

A full-length portrait of Hiroyuki Nishio, the President, CEO, and COO of LINTEC. He is standing in a modern office setting with large windows in the background. He is wearing a dark blue pinstriped suit jacket over a light blue shirt and a blue patterned tie. He has a serious expression and is looking directly at the camera.

Facing Challenges and Moving on to Growth

Hiroyuki Nishio

Representative Director
President, CEO and COO

Finishing the Second Year of the LIP-2019 Medium-Term Business Plan

The fiscal year ending March 31, 2020, will be the final year of LINTEC's three-year medium-term business plan, LINTEC INNOVATION PLAN 2019 (LIP-2019). We launched the plan in April 2017, and we are implementing four key initiatives in accordance with the basic policy of "deepening innovation aimed at driving new growth." In the fiscal year ended March 31, 2018, the first year of the plan, we got off to a basically favorable start with net sales of ¥249.0 billion and operating income of ¥20.1 billion. In the fiscal year under review, the second year of the plan, net sales were up by a small amount year on year, and operating income declined. Our results were substantially below

our initial planned targets. Rising prices for raw materials and fuel put pressure on earnings, and the deceleration of the semiconductor market, which had maintained robust conditions in recent years, also had a major influence. Due in part to approximately ¥2.0 billion in extraordinary losses in the previous fiscal year, profit attributable to owners of parent increased, but nonetheless was below the initial forecast. For the final year of LIP-2019, we announced targets of more than 9% for both the operating profit margin and ROE, but actual figures for the second year of the plan were 7.2% and 6.9%, respectively.

FY2019 Business Results (year on year)

Net Sales

¥250.9 billion (+0.8%)

Operating Income

¥18.0 billion (-10.5%)

Profit Attributable to Owners of Parent

¥12.9 billion (+14.9%)

Operating Profit Margin / ROE



Major Results and Progress with the Key Initiatives of LIP-2019

First, in regard to "strengthening of regional strategy," we worked to generate synergies with MACTAC AMERICAS, LLC, a U.S. manufacturer of adhesive products for labels that we acquired at the end of 2016. We also exhibited at label-related exhibitions in Thailand and the U.S. Through these types of initiatives, we worked to introduce the products of MACTAC AMERICAS in Southeast Asia and to expand sales of LINTEC products in the North American market. Next, in regard to "creation of new value," we implemented technical development in growth fields and took steps to advance product development by making the most of our technologies. As a result, we are starting to see progress with promising new products. Also, in April 2018, we established the New Project Planning Office in

the Business Administration Div. with the objective of furthering the creation of new businesses. Through close cooperation between each area of operations and the Research & Development Div., we will work to identify new market needs and rapidly develop products and establish businesses. Next, in regard to "bolstering the corporate structure," at MADICO, INC., a production subsidiary in the U.S. that had been posting losses for a number of years, we implemented management rationalization measures, such as base consolidation and workforce reductions, and MADICO was able to achieve a return to profitability. The final key initiative is "activities for realizing a sustainable society." We are aggressively promoting work-style reforms, and we are steadily seeing results from these

A Message from the President

measures, such as reduced overtime and an increase in the percentage of paid leave taken. Moreover, to incorporate the SDGs* into management, we are considering

specific measures through the SDGs Committee, which we launched in February 2018 as a Companywide organization.

* SDGs: Sustainable Development Goals. Adopted at the United Nations Sustainable Development Summit in 2015, SDGs consist of 17 goals and 169 targets for achieving a sustainable society.



LINTEC INNOVATION PLAN 2019 (LIP-2019)

Period: From April 2017 to March 2020

Basic Policy: Deepening innovation aimed at driving new growth

Key Initiatives: _____

1. Strengthening of regional strategy

- (1) Increase in the domestic share and development of new markets and new demands
- (2) Strategic investment and business expansion in the Asian region
- (3) Expansion of the existing fields in Europe and America and the pursuit of synergies with the acquired subsidiaries

2. Creation of new value

- (1) Creation of differentiated products which exceed customer needs
- (2) Development of next-generation products anticipating market changes

3. Bolstering the corporate structure

- (1) Ensuring soundness of the Group companies and continual increase in earnings
- (2) Promotion of cross-sectional operational reforms
- (3) Further promotion of cost structure reforms

4. Activities for realizing a sustainable society

- (1) Promotion of business activities conducive to solving social concerns
- (2) Promotion of work-style reforms, fostering of diverse human resources and encouragement of their active participation in the workplace

Future Initiatives

Looking at our results forecast for the fiscal year ending March 31, 2020, which will be the final year of LIP-2019, it will be extremely difficult to achieve the plan's initial goals of net sales of ¥270.0 billion and operating income of ¥25.0 billion. The LINTEC Group has positioned the final year as a year to address our challenges, and we will build a foundation for growth in the future, while maintaining a focus on the next medium-term business plan, which will start in April 2020.

In regard to adhesive products for labels, our mainstay products, in July 2019 we launched a global brand to expand our share in Japan and overseas, and we started to strengthen our sales promotion activities. Furthermore, from 2019 to 2020, a number of international sports events will be held in Japan, and we are accelerating activities accordingly to capture demand for such products as films for signs and advertisements. In addition, we believe that the semiconductor market, which is currently in a correction phase, will undergo a recovery from the fourth quarter of the fiscal year ending March 31, 2020.

We will invest aggressively to address increases in demand, such as from the introduction of the 5G next-generation high-speed communications standard; the expansion of the Internet of Things (IoT), under which a wide range of devices will be connected via the Internet; and the adoption of artificial intelligence (AI).

FY2020 Forecasts (year on year)

Net Sales

¥260.0 billion (+3.6%)

Operating Income

¥19.0 billion (+5.7%)

Profit Attributable to Owners of Parent

¥13.5 billion (+4.3%)

Issues and Risks

For the LINTEC Group to record growth in the years ahead, we face issues and risks that we must address.

▶ **Maturation of the Domestic Market and Increasing Difficulty in Securing Human Resources**

In Japan, the market is contracting due to a trend toward a declining birthrate and an aging population, as well as a decreasing population. It is becoming difficult to achieve high levels of growth as in the past. The environment is challenging, and going forward we will endeavor to discover new demand, increase our market share in existing businesses, and create new markets. At the same time, in response to the labor shortage, which is worsening due to the decline in the working age population, we will consider how to promote laborsaving through the use of IoT, AI, and robots. In addition, by continuing to implement work-style reforms, we will aim to increase labor productivity and be a company that enables more diverse employees to work with enthusiasm.



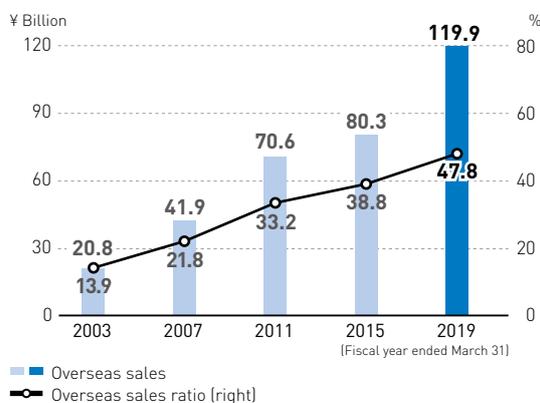
▶ **Sluggish Results at Acquired Subsidiaries in North America**

Looking overseas, our biggest pending problem is the sluggish results at MACTAC AMERICAS, which we acquired in 2016. MACTAC AMERICAS had been expected to break even at the operating level in the fiscal year ended December 31, 2018, but prices for raw materials and fuel were higher. As a result of this and other factors, as in the previous year, the company recorded an operating loss of approximately ¥0.5 billion. One reason was amortization of goodwill, which is about ¥3.0 billion a year. However, the fact that we were able to establish a foothold for a full-scale entry into the North American label-related market is extremely important. Moving forward, through further efforts to strengthen sales and increase earning power, we will strive to achieve, as soon as possible, a return to profitability at the operating income level, after the amortization of goodwill.

▶ **Exchange Rate Fluctuation Risks Accompanying Expansion of Overseas Business**

Through the acquisition of MACTAC AMERICAS, our overseas sales increased rapidly, and as a result, in the fiscal year ended March 31, 2019, our overseas sales ratio rose to 47.8%, while foreign exchange fluctuation risk also increased. In addition to the U.S. dollar, we also need to focus on trends in major Asian currencies, such as the Korean won, Chinese yuan, and Taiwan dollar. The LINTEC Group currently has bases in 19 countries and regions, and we are working to reduce foreign exchange fluctuation risks by utilizing forward exchange contracts and currency swaps among Group companies.

Overseas Sales / Overseas Sales Ratio



▶ **Global Warming and Other Increasingly Severe Environmental Problems**

Abnormal weather caused by increases in the average global temperature has an effect on the Company's businesses, and we consider this to be an issue that we must address rapidly. On the other hand, global warming countermeasures and trends such as the move away from the use of plastics are also opportunities for the creation of new markets. We are also planning a total of more than ¥10.0 billion in investments, centered on domestic plants, in order to reduce CO₂ emissions. We will work to achieve reductions of 30% or more by fiscal 2030 in comparison with fiscal 2013.

CO₂ emissions reduction target (FY2030 targets)

Reduce by **30%** or more from FY2013

Aiming for Sustained Growth

We will advance initiatives targeting further growth while rapidly addressing these issues, risks, and new changes in the business environment in the years ahead.

▶ **Bolstering R&D Capabilities**

As a technology-centered company, more than anything else, LINTEC must strengthen its R&D capabilities. I believe that R&D capabilities are connected to a wide range of areas. These include continuing to build new business pillars; proposing products in overseas markets that meet the needs of each region and providing a

stable supply of those products; and proposing innovative, definite solutions to environmental problems and seizing business opportunities. Moreover, we will also focus on the creation of new businesses through aforementioned collaboration between the New Project Planning Office and the Research & Development Div. as well as on the development of new products through the utilization of the original technologies possessed by MACTAC AMERICAS and by VDI, LLC, a U.S. functional film manufacturer that we acquired at about the same time as MACTAC AMERICAS.

▶ Strengthening Overseas Business

Our policy is to aggressively implement various measures to further expand overseas business. In addition to expanding sales of LINTEC products by utilizing the sales network of MACTAC AMERICAS in North America, we will also work to further strengthen branding to expand our share in the Asia and Europe markets. Furthermore, we will continue to look for new M&A opportunities, with a view to expanding the label-related business, especially in Southeast Asia.



Also working to expand sales of MACTAC AMERICAS products in the Southeast Asian market

▶ Enacting Measures to Strengthen ESG

For a company to achieve sustained growth, it is essential to strengthen initiatives addressing ESG. If this is neglected, then sound growth cannot be expected. There is a wide range of themes that we must address. For example, we need to strengthen development of environmentally friendly products, expand eco-friendly facilities at plants, and reinforce production systems and supply chains for the stable supply of high-quality products for customers and society. We must also hire and develop the diverse human resources who will be the foundation of the Company, enhance comfortable workplace environments and personnel systems, strengthen communications with shareholders and investors, and continue to revise the corporate governance system. Moving forward, we will aggressively advance management that incorporates the SDGs and aim to contribute to the resolution of social issues through our business and to increase corporate value.

Becoming a Company that Is Necessary for Society

Finally, my management policy can be expressed in the words that constitute our Company motto—Sincerity and Creativity. I will take steps to see that all Group employees act with sincerity for all stakeholders and continually take on new challenges with the spirit of innovation. We will strive to ensure that we remain a company that is needed by society 10 years, 20 years, or even further into the future. We would like to ask our shareholders and investors for their continued support in the years ahead.

August 2019

Hiroyuki Nishio
Representative Director
President, CEO and COO



A Message from the CFO



I will strive to increase corporate value by raising capital efficiency and enhancing shareholder returns.

Yoichi Shibano

Executive Officer and CFO
Executive General Manager, Administration Div. and
General Manager, Finance & Accounting Dept.

Review of Consolidated Results in the Fiscal Year Ended March 31, 2019, and Forecasts for the Fiscal Year Ending March 31, 2020

LINTEC achieved record-high net sales for the second consecutive year, but the scale of the increase was small, and our operating income declined, falling substantially below the forecast at the beginning of the fiscal year. The principal reasons were that sales of our mainstay adhesive products for labels were sluggish as a result of the influence of heavy rains and the severely hot summer, and that earnings worsened, centered on Fine & Specialty Paper Products Operations, due to higher prices for pulp and other raw materials and fuel. Moreover, in the second half of the fiscal year, the semiconductor market entered

a stage of production adjustments, and lower sales of semiconductor-related tapes, which have high profitability, also had a major influence on our results. Profit attributable to owners of parent increased, due in part to the fact that in the previous fiscal year, extraordinary loss included ¥1.0 billion in impairment loss of goodwill and ¥1.0 billion in provision for business structure improvement for a U.S. subsidiary.

Looking at the consolidated business results forecasts for the fiscal year ending March 31, 2020, we anticipate an increase in personnel expenses and other fixed costs. However, we will endeavor to further expand sales and reduce costs, and we expect prices of raw materials and fuel to decline. Accordingly, we are forecasting increases in sales and profits.

FY2019 Consolidated Results and FY2020 Forecasts

	Fiscal year ended March 31, 2019 (year on year)	Fiscal year ending March 31, 2020 (year on year)
Net Sales	¥250.9 billion (+0.8%)	¥260.0 billion (+3.6%)
Operating Income	¥18.0 billion (-10.5%)	¥19.0 billion (+5.7%)
Profit Attributable to Owners of Parent	¥12.9 billion (+14.9%)	¥13.5 billion (+4.3%)

Increasing Capital Efficiency

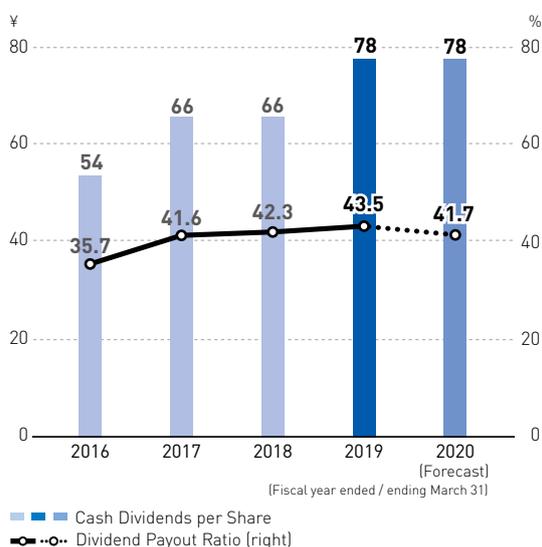
As a leading company in such fields as adhesive products and specialty papers, the LINTEC Group has developed business in a wide range of fields and has built a stable earnings foundation. As a result, at the end of March 2019, we had a high level of financial soundness, with an equity ratio of 65.3%, a current ratio of 240%, and a debt-to-equity ratio of 0.09 times. However, from the perspective of capital efficiency, major issues that we face include how we will utilize our equity and increase profitability.

Under the current LIP-2019 medium-term business plan, we have set a target of ROE of 9% or more for the fiscal year ending March 31, 2020, the final fiscal year of the plan. Unfortunately, in the fiscal year ended March 31, 2019, the second year of the plan, our ROE was limited to approximately 7%. Moving forward, we will not only invest in new businesses linked to higher earnings in the future but also continue to consider M&A initiatives in a forward-looking manner if we decide that they are a match for our businesses. We will work to increase profits by strengthening the regional strategy to further expand sales in Japan and overseas, creating new differentiated products, and bolstering the corporate structure through cost structure reforms. In addition, we will take steps to achieve an ROE that substantially exceeds our cost of capital, which is currently approximately 6%, including strengthening shareholder return, centered on dividends.

Enhancing Shareholder Returns

LINTEC regards the enhancement of returns to shareholders as one of its most important management issues. In distributing profits, our basic policy is to provide stable and continued dividends with consideration for each fiscal year's consolidated performance, while also working to strengthen our management foundation. In accordance with this basic policy, for the fiscal year ended March 31, 2019, we paid a full-year dividend of ¥78 per share, an increase of ¥12 per share from the previous fiscal year. With regard to dividend payments for the fiscal year ending March 31, 2020, we plan to pay a dividend of ¥78 per share, the same as in the previous year, and we expect a consolidated dividend payout ratio of 41.7%. Moving forward, we will continue working to further enhance shareholder returns through improvements in our results.

Cash Dividends per Share / Dividend Payout Ratio



My Role as CFO

In settings that require a high degree of management judgment, such as investment in new businesses and M&A initiatives, I will strive to provide solid support for the decision-making and business execution of the Company's top management. I will also be involved in the formulation of the next medium-term business plan. I believe it will be important to ensure that the significance and importance of the plan's management indicators are understood throughout the Group. Moreover, I worked at the regional headquarters in Singapore until March 2018, and I will take steps to leverage that experience as I endeavor to support the growth of overseas Group companies. As CFO, I am involved with a wide range of issues, and going forward, I will strive to increase LINTEC's corporate value by raising capital efficiency and enhancing shareholder returns.

Finally, I will point out that, as CFO, I am embarrassed that at the end of the previous year, our Price Book-value Ratio (PBR) fell below 1.0 times, where it has since remained. We must endeavor to increase corporate value through constructive dialog with investors, and accordingly the Company will work to implement aggressive information disclosure, and to explain the results and business forecasts for each business more thoroughly. In these ways, I will work to promote the understanding of investors and to support the formation of an appropriate stock price.

U.S. Subsidiaries —Current Status and Future Outlook

In the U.S., the LINTEC Group has implemented a series of initiatives based on major management decisions. In 2016, we acquired MACTAC AMERICAS, a manufacturer of adhesive materials for labels, thereby establishing a foothold for business development in the North American market. In addition, in 2017 we commenced a full-scale restructuring of MADICO, a window film production subsidiary that had been posting sluggish results. This section introduces the current status and future outlook for U.S. subsidiaries.



Company name: MACTAC AMERICAS, LLC
 Location: Ohio, U.S.
 Number of employees: 538 (as of December 31, 2018)
 Net sales: ¥35.7 billion (fiscal year ended December 31, 2018)
 Business description: Manufacturing and sales of adhesive materials for labels, industrial adhesive tapes, etc.

Solid Results in the North American Label Market Focused on the Creation of Synergies as the Key to a Recovery in Results MACTAC AMERICAS, LLC

MACTAC AMERICAS, which we acquired in December 2016, has the third largest share of the North American label market, with a customer base of more than 1,000 companies and sales of more than ¥35.0 billion. MACTAC AMERICAS had strengths that the LINTEC Group lacked—hot-melt adhesive formulation technology and sales channels covering the vast North American market. Accordingly, this acquisition was a very large step forward for the Group, which previously had not been able to establish a strong presence in North America in the field of adhesive materials for labels.



However, in the fiscal year ended December 31, 2018, MACTAC AMERICAS posted sluggish results due to the amortization of goodwill, higher prices for raw materials and fuel, and price competition in the market. In the fiscal year ending December 31, 2019, the company is expected to register another loss at the operating level. Going forward, we must work to rapidly improve results through the generation of synergies between MACTAC AMERICAS and LINTEC. This has become an urgent management issue for the LINTEC Group.

Working to Expand Sales Adhesive Products With a Low Environmental Impact

MACTAC AMERICAS produces hot-melt type adhesive products, for which the adhesive is melted with heat for coating on the substrate, and emulsion-type adhesive products for which the adhesive is thinned with water for coating on the substrate. Both of these types have the distinctive feature of a low environmental burden because organic solvents are not used in production processes. The LINTEC Group is aiming to implement aggressive business development initiatives in the Southeast Asian market. Adhesive products made by MACTAC AMERICAS have been very well received in this market, and we are receiving a growing number of inquiries. Currently, LINTEC and MACTAC AMERICAS are working together on R&D to support the use of this hot-melt adhesive formula for labelstocks, industrial-use adhesive products, and other products sold in Japan.



★ Cryogenic Labelstocks Suitable Earning Favorable Reviews at Exhibitions Around the World

The LINTEC Group conducted large-scale exhibits at Labelexpo Southeast Asia 2018, which was held in Thailand in May 2018, and at Labelexpo Americas 2018, the largest label event in North America, in September 2018. At each of these exhibitions, labelstocks made by MACTAC AMERICAS using hot-melt adhesives drew considerable attention. These labelstocks realize high levels of adhesion on frozen surfaces and surfaces with condensation, and they are suitable for use with refrigerated and frozen food packaging, as well as the cardboard cases in which those products are distributed/conveyed. Accordingly, we expect to see growth in the use of these materials in markets around the world.





MACTAC AMERICAS, LLC

VDI, LLC

MADICO, INC.



Company name: MADICO, INC.
 Location: Florida, U.S.
 Number of employees: 158 (as of December 31, 2018)
 Net sales: ¥6.6 billion (fiscal year ended December 31, 2018)
 Business description: Manufacturing and sales of window films, special functional films, etc.

Decisively Implementing Thorough Management Rationalization Searching for New Possibilities for Industrial-Use Films
MADICO, INC.

MADICO is a manufacturer acquired by LINTEC in 1987. The company's main products are window films for buildings and automobiles, and by simply applying these films to windows, users can enjoy functional benefits such as thermal insulation and UV reduction. With a high level of brand strength and a wide-ranging sales network centered on North America, MADICO currently has a share of approximately 10% of the North American market. In September 2010, MADICO established a two-plant system with the acquisition of a window film manufacturer in Florida. However, due to weak results in the business of PV backsheets, which had been expected to be the company's second business pillar along with window films, MADICO's results worsened, and the company has been recording operating losses since 2012. To break away from this unprofitable situation, in 2017 we began to implement a thorough management rationalization. In the fiscal year ended December 31, 2018, MADICO achieved a return to profitability at the operating level as a result of a complete withdrawal from the backsheet business and the consolidation of manufacturing bases following the acquisition of a new site and building in Florida.



Multifaceted Strategy Centered on the Window Film Business

In addition to its core films business, MADICO is currently targeting new growth by advancing the development and proposal of special functional films. These include protective films for smartphones, which are provided to mobile phone stores along with a cutting machine. In this way, MADICO is proposing a business model that makes it easy to create and sell films matching the size of the smartphone in the store. There is no need to keep inventories of film for each phone model, and this system can also accommodate older models. As a result, sales are recording favorable growth. As well, industrial materials for special applications are recording steady improvement in results. For example, an interior finishing material with high levels of heat resistance and fire resistance has been designated as a material for use in aircraft.



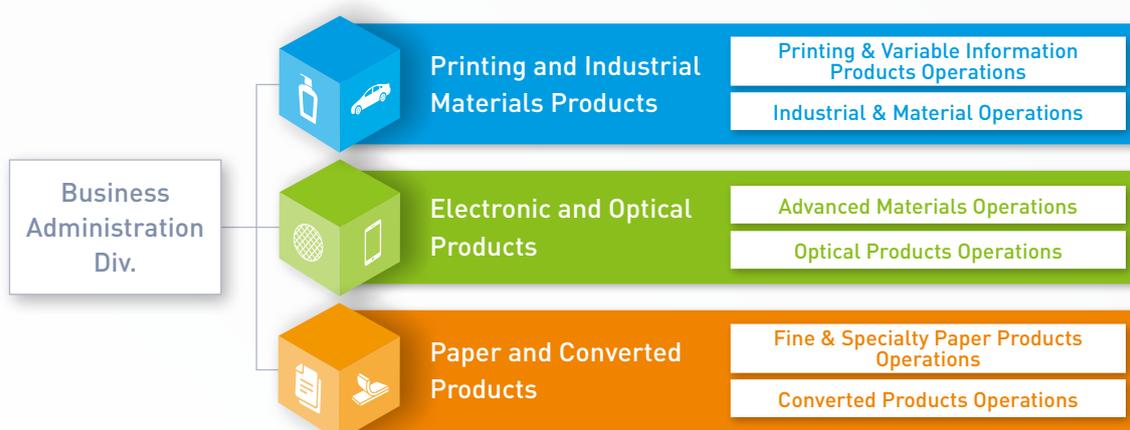
★ **Leveraging VDI's Film Processing Technologies**

In October 2016, the LINTEC Group acquired VDI, LLC (Kentucky, U.S.), a manufacturer of functional films working in thin film formation processing, such as metal deposition and sputtering, principally for window films. This acquisition enabled the LINTEC Group to secure processing technologies for film substrates, which it did not possess. We are steadily advancing joint research into the utilization of these technologies in the LINTEC Group's operations, such as in MADICO's window film and special functional film businesses.



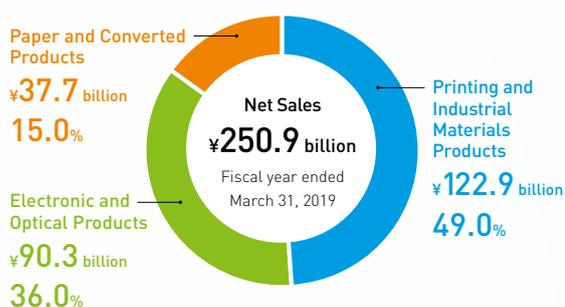
Meets Market Standards

LINTEC has cultivated four core technologies over many years, and by combining these technologies in a sophisticated manner, the Company has developed numerous groundbreaking products. Under the Business Administration Div., six operations bring these products to market and help address issues in a variety of industries.

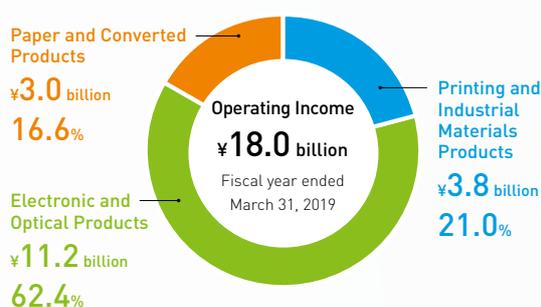


Note: Based on the similarities of their products, technologies, and markets, the Group's six operations are classified into three segments—Printing and Industrial Materials Products, Electronic and Optical Products, and Paper and Converted Products.

Share of Net Sales by Segment



Share of Operating Income by Segment



A Message from the Executive General Manager, Business Administration Div.

In regard to our consolidated business results in the fiscal year ended March 31, 2019, which was the second year of our LIP-2019 medium-term business plan, our operations were affected by a difficult economic environment and rising prices for raw materials and fuel. We reduced our business results forecasts two times, and we still faced a number of challenges at the end of the year. Under the current circumstances, it will be extremely difficult to achieve the plan's final numerical targets in the fiscal year ending March 31, 2020. First, we will carefully analyze the reasons why we did not achieve our targets in the fiscal year under review and identify issues in each area of operations. On that basis, we will continue to implement a variety of initiatives.

The way to realize sustained growth is to do our utmost to conduct manufacturing in a manner that addresses the needs of customers. In other words, we need to meet market standards. The LINTEC Group is rolling out business strategies for the regions of Japan, Asia, North America, and Europe. We must accurately determine the needs in each market, implement flexible responses, and aggressively launch new products. The New Project Planning Office, which was established in April 2018, will play an important role, especially from a medium- to long-term viewpoint. Up to this point, in new product development each operation had a tendency to give priority to short-term improvements. However, through the New Project Planning Office, we are aiming to transcend boundaries between operations and give shape to development themes that are focused 5 or 10 years into the future. Moving forward, we will work to further strengthen our systems.

In addition, in cooperation with the Production Div., we are currently advancing projects targeting the improvement of earnings at overseas production subsidiaries. In the U.S., at MADICO, INC., we went through a process for identifying and improving problems, which contributed to the recovery in performance at MADICO. Going forward, we will extend this process to other overseas production subsidiaries and strive to reinforce the earnings foundations of these companies.

Then, the SDGs will be the key to further growth. LINTEC is aiming to contribute to the resolution of social issues through its core businesses, and to that end we launched the SDGs Committee as a Companywide organization in February 2018. In my capacity as the officer in charge of advancing the affairs of this committee, I will strive to promote activities that foster the rapid incorporation of the SDGs into our business strategies.

Makoto Hattori

Director
Managing Executive Officer
Executive General Manager,
Business Administration Div.





Printing and Industrial Materials Products

Printing & Variable Information Products Operations / Industrial & Material Operations

Main Products

Printing & Variable Information Products Operations

- Adhesive papers and films for labels
- Adhesive papers and films for barcode labels

Industrial & Material Operations

- Window films
- Interior finishing mounting films
- Films for outdoor signs and advertising
- Automobile-use adhesive products
- Industrial-use adhesive tapes
- Labeling machines



Strengths

- Long record of supplying numerous customers and large market share centered on high-value-added products in domestic market
- Ability to provide comprehensive solutions that combine adhesive products for labels and labeling machines

Opportunities

- Expected new demand for products with approach of 2020
- Southeast Asia's favorable market and stable growth of U.S. market

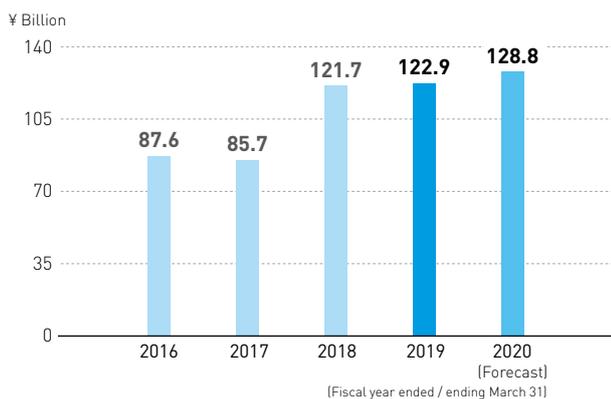
Weaknesses

- Sales networks, delivery capabilities, brand power, and price competitiveness in overseas markets
- Profitability of manufacturing subsidiaries that produce adhesive products for labels in U.S. and Indonesia

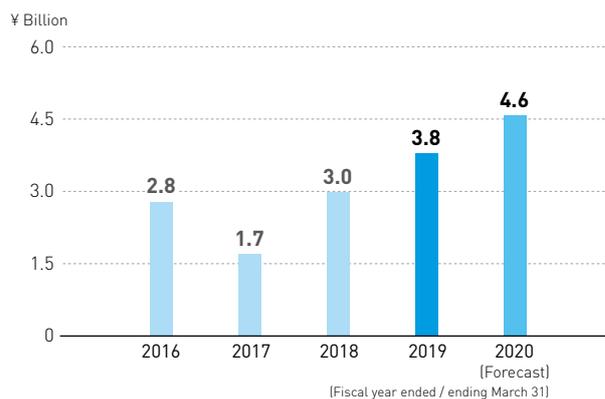
Threats

- Deceleration of growth in domestic market overall and possibility of major overseas manufacturers' full-scale forays into domestic market
- Emergence of local manufacturers in Southeast Asia's market and other markets and intensification of competition

Net Sales by Segment



Operating Income by Segment



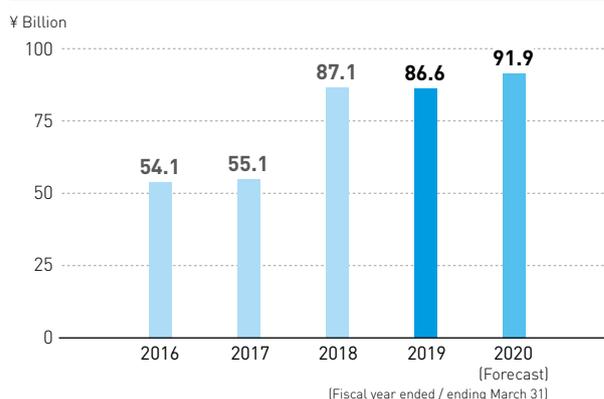
Printing & Variable Information Products Operations

Business Operations Introduction

Accounting for approximately 35% of the sales of the LINTEC Group, these are its largest operations. They manufacture and sell the Group's mainstay adhesive papers and films for labels. In particular, these operations have a leading share of Japan's market for adhesive films, which have particularly high added value. Overseas, we expanded our manufacturing and sales network, centered on Asia, and we established a foothold for business development in the North American market with the acquisition of U.S. company MACTAC AMERICAS, LLC in 2016.



Net Sales: Printing & Variable Information Products Operations



A Message from the Executive General Manager, Printing & Variable Information Products Operations

In the domestic market, we have implemented continued initiatives to develop new demand and expand our market share. However, in the fiscal year ended March 31, 2019, demand for products for food- and beverage-related applications was sluggish due to natural disasters, and conditions were challenging. In the fiscal year ending March 31, 2020, we will work to develop new demand related to the international sports events that will be held in Japan in 2019 and 2020. In addition, we will further step up the development and proposal of environmentally friendly products, for which needs are steadily increasing.

Overseas, in Southeast Asia, we have worked to roll out hot-melt adhesive products from MACTAC AMERICAS, a production subsidiary in the U.S., and we have achieved a certain degree of results with these initiatives. In North America, we are steadily increasing sales of LINTEC products through the sales routes of MACTAC AMERICAS. However, MACTAC AMERICAS has recorded an operating loss, due in part to the intensification of price competition. Major issues to tackle will be further cost reductions and the rapid realization of synergy effects from the acquisition. In Europe, we are working to expand sales of high-value-added products, such as medical and pharmaceutical products as well as automobile-related products. These efforts are being led by LINTEC EUROPE B.V., a sales subsidiary in the Netherlands, and its subsidiary LINTEC EUROPE (UK) LIMITED. That being said, we recognize that our sales capabilities are still insufficient. Moving forward, we will increase corporate brand recognition and focus on a stable supply and increased sales of high-value-added products, including taking steps to address the issue of the U.K. leaving the EU.



Masaaki Yoshitake

Executive Officer
Executive General Manager,
Printing & Variable Information Products Operations,
Business Administration Div.

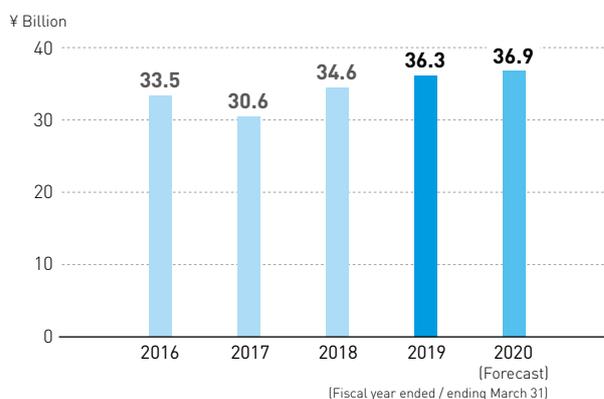


Industrial & Material Operations

Business Operations Introduction

These operations manufacture and sell an extremely wide range of products, from window films with various functions such as cutting out heat and ultraviolet light when they are attached to building and automobile windows through to decorative films for interiors, films for outdoor signs and advertising, motorcycle- and automobile-use adhesive products for such applications as vehicle body decoration and protection, industrial-use adhesive tapes for bonding components in mobile and other devices, and labeling machines for automated labeling.

Net Sales: Industrial & Material Operations



A Message from the Executive General Manager, Industrial & Material Operations

In the fiscal year ended March 31, 2019, the domestic market for online sales over the Internet enjoyed robust demand. Sales of our labeling machines used in the distribution and delivery industries were favorable, and we registered a record-high number of shipments. In addition, we are taking steps to strategically expand orders for films for indoor and outdoor signs and advertising, such as targeting international sports events. We continue to focus on promoting our products to be selected as the preferred choice.

Overseas, U.S. production subsidiary MADICO, INC., which focuses on window films, achieved a profit at the operating level for the first time in seven years. Also, in Southeast Asia we worked to expand recognition of LINTEC-brand products, centered on automobile-use products, and as a result these products enjoyed full-fledged demand for use on models produced and sold in Indonesia. In these ways, the growth of our window film business is becoming the driver of our results. We are also making firm progress in Southeast Asia and India with decorative films for motorcycles as well as paint replacement films for automobiles, protective films for aluminum wheels, and other automobile-use adhesive products. Moving forward, we will continue working to aggressively propose high-value-added adhesive products to manufacturers of motorcycles and automobiles, including the introduction of new products.



Shuji Morikawa

Director, Managing Executive Officer
Deputy Executive General Manager,
Business Administration Div.
Executive General Manager,
Industrial & Material Operations

Topics

Topic
01

Rolling Out “Livasta,” a New Global Brand of Adhesive Materials for Labels

Livasta

In July 2019, we launched the global brand “Livasta*” with the objectives of further enhancing brand value and bolstering sales in the domestic and overseas markets for our mainstay adhesive materials for labels. In accordance with the application, we customize the facestocks, adhesives, release papers and films that make up labelstocks. We provide high-value-added products by offering a response to match the various capabilities required by customers, such as adhesive strength, printability, and processability. On a foundation comprising our extensive product lineup and original proposal capabilities, we have established a position as a leading company in the domestic market. Overseas, we are steadily enhancing our results, centered on the upper end of the market where customers demand high performance and quality, such as industrial-related products and medical- and pharmaceutical-related products. Moving forward, under this new global brand we will work to further increase our share in the domestic market and to increase recognition in overseas markets, such as Southeast Asia, Europe, and the Americas.

* Livasta: New brand name incorporating “LINTEC” and the words “Value,” “Stick,” and “Advance.”

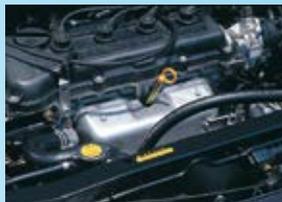
Examples of applications ▶



Daily necessities



Consumer electronics



Industrial-related products



Medical and pharmaceutical products

Topic
02

LINTEC Adhesive Products Used in Automobiles

LINTEC leverages its original adhesive technologies to develop and provide a wide range of adhesive products used in automobiles. The Company has built a distinctive presence in niche fields, such as the films used as a replacement for paint in door sashes and window frames and the protective films that guard aluminum wheels from scratches and brake discs from rust. In addition, we are aggressively proposing new products in line with the needs of automobile manufactures. These include adhesive tapes for bonding and protecting the bundles of wires known as “wire harnesses,” which are used for electricity supply and signal communications, and laser-printable labelstocks that are applied to automobile parts for use in managing vehicle identification numbers. Moving forward, we will continue working to develop highly reliable products and expand their use in Japan and overseas.

Automobile-use adhesive products





Electronic and Optical Products

Advanced Materials Operations / Optical Products Operations

Main Products

Advanced Materials Operations

- Semiconductor-related adhesive tapes
- Semiconductor-related equipment
- Multilayer ceramic capacitor-related tapes

Optical Products Operations

- Polarizing films and retardation films (adhesive processing)
- Polarizing films (surface improvement processing)



Strengths

- Ability to provide comprehensive solutions that combine tapes and equipment used in semiconductor manufacturing and mounting processes
- Long record of supplying numerous semiconductor and electronic component manufacturers worldwide and unique technological capabilities

Opportunities

- Expansion of electronics-related markets due to such factors as spread of IoT and increasing use of electronics in automobiles
- Technological innovation in relation to semiconductor packages, electronic components, and optical displays

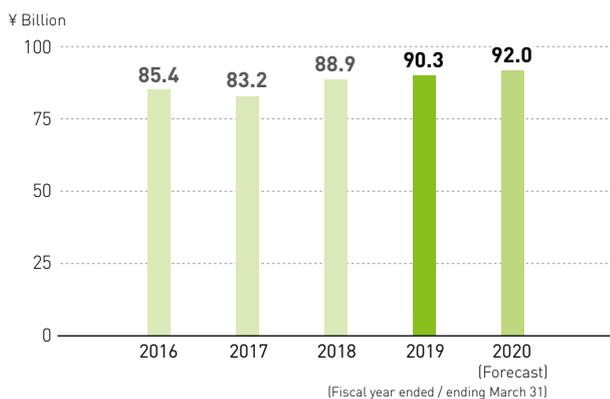
Weaknesses

- Earnings stability in businesses related to semiconductors, electronic components, and optical display-related products
- Cost-competitiveness in optical display-related businesses

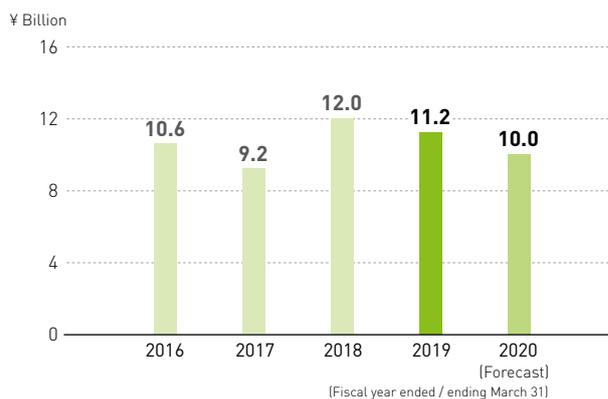
Threats

- Influence of US-China trade friction and worsening of Japan-South Korea relations
- Deterioration of conditions in electronics-related markets and exchange rate fluctuations

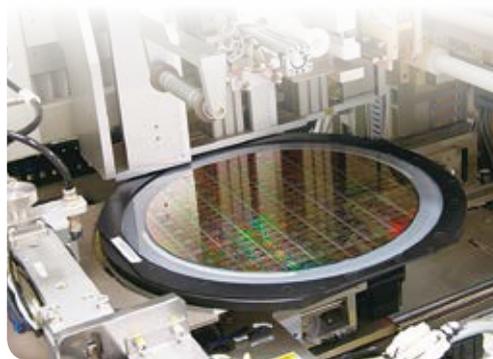
Net Sales by Segment



Operating Income by Segment



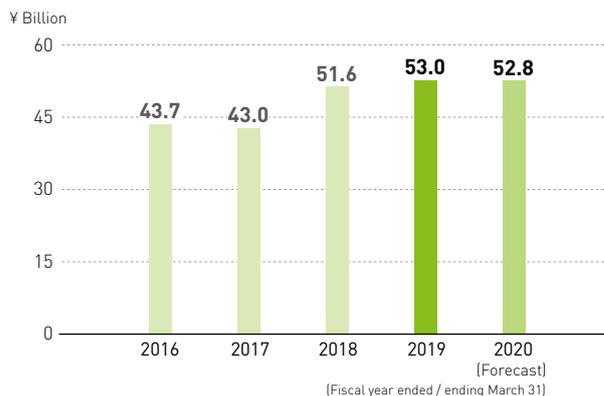
Advanced Materials Operations



Business Operations Introduction

In recent years, these operations have grown significantly. We are building a unique position in the electronics industry with products such as specialized adhesive tapes that are essential in semiconductor chip manufacturing and mounting processes, and we also make equipment that fully leverage these tapes' special features. In addition, we produce and sell release films that are crucial in the production of multilayer ceramic capacitors.

Net Sales: Advanced Materials Operations



A Message from the Executive General Manager, Advanced Materials Operations

The semiconductor market has been strong in recent years due to smartphone demand, but the market entered a correction phase from the second half of the fiscal year ended March 31, 2019. LINTEC's semiconductor-related adhesive tapes and equipment were significantly affected as a result of reduced production and limited capital investment by semiconductor manufacturers. On the other hand, looking at multilayer ceramic capacitor-related tapes, demand was robust and we continued to operate at full capacity. Sales were favorable throughout the year.

Semiconductor-related demand is expected to begin to recover from the fourth quarter of the fiscal year ending March 31, 2020, and we expect a return to significant expansion in demand due to such factors as the growth of IoT, the introduction of the 5G next-generation high-speed communications standard, and the electrification of automobiles. In the same way, multilayer ceramic capacitor-related tapes are currently facing an inventory adjustment phase, but from a medium- to long-term perspective, our supply capacity is still not adequate. Moving forward, we will continue working to bolster our production capacity. In addition, as one facet of quality control initiatives for semiconductor- and electronic component-related products, we will further strengthen supply chain management and work to establish a higher-level quality assurance system, which is especially needed for products used onboard automobiles.



Takeshi Kaiya

Executive Officer
Executive General Manager,
Advanced Materials Operations,
Business Administration Div.

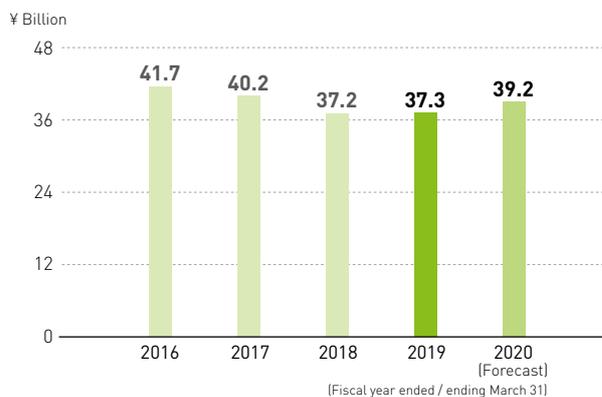


Optical Products Operations

Business Operations Introduction

We deploy our development technologies for special adhesives and surface coating agents as well as precision coating technology and use leading-edge production facilities to provide adhesive processing and surface improvement processing for various types of optically functional films, such as polarizing films that are used in LCDs and organic light-emitting diode (OLED) displays. In addition, through the development of innovative adhesives and films, we are working to start new optical-related businesses.

Net Sales: Optical Products Operations



A Message from the Executive General Manager, Optical Products Operations

Looking at our results in the fiscal year ended March 31, 2019, the LCD film adhesive processing business benefited from solid demand for large-screen televisions, and our net sales increased year on year. However, due to the rise of Chinese panel manufacturers and other factors, we are facing continued difficult price competition, and cost improvement has become an urgent issue. Currently, we are taking steps to strengthen our global business in cooperation with the polarizing film manufacturer that is collaborating with our manufacturing bases in Japan, South Korea, and Taiwan.

In this way, we are working to build a system to further increase our earning power. In addition, LINTEC is also working to cut costs from all angles, such as revising formulas for adhesives and reducing production costs.

In new business areas, such as optically functional films for touch screens, we are developing new adhesives, revising sales routes, and implementing other initiatives. We are starting to see steady results from these initiatives, centered on use in onboard displays and smartphones. Moving forward, we will aim to rapidly create new businesses, without limiting ourselves to existing business areas, and aim for a stable business portfolio comprising multiple business pillars.



Satoru Shoshi

Executive Officer
Executive General Manager,
Optical Products Operations,
Business Administration Div.

Topics

Topic
01

Multilayer Ceramic Capacitor-Related Tapes that Support the Progress of Electronic Devices

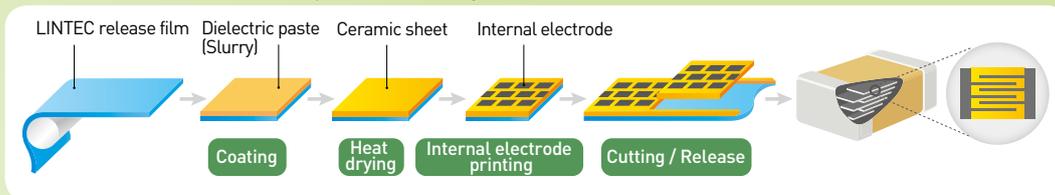


Multilayer ceramic capacitor-related tapes

Multilayer ceramic capacitors are electronic components that consist of hundreds of laminated ultra-thin ceramic layers contained in a square with sides less than 1-millimeter long. They can store and release large quantities of electricity. Smartphones, TVs, and other electronic devices contain several hundred to several thousand of these components, and automobiles may contain ten thousand.

LINTEC manufactures and sells release films that are indispensable in the formation of the ceramic layers in these capacitors. These films have been highly evaluated in the market for their superior surface smoothness, heat resistance, releasability, etc., and they have an especially strong competitive advantage in the field of high-end, ultra-small ceramic capacitors. Accompanying the electrification of automobiles and the increasingly advanced capacity and functionality of smartphones, future trends in multilayer ceramic capacitors are expected to include increases in the number of capacitors used and a move toward smaller and thinner capacitors. Accordingly, we anticipate growth in this market over the long term.

Production Process for Multilayer Ceramic Capacitors

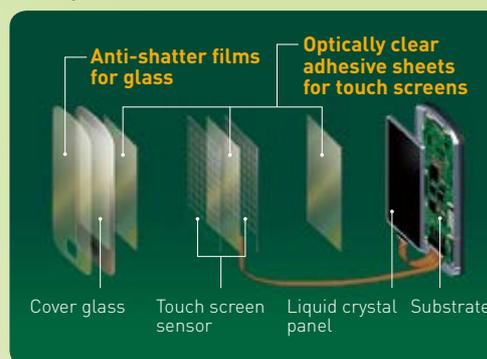


Topic
02

Opteria—Optical-Related Materials

LINTEC is rolling out the Opteria brand of high-value-added optical-related materials. These materials were developed through the integration of material design and development technologies, such as for adhesive sheets, hard coat films, and release films, with production technologies, such as precision thin-film coating. Our optically clear adhesive sheets, which are a component of the touch screens used in smartphones and tablets, offer superior gap-filling ability and are optimal for lamination of components, and our hard coat films with adhesive are used to prevent shard dispersion when a glass touch screen is broken. These products are recording steady gains in results, centered on China, which is the world's largest market. Moving forward, we will work to expand sales of optically clear adhesive sheets used in onboard applications and light diffusion films, for which we anticipate growth.

Touch screen-related products used in smartphones



Exhibiting at international touch-screen related exhibition in China



Paper and Converted Products

Fine & Specialty Paper Products Operations / Converted Products Operations

Main Products

Fine & Specialty Paper Products Operations

- Color papers for envelopes
- Colored construction papers
- Special function papers
- High-grade printing papers
- High-grade papers for paper products



Converted Products Operations

- Release papers for general-use adhesive products
- Release papers for electronic materials
- Release films for optical-related products
- Casting papers for synthetic leather
- Casting papers for carbon fiber composite materials



Strengths

- Large shares of domestic markets for color papers for envelopes and special function papers as well as original papermaking technologies
- Outstanding release agent processing technologies and coating technologies

Weaknesses

- Sales networks, delivery capabilities, brand power, and price competitiveness in overseas markets for specialty papers
- Contribution to results from newly developed products, following on from mainstay papers for envelopes

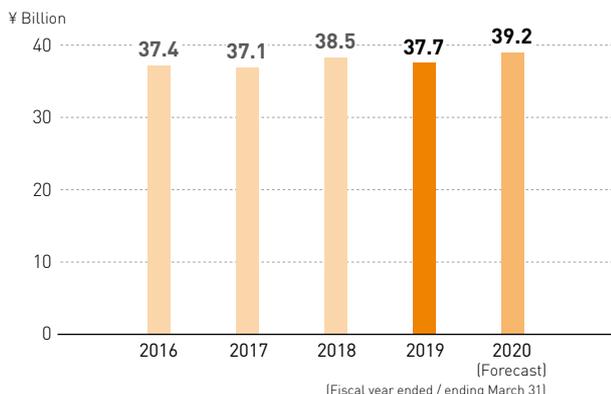
Opportunities

- Increasing demand for high-value-added products overseas
- Growing environmental awareness in Japan and overseas

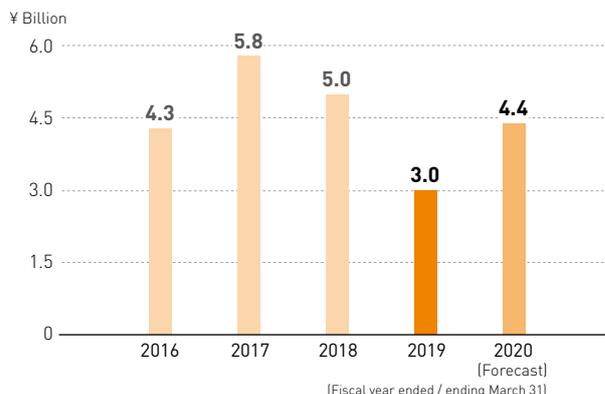
Threats

- Reduced demand for paper due to decline in use of paper
- Soaring prices for key raw materials, including imported pulp

Net Sales by Segment



Operating Income by Segment



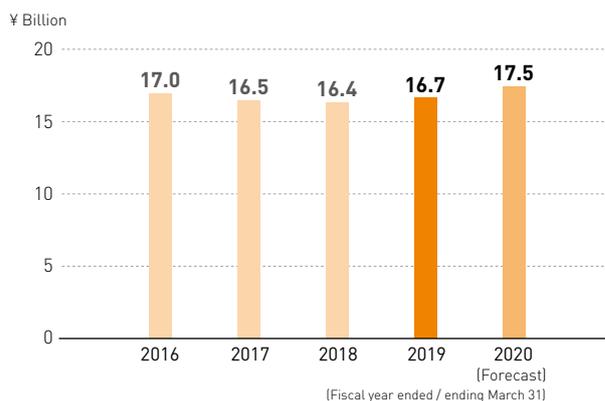


Fine & Specialty Paper Products Operations

Business Operations Introduction

We have the leading share in the Japanese market for color papers for envelopes and colored construction papers. We also manufacture and sell specialty papers including oil and water resistant papers used in food packaging, dust-free papers for use in places such as clean rooms, high-grade printing papers with special textures, and high-grade papers for paper products used in business cards and postcards. Currently, these operations are centered on Japan. Going forward, however, we will also concentrate on sales activities with a view to increasing sales overseas.

Net Sales: Fine & Specialty Paper Products Operations



A Message from the Executive General Manager, Fine & Specialty Paper Products Operations

Due to such factors as lower demand resulting from the trend toward paperless operations and higher prices for pulp and other raw materials, we are facing an extremely challenging business environment. In the fiscal year ended March 31, 2019, favorable results were recorded by such products as color papers for envelopes that have a high level of concealment functionality and contribute to the protection of personal information, and oil and water resistant papers

used in food packaging, centered on fast food. On the other hand, dust-free papers and other industrial-use special function papers faced difficult conditions due to the sluggish semiconductor market. In addition, demand for base papers for total heat exchangers was also sluggish under the influence of reduced air pollution in China.

With the domestic market contracting, we face urgent issues to address. We must create hit products that can develop new markets for color papers for envelopes, which account for approximately half of the sales in this operation. Also, in special function papers, we must accelerate the discovery of new applications and the development of new products. Looking at overseas markets that hold significant potential for development, our results are steadily improving, centered on industrial-use special function papers. Furthermore, global environmental awareness is increasing, such as in the move away from the use of plastics and the preservation of forests. In response, we will aggressively take steps to expand our lineup of environmentally friendly products, such as increasing the use of forest-certified pulp, which contributes to appropriate forest management, and developing base paper for paper straws.



Toshimi Sugaya

Executive Officer
Executive General Manager,
Fine & Specialty Paper Products
Operations,
Business Administration Div.

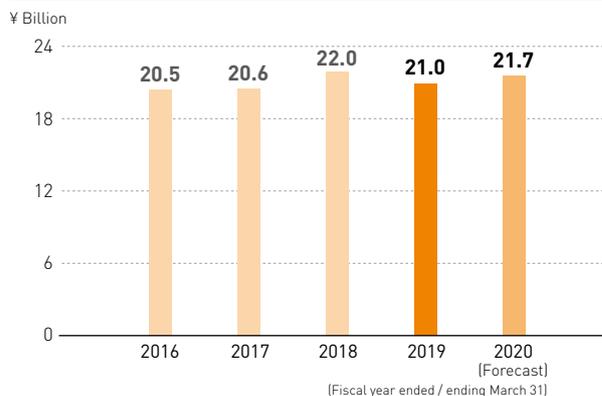


Converted Products Operations

Business Operations Introduction

We manufacture and sell release papers and films that protect the adhesive surfaces of various adhesive products, casting papers that are used as patterning papers for placing designs on synthetic leather, casting papers used in the manufacture of carbon fiber composite material sheets from fibers, and other products. These are endowed with a variety of special functions, including not only releasability but also resistance to water, heat, and abrasion.

Net Sales: Converted Products Operations



A Message from the Executive General Manager, Converted Products Operations

In the fiscal year ended March 31, 2019, casting papers for carbon fiber composite materials recorded favorable results due to growth in demand related to aircraft applications. However, growth in the smartphone market was sluggish, and as a result sales of high-value-added products, such as release papers for electronic materials and release films for industrial tapes, were weak. Going forward, we expect continued growth for casting papers for carbon fiber composite materials, but we expect conditions to remain challenging for release papers for general-use adhesive products. Looking at

casting papers for synthetic leather, their use in automotive interior finishing is increasing, but the future course of the Chinese market is uncertain, and the business environment does not support an optimistic outlook.

LINTEC is one of Japan's top manufacturers of release papers and films. This field is based on a market-centered approach in which new materials are individually developed and proposed in line with the needs of customer companies. Accordingly, one issue has been the difficulty of identifying specific applications for products developed by customer companies, particularly in regard to products with industrial applications. Going forward, we will work from a variety of perspectives as we strive to identify needed characteristics more rapidly and more accurately and to create products that will become the pillars of new businesses.



Yutaka Iwasaki

Senior Executive Officer
Executive General Manager,
Converted Products Operations,
Business Administration Div.

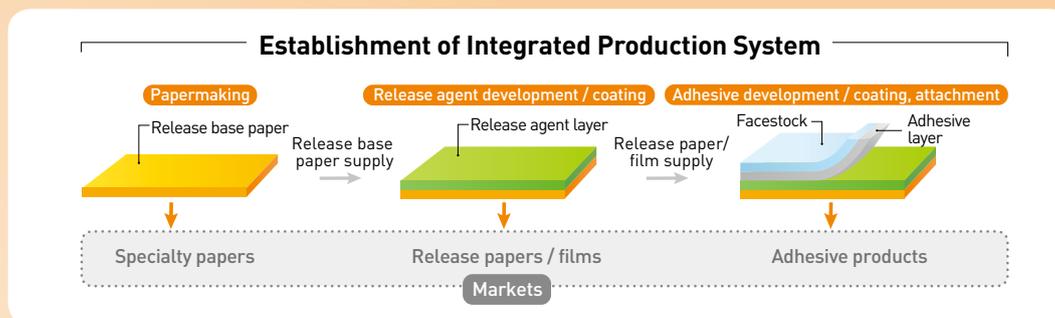
Topic
01

Synergies Between Core Adhesive Operations and Paper and Converted Products Operations

We use original papermaking technologies to manufacture and sell a wide range of papers for envelopes, special function papers, and other products. In addition, we also produce high-quality release base paper that is supplied to other units of the Company. Furthermore, leveraging superior release formula technologies and coating technologies, we supply a wide range of customers with release paper that uses this base paper and with optimal release films for applications that require high levels of smoothness and cleanliness. At the same time, we also provide these release papers and films for the LINTEC Group's various adhesive products.

Through these initiatives, we have established an integrated production system for adhesive products, and in our core adhesive operations, this system gives us a competitive advantage in quality, cost, and delivery. These adhesive operations support the utilization rates of the Company's papermaking and release coating facilities and are also the source of competitiveness in Paper and Converted Products Operations, which are based on small-lot production of a wide range of products.

Integrated Production System for Adhesive Products



Topic
02

Initiatives to Reduce Environmental Impact

For LINTEC, which is also a papermaking company, major issues that must be addressed to record sustained growth include the use of resources from forests that have been appropriately managed, the expanded use of pulp from recycled paper and non-wood pulp, and reductions in the amounts of water, heat energy, etc., used in manufacturing processes. Accordingly, the Company is implementing initiatives in the areas of manufacturing management and equipment, working to strengthen its lineup of forest certified products, and enacting other measures. In addition, a move away from the use of plastic is currently the focus of growing attention, and paper is the most frequently mentioned substitute material. LINTEC participates in the CLOMA,* an organization that aims to resolve the problem of plastic waste in the oceans, and we have started to consider the development of a variety of film substitute products, such as base paper for straws.

For release papers and films, in April 2018 we introduced state-of-the-art coating facility that contributes to reductions in the amounts of organic solvents used in the release agent coating process. We are also working from an R&D perspective to improve release formulas.

*CLOMA: Clean Ocean Material Alliance



Paper products that use forest-certified pulp

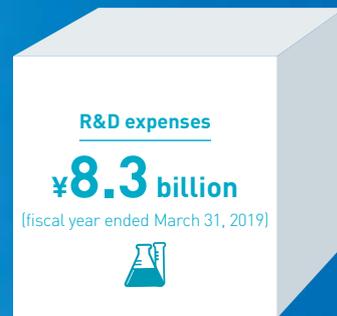


State-of-the-art coating facility introduced at the Kumagaya Plant (Saitama Prefecture)

Research and Development

As a technology-centered company, we realize that strengthening R&D capabilities is one of our most important management strategies for achieving sustainable growth. Two approaches help us to create both products that resolve our customers' diverse technological issues and products that are unprecedented, innovative, and lead the market: the developing of functional materials and related processing technologies that leverage our proprietary technological capabilities and a market-dialogue style of research that emphasizes customer needs. Going forward, we will further strengthen our R&D system to accelerate the speed of product development and create new technologies.

LINTEC's R&D Capabilities in Numbers

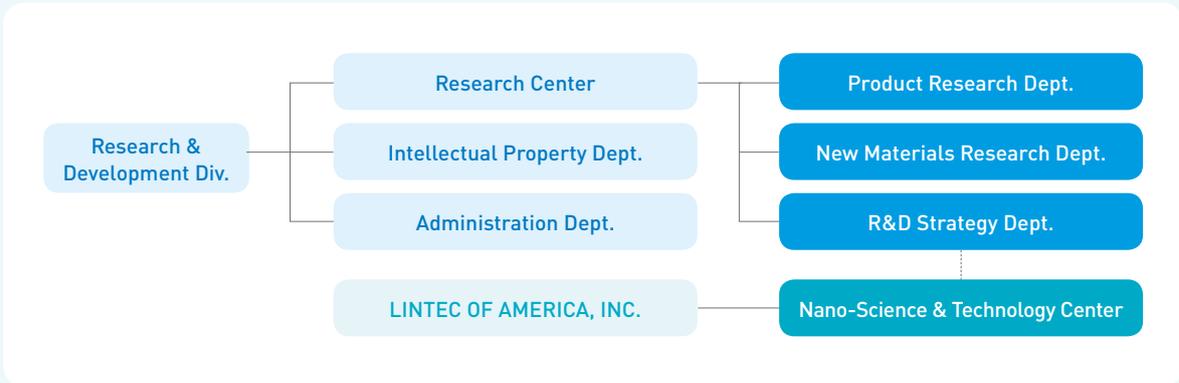


R&D System

The Research Center of the Research & Development Div. is the core base for the Group's R&D activities. The center has state-of-the-art testing and analysis equipment, test coating facilities, and a clean room, as well as the same semiconductor-related equipment that is actually used by customers. The completion of the Advanced Technology Building in 2015, with its large-scale pilot coaters that closely resemble plant mass production facilities, provided a system for smooth flow

from R&D to mass production. The center mainly comprises the Product Research Dept., which develops products directly connected to our current business, and the New Materials Research Dept., which conducts R&D with a focus on the future. More than 200 research staff are engaged in day-to-day research on these themes. In addition, the Nano-Science & Technology Center in Texas, the U.S., is engaged in research in new fields outside our current technology domain.

R&D System



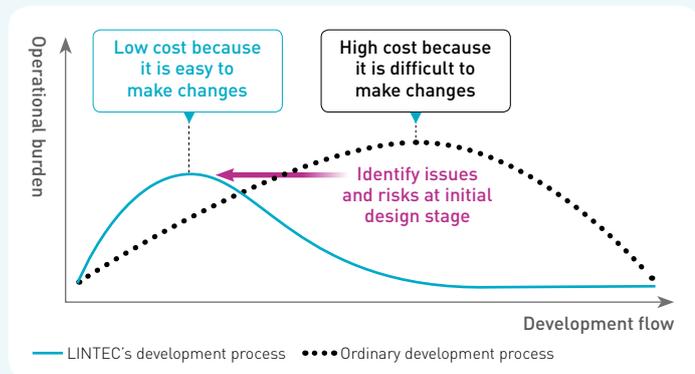
R&D Policy

We are pursuing R&D with strong determination to ensure that our focus themes make a real contribution to strengthening the competitiveness of existing businesses and creating new businesses and products. LINTEC is working to improve development efficiency based on two key phrases: "front-loading design" and "one-stop development." In addition, through coordination among the Research Center and business operations, we have established an R&D scheme called the "Stage Gate System." Under this scheme, we are taking steps to speed up the creation of new products.

1 Front-Loading Design

With a focus on carefully surveying customer needs and development processes, this method identifies development issues and risks, to the greatest extent possible, at the initial stage of product development. By implementing countermeasures in advance, we do our utmost to reduce the need to redo work at intermediate stages. This contributes to increased development efficiency and reduced costs.

Front-Loading Design



Research and Development

2 One-stop development

This approach involves simultaneously advancing the development of new materials and the development of processes for mass production. Through the introduction of large-scale pilot coaters and release agent coating equipment that closely resemble the production facilities in plants, LINTEC's Research Center is able to acquire data, such as data regarding mixtures of adhesives and release agents needed for mass production and environmental conditions for coating. We have had significant success in increasing the speed of development up to mass production.



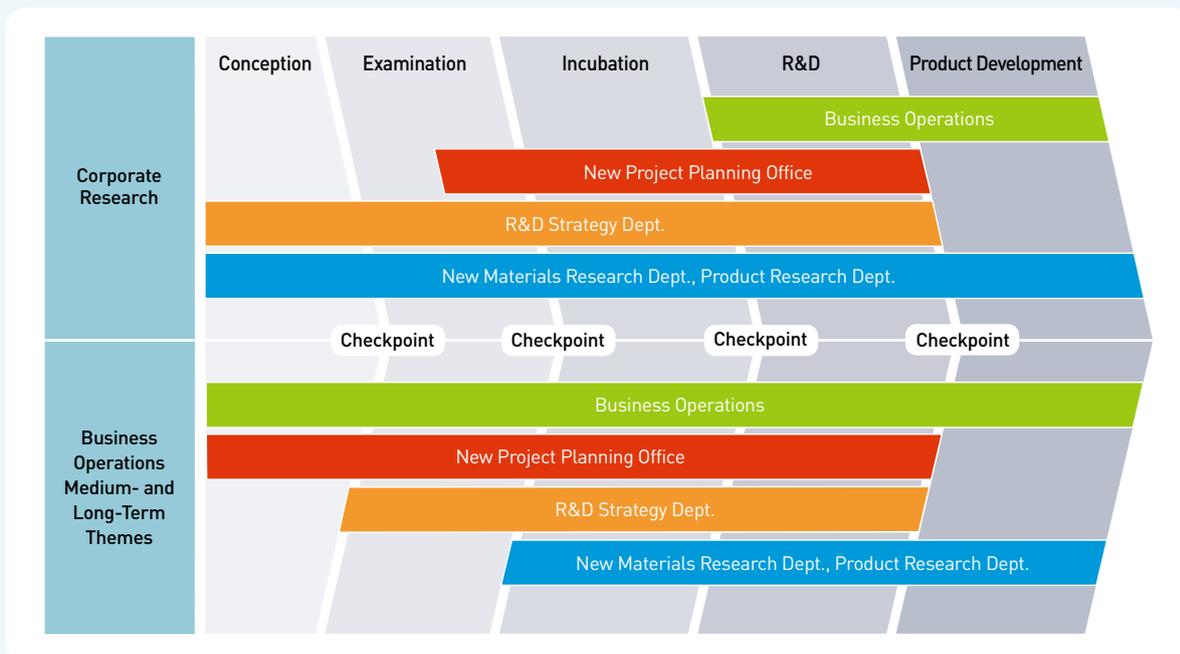
Large-scale pilot coater

3 The Stage Gate System

Under this system, R&D themes are divided into the five stages of conception, examination, incubation, R&D, and product development. Rigorous screening is performed at each stage to determine whether to advance the theme to the next stage or to cancel it. The aim is to steadily and quickly give shape to each theme, preventing setbacks in development through full verification at key points. A central role is played by the R&D Strategy Dept., which works from a

long-term perspective to analyze technology trends in each industry and to search for development directions. In addition, close coordination is implemented by the Research Center, the respective business operations, and the New Project Planning Office, an in-house, cross-sectional marketing unit that was newly established in the previous year. In these ways, we are working to create new value in response to the change of customer needs and markets.

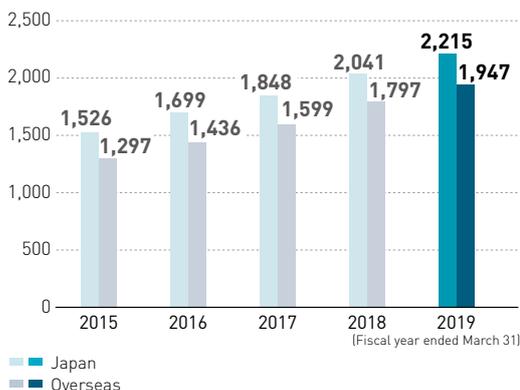
Stage Gate System



Intellectual Property Activities

LINTEC aims to increase corporate value by developing original products that fully satisfy customer needs. We therefore position intellectual property, including patents, trademarks, and design rights acquired through these development activities as important management resources. While placing the utmost emphasis on respecting the rights of other companies, the Intellectual Property Dept. coordinates with respective business operations and R&D departments in promoting strategic intellectual property activities. These activities aim to increase and improve intellectual property rights, which are the lifeblood of LINTEC given that it is a technology-centered company. By such means as building a patent portfolio for our foundation and growth business domains and securing intellectual property in step with the globalization of our business, we aim to increase profitability based on intellectual property that has high business value.

Number of Patents



A Message from the Executive General Manager, Research & Development Div.

LINTEC's greatest strengths in R&D are its long-standing technical development and proposal capabilities, which enable the Company to provide detailed, customized responses to the needs of customers. Some newer strengths include our advanced R&D environment, such as large-scale pilot coaters and leading-edge testing and analysis equipment at our Advanced Technology Building. As Executive General Manager of the Research & Development Div., I will strive to contribute to the Group's growth by leveraging these strengths with two points of focus—contributing to current businesses and creating new businesses and products. First, from the perspective of contributing to our current businesses, it is important to rigorously implement the division's R&D policies and to boost development speed and efficiency so that we can rapidly progress to the stage at which contributions are made to sales. Moving forward, we will also explore innovation in the development process through the use of simulation and AI technologies. In addition, from the viewpoint of creating new businesses and products, we must develop new technologies that move beyond our traditional material development, which we cultivated on a base of papermaking and coating technologies. Specifically, we are already starting to see the results of our efforts in new technologies that are a step ahead of our current adhesive

technologies, such as LED die bonding agents and light diffusion films. Moreover, through technical exchange initiatives with the R&D teams at overseas subsidiaries and collaboration with the New Project Planning Office, we will strive to develop products that will become new business pillars supporting the LINTEC Group's future growth.

Tatsuya Tsukida

Executive Officer
Executive General Manager,
Research & Development Div.



On the Front Lines of Product Development

The development of new products and the creation of new businesses will be driving forces that are indispensable for the sustained growth of the LINTEC Group. This section introduces a few of the R&D initiatives that LINTEC is currently advancing, with a focus on the future.

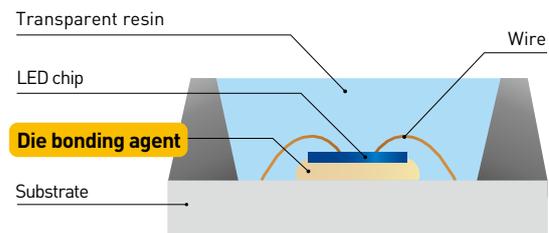
Toward the Development of New Materials that Transcend Traditional Technical Fields

In recent years, LINTEC has achieved research results that transcend our traditional core technologies in adhesive development and coating. Specifically, we have established development and production technologies for liquid adhesives and base film itself that are used in special applications. This marks a major step forward for the next stage of growth for the LINTEC Group.

LED Die Bonding Agents

LEDs are electronic components that emit light when an electric current flows through them. LINTEC developed a liquid functional adhesive that is used to affix LED chips to substrate. Through fundamental research conducted over many years, LINTEC developed products that provide the required high-level capabilities, such as light and heat resistance, which prevent aging from light and heat, and adhesive strength that is compatible with long periods of use. These products have been highly evaluated in the market, and their use by LED manufacturers is steadily increasing. Moving forward, we will strive to make further progress in materials development, with a focus on the growing use of LEDs in such applications as lighting and electronic equipment.

Diagram of an LED Package



Light Diffusion Films

Through the formation of two special layers with different refractive indexes within a film, LINTEC has created light diffusion films that provide efficient, optimal diffusion of incident light in the necessary direction. When used in reflective displays, which display information by reflecting sunlight or room light, these films have the potential to make the displays brighter than before. Reflective displays, which do not use backlighting, make a significant contribution to reducing power consumption in electronic devices, and as a result their use is expected to grow in such applications as smart watches.



GPS navigation system for bicycles

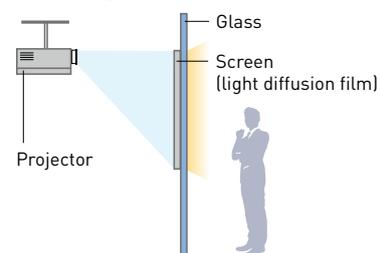


Reflective LCD that uses light diffusion film (right)

Wide Range of Potential Applications for Light Diffusion Films

Light diffusion films can be used in a wide range of applications, including rear-projection and front-projection large-scale digital displays and a variety of display boards. LINTEC is proposing the use of these films in such applications as advertising on glass surfaces in stores and guidance displays in public facilities. As display boards, they have a high level of brightness, and the appearance can be changed in accordance with the viewing angle. We are leveraging these characteristics and advancing development to further expand applications.

Rear-Projection System

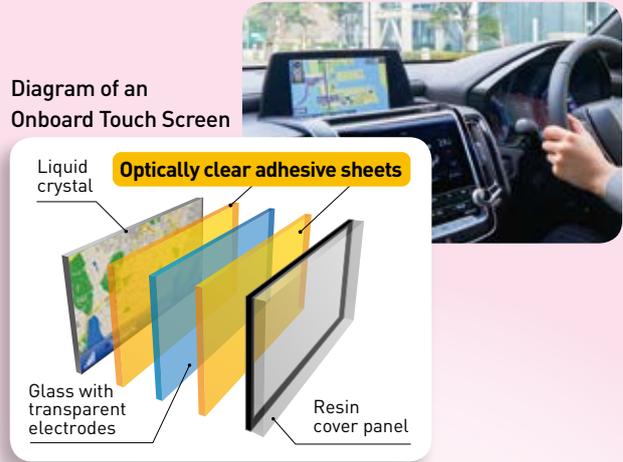


Contributing to the Future of the Automobile Industry Through Material Development Technologies

Moving forward, automobile-related products are one of the fields that will be the focus of special attention in the new material development and proposal initiatives of each business operation. This market is also undergoing a move toward electrification, including the growing use of electric vehicles and the installation of advanced driving support systems, and LINTEC will strive to provide a thorough response to the market needs.

Onboard Optically Clear Adhesive Sheets

Full touch screens are finding growing use as onboard monitors. We have developed highly functional optically double-sided adhesive sheets that are used to bond resin cover panels, which are lighter and more workable than glass, to LCDs or other types of display modules. These sheets, which have earned high evaluations in the market, meet the rigorous durability standards required for use in automotive applications and also boast superior transparency. We have also prevented the formation of spot-shaped bubbles caused by outgassing from the plastic resin. In addition, these sheets offer gap-filling ability in regard to the uneven areas on the printed section of the cover panel frame.

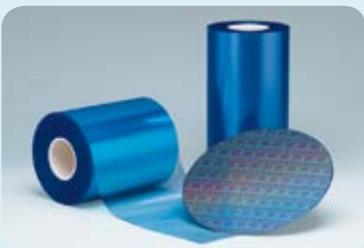


Steadily Reinforcing Our Position in the Semiconductor-Related Products Market

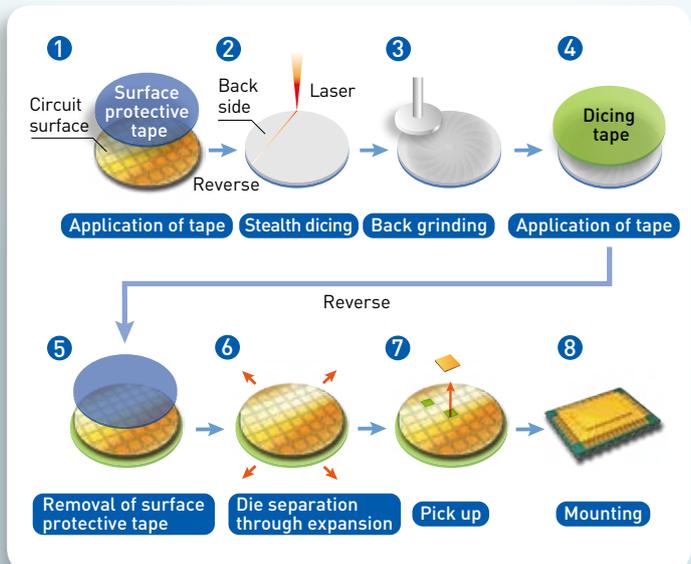
LINTEC made a full-scale entry into the semiconductor-related products market in 1986 with the development of UV curable dicing tape. Subsequently, accompanying technical innovation in the semiconductor production process, we have worked to expand our business by steadily expanding the range of applications for our original tape technologies.

Wafer Surface Protective Tape for Use in SDBG

Generally, circuits are formed on the surface of disc-shaped semiconductor wafers, which are then thinned through back grinding. The wafers are then diced with a blade to produce individual chips. SDBG* is a process technology in which a laser is used to make cuts in the wafer in advance. The wafer is then subject to back grinding, after which individual chips are separated by expanding the wafer. This process requires extremely high capabilities in the surface protective tape that is used to protect the circuit surface during back grinding. By developing tape that meets these requirements, LINTEC is establishing a solid position in the market for these tapes.



Semiconductor Production Process Using Tape for SDBG



* SDBG: Stealth Dicing Before Grinding

Note: "Stealth Dicing" is a dicing technology developed by Hamamatsu Photonics K.K.