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## Automotive

### ◀ Smart Cockpit ▶

Ennostar aims to leverage advanced optoelectronic products to deliver a safer, more comfortable, and immersive driving and riding experience, while enabling an intelligent, personalized, and interactive cockpit environment.

TOP  
**10**

**Top ten**  
Automotive LED  
Supplier in the World

**50%**

Taillight Chip  
Shipments Account  
for **more than 50%**  
of the Global Market

TOP  
**3**

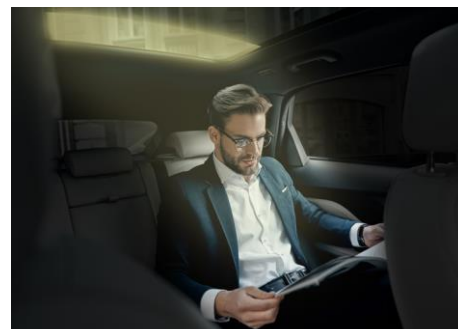
**Top three** Supplier in  
the world for  
Automotive Direct  
Backlight Component



**Automotive Display**



**Automotive Sensing**



**Automotive Lighting**

# 30" Micro LED Window Touch Display



Chip Size (μm)	20 x 40
Backplate	TFT
Color	RGB
Resolution(pixels)	960 x 540
Transmittance	≥60%
Color Gamut	>110% NTSC

## Market Trends and Potential

- **Superior Transparency & Brightness**

Compared to OLED, Micro LED transparent displays deliver higher transmittance and brightness. Under bright sunlight or in darkness, the screen remains clear without obstructing the view behind it, ensuring drivers and passengers can safely and clearly access in-car information.

- **Enhanced Interactivity**

By leveraging Micro LED technology, you can interact with outside environments more seamlessly. For example, when passing a restaurant, you can use the window display to check reviews or make a reservation, making the driving experience smarter and more convenient.

## Technical Highlights

- Transmittance Over 60%
- Ultra-Small Chip Size for flexible, slim interior design needs

## ✦ Sustainable Development Goals (SDGs)



## 12.2" COB Full-Array Local-Dimming, Thin OD1.5 Automotive Display Backlight



LED	COB white
LED Qty	852
Dimming Zones	213
OD(mm)	1.5

### Market Trends and Potential

- With the increasing demand for entertainment and information systems, in-car display technology is rapidly evolving. Mini LED backlight modules offer high brightness, excellent contrast, low power consumption, and high reliability, making them an ideal choice.
- The slim design fits various vehicle models and supports curved and customized shapes, combining functionality and aesthetics.

### Technical Highlights

- COB white-light + lens design: Balances reliability and cost
- Special lens + cover configuration: Balances picture quality and efficiency
- OD 1.5 mm thin design
- 213-zone local dimming for high brightness and contrast

### ✦ Sustainable Development Goals (SDGs)



# 12.3" POB Full-Array Local-Dimming, Thin OD1.5 Automotive Display Backlight



LED	1515
LED Qty	216
Dimming Zones	216
OD(mm)	1.5

## Market Trends and Potential

Mini LED backlight modules, utilizing Ennostar 1515 and GLP technology, can achieve low power consumption, high reliability, and a cost-controllable design. This simultaneously meets automakers' demands for both aesthetics and quality, demonstrating strong competitiveness in the new generation automotive display market.

## Technical Highlights

- OD 1.5 mm thin design
- NCSP1515 + GLP Partner Technology: Balances picture quality and overall system cost
- 216-Zone Local-Dimming Backlight offers a low-power consumption and cost-controllable solution

## ✦ Sustainable Development Goals (SDGs)



# 12.3" COB Full-Array Local-Dimming, Ultra-Thin OD Zero Automotive Display Backlight



LED	COB blue
LED Qty	2,400
Dimming Zones	2,400
OD(mm)	0

## Market Trends and Potential

With the rapid development of smart automotive technologies, every inch of vehicle interior space is critical. Ennostar COB technology combined with an ultra-thin module design and new generation ICs, creates an ultra-slim, high-brightness, high-contrast display solution. This innovative technology further enhances the driver's immersion and safety.

## Technical Highlights

- OD zero design: ultra-slim design perfectly integrates into the vehicle interior
- 2,400-zone local-dimming backlight technology offering high brightness, high contrast, and high color saturation
- With next-generation driver ICs, effectively control the cost of high dimming zone light board

## ✦ Sustainable Development Goals (SDGs)





# Mini LED Starry-Sky Sunroof



Wavelength (nm)	R: 620
	G: 530
	B: 460
Chip Size (mil)	0408
Thickness (μm)	2mm
Transmittance	86%

## Market Trends and Potential

Starry-sky sunroofs elevate both the ambiance and technological feel of vehicle interiors. In recent years, many premium automotive brands have adopted these decorative lighting elements. As future interior designs increasingly merge technology with aesthetics, demand for this type of product is expected to rise.

## Technical Highlights

- Over 80% high-transmittance sunroof design
- Optional LED installation available

## ✦ Sustainable Development Goals (SDGs)



# Transparent Sunroof Reading Light



<b>Wavelength (nm)</b>	Cool white : 6500K Warm white : 3000K
<b>Chip Size (mm)</b>	0408
<b>Thickness (mm)</b>	1
<b>Power (W)</b>	6

## Market Trends and Potential

By integrating the reading light into the sunroof area, the fixture remains discreet highly functional, catering to a variety of in-vehicle lighting needs.

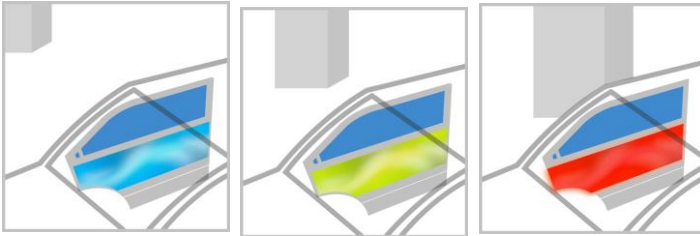
## Technical Highlights

- Over 95% high-transmittance sunroof design
- Optional single-color or multi-color LED configuration

## ✦ Sustainable Development Goals (SDGs)



# Interactive Ambient Lighting



Wavelength (nm)	R: 620
	G: 530
	B: 460
Chip Size (mil)	300
Thickness (μm)	10
Power (mW)	150

## Market Trends and Potential

RGB interactive ambient lighting offers a variety of color and lighting modes, meeting diverse user needs and enjoying broad market acceptance. It can be applied for flowing light effects, intelligent indicators, and creating a vibrant in-cabin atmosphere. At night or in low-light conditions, it provides passengers with rich visual experiences and elevates the vehicle's technological appeal. With strong growth in recent years, many automakers are actively integrating this feature into their designs.

## Technical Highlights

- Intelligent system enabling color transitions, mood-based responses, and rhythm synchronization

## ✦ Sustainable Development Goals (SDGs)





# In-Cabin Sensing



Infrared LED	Wavelength (nm)	940
	FOV (°)	50 / 80 / 145
	Optical Power (W)	1.5
Infrared VCSEL	Wavelength (nm)	940
	FOV (°)	60x45 / 72x58 / 110x85
	Optical Power (W)	3.4

## Market Trends and Potential

In-cabin sensing technologies—DMS, OMS, and temperature sensing—have substantial market potential. DMS provides real-time alerts for driver fatigue or distraction, improving road safety, while OMS, integrated with AI and infrared technology, automatically adjusts the cabin environment for greater comfort. As global traffic increases and safety regulations tighten, demand for these systems continues to rise. Meanwhile, the growth of premium new energy vehicles (NEVs) accelerates adoption of these high-value-added technologies, with projections indicating that premium NEVs will exceed 30% of the market by 2025.

## Technical Highlights

- Zonal illumination for energy saving
- Customizable off-axis optical design to meet various scenario requirements
- Tailored light distribution with high uniformity and no blind spots
- Low red-glowing IR that does not impair the driver's field of vision

## ✦ Sustainable Development Goals (SDGs)



# In-Cabin Sensing



Resolution	16x16
FOV(°)	72
Temperature Range (°C)	-20 ~ 150
Accuracy (°C)	±2°C
Frame Rate (fps)	1

C	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
R	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
01	25.69	25.90	26.25	25.14	26.64	25.73	24.10	24.20	24.53	24.31	25.06	24.77	24.86	24.80	25.28	22.47
02	25.38	25.07	25.56	25.59	26.30	28.61	26.03	25.94	24.67	25.12	23.90	24.91	24.41	25.00	24.58	24.65
03	25.84	26.10	25.15	24.99	27.43	29.29	29.74	26.45	25.92	25.69	24.50	24.47	24.83	24.98	25.49	22.57
04	23.79	24.98	25.60	25.31	25.20	27.80	30.08	29.41	27.04	25.39	24.55	24.03	24.15	24.72	23.37	23.76
05	25.00	25.74	24.23	25.23	25.70	28.19	30.43	30.01	29.70	27.38	25.19	24.37	25.73	23.84	24.05	24.39
06	24.32	26.11	24.90	28.52	28.66	30.50	30.03	30.28	29.76	28.88	27.05	25.89	24.68	24.86	24.88	24.40
07	26.05	25.27	29.61	30.22	31.03	31.35	31.46	30.67	30.27	29.31	29.46	27.82	28.87	29.30	27.11	25.58
08	24.82	24.66	29.02	31.81	32.05	31.92	31.59	30.96	30.80	29.94	29.88	30.81	31.67	31.44	30.35	29.29
09	25.82	26.61	30.26	31.83	31.29	31.32	31.84	31.71	30.39	30.38	30.40	30.32	31.55	30.85	31.08	31.25
10	24.86	25.43	29.50	31.40	31.69	32.05	32.07	31.60	31.14	29.78	29.99	30.08	30.03	30.15	31.29	29.45
11	25.37	26.98	27.06	30.60	30.96	31.35	31.27	31.49	30.80	29.55	30.18	30.19	29.97	29.71	28.64	28.94
12	25.37	25.52	24.71	29.32	30.46	31.06	31.37	30.03	30.11	29.99	28.72	27.29	26.78	27.04	27.38	26.91
13	24.44	26.00	25.60	26.18	30.18	29.43	29.68	28.26	28.13	27.36	26.76	26.32	26.84	27.08	26.27	27.00
14	25.59	25.49	25.81	25.52	26.32	26.90	27.08	25.62	25.91	26.25	26.46	25.15	26.84	25.90	26.78	26.53
15	24.75	25.61	24.86	25.73	26.08	25.84	24.60	26.16	26.09	24.52	26.05	26.30	27.54	26.01	26.57	27.10
16	24.52	26.70	23.95	24.63	25.01	25.96	25.94	25.58	24.98	25.59	25.51	26.84	26.51	26.95	28.54	27.32

## Market Trends and Potential

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## Technical Highlights

- Non-contact measurement with thermal imaging
- MCU integrated for temperature data output directly
- Flexible FOV development for various applications

## Sustainable Development Goals (SDGs)

