

## Performance in Fiscal 2011 and Future Prospects

Strong Rebound in Spite of Affects of Natural Disasters.

Investing Aggressively in Globalization and “Green, Clean and Fine” Fields.

### Optical Business

Throughout fiscal 2011, though demand for LCD televisions was affected by a decline in demand in Japan, the U.S. and Europe, and a slump in the price of televisions, we made an effort to secure the some level of production by means of developing the Nitto Denko Group’s new business model of a roll-to-panel system (a system that drastically improves productivity at the stage of attaching optical film to panels, by delivering optical films in rolls to LCD manufacturers) in union with LCD manufacturers.

At the same time, multifunctional smartphones and tablet PCs were in brisk demand. In line with the growing size of smartphone and tablet PC screens compared to those of traditional mobile phones, high-definition liquid crystal panels became more commonly installed. Our optical film technology, cultivated in LCD televisions, was utilized in this field and we were able to contribute to the realization of high-definition screens visible from a broad angle. In addition, with touch panels being installed on many mobile devices, ELECRYSTA™, our transparent conductive film, remained strong. The market for touch panels is expected to grow progressively

larger. We will develop our optical business in order to make ELECRYSTA™ an indispensable material in such fields.



Polarizing film

In fiscal 2011, a large TV screen fitted with an organic EL (electroluminescence) panel, a so-called next generation display, was displayed at an exhibition in the U.S., becoming a talking point. Our optical film played an active role here, too.

The Nitto Denko Group’s strength is in providing not only materials for liquid crystal panels and organic EL for power range systems but also the materials for touch panels of input systems. Aiming to develop our business into one that continuously produces stable and enduring profits through reinforcing this strength, we will pour our energy into further improvements and innovative product development in the future.

### Launch of “Solution Center” to Create Innovation in Conjunction with Customers

In January 2012, a “Solution Center” was established at the Nitto Denko Toyohashi Plant.

In recent years, in the midst of the rapid advancement of IT technology and globalization, customer demands have become more diversified. Therefore, it is becoming difficult for us to ascertain our customers’ true needs and to create new innovation by means of pursuing the Sanshin (literally “three new”) activities, our traditional proprietary marketing method.

In order for our customers to understand the technologies, products and history of the Nitto Denko Group, we established the “Solution Center” as a place to experience items first-hand. The center allows customers to be exposed to our extensive technological platform, gain a hands-on feeling for our unique expertise and cherish expectations and potentiality for us as an ideal business partner. This will help achieve new innovation in collaboration with our customers and create new needs; that is, generate new demand under the current strategy of creating many a new opportunity.



Solution Center

## Electronics Business

In our printed circuit board business, production of hard disc drives (HDDs) was affected by the Thailand floods that occurred in the middle of fiscal 2011 and decreased. In line with the decrease, “NITOFLEX®”, a flexible printed circuit board and “CISFLEX®”, a thin-film metal base board with high resolution circuit, were weak. In the future, hard disc drives are expected to have increasingly high-capacity as memory devices used not only for traditional PCs but also for storing graphics and audio data. Our super-fine wiring technology will contribute to such evolution.

In our semiconductor encapsulating materials business, we entered into a basic agreement with Hitachi Chemical Co., Ltd. to assign them that part of the business not having to do with optical semiconductors. In response to the agreement, we will create new core businesses by concentrating management resources on the fields of “Green, Clean and Fine (Environment, Energy and Life Science)”.

As to sales of electronic processing materials, the market was weak. Semiconductors are expected to become thinner miniature components and optical semiconductors are also expected to develop. We will pour our efforts into the further streamlining of existing products and the development of new products in growing fields in response to our customers’ needs by utilizing our polymer synthesis and adhesive tape technologies.

## Tape Business

Turning now to tapes for the automobile industry, in spite of the impact from the Great East Japan Earthquake at the beginning of the fiscal year and the Thailand floods mid-term, sales remained strong, in line with a recovery of automobile production.

As for hybrid and electric vehicles, with their potential for growth, we are making efforts to develop materials and products utilized in weight saving, silencing and muting, and energy conservation, as well as electrical insulating materials.

With regards to tapes for the electronics industry, sales of double-coated adhesive tapes used for mobile devices such as smartphones and tablet PCs were strong. Mobile devices have the potential to be trimmed further in weight and thickness and we will contribute to such development with our capabilities.

On the other hand, the markets for liquid crystal panels and electronic components were weak because of customers’ adjustments in production. Surface protective products for optical elements, tapes used in the production process and shipment of electronic components were also weak.

The Nitto Denko Group has made forays overseas since the 1960s, driving globalization since then. For several years, in addition to existing advanced countries, we have aggressively developed business expansion opportunities in developing countries. In fiscal 2011, we continued to install direct management resources in China. Furthermore, in

### Acquisition of Turkey’s Top Tape Maker

Bento Bantçılık ve Temizlik Maddeleri Sanayi Ticaret and its sales subsidiary Bento Pazarlama ve Ticaret became members of the Nitto Denko Group.

<Bento Bantçılık ve Temizlik Maddeleri Sanayi Ticaret>

- Established: 2000
- Sales: USD 95 million (Fiscal 2011)
- Employees: 250
- Description of Business: Manufacture and sale of industrial tapes and hygiene-related products

<Bento Pazarlama ve Ticaret>

- Established: 2008
- Sales: USD 40 million (Fiscal 2011)
- Employees: 9
- Description of Business: Sale of hygiene-related products



Yukio Nagira, Nitto Denko Group CEO (left) and Mehmet Ferudun ERAY, President of Bento

order to accelerate the expansion of our business not only in European markets including Turkey and other developing countries in Eastern Europe, but also their neighbors in the Middle East and North Africa, we took over Bendo, Turkey's leading manufacturer of industrial tapes. To pursue our growth strategy in developing countries, we are implementing our "Area Niche Top" strategy. We try to differentiate ourselves in not only the quality, price and function of our products, but also in intellectual property, standardization and supply chain management, in areas such as the method of supply, aiming to expand our business.

## Medical Business

In our medical business in fiscal 2011, a base in Osaki City, Miyagi Prefecture producing transdermal drug delivery patches for the domestic market was affected by the Great East Japan Earthquake. However, with concerted recovery efforts we were able to restart production in April, and by responding to a rebound in demand after the quake, sales were consequently strong.

We contributed our efforts to the business expansion of the US company, Nitto Denko AVECIA, Inc. which is a leader in the manufacture of oligonucleotide medicine and which joined the Nitto Denko Group in 2010.

On the other hand, one of our companies manufacturing transdermal drug delivery patches in the U.S., which had shut down production voluntarily to concentrate on activities to improve quality control, partially restarted production. The effects of the shutdown were profound. Consequently, sales were weak on the whole. The company was ultimately transferred to Apotex Inc. of Canada at the end of March 2012.

Notwithstanding the sluggish sales, our medical business is closely linked to "Fine" (life science) which is one of our three key values: "Green, Clean and Fine". In order to achieve further growth in the future, we are actively developing this area of our business.

In the years ahead, we will continue to expand our medical business by such means as marketing new products in our range of transdermal drug delivery patches, developing next-generation transdermal drug delivery patches and enhancing the field of nucleic acid medicine.



Transdermal drug delivery patches for asthma sold in the Chinese market

### First Participation in "The 12th Western China International Fair"

Nitto Denko (China) Investment Co., Ltd. participated in "The 12th Western China International Fair" held in Chengdu, China from October 18 to 22, 2011, for the first time. This fair is one of the most popular of its kind in China, with a

total of more than 600,000 visitors annually and attracts attention from right around the world, including that of the media.



Exhibition gallery

Nitto Denko (China) Investment Co., Ltd. introduced the way in which the Nitto Denko Group contributes to society with our varied technologies and products under our three tenets of "Green (environment), Clean (energy) and Fine (life science)" and had many visitors experience the "Nitto Denko World".

The content of the exhibition was appreciated and received a "Best in Show Award" from the host.

**Membrane Business**

In our membrane (polymer separation membrane) business, amid uncertainty over the economic downturn in Europe, seawater desalination projects abroad were pushed back or curtailed. In addition, a new line, ultrapure water for the electronics industry, slumped in Japan. Consequently, sales on the whole were sluggish.

Our membrane business is linked to the “Green” of our “Green, Clean and Fine” ethos. In addition to our water treatment membrane business with a focus on reverse osmosis (RO) membranes, by boosting our lineup of ultrafiltration (UF) and microfiltration (MF) membranes, we are developing this area into an ever-broader market sector of business. As part of this, we entered into a business collaboration agreement on consignment production and product

supply with Memstar Technology Ltd, a Singapore-based leading manufacturer of high-performance hollow fiber membranes.

Through such approaches, we will extend our water treatment business in the areas of wastewater treatment and industrial applications globally, including in China.

The shortage of water in the world is becoming an increasingly serious problem and we will contribute to the alleviation of this water shortage with our water treatment membranes.



**Inking of Agreement with Statkraft of Norway to Develop and Supply Membranes for Osmotic Power**

In June 2011, Nitto Denko and its wholly-owned subsidiary company, Hydranautics, entered into an agreement with Statkraft, a Norwegian government-run leading power company, for the collaborative technological development of osmotic power, aiming to commence running a test model in 2015.

In cooperation with Statkraft, a leader in renewable energy, the Nitto Denko Group, with cutting-edge

technologies in membrane treatment, is working toward the practical use of osmotic power to produce clean and environmentally-friendly next-generation renewable energy irrespective of weather conditions.

