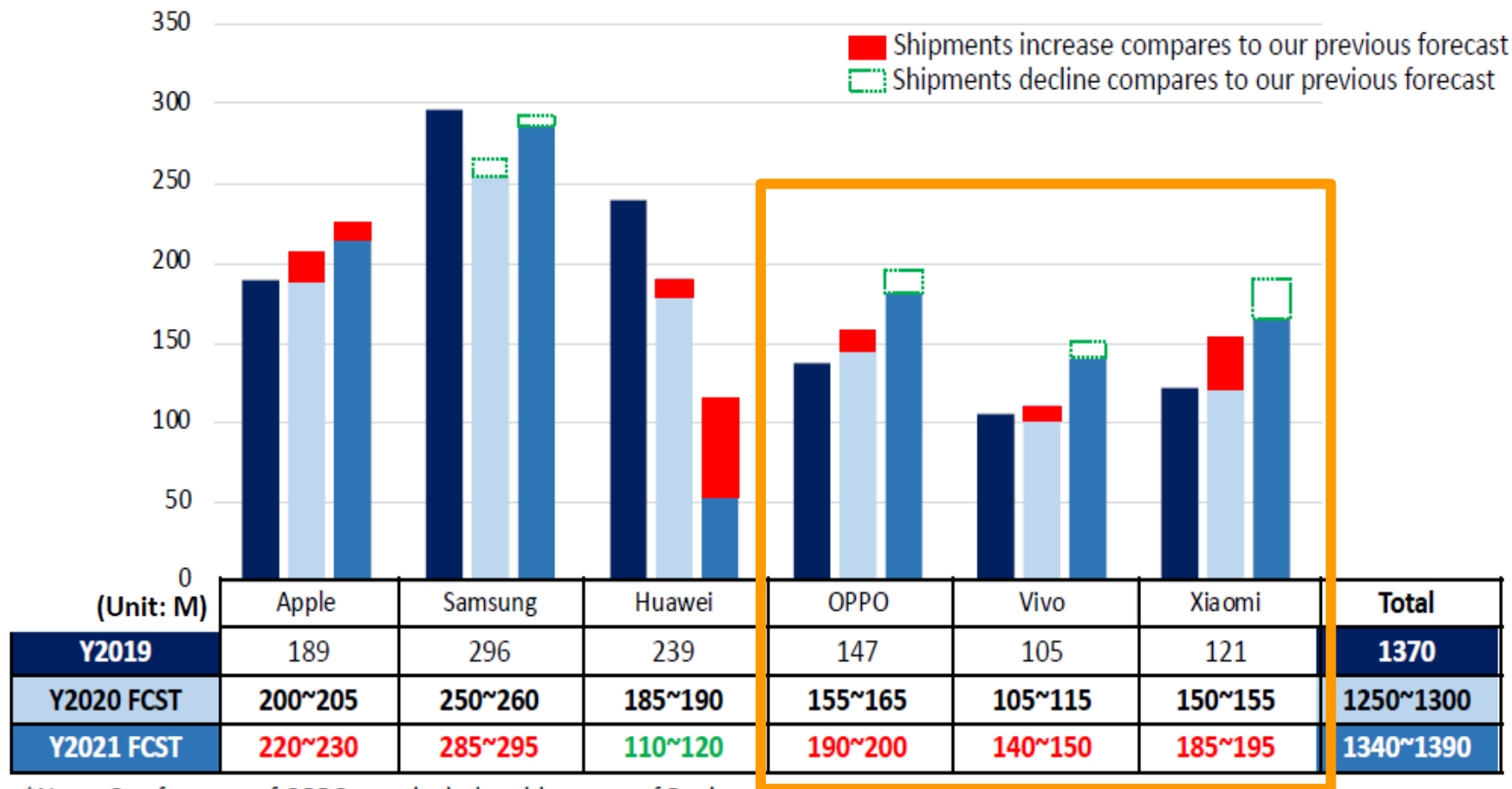
II. Market Outlook

Global Smartphone Shipment Forecasts



Source: IDC

Smartphone Shipment Forecast by Brand



*Note: Our forecast of OPPO now includes shipments of Realme and OnePlus, Huawei includes New Honor

III. Our Products

Optical Sensors

Proximity Sensors (PS)

近接感測晶片 → 關屏防誤觸
turns off the display (anti-touch)

Ambient Light Sensors (ALS)

環境光感測晶片 → 調節螢幕亮度
screen brightness control

- G1: PS + ALS 2-in-1 visible solution (2010)
- G2: PS + ALS 2-in-1 invisible solution (2018)
 - Under-display 屏下方方案 for AMOLED displays
 - Slit type 狹縫方案 for TFT displays

Color temperature Sensors (RGB)

色溫感測晶片 → 調節螢幕色溫
screen color temperature control

- G3: PS + RGB sensors (2019)
 - for better reading experience

3CH RGB sensor

色溫感測晶片 → 協助後相機白平衡校正
white balance correction (2020)

Flicker detection sensors

閃頻偵測晶片 → 協助消除光源物理閃爍
Flicker detection (2020)



Waterdrop Screen

狹縫(Slit) ALS/PS
狹縫(Slit) PS / 屏下 ALS
前攝旁 ALS/PS
(Aside of Front Facing Camera)



Bezel-less Screen

屏下(Under-display) ALS/PS
狹縫(Slit) PS / 屏下 Under-display ALS



Proximity + ALS → for smartphone screens

G1: PS + ALS visible solution 1x

G2: PS + ALS invisible solution → sensitivity 3x → 6x → 10x
- Under-display solution for AMOLED

G3: PS + RGB visible solution

G4: PS + RGB invisible solution

Sensitivity & feature Upgrades → ASP Boosts

水滴屏 (Teardrop-shaped)



全景屏 (Full screen)



瀏海屏 (Notch type)



開孔屏 (Aperture type)



Upgrading because of increases in...

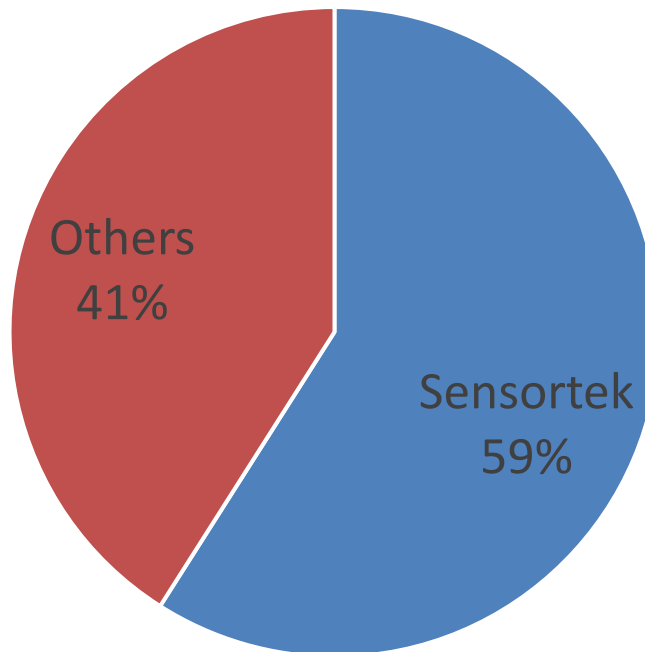
1. Display resolution
2. PPI density
(resulting in a decrease in light transmittance)
3. AMOLED penetration rate



16:9 → 18:9 → 19:9 ...

Proximity + ALS Shipments & Market Share

2018: >340M pcs
2019: >650M pcs
2020: >720M pcs



3ch RGB sensor 色溫感測晶片 → for Camera

3ch RGB sensor for smartphone camera 手機後相機搭配 RGB sensor 的用途

The environment has a lot of kinds of light, and these lights have different color temperatures. Therefore, when the mobile phone camera takes pictures, these lights need to be corrected to appear normal white. 環境中充斥著各種不同的光線，這些光線有著不同的色溫，因此手機數位相機在進行拍照時，需要對這些光線進行校正，才能呈現出正常的白色。

Method: **White balance correction** automatically according to the color temperature measured by the RGB color temperature sensor and the image sensor.

作法：依據 **RGB色溫感測器**、影像感測器所測量的色溫來自動**校正調整白平衡**。



- | | |
|---|---------------------|
| 1. White balance (automatic) using lighting | 1. 白平衡(自動) 使用閃光燈 |
| 2. White balance (automatic) without lighting | 2. 白平衡(自動) 不使用閃光燈 |
| 3. White balance (fluorescent lamp) does not use lighting | 3. 白平衡 (日光燈) 不使用閃光燈 |
| 4. White balance (warm light) without lighting | 4. 白平衡 (暖色燈) 不使用閃光燈 |
| 5. White balance (cold light) without lighting | 5. 白平衡 (冷色燈) 不使用閃光燈 |
| 6. White balance (daylight) without lighting | 6. 白平衡 (白晝燈) 不使用閃光燈 |

Flicker sensor 閃頻感測晶片 → for Camera

Flicker sensor for smartphone camera 手機後相機搭配 Flicker sensor 的用途

1. Used to detect the physical flicker of the 50Hz or 60Hz light source produced by incandescent or fluorescent lamps in the environment.
用於檢測環境中由白熾燈或螢光燈所產生的50Hz或60Hz光源物理閃爍。
2. Assist the image system of the mobile phone camera to eliminate the streaks and distortion effects caused by the flickering of artificial light sources.
協助手機攝像頭之圖像系統能夠消除人造光源的閃爍而出現的條紋和失真效果。

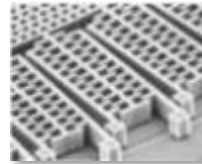
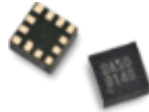


MEMS Sensors

Accelerometers (G-sensors)

Rotation detection

加速度感測器 → 屏幕旋轉偵測



- ✓ G-sensors for smartphones
- ✓ Low power g-sensors for wearable & IoT devices



屏幕旋轉
Screen rotation



遊戲
Game control

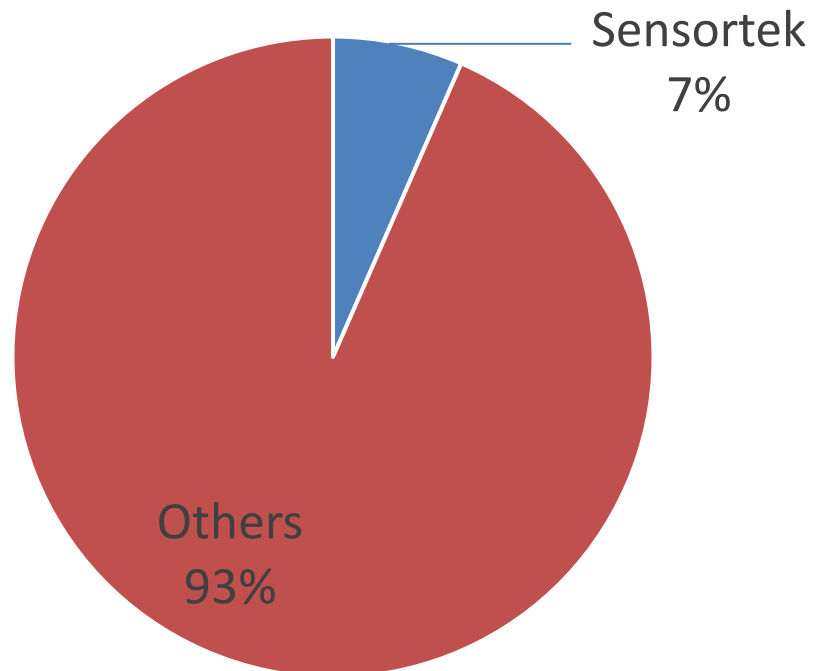


自動靜音
Automatic mute



G-sensor Shipments & Market Share

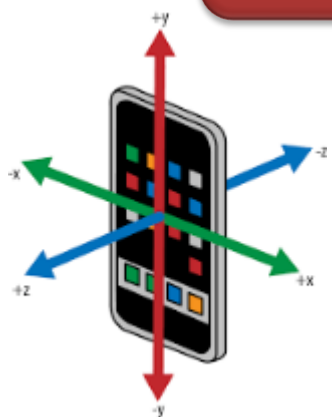
2018: >30M pcs
2019: >55M pcs
2020: >80M pcs



Speed up MEMS Gyroscope sensor

- 轉屏
- 敲擊
- 遊戲
- 計步

**Accelerometers
(G-sensors)**
重力加速度計



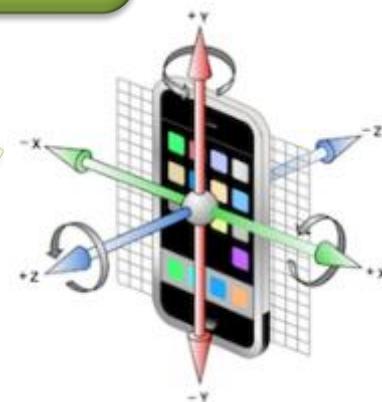
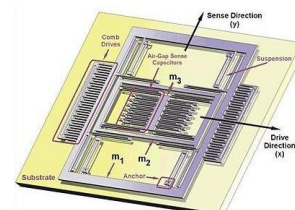
MEMS Sensor

**6 axis
IMU**

- AR/VR
- 室內導航
- 3D game
- 姿態辨識

**Gyroscope
陀螺儀**

- 遊戲旋轉
- 空中指標
- 光學防抖
- 環景照相



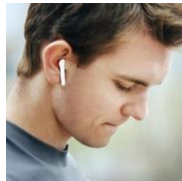
1. Improve integration (3 Axis → 6 Axis)
2. Support 2 in 1 application requirements for high-end smartphone

Wearable Devices: Optical + MEMS

True wireless stereo (TWS) earbuds

Accelerometers → click detection 敲擊偵測

Proximity sensors → on/off switch 功能啟用開關



FreeBuds 3

敲擊偵測 Click detection

- 有來電時 Incoming call
單擊接聽 Click to answer
雙擊拒接 Double click to reject
- 音樂播放 Music mode
單擊暫停 Click to pause
雙擊換曲 Double click to switch

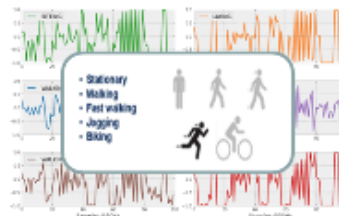
Smart watches & fitness trackers

Accelerometers → motion detection 移動偵測

Optical sensors → heartbeat detection 心律偵測 & UV sensors 紫外線感測



運動偵測 / 計步 Motion detection



抬手亮屏 / 動態心率輔助 Heartbeat detection



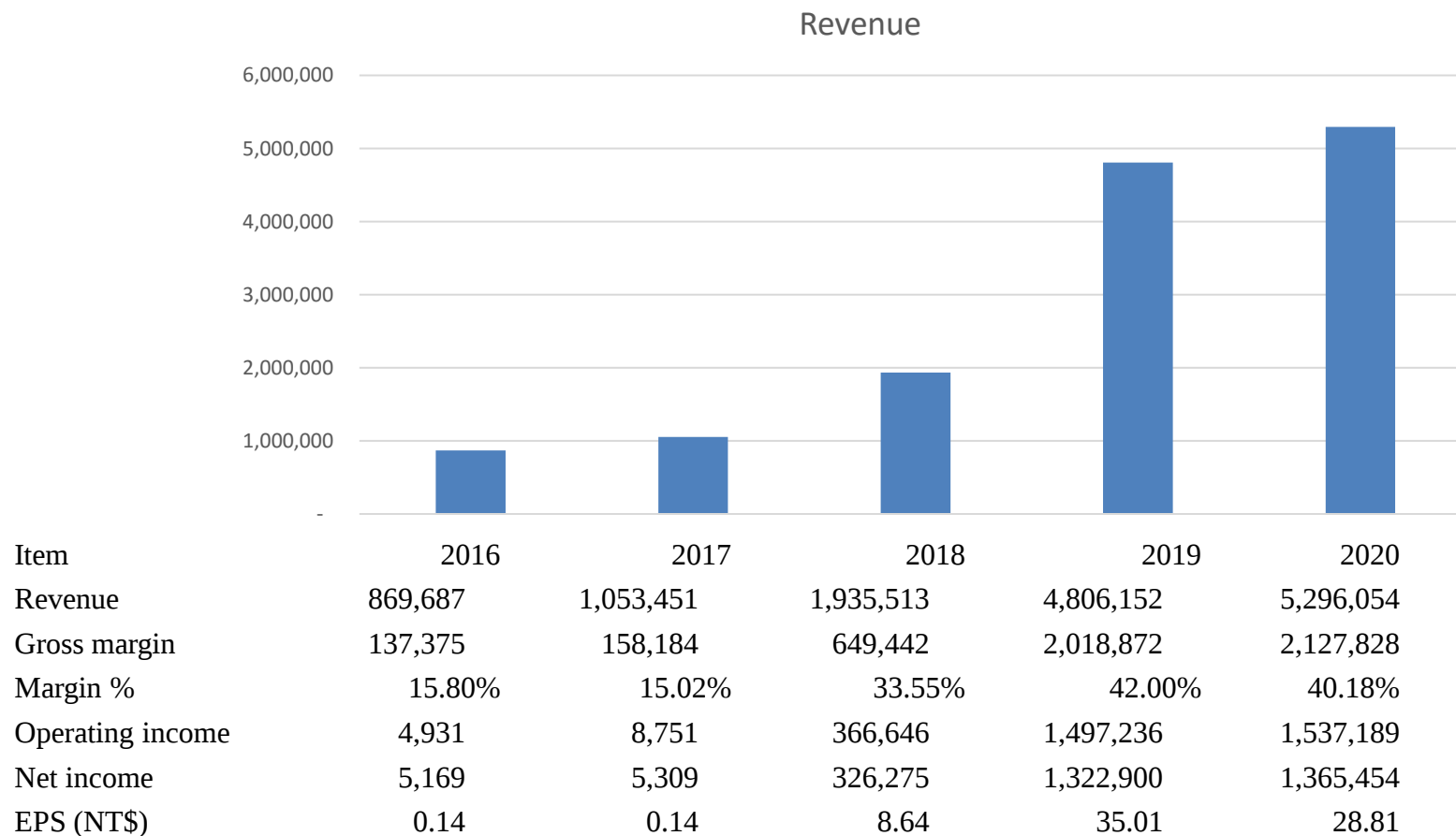
睡眠偵測 / 久坐提醒 Sleep quality monitoring



IV. Financial Performance

Financial Performance

Unit: NT 1,000



Note: The EPS values listed here are based on the capital of 37,781 thousand shares.

Income Statement

Item	Q1 21		Q1~Q4 20		Q4 20		Q3 20		Q2 20		Q1 20	
	Results	% of sales	Results	% of sales	Results	% of sales	Results	% of sales	Results	% of sales	Results	% of sales
Net Sales	1,268,541	-	5,296,054	-	1,420,526	-	1,500,516	-	1,024,529	-	1,350,483	-
Gross Profit	512,956	40%	2,127,828	40%	531,783	37%	626,215	42%	420,572	41%	549,258	41%
Operating Expense	167,906	13%	590,639	11%	158,969	11%	175,320	12%	112,178	11%	144,172	11%
Operating Income	345,055	27%	1,537,189	29%	372,814	26%	450,895	30%	308,394	30%	405,086	30%
Income before Tax	350,677	27%	1,550,117	30%	372,919	27%	451,245	30%	311,413	30%	414,540	31%
Net Income*	295,568	23%	1,365,454	26%	328,954	23%	397,497	26%	274,929	27%	364,074	27%
EPS	6.04	-	28.81	-	6.73	-	8.13	-	5.93	-	8.03	-

Unit: NT\$ thousands (except EPS)
Accounting standard: IFRS

* Listed on the English translation of our financial statements as
"Profit (loss), attributable to owners of parent"

Balance Sheet

Item	2021/3/31	2020/12/31	2020/9/30	2020/6/30	2020/3/31
Total Assets	6,546,874	6,213,228	5,665,950	5,920,992	3,937,918
Current Assets	5,288,197	5,718,727	5,500,709	5,785,995	3,824,883
Cash & Equivalents	2,215,010	3,086,052	1,743,561	1,895,897	1,471,630
AR	450,143	452,893	489,647	470,727	542,826
Inventory	305,180	320,395	382,448	605,743	595,547
Total Liability	2,780,120	1,665,215	1,459,386	2,121,747	2,581,779
AP	688,059	759,395	616,844	527,754	816,834
Shareholder Eqt.	3,766,754	4,548,013	4,206,564	3,799,245	1,356,139

Unit: NT\$ thousands
Accounting standard: IFRS

V . Future Development

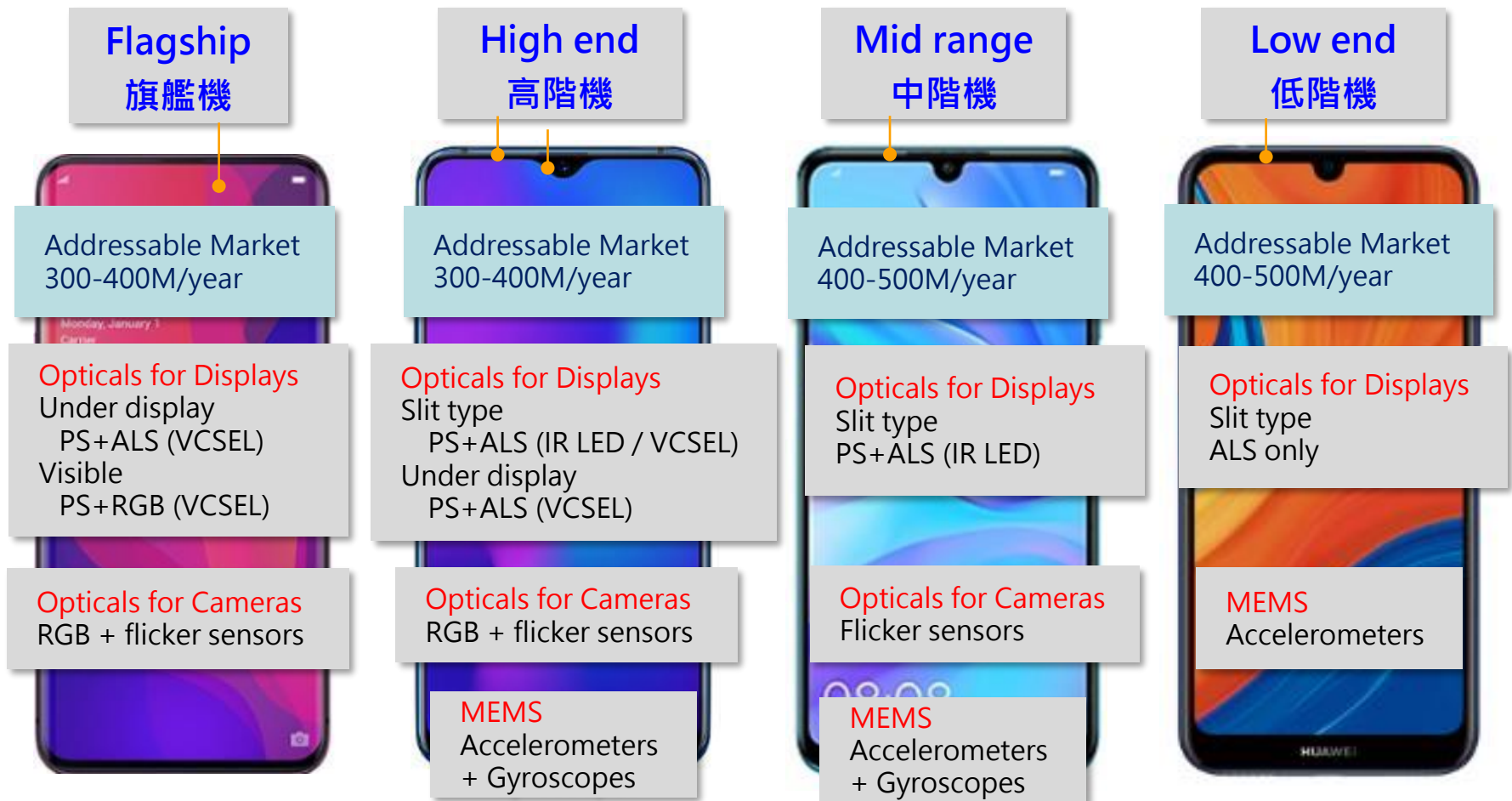
Going Forward

1. Optical sensors for smartphone screens 前螢幕應用
 - PS + ALS visible solution 調整顯示亮度
 - High-sensitivity PS + ALS invisible solution → 3x → 6x → 10x sensitivity
 - PS + RGB visible solution 調整顯示色溫 → invisible solution (coming soon!)
2. Optical sensors for smartphone cameras 後相機應用 white balance correction 白平衡校正
 - 3-channel RGB sensors → 6-channel for better color detection (coming soon!)
 - Flicker sensors 閃頻偵測
3. MEMS: Gyroscopes 加速MEMS陀螺儀感測器開發
 - Accelerometers + Gyroscopes (2 in 1) for high-end smartphones (coming soon!)
4. Other applications 其他非手機之應用
 - TWS: proximity sensors & accelerometers
 - Smart watches: ambient light + UV, heartbeat sensors, accelerometers
 - Smart speakers: ambient light sensors
 - ...and more (e.g. auto & industrial)

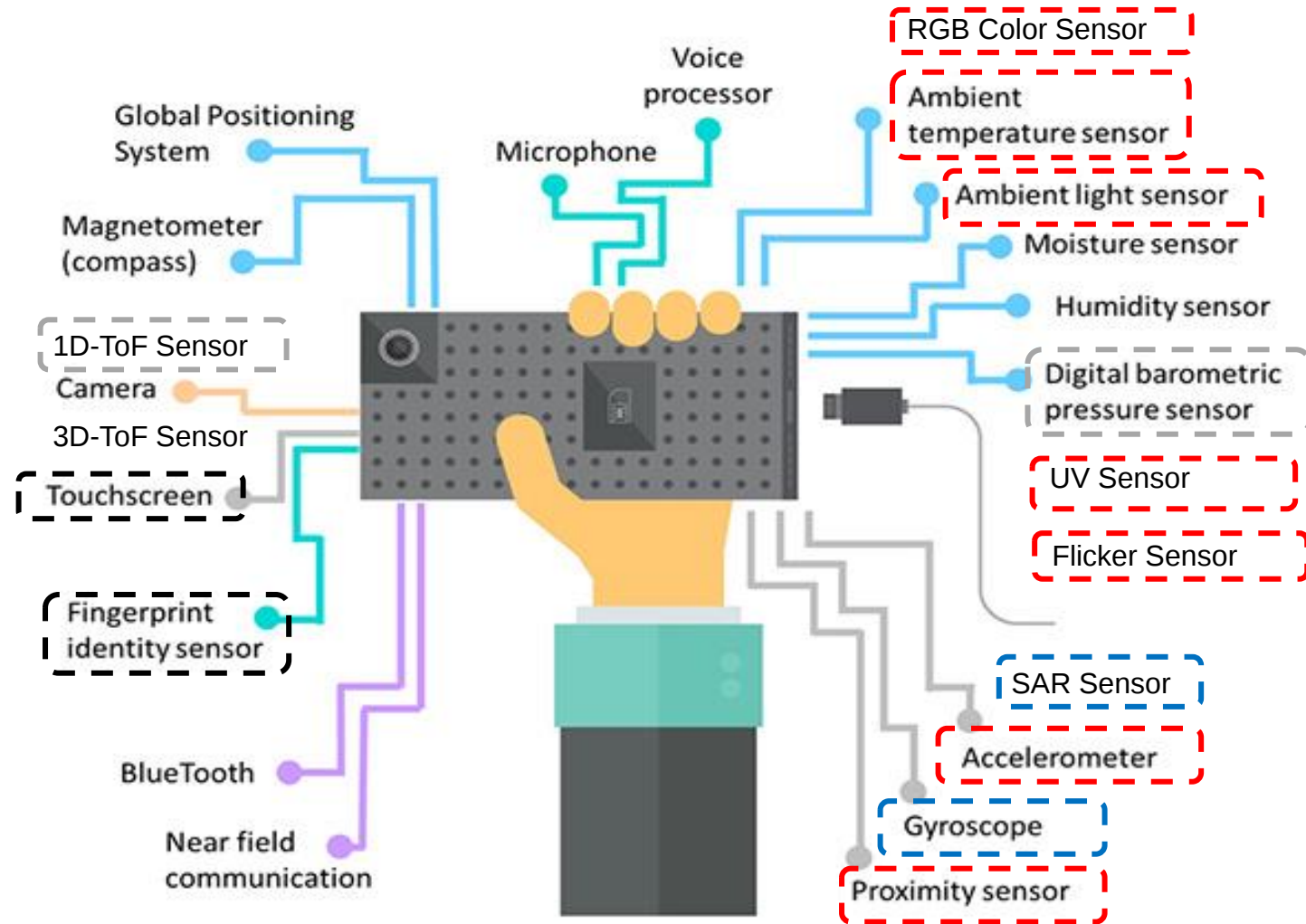
Before 2020



Going Forward



Stay Tuned





Thank You

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