

## A Message from the President

**Hiroyuki Nishio**  
Representative Director  
President, CEO and COO



## Review of Performance in the Fiscal Year Ended March 31, 2016

### Final profit declined due to foreign exchange losses and an increase in total extraordinary losses

In the fiscal year ended March 31, 2016, the second year of three-year medium-term business plan, LINTEC INNOVATION PLAN 2016 (LIP-2016), higher demand for smartphones, which grew sales in Electronic and Optical Products; yen depreciation; and falling raw material and fuel prices supported business results. However, the appearance of foreign exchange losses due to yen appreciation from the beginning of 2016 and the recognition of extraordinary losses for subsidiaries in the United States and Indonesia affected earnings negatively.

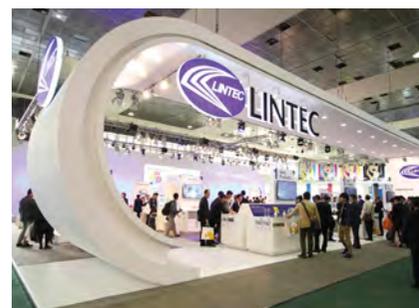
As a result, although net sales and operating income rose, final profit declined. The Group posted year-on-year increases of 1.6% in net sales, to ¥210.5 billion, and 4.8% in operating income, to ¥17.7 billion, while profit attributable to owners of parent decreased 6.5%, to ¥10.9 billion.

### Initiatives in the Second Year of LIP-2016 (1)

#### Advancing business development globally produced benefits, but tasks remain

In the fiscal year ended March 31, 2016, we continued efforts that have been ongoing since LIP-2016's first year to tackle a range of measures based on the plan's five key initiatives. Efforts to strengthen and expand overseas businesses focused on expanding manufacturing, sales, and delivery capabilities, primarily in Southeast Asia and India. In conjunction with these efforts, in Singapore we established LINTEC ASIA PACIFIC REGIONAL HEADQUARTERS PRIVATE LIMITED, which is responsible for preparing and implementing comprehensive business strategies in Southeast Asia and India. We will increase competitiveness further by building an optimal production system and improving the efficiency of local raw material procurement. In addition, in Europe we set out our largest ever booth at the world's biggest label-related exhibition, Labelexpo Europe 2015, held in Belgium in autumn last year. Recognition of our brand is definitely rising in the European market, and we intend to actively take advantage of this recognition to attract new customers.

However, our efforts to rebuild U.S. subsidiary, MADICO, INC., which has continued to record lackluster business results, did not proceed as planned. Moreover, the company's mainstay window films performed sluggishly in the Chinese market, moving the company further into the red. Also, our main production base for adhesive and other products in Southeast Asia, PT. LINTEC INDONESIA, temporarily suspended operations due to strike action. In relation to the two subsidiaries, we incurred extraordinary loss of more than ¥0.8 billion. Thus, significant issues remain in this regard.



Labelexpo Europe 2015

## A Message from the President

### LIP-2016 Key Initiatives

#### 1. Further promote global development

- (1) Expand overseas businesses with a particular focus on Asian region
- (2) Establish firm business foundations in new regions

#### 2. Create innovative new products that will support the next generation

- (1) Explore new markets and demand by creating new products
- (2) Enhance the base of our research and development in order to create new products

#### 3. Transform into a robust corporate structure

- (1) Strengthen cost competitiveness
- (2) Select and concentrate our management resources

#### 4. Promote strategic M&A

- (1) Clarify the targets that are suited to a growth strategy
- (2) Strengthen the system to promote M&A

#### 5. Foster human resources

- (1) Secure and foster global human resources
- (2) Implement continuous stratified training

### Initiatives in the Second Year of LIP-2016 (2)

#### **We concentrated efforts on creating innovative new products while actively implementing capital investment**

Various types of newly developed adhesive products for seals and labels for which we undertook a simultaneous global unveiling at the exhibition in Belgium met with a favorable reception, and we have begun the staged marketing of these products in Japan and overseas. Also, the full-fledged adoption and practical application of leading-edge high-barrier films and light diffusion films that we have developed is now within sight. Further, the seeds of products with the potential to become future mainstays of operations are emerging steadily, such as thermoelectric sheets and new transparent conductive films for organic electro luminescence lighting and thin-film solar cells. In other initiatives, our U.S. R&D base, the Nano-Science & Technology Center, is conducting research in new areas that are completely different from our existing technological fields, including technology for processing carbon nanotube into sheets and products related to artificial muscle. These initiatives are expected to contribute significantly to the LINTEC Group's business results in the future.

In addition, the beginning of operations in earnest at the Advanced Technology Building adjacent to our existing research center—which required an investment of approximately ¥6.0 billion—is a major step toward the next stage of growth for the Group. We will take full advantage of the new annex’s large-scale pilot coaters and state-of-the-art analysis equipment to accelerate the development of new products. As for manufacturing, we are actively undertaking large-scale capital investment at bases in Japan and overseas, including the Kumagaya Plant in Saitama Prefecture, the Shingu Plant in Hyogo Prefecture, and LINTEC (THAILAND) CO., LTD., with a view to increasing production efficiency and capacity and enabling the mass production of newly developed products.



New building for producing optically function films (Shingu Plant)

### Performance Outlook for the Fiscal Year Ending March 31, 2017

#### We expect to achieve operating income of ¥20.0 billion by rebuilding subsidiaries

In the fiscal year ending March 31, 2017, we will step up efforts to grow sales and reduce costs in Japan and overseas. Regarding the two overseas subsidiaries mentioned previously, we will rationalize the business management of MADICO further and rebuild the supply capabilities of LINTEC INDONESIA while supporting production through bases in Japan and Thailand. Also, in the current fiscal year we anticipate significant yen appreciation year-on-year, which will affect business results negatively. On the other hand, we expect cheaper raw materials and fuel and a change in the depreciation method for property, plant and equipment to be beneficial.

As a result, in the fiscal year ending March 31, 2017, we project year-on-year increases of 2.1% in net sales, to ¥215.0 billion; 13.0% in operating income, to ¥20.0 billion; and 23.9% in profit attributable to owners of parent, to ¥13.5 billion. While we are unlikely to reach LIP-2016’s final numerical target of ¥240.0 billion for net sales, we believe operating income of ¥20.0 billion is well within reach. Further, although this performance outlook does not reflect M&A activities, we are always considering M&A activities that will help us expand sales channels, acquire technological capabilities, or realize future growth, and we will continue to do so.

### Shareholder Returns

#### In the current fiscal year, we plan to increase the dividend per share by ¥12, to ¥66

LINTEC regards enhancement of return of profits to shareholders as one of its most important management issues. From the perspective of distributing profits, the Company fundamentally aims to provide stable and continued returns after consideration of each fiscal year’s consolidated performance while strengthening its management base. Adhering to this basic policy, the year-end dividend for the fiscal year ended March 31, 2016, was set at ¥27 and, in combination with the

#### Performance Outlook for the Fiscal Year Ending March 31, 2017 (year-on-year)

Net Sales:

**¥215.0 billion (+2.1%)**

Operating Income:

**¥20.0 billion (+13.0%)**

Profit Attributable to Owners of Parent:

**¥13.5 billion (+23.9%)**

## A Message from the President

interim dividend of ¥27, dividends for the full year totaled ¥54, an increase of ¥6 from the previous year.

With regard to dividend payments for the fiscal year ending March 31, 2017, based on projections of consolidated profit attributable to owners of parent of ¥13.5 billion, we intend to increase dividend payments by ¥12 per share, to ¥66. As we work to improve our corporate performance in the coming years, we aim to actively realize shareholder returns through cash dividends.

### In Closing

#### Based on technological capabilities and human resources, we will enhance corporate value

We will work to make the current fiscal year, the final year of LIP-2016, a year to consummate the plan in which we make sure to reap the benefits of measures taken so far to prepare us for the next three-year medium-term business plan. Business conditions are challenging. However, keeping the tasks identified in the plan's second year firmly in mind, all Group employees will make a concerted effort to advance toward the achievement of goals. I want to make full use of the valuable time left to enhance a range of measures and establish foundations for our next medium-term business plan, in which we will aim for ROE above 10%.

Further, to heighten corporate value going forward, technological capabilities and human resources will be indispensable. As well as continuing to strengthening research and development, we will concentrate efforts on fostering personnel able to work globally, encouraging female employees to play important roles, and utilizing diverse human resources. Forming the basis of the Group, employees, in some sense, are the Group. Therefore, we will make particular efforts to ensure all Group employees reflect our values: a customer-first mind-set and an emphasis on morality over profit. In accordance with our company motto, "Sincerity and Creativity," we will continue advancing corporate social responsibility (CSR)-based management that is considerate of environmental, social, and governance (ESG) concerns while remaining focused on growing with society.

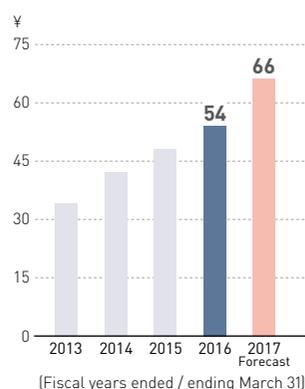
As we move forward, we would like to ask our shareholders and investors for their continued support.

August 2016



Hiroyuki Nishio  
Representative Director  
President, CEO and COO

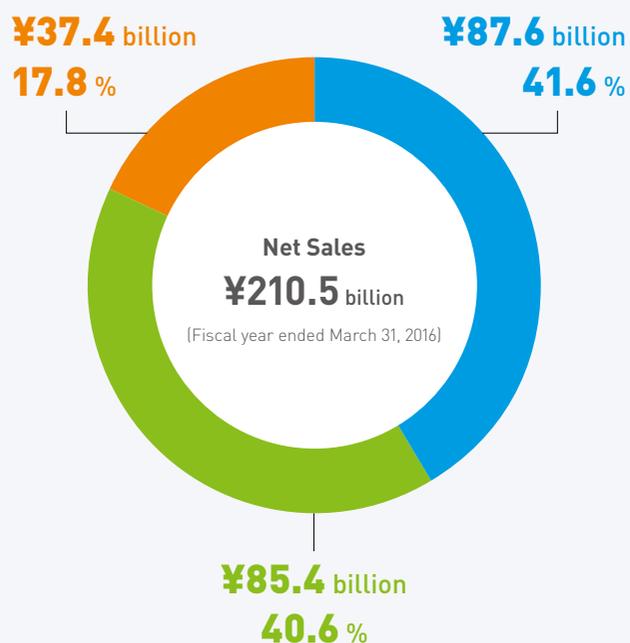
Cash Dividends per Share



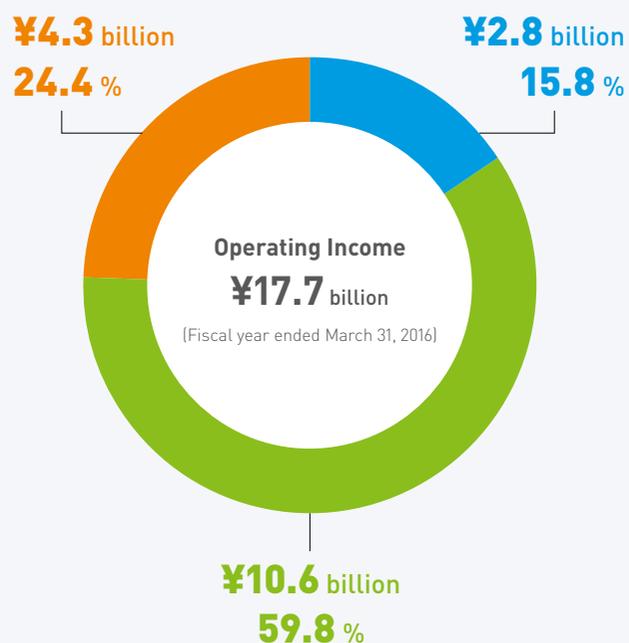
# Business Overview

The LINTEC Group comprises three business segments: Printing and Industrial Materials Products, Electronic and Optical Products, and Paper and Converted Products. Each business segment has two operations, which prepare and advance original strategies.

Share of Net Sales

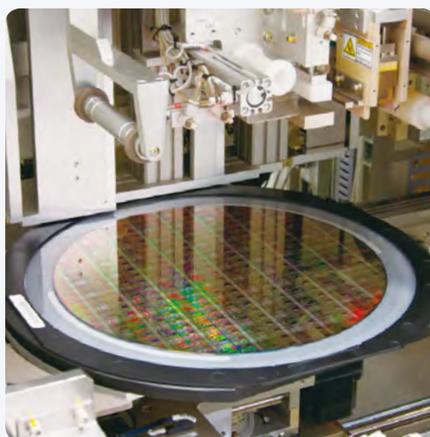


Share of Operating Income



■ Printing and Industrial Materials Products   ■ Electronic and Optical Products   ■ Paper and Converted Products

Note: Operating income composition data is based on figures before the elimination of intra-segment transactions.



# Printing and Industrial Materials Products

## Printing & Variable Information Products Operations

These operations manufacture and sell the Group's mainstay adhesive papers and films for seals and labels. In particular, the operations have an approximate 60% share of Japan's adhesive film market. Overseas, operations are expanding a network of manufacturing and sales bases in China and Southeast Asia with a view to growing market shares.



### Main Products

- Adhesive papers and films for seals and labels
- Label printing machines

**Net Sales: ¥54.1 billion** (Fiscal year ended March 31, 2016)

### Business Strategies



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

In the fiscal year ended March 31, 2016, our business in Japan performed steadily. Overseas, however, we faced challenging conditions. In addition to economic deceleration in the markets of China and Southeast Asia, a temporary suspension of operations at PT. LINTEC INDONESIA affected us. I want to recover from this setback as soon as possible by rebuilding our product supply capabilities and exploiting the network of sales bases we have established to develop businesses aggressively.

Meanwhile, in the European market our major exhibit at a trade fair in Belgium gave our advanced technological and solutions capabilities widespread exposure. We will collaborate with our sales base in the Netherlands, LINTEC EUROPE B.V., and with local partner companies to strengthen delivery capabilities in this market further to achieve solid results. In addition, we plan to create new demand for labels by actively proposing usage of the various types of products announced at the trade fair not only overseas but also in Japan.

This business segment comprises Printing & variable information products operations and Industrial & material operations. In the fiscal year ended March 31, 2016, the business segment recorded net sales of ¥87.6 billion, accounting for 41.6% of the Group's net sales. Operating income was ¥2.8 billion, or 15.8% of the Group's operating income.

## Industrial & Material Operations

These operations provide a wide range of products, from window films that are applied to window glass to save electricity or achieve glass shatter-proofing through to automobile-use adhesive products, tapes for bonding components in mobile devices and other devices, label system-related equipment, and adhesive sheets for outdoor signs and interior finishing.



### Main Products

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

**Net Sales: ¥33.5 billion** (Fiscal year ended March 31, 2016)

### Business Strategies

In the fiscal year ended March 31, 2016, the goal of our window film operations was to step up the global sales strategy. However, these operations flagged as MADICO recorded lackluster sales of its products in the Chinese market. We view rebuilding the company with respect to quality and costs as well as strategies for sales as one of our priority tasks. Also, we will increase our share of the Southeast Asian market by further accelerating the establishment of sales channels for window films, realizing full-capacity operations at a new coating facility introduced in Thailand in the fiscal year ended March 31, 2016, and launching new products that reflect demand in local markets.

Sales of motorcycle- and automobile-use adhesive products are brisk and largely in line with plans. We will continue focusing efforts on acquiring new customers for these products among overseas manufacturers. In these operations, we intend to advance forward-looking business strategies, including M&A, more boldly than ever.



**Shuji Morikawa**  
Director, Executive Officer  
General Manager, Industrial &  
Material Operations, Business  
Administration Div.

Business Overview

# Electronic and Optical Products

## Advanced Materials Operations

These operations develop and provide such products as specialized adhesive tapes and related equipment essential in semiconductor chip manufacturing and mounting processes, multilayer ceramic capacitor-related tapes, touch screen-related products, and new, next-generation sheet materials.



### Main Products

- Semiconductor-related adhesive tapes and equipment
- Multilayer ceramic capacitor-related tapes
- Touch screen-related products

**Net Sales: ¥43.7 billion** (Fiscal year ended March 31, 2016)

### Business Strategies



**Makoto Hattori**  
 Director, Executive Officer  
 General Manager, Advanced  
 Materials Operations, Business  
 Administration Div.

Normally, the fourth quarter is a period of adjustment in the electronics-related market. In the fiscal year ended March 31, 2016, although this adjustment phase affected us significantly, we were able to achieve performance that was generally in line with our expectations, partly thanks to on-site efforts. Given the electronics-related industry's inherent volatility and the diversification of market demand, we believe the best way of sustaining growth is to continue steady efforts to manufacture and roll out "market standard" products that reflect customers' actual needs even more closely.

Further, a trade fair and other events in the fiscal year ended March 31, 2016, provided opportunities to showcase our development projects in next-generation areas, such as high-barrier films and light diffusion films. We will further strengthen these development initiatives so that they contribute to the Group's earnings as early as possible.

**This business segment comprises Advanced materials operations and Optical products operations. In the fiscal year ended March 31, 2016, the business segment posted net sales of ¥85.4 billion, accounting for 40.6% of the Group's net sales. Operating income was ¥10.6 billion, or 59.8% of the Group's operating income.**

## Optical Products Operations

These operations conduct adhesive processing for optical functional films, including polarizing films and retardation films used to make LCDs; surface improvement processing for polarizing films, such as antiglare hard coat processing, which protects films from scratches and reduces reflectivity; and the manufacturing of protective films for polarizing films.

### Main Products

- Polarizing films and retardation films (adhesive processing)
- Polarizing films (surface improvement processing)
- Protective films for polarizing films

**Net Sales: ¥41.7 billion** (Fiscal year ended March 31, 2016)



### Business Strategies

In the LCD market, demand for products for large televisions and smartphones fluctuates markedly. The degree and period of inventory adjustments for these products has a significant effect on strategies in Optical products operations. Further, we have a strong sense of crisis due to intensifying price competition.

However, we believe that there are tasks that we must accomplish now in the midst of these difficult business conditions. In its first year, LIP-2016 set forth goals that call for rigorous reform of quality, costs, delivery, and developmental capabilities as well as the building of a global quality management system at production bases in Japan, South Korea, and Taiwan. The benefits of these measures are emerging steadily and include improved adhesive formulation and rationalized production processes. While continuing to advance such measures, we will work in partnership with a film manufacturer that is our supplier to begin developing new materials that will become future growth drivers.



**Kazuyoshi Ebe**  
Director, Managing Executive Officer  
Assistant General Manager, Business Administration Div., in charge of Optical Products Operations, Business Administration Div.

# Paper and Converted Products

## Fine & Specialty Paper Products Operations

Centered on businesses in Japan, these operations manufacture and sell color papers for envelopes and colored construction papers, products for which the Group has the leading share in domestic markets; oil resistant papers for food packaging; lint-free papers that are used in places such as clean rooms and cause hardly any dust even when torn; high-grade printing papers with special textures; and high-grade papers for paper products used for business cards and postcards.



### Main Products

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

**Net Sales: ¥17.0 billion** (Fiscal year ended March 31, 2016)

### Business Strategies



**Toshimi Sugaya**  
General Manager, Fine & Specialty  
Paper Products Operations, Business  
Administration Div.

In the fiscal year ended March 31, 2016, mainstay color papers for envelopes performed steadily, and sales of functional papers, such as oil resistant papers and construction material papers, grew. Also, a new water-repellent, printable paper for envelopes earned strong market endorsement.

In addition, we were able to proactively conduct market surveys with a view to business expansion overseas. We will concentrate efforts on growing sales of function papers for food-related products and construction materials-related products in regions centered on Asia. We also want to increase the pace of new product development, including collaborations with academia. As the world becomes increasingly paperless, we will establish target profiles for Fine & specialty paper products operations five years and ten years in advance and take measures steadily to realize them.

**This segment comprises Fine & specialty paper products operations and Converted products operations. In the fiscal year ended March 31, 2016, the business segment recorded net sales of ¥37.4 billion, accounting for 17.8% of the Group's net sales. Operating income was ¥4.3 billion, or 24.4% of the Group's operating income.**

## Converted Products Operations

These operations provide release papers and films that protect the adhesive surfaces of a variety of adhesive products. Additionally, we produce casting papers that are used as patterning papers for placing designs on synthetic leather. We also manufacture casting papers for carbon fiber composite materials for which demand is expected to rise in conjunction with increased usage in aircraft.



### Main Products

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

**Net Sales: ¥20.5 billion** (Fiscal year ended March 31, 2016)

### Business Strategies

As they were in the first year of LIP-2016, sales in China were lackluster. A series of bankruptcies among local synthetic leather manufacturers and sluggish demand for base papers for abrasive papers used in construction are making for tough business conditions. In relation to casting papers for synthetic leather, we will rebuild operations in China with a particular focus on high-value-added products. At the same time, we will reexamine various measures, including measures to capture demand in such new markets as Southeast Asia, Central and South America, and the Middle and Near East. Based on our conclusions, we intend to take action rapidly.

In addition, challenging business conditions are likely to continue due to such factors as the effect of inventory adjustment in the smartphone market on release papers for flexible printed circuits (FPCs) cover lay films. However, we will continue concentrating efforts on membrane production process films, a new type of functional film, and other products to create new demand with the potential of forming the future pillars of operations.



**Yutaka Iwasaki**  
Executive Officer  
General Manager, Converted  
Products Operations, Business  
Administration Div.

Special Feature

# Front Lines of R&D

## — Creation of Innovative New Products

Under the LINTEC Group's medium-term business plan, LIP-2016, we define one of its key initiatives as "Create innovative new products that will support the next generation," based on which we are developing new products and reinforcing our research foundations. LINTEC is working to improve the efficiency of development in consideration of two keywords: "front-loading design," which entails scrutinizing customer needs and development processes from the initial R&D stages, and "one-stop development," in which materials and the processes for their mass production are developed side-by-side. In addition, the start of full-fledged operations at the new Advanced Technology Building research center completed in May 2015 is anticipated to contribute greatly to increased speed in future product development projects.

In this feature, we will take a look at the front lines of the LINTEC Group's R&D activities, which will include introductions of recently launched products, products under development that are expected to drive future growth, and initiatives at an R&D base in the United States.



## New Adhesive Products for Seals and Labels

Adhesive products for seals and labels come in many diverse forms based on the applications for which they are to be used. As a leading company in this field, LINTEC has a history of offering fine-tuned responses to the demanding performance needs of Japanese companies. At Labelexpo Europe 2015, the world's largest label-related exhibition, which was held in autumn 2015, we made a global announcement of eight newly developed products, including the following four products.

### Revolutionary Bubble-Free Labelstock

It is not uncommon for air to remain trapped when using standard adhesive films for seals and labels, meaning that they sometimes do not stick neatly. In addition, when such films are attached to plastic molded products, the minuscule amounts of gas released from plastics can, over time, result in bubbles. LINTEC has succeeded in developing new adhesive films that limit the appearance of bubbles. These films employ a revolutionary manufacturing method that entails intentionally creating cracks in the adhesive surface to form grooves running in random directions. These grooves allow for air to escape, making the film easy for anyone to apply while preventing the occurrence of bubbles. These films are especially suited to the name and display labels attached to consumer electronics and electronic devices as well as to large labels under which air is easily trapped during application.



### Oil-Tolerant Labelstock / Oil- and Water-Repellent Labelstock

LINTEC's oil-tolerant labelstock undergoes a unique adhesive treatment so that they can be applied even to steel plates and other oily surfaces. They are thus suited for use as control labels for industrial applications, including on steel products and automotive parts, and as display labels for foods and cosmetics. Our oil- and water-repellent labelstock, meanwhile, utilizes a special surface coating to repel water and oil, allowing for easy runoff even when the surface to which they are applied is only slightly slanted. It is therefore ideal for use as protective film for helmet visors or as over-laminating film for oil-tolerant labelstock.



### Recycled PET Labelstock

This labelstock features adhesive films with facestock comprised of more than 80% polyethylene terephthalate (PET) resin recycled from PET bottles, the world's highest level for recycled PET resin content, and recreates the same physical properties of labelstock that uses non-recycled PET film. As a labelstock that helps conserve fossil resources, this product received the Award for Sustainability at the Label Industry Global Awards 2015, which was presented at a special forum during Labelexpo Europe 2015. This award is bestowed upon superior eco-friendly products that contribute to the realization of a sustainable society. As the first Asian company to receive this prestigious award, LINTEC was able to make a lasting impression on the eco-conscious European market.



## Special Feature

### Advanced Sheet Materials Development

By fusing at a high level the four core technologies that we have accumulated to date, we are forging ahead with the development of unprecedented advanced sheet materials. In January 2016, we garnered attention by displaying the following product developments at the nano tech 2016 International Nanotechnology Exhibition & Conference, an advanced technology exhibition that was held in Tokyo.

#### High-Barrier Films

Flexible displays, which can be bent and rolled, require flexible films for use in place of conventional glass. LINTEC is in the process of developing highly functional films that maintain the flexibility characteristic of films while also achieving levels of transparency that are almost identical to that of glass combined with barrier properties that are potent at keeping out water vapor. By employing a proprietary manufacturing process that increases the density of barrier layers, we have succeeded in developing high-barrier films with a PET film base that boast the world-leading performance for such films. Leveraging our strength as an adhesive product manufacturer, we are able to provide these films together with a film-use adhesive that also prevents penetration by water vapor. Applying this technology, we are currently jointly developing a manufacturing process technology for flexible organic light-emitting diode (OLED) displays with the Industrial Technology Research Institute, a Taiwanese government-run research institution. At the same time, these high-barrier films are being utilized for in-house development projects aimed at creating new transparent conductive films.

#### Light Diffusion Films

Reflective LCDs display information by reflecting sunlight or external lighting. While these displays boast electricity consumption that is significantly lower than standard LCDs, which utilize backlights as a light source, they also suffer from issues related to brightness and visibility. LINTEC's light diffusion films feature a specialized structure consisting of two layers inside of the films, both boasting different refractive indexes, created by shining UV rays on the films during the manufacturing process. As such, these films are able to prevent dispersion of light intake while ensuring optimal and efficient diffusion in the appropriate direction. This feature contributes to brighter information displays on reflective LCDs, and these films are therefore expected to be adopted in wearable terminals and e-book display devices. We also anticipate that our light diffusion films will be used as digital signage screens, which are utilized to display projector images onto glass storefronts, large-scale facility walls, and other surfaces.



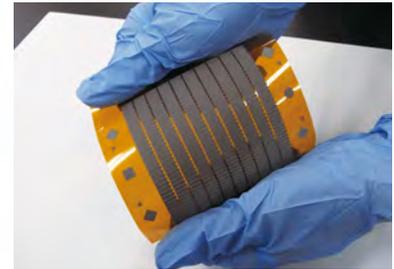
Renditions of flexible OLED display



Reflective LCD using LINTEC's light diffusion film (right)

### Thermoelectric Sheets

LINTEC handles thermoelectric sheets, which utilize a phenomenon in which electric voltage is created due to temperature differences between substances to convert heat into electricity. These sheets are anticipated to provide new sources of renewable energy, as they can generate electricity merely by being attached to a surface that will create a disparity in temperature between the two sides of the film, inside of steam pipes or on the underside of automobile hoods, for example. Existing thermoelectric conversion devices are made by placing metallic thermoelectric conversion materials between ceramic layers and are therefore expensive. The thermoelectric sheets we are developing, however, are made from resin sheets, thereby combining high flexibility with low costs.



### Initiatives at U.S. R&D Base

In 2013, the Nano-Science & Technology Center (NSTC) was established in the U.S. state of Texas to serve as an R&D base for LINTEC OF AMERICA, INC. At the center, the Group is moving forward with the development of next-generation materials, such as carbon nanotube sheets and artificial muscle, through industry-academia collaboration with the University of Texas at Dallas.

### Carbon Nanotube Sheets

Carbon nanotubes, or cylindrical carbon materials with diameters measured in nanometers, are gathering attention as a completely new type of material, boasting exceptional resilience toward bending and pulling, despite being incredibly light, while also demonstrating superior electricity and heat conduction properties. Standard carbon nanotubes come in the form of a powder, making them difficult to handle. However, NSTC has developed a technology that allows for carbon nanotubes to be processed into sheets without diminishing the qualities of this material. For example, carbon nanotube sheets can be used for such applications as electrode materials in the electricity storage devices of electric vehicles and also contribute to higher capacity and smaller size for these systems.



### Artificial Muscle

NSTC is moving forward with the development of artificial muscle, a type of drive system engineered to mimic the muscle tissue of living organisms. NSTC manufactures artificial muscle using synthetic resin and other high polymers. Despite employing a relatively simply manufacturing process, NSTC's artificial muscle is able to stretch and contract for a wide range of motion while limiting manufacturing costs. Looking ahead, we anticipate that this product will be used in a diverse variety of fields, including in robotic exoskeletons for supporting nursing care.

In November 2011, our artificial muscle technology was named the Gold Winner of the R&D 100 Market Disruptor Product Special Recognition Award in the 2015 R&D 100 Awards, which are sponsored by R&D Magazine of the United States and are sometimes referred to as the "Oscars of Invention."



Ceremony for presenting 2015 R&D 100 Awards