



September 12, 2024



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# **Outline**

- I. Company Overview
- **II.** Market Overview
- **III. Product Applications**

- IV. Business Strategy and Deployment
- V. Financial Performance
- VI. Prospect & Planning





PlayNitride is a Taiwan-based company specializing in nitride semiconductor materials and applications. It was the first company listed on Taiwan's Innovation Board.

The company's main products are CoC (chip-on-carrier) and MicroLED displays. CoC technology is to integrate MicroLED chips onto carrier and used in various mass transfer technologies, enabling frameless large TVs, transparent car displays, high-brightness wearables, and flexible MicroLED screens.

Founded 2014/02/25

IPO 2022/08/08

Market Cap NT\$7.5 billion

Domestic Locations Miaoli-Zhunan (Headquarters), Tainan, New Taipei

Overseas Location USA - San Jose

Employee count 450+







# MicroLED Display Market: US\$7.8bn, 2030



Annual revenue for MicroLED displays is about \$70.0 mn in 2024, and the penetration rate will begin to climb from 2025 to 2028. It is expected to reach \$7.8bn in 2030 to account for 5.3% of the total Flat Panel Display (FPD) revenue.



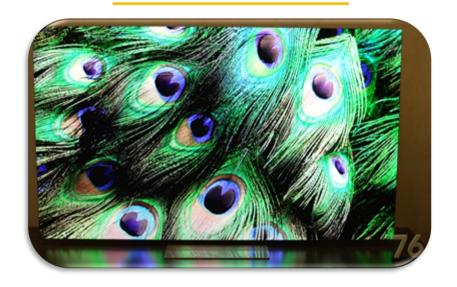
### MicroLED in CES

76"

#### **Samsung MicroLED TV**

# Samsung Electronics unveiled its newest MicroLED TV Lineup in CES 2024.

The 2024 MicroLED lineup offers new models ranging from 50 to 140-inches (50, 63, 76, 89, 101, 114 and 140-inches) to provide consumers with a breadth of options for unparalleled picture quality and screen experience. Thanks to its modular nature, MicroLED is not bound by shape, ratio and size, making it completely customizable to fit a consumer's desired set up. In addition, it comes without bezels, so regardless of configuration, the boundary between screen and real life is seamless.



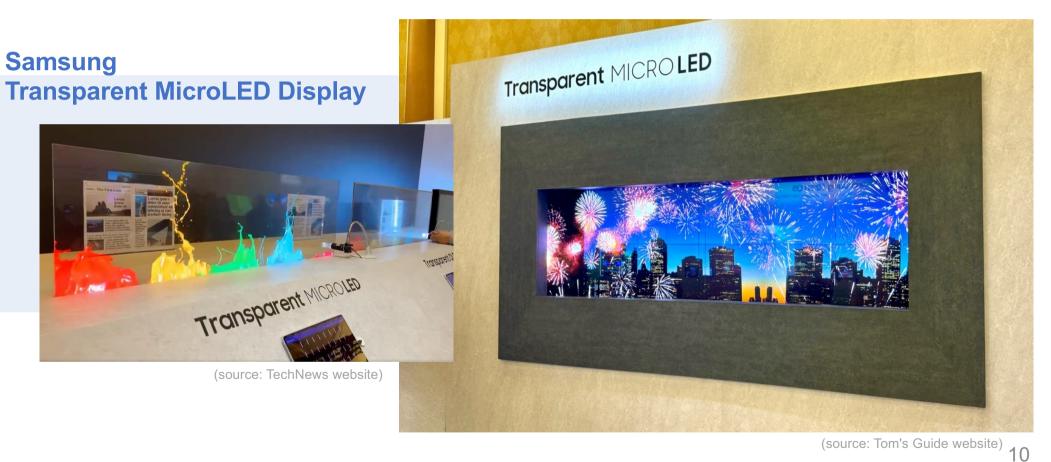
140" 114" 101" 89"

The one and only

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(source: SamMobile YouTube)

# **MicroLED in CES**



# **MicroLED in CES**



Size	30-inch
Tech	Micro LED
Resolution	960x540
Pixel pitch	0.69mm
Brightness	600cd/m <sup>2</sup>
LED type	RGB/flip chip
Source: Photos taken by Omdia at CES 2024	



Size	17.3-inch
Tech	Micro LED
Resolution	1280x720
Pixel pitch	0.3mm
Brightness	>1,200cd/m <sup>2</sup>
Touch	TP cell = 0.5mm, 5 points



Size	13.5-inch
Tech	Micro LED
Resolution	1920x1080
Pixel pitch	<0.3um
Brightness	5,000cd/m <sup>2</sup>
Pixel density	163 PPI

© 2024 Omdia

#### **AUO Transparent MicroLED Display**

(source: Omdia Report)

# MicroLED in CES





**AUO Automotive MicroLED Display** 



Continental creates world's first see-through car display in Swarovski crystal

2024 CES Innovation Award

# The outstanding performance of MicroLED displays at CES 2024



2024 CES Innovation Award



(source: CarUX Website)









**166" 5K P0.833 Waterfall Display** (Seamless tiling by 324 modules)

# Large-sized MicroLED Display (Modular PCB)

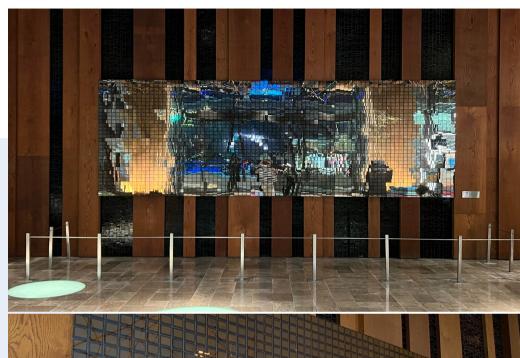


89" 5K 32:9 P0.43 Curved Monitor (Seamless tiling by 168 modules)



#### **Interactive Installation Art**

Designed 10 years ago by Random International, this contemporary artwork "To Light You Fade", originally adopting OLED organic light-emitting materials, was re-interpreted by PlayNitride, spliced by 2688 panels with tens of millions of MircoLED, fully showing the beautiful mirror luster and dynamic gradient light and shadow, resurrecting this interactive installation art and injecting sustainable vitality into it.







# **Wearable MicroLED Display**

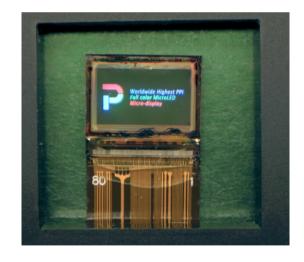




# MicroLED Is the Key for **AR Glasses**

#### 0.49" MicroLED μ-display

- 1920\*1080 (FHD)
- 4536PPI
- Full Color
- >4,000,000 MicroLED 2.5µm chips



2023 SID

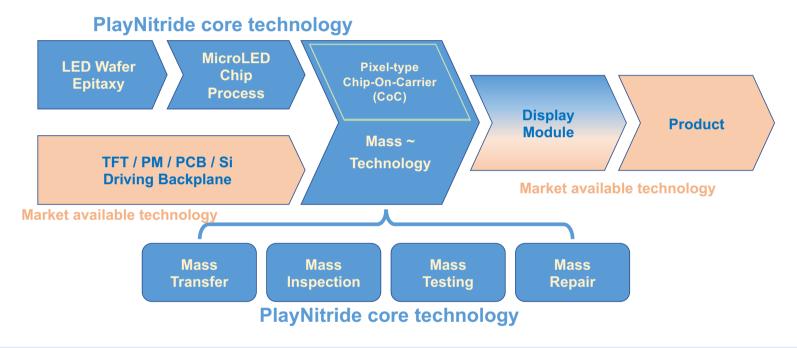




# **Business Strategy and Deployment**



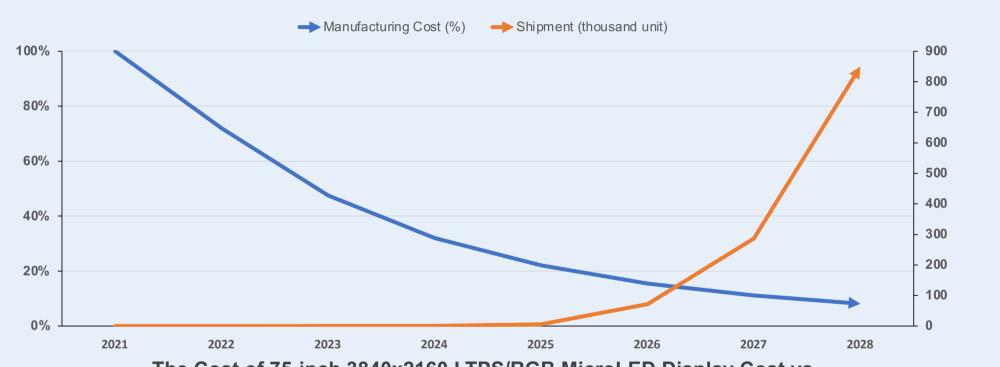
# We Facilitate The MicroLED Ecosystem



- PlayNitride is one of the few companies that owns and integrates the key technologies of MicroLED displays. We've completed technical know-how to quickly optimize production and solve new technical challenges.
- In each technical link, PlayNitride has a strong team to innovate and develop our proprietary technology.
- PlayNitride is in a leading position in the market,, while also extensively building its patent portfolio and establishing know-how.



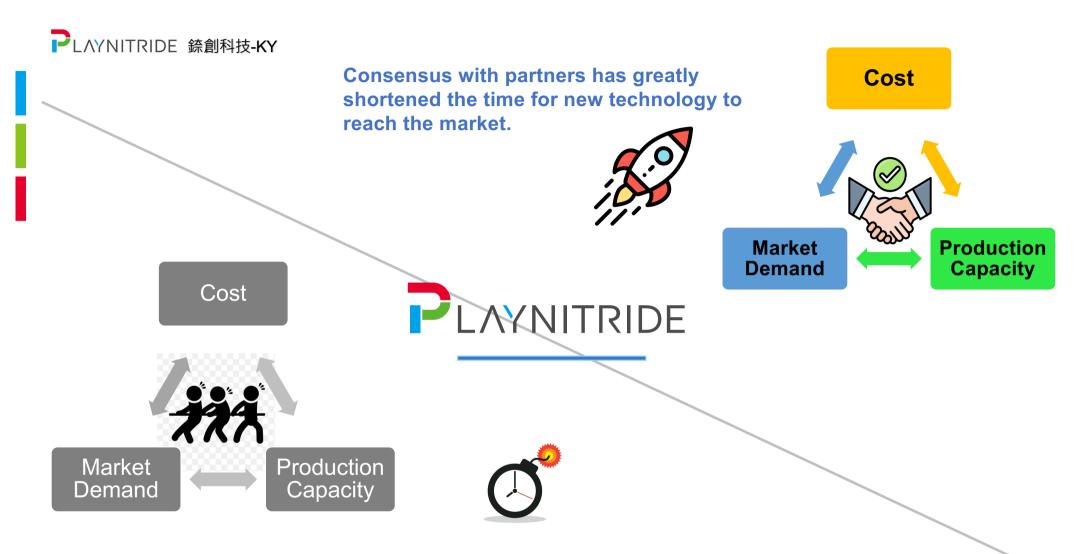
#### **Reduce MicroLED Cost For Market Penetration**



The Cost of 75-inch 3840x2160 LTPS/RGB MicroLED Display Cost vs.

MicroLED TV shipment

(source: Omdia Report )



Micro LED technology enters into the triangle relationship of cost, production capacity and market demand.

Slow progress could shift the market toward competing technologies like OLED."



#### Mass Transfer Equipment Development/Sales

#### **Turnkey Solution Construction Services**

#### **Technical Services**

- Automotive Display POC
- AR/VR Display Co-development
- Transparent Display Co-development
- PCB-based Indoor Signage Co-development

#### CoC

Over 90% market share, the only company in the world certified by the largest manufacturer of consumer electronics in Korea







# **Business Deployment**

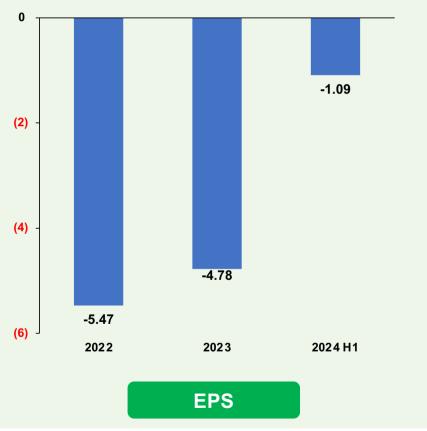


### **Revenue and EPS**

2024 cumulative revenue continues to surpass 2023.



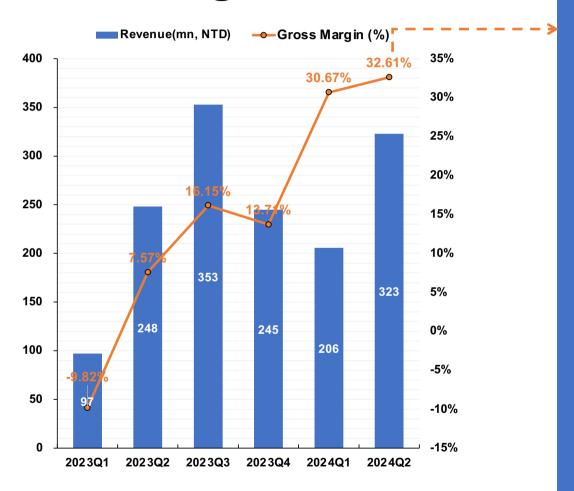
- ✓ Revenue increases, maintaining the revenue momentum trend.
- ✓ Losses are gradually decreasing, and EPS continues to improve.



[Note] FX Gain: 2022 NTD 207million, 2023 (NTD 7.17 million)



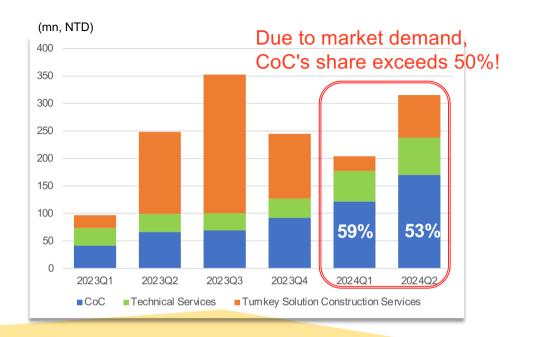
# **Gross Margin**

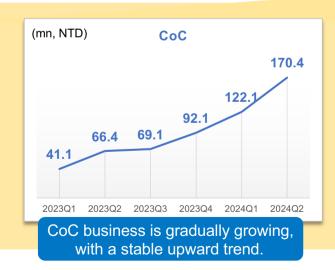


# 2024 gross margin increased significantly

- ✓ Manufacturing costs decreased
- ✓ Contribution from new business items/new customers

### Revenue Breakdown







service revenue in 2024.





• Add New Business Item In addition to CoC, Turnkey Solution, and NRE, the sales of transfer equipment is to be added.

Diversify Customer Contributions Expanded sales team and U.S. subsidiary starts operation to develop and serve European/American/Asian markets. Optimistic about Revenue Momentum

Maintain the 2020-2023 revenue growth trend, continue to narrow losses, and move towards the road of break-even.

Continuous Investment in R&Ds Master the research and development of nextgeneration process technology and equipment, maintain a leading position, and accumulate future potentials.

"Ride the Wave of MicroLED, Leverage the Display Industry"

