



Japan Display Inc.

Innolux, CarUX, & JDI eLEAP Strategic Alliance

December 3, 2024

Innolux (Taiwan), CarUX (Singapore), and JDI (Japan) Signed Today an eLEAP Strategic Alliance Agreement to Deliver eLEAP's Outstanding Performance to Customers Globally & Build Out a Global eLEAP Ecosystem

INNOLUX



CarUX

JDI

“Innolux and CarUX are committed to delivering the world’s best display products and solutions to our global customers. We believe eLEAP is a truly revolutionary display technology, and look forward to cooperating with JDI to present its outstanding performance to the world.”

Jim Hung
Chairman and CEO, Innolux



“JDI has the deepest respect for Innolux and CarUX and their outstanding technology capabilities and extraordinary integrity. JDI is honored to work together with Innolux and CarUX to develop a global eLEAP ecosystem to serve their customers.”

Scott Callon
Chairman & CEO, JDI



Combining Powerful Strengths & Capabilities to Drive Growth



- One of World's Leading Display Manufacturers
- Total Solution Provider with Comprehensive Product Range & Most Complete & Flexible Production Lines

INNOLUX

**eLEAP
Strategic
Alliance**

JDI

- Japan's Leading Display Technology Company
- Particular Strengths in Advanced Display Technology Development & Manufacturing

- Global Leading Tier 1 Automotive Display Solution Supplier
- Seamless Integration Capability & Innovative Technology



First Alliance Product: 32-Inch Automotive-Grade eLEAP ①



CarUX and JDI Will Bring to Market a Revolutionary, Gamechanging Automotive-Grade Display Combining Two World's Firsts

eLEAP
x
HMO

- World's First Lithographic Maskless Deposition OLED
- World's First HMO (High Mobility Oxide) Backplane





New eLEAP+HMO Technology Cuts Power Consumption by 76%,
While Increasing Display Resolution by 12%, Brightness by 15%,
& Contrast by 690X

	JDI Automotive-Grade LCD	JDI Automotive-Grade eLEAP
Spec Outline	LCD 32 inches	eLEAP 32 inches
Resolution	5760 x 1080 pixels 183 ppi	6460 x 880 pixels 205 ppi
Backplane Technology	LTPS	HMO
Brightness	870 cd/m ²	1,000 cd/m ²
Power Consumption	58 W ^{*1}	14 W ^{*2}
Contrast Ratio	1,450:1	1,000,000:1

Underlying Technologies

eLEAP
Lithographic
Maskless Deposition

&

HMO
High Mobility
Oxide



Japan Display Inc.

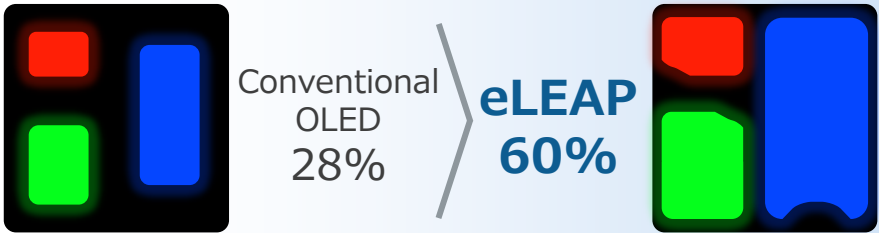
Appendix: eLEAP Primer

eLEAP

- environment positive
- Lithography with maskless deposition
- Extr^eme long life, low power, & high luminance
- Any shape Patterning



High Brightness (2X)



Brightness, vividness & free shapes unimaginable with existing technology



Long Lifetime (3X)

Lifetime Comparison	New 0h	After 1yr 1000h	After 3yrs 3000h	After 5yrs 5000h
Conventional OLED				
eLEAP				

※ Image assuming luminance deterioration due to 3h / day lighting with brightness equivalent to 600nit

Using eLEAP's lithography with maskless deposition process instead of conventional OLED's FMM (fine metal masks) will reduce OLED production costs by c. 30%



eLEAP Panel Cost Reduction

- **No FMM purchasing costs or cleaning costs (chemical & water usage)**
- **No FMM-related production downtime for replacing & maintaining FMMs
= higher eLEAP fab utilization**
- **No FMM-related yield reduction or replacement costs**

**Maskless OLED deposition is a breakthrough, environment positive production process that eliminates mask cleaning chemicals
150k tons p.a. of CO2 emission reduction via deployment at JDI Mobara**



150k tons of yearly CO2 emissions =

**CO2
Absorption
Volume
of 17M
cedar trees**



**Cedar forest
the size of
3.7k Tokyo
Domes**

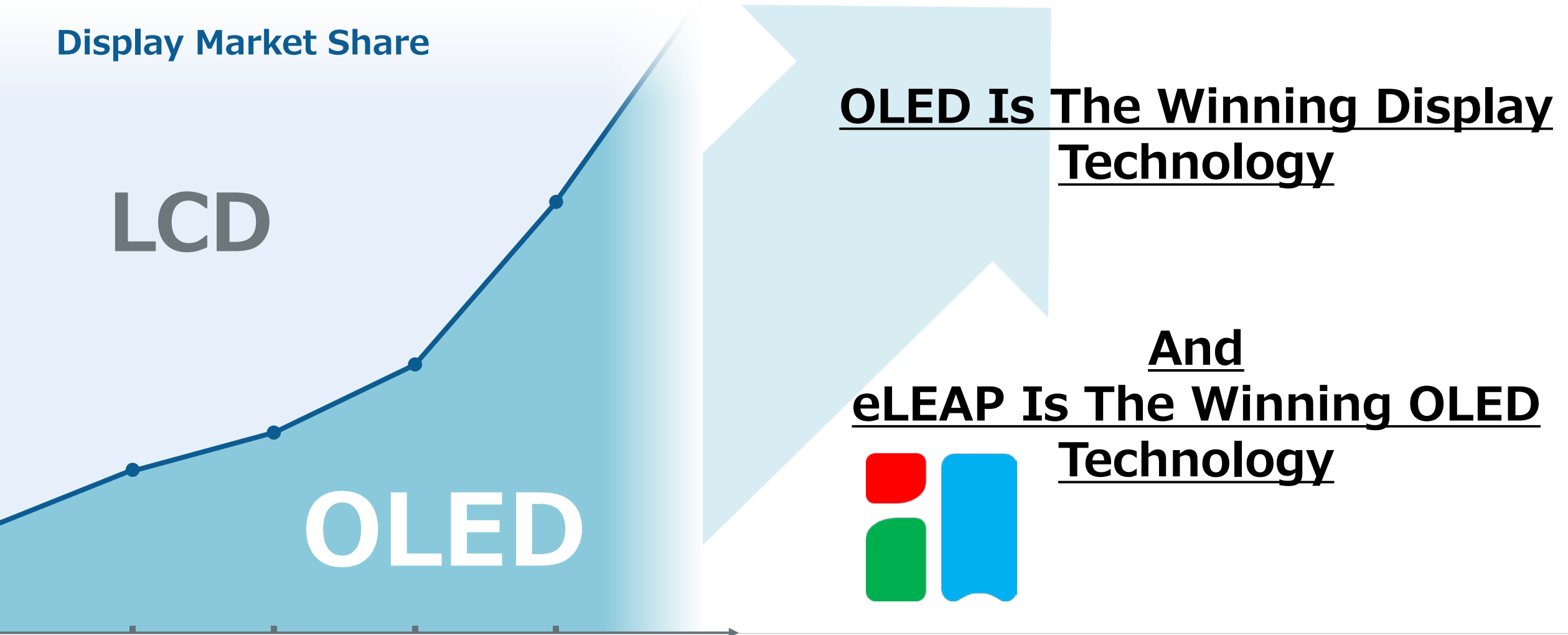


CO2 emissions are JDI's calculations based on G6 Mobara plant at 30 k sheets/month

OLED Is The Winning Display Technology ①

Due to its superior performance & continuing cost reductions, OLED is positioned to become the overwhelming display market leader

Display Market Share

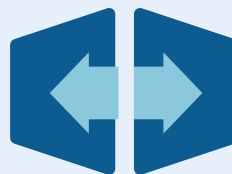


Unlike LCDs that require backlighting, OLED displays have self-illuminating, organic pixels, offering unparalleled viewing experience

**Beautiful, Fully
Natural Organic
Color Palette**



**Ultra-Wide
Viewing
Angles**



**Superb Video
Performance
(Extraordinarily
Fast Refresh
Rates)**



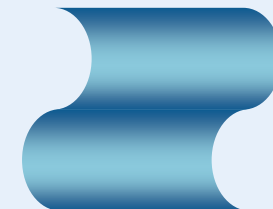
**Perfect Blacks
(No Greying
from Backlight)**



**Ultra-Thin,
Lightweight,
Low Power
(No Backlight)**



**Fully Flexible &
Customizable
(LCD = Rigid)**



Across Smartphones, Automotive, and Notebook PCs (and also other market segments), the market leaders have all begun the shift from LCD to OLED in order to deliver best-in-class display performance for their customers

The major global smartphone brands have all shifted their high-end models to OLED a number of years ago. They are continuing this OLED shift across-the-board and being joined by competitors in order to stay relevant in the highly competitive smartphone market.



Smartphones

Leading European and US brands are beginning their shift to OLED displays, especially for high-end models, while indicating that OLED is central to their future display technology roadmaps across-the-board.



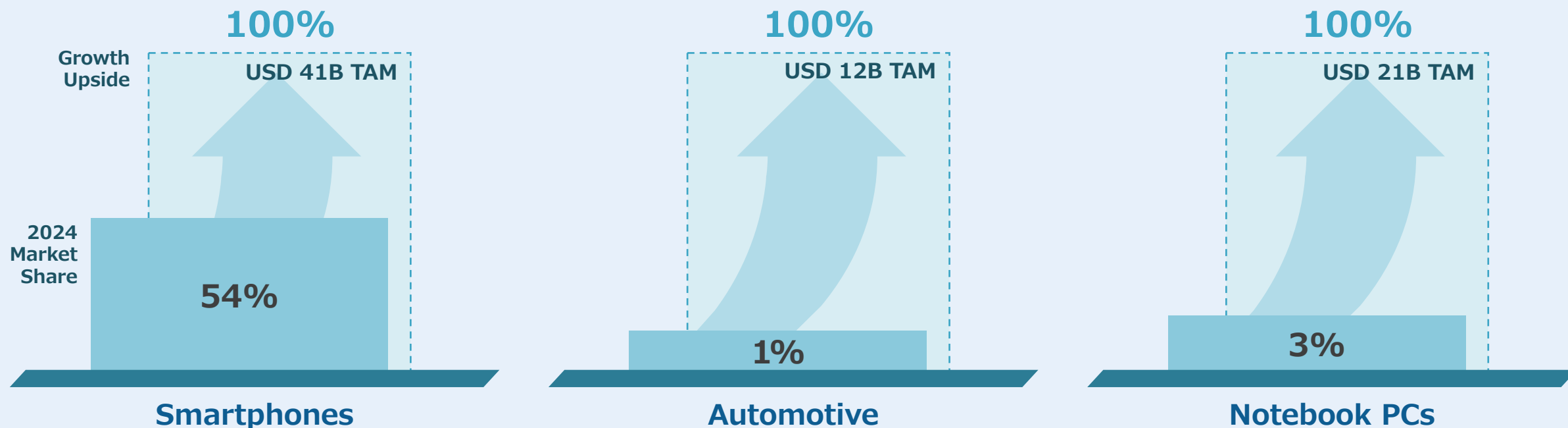
Automotive

Nearly all major global top brands for notebook PCs have started including OLED as a high-end option. While OLED was originally reserved for gaming & professionals, OLED is now also being rolled out in mid-range products.



Notebook PCs

As OLED continues to replace LCD and take market share, the growth upside is massive



Despite Its Superb Performance, OLED Has Inherent Issues

These issues make OLED dysfunctional for a wide variety of display applications



Short Lifetime

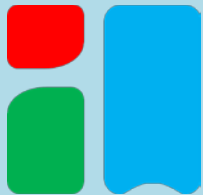


High Production Cost



eLEAP Powerfully Moves OLED Forward

eLEAP keeps all of OLED's advantages while solving its shortcomings



eLEAP



**Long
Lifetime**



Low Cost



1st Revolution

Cathode Ray Tube (CRT)

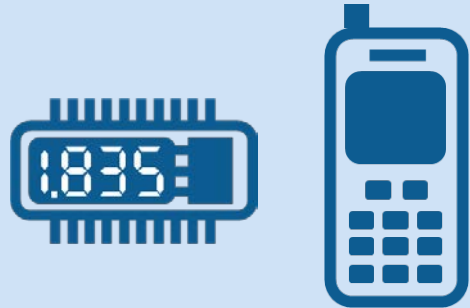


Moving images for
every household

1930~

2nd Revolution

Liquid Crystal (LCD)



Compact, energy-efficient &
high-resolution screens at
home or on the go

1970~

OLED The 2.5 Evolution

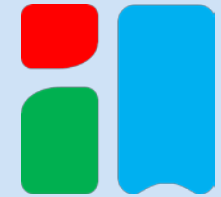


Gorgeous, fast, &
light-weight displays
but high cost &
short lifetimes

2010~

3rd Revolution

eLEAP



World's First
Maskless Deposition
+ Lithographic OLED

Higher Performance
OLED at lower cost &
with longer lifetimes

2024~




PersonalTech For A Better World



Thank You!

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