

# Display Solution Business, Optical Solution Business



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Senior Officer

We “provide innovative solutions to the display and optical components industry and contribute to the digital society.” Under this mission, in the Display Solution Business, our vision is to “maintain our position as a leading company in the display materials market.” In the Optical Solution Business, our vision is to “become a game changer in the optical components market, centered on our resin and film development and processing technologies.”

## ● Mainstay Product Outline



LCD  
Materials



OLED  
Materials



Heat Resistant  
Transparent  
ARTON™



ARTON™  
Optical  
Filters

## ● Strengths and Awareness of the Business Environment

### Business strengths

- Products with high market share and a wide-ranging product lineup
- Sales, development, and production systems compatible with market and customer needs
- The ability to provide solutions coupled with a robust competitive advantage in quality grounded in polymer and processing technologies

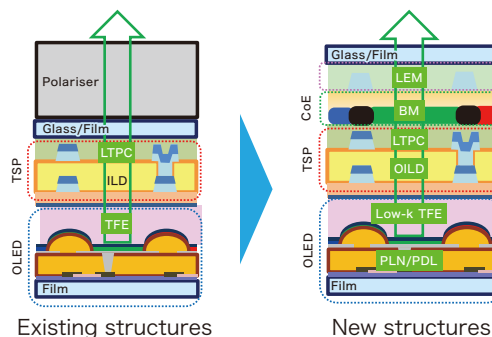
### Awareness of the business environment

- Driven by the trend toward larger-sized TVs and the increasing sophistication of IT/smartphone functions, expanding applications in such areas as automotive use, public displays, and AI compatibility, and environmental initiatives, including energy efficiency and PFAS-free solutions, the display and optical component materials markets will continue to expand while providing essential products for the digital society. Awareness toward key business conditions surrounding both businesses is as follows.

## ● Display Solution Business

The display panel market is expected to remain centered on China (China share = FY2020: 55% → FY2029: 78%). In addition, the size of the display panel area market suggests that LCD is expected to remain the mainstream technology over the medium to long term (LCD ratio = FY2020: 95% → FY2029: 90%). Expected to grow significantly going forward, flexible OLED panels will be used in smartphones and for IT applications in earnest. Moreover, panel structural transformation is under way, and demand for high-performance materials is expected to expand driven by growing needs mainly for energy efficiency, thinner and foldable displays, under-display cameras (UDC), and PFAS-free solutions.

## OLED Materials for Mobile Applications



## ● Optical Solution Business

With TV screens becoming larger, demand has surged in recent years for retardation films made from cycloolefin polymer (COP) resin, which offers superior optical properties and moisture resistance compared to triacetyl cellulose (TAC). In the smartphone market, demand for resin filters is expected to grow further with greater camera performance increasing sensor sizes. In the optical materials market, demand for sensing filters is expected to grow across various applications, including smartphone facial recognition, automotive, wearables, and AR/VR.

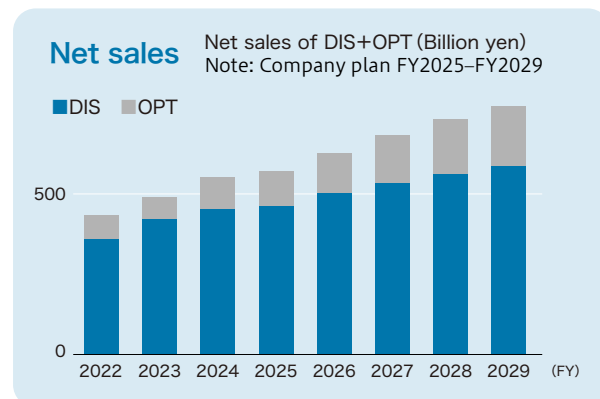
## ● Review of FY2024

The Display Solution Business has engaged in streamlining by reorganizing operations (withdrawing from the color filter materials businesses in the South Korea and Taiwan markets, closing Taiwanese manufacturing facilities, and strengthening business infrastructure in the China market). For LCD materials, we have focused on increasing sales of competitive products such as alignment and insulating films in the main Chinese market. In the growing market for materials used in flexible OLEDs, we have leveraged the business infrastructure cultivated in LCD materials and core technologies like low-temperature-passivation coating to boost sales in the South Korean and Chinese markets. As a result, both net sales and operating profit were higher than the previous year.

The Optical Solution Business recorded a significant improvement in profitability year-on-year owing to higher demand for ARTON™ resin for display retardation films amid increases in TV screen sizes and the start of paid sales of new, higher-performance strategic products within optical filters (NIR\*) for smartphone cameras.

\*1 Near InfraRed cut filters

## ● Medium- to Long-term Strategy



JSR develops, manufactures, and sells materials incorporated into one out of every two display panels currently produced worldwide based on its high-market-share product lines and extensive portfolio in both the Display Solution and Optical Solution businesses. We take pride in and feel a sense of responsibility for delivering JSR products to many consumers around the world. As ONE TEAM, we will strive to achieve our mission and vision.

Strategies for each business are as follows.

## ● Display Solution Business

**Enhancing China Business Infrastructure:** In the Chinese market, the center of the display panel industry, we have advanced four localization initiatives\*2 to accelerate customer responsiveness and decision-making. We will continue to focus on identifying VOC, providing solutions early, and strengthening engagement with our customers.  
**LCD Materials Growth Strategy:** We will pursue our growth strategy for LCD materials, which are recognized as mainstream on a panel areas basis, over the medium to long term. JSR holds a high market

share of more than 50% for each material in the three key processes of LCD panel manufacturing: the array process (Passivation Coating), the color filter process (Over Coat), and the cell process (Alignment Layer). We will work to boost our market share by leveraging our robust business infrastructure, solution provision capabilities, and high-quality competitiveness, providing eco-friendly solutions such as low-temperature materials and PFAS-free materials, and through our alignment layer recycling business in Taiwan. We will also enter the field of alignment layer films for optical IPS panels, which is of strong interest among clients, in earnest.

**OLED Materials Growth Strategy:** Demand will likely grow substantially going forward for high-performance materials able to adapt to structural changes in flexible OLED. We will work to secure the top position in the OLED materials markets in both South Korea and China by leveraging our business infrastructure cultivated in LCD materials and our differentiated technologies, including passivation coat and low-temperature materials. We have already gained the No. 1 market share in low-temperature passivation coating and light extraction materials. In light of this, we will expand our portfolio with low dielectric thin film encapsulation materials, high-transmittance PFAS-free bank and defining layer.

\*2 ① Relocation of business HQ to Shanghai, ② Localization of sales operations (established eight sales offices in Beijing, Chongqing, Chengdu, Hefei, Fuzhou, Shenzhen, and Guangzhou in addition to the Shanghai HQ), ③ Localization of manufacturing (began local production in Changshu, China, in 2018, in addition to the main manufacturing bases for LCD/OLED materials in South Korea and Kyushu), ④ Localization of technical services (established a lab in Shanghai to provide a wide range of services including face-to-face technical discussions in Chinese with Chinese R&D personnel, panel defect analysis, joint experiments, and research).

## ● Optical Solution Business

**ARTON™ Resins Growth Strategy:** To meet the rapidly growing demand for COP retardation films, we are focusing on boosting production capacity for ARTON™ resin. In addition, we will promote synergies through collaboration with phase-difference film manufacturers—direct customers of ARTON™ resin—and panel manufacturers with whom we have built strong relationships in the Display Solution Business. In so doing, we will contribute to the establishment of optimal industry supply chains.

### Growth Strategy for Smartphone Camera Optical Filters:

**Filters:** We are the world's only manufacturer capable of mass-producing and supplying high-quality resin filters. Compared to rival glass filters, our products are valued by customers for their thinness, lightness, and resistance to breakage. As a result, they are increasingly being adopted by major smartphone brands in South Korea and China. In the smartphone camera NIR market, where there is demand for even more sophisticated functionality, we will leverage our core competency in film development and processing technologies—spanning the entire process from differentiating raw materials to final products—to become a game changer in the optical components market.

### Growth Strategies for Sensing Optical Filters:

Numerous customers and various themes are taking shape for the expanding sensing filter market. Leveraging our resin and film development and processing technologies, we will fully enter the sensing market and cultivate it as the third pillar of our Optical Solution Business, following ARTON™ resin and NIR for smartphone cameras.

Note: ARTON is a registered trademark of JSR Corporation.