

2025 OLED Emitting Materials Report

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2. Analysis of OLED Industry Trends And Issues

2.3 OLED technology roadmap analysis

■ Emitting materials technology roadmap

- OLED light-emitting materials for smartphones are standardized for other applications.
- Tandem OLEDs for IT devices require device structures and light-emitting materials to prevent inter-pixel leakage current.
- The tandem structure of large-scale OLEDs (TVs, monitors) requires a reduction in drive voltage (V_{op}), prevention of color shift at low gradients, and application of high color purity emitting materials.
- The long-life materials (especially blue light-emitting materials) is necessary for high-brightness (>5000 nits) OLED in XR devices..
- It is necessary to respond to the PFAS (perfluoroalkyl substances) regulations and cost reduction requirements.

Type	Key spec.	2023	2024	2025	2026	2027
Smartphone						
IT (Tablet, Note PC)						
TV, Monitor						
XR (VR, AR)						



4. Trends of Emitting Materials Development

4.3 Development trends of blue emitting materials

■ **Boron-based blue emitting material: SFC**

- Major suppliers of blue fluorescent emitter materials such as SFCs are actively responding to the paradigm shift in new dopant materials with improved high efficiency and long lifetime properties by introducing deuterium and improving host structures, leveraging their patent networks of host structures they have developed or are utilizing.
- SFC introduced ***** patent was filed.
- SFC ***** and is supplying *****

Examples of host material with partially substituted deuterium

Deuterium partially substituted host material and blue fluorescent emissive layer	Deuterium partially substituted host material and Boron-based blue emitting layer
	

Source: UBI Research DB

5. Trends of Emitting Materials Company

5.2 China's emitting materials Industry

- **Eternal Material Technology (EMT, 鼎材科技)**
 - Founded in 2013, EMT is headquartered in Beijing, with production plants in Guan and Hefei.
 - Mainly developing OLED light emitting materials, color resist, functional resin, etc.
 - EMT is supplying CPL and R' to *****.
 - Working with Tsinghua University ***** R&D program.
 - In 2024, the company ***** focusing on the *****.

Examples of EMT's emitting material developments

7. Supply Chain and Panel Structure by Panel Company

7.3 BOE

Supply chain by BOE's small OLED structure

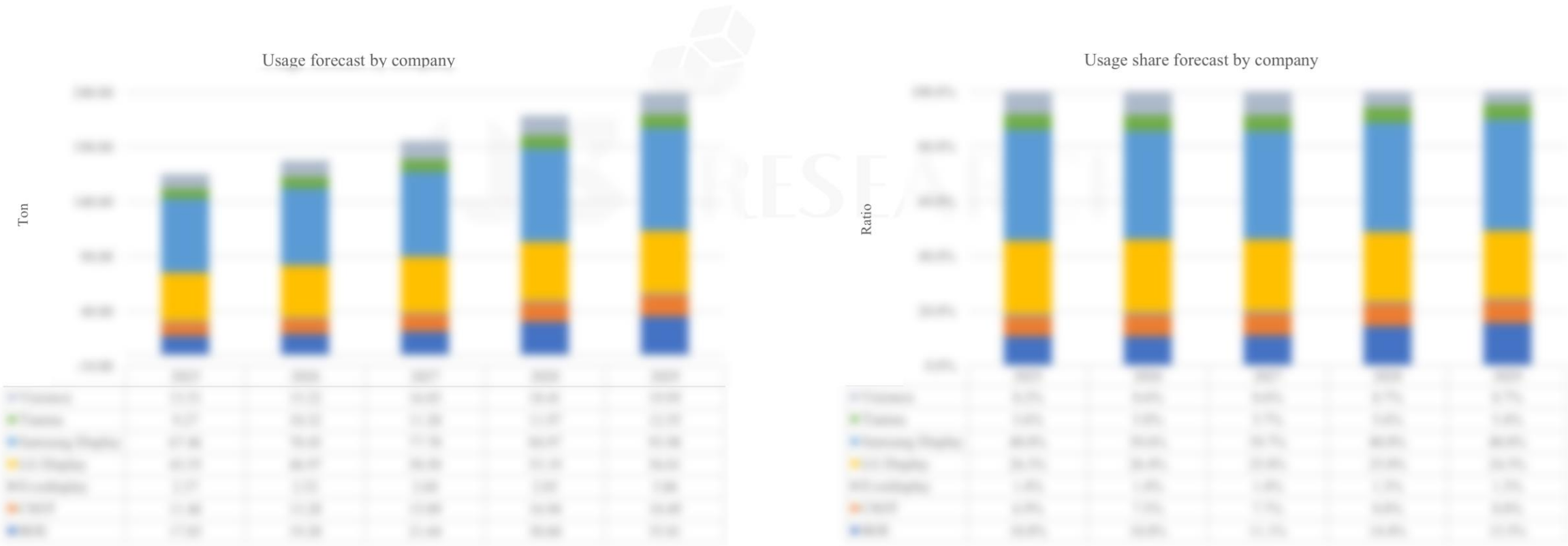
Material			L9(local)	L9 (Apple)	Q9(local)	L10 (Apple)	Q10(local)	L11 (Apple)	L12 (Apple)
CPL			Hyperions						
EIL			Aglaia Tech Hyperion						
ETL			Merck						
aETL			Solus						
EML	Red	Host	DuPont						
		Dopant	UDC						
	Green	Host	Samsung SDI						
		Dopant	UDC						
	Blue	Host	LG Chemical						
		Dopant	SFC						
R prime			LTOPTO						
G prime			Merck						
B prime			Merck						
P			Novaled						
HTL			Idemitsu Kosan						

Source: UBI Research DB

10. Forecast of OLED Emitting Material Demand

10.4 By panel company

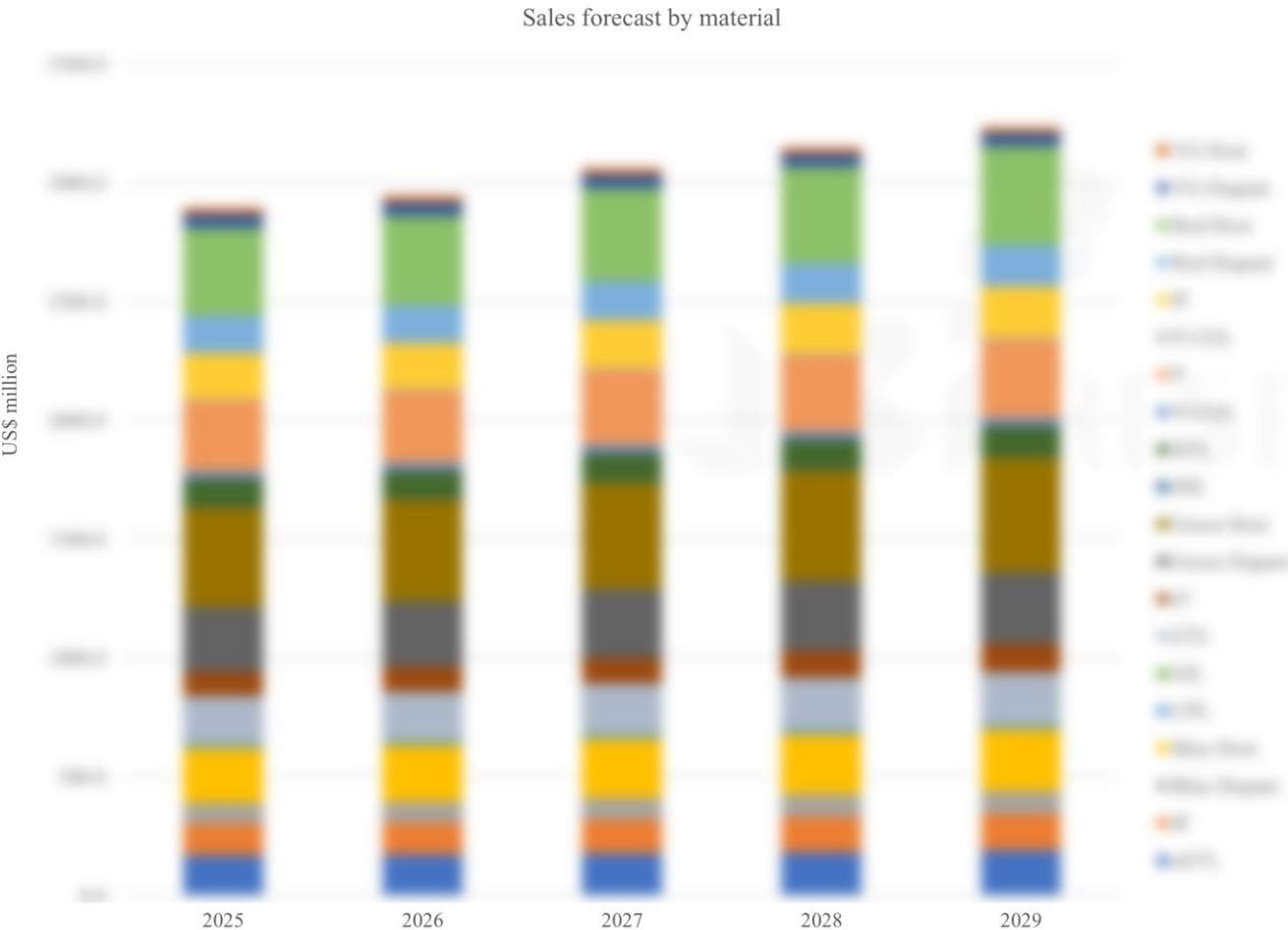
- The future emitting materials market is expected to be led by Samsung Display, LG Display, and BOE.
- Samsung Display's demand for emitting materials is expected to reach *****.
- LG Display and BOE's material demand is expected to be *****.



Source: UBI Research DB

11. Forecast of OLED Emitting Materials Market

11.6 By emitting materials



Source: UBI Research DB

(US\$ million)

Material	2025	2026	2027	2028	2029
YG host	250.0	250.0	250.0	250.0	250.0
YG dopant	250.0	250.0	250.0	250.0	250.0
Red host	250.0	250.0	250.0	250.0	250.0
Red dopant	250.0	250.0	250.0	250.0	250.0
R'	250.0	250.0	250.0	250.0	250.0
P-CGL	250.0	250.0	250.0	250.0	250.0
P	250.0	250.0	250.0	250.0	250.0
N-CGL	250.0	250.0	250.0	250.0	250.0
HTL	250.0	250.0	250.0	250.0	250.0
HIL	250.0	250.0	250.0	250.0	250.0
Green host	250.0	250.0	250.0	250.0	250.0
Green dopant	250.0	250.0	250.0	250.0	250.0
G'	250.0	250.0	250.0	250.0	250.0
ETL	250.0	250.0	250.0	250.0	250.0
EIL	250.0	250.0	250.0	250.0	250.0
CPL	250.0	250.0	250.0	250.0	250.0
Blue host	250.0	250.0	250.0	250.0	250.0
Blue dopant	250.0	250.0	250.0	250.0	250.0
B'	250.0	250.0	250.0	250.0	250.0
aETL	250.0	250.0	250.0	250.0	250.0

Source: UBI Research DB