Special Feature 1 Manufacturing Spirit Deeply Rooted in Minebea

Serving Society through Manufacturing

Since its founding, Minebea has endeavored to respond to the needs of society and create stable supplies of ever-improving products at competitive prices. This philosophy underpins our dedication to manufacturing and is shared throughout all the product creation processes, from development and materials procurement to manufacturing and sales. Each and every employee in our company carries on this philosophy. Our success at globalizing our business and having our products accepted throughout the world is a testament to the



sincerity in our manufacturing. The philosophy is also reflected in our Basic CSR Policy and passed down from managers to subordinates and veteran to junior employees. Here, we introduce employees supporting our manufacturing by demonstrating single-minded dedication to their mission in their daily work.

Development

Wide contributions to society through product development anticipating future needs

A Determination to Succeed: Never Give Up and Never Compromise

As members of the Product Technology Department of the Lighting Device Business Unit, Mr. Shinji Kawai and Ms. Keito Azumi are involved in the development of backlights used in smartphones and tablet devices. In recent years, the development of thinner and brighter light guide plates has become a critical requirement. Customer requirements rise every year, with some customers requesting such sophisticated requirements as a 20% reduction in thinness and 10% increase in brightness, and to eliminate uneven brightness when users view the screen, a challenging requirement which cannot be clearly quantified.

When dealing with these types of requirements, Mr. Kawai holds firm to a fundamental development philosophy of never giving up. "A host of difficulties

always emerge when we try to apply current technology to plan the mass production of a new product in several years' time. We never say we can't do it, and we never compromise the customer's requirements," he says with the spirit of a veteran.

> While following the example set by Mr. Kawai, Ms. Azumi strives to improve her own work by eliminating communication errors often occurring with development colleagues. "A lot

Ms. Keito Azumi (entered company in 2011) Development Section

any in 2011) of people are involved in our Section

Product Technology Department Lighting Device Business Unit



development work, so I often overlook the fact that there are many different development vantage points depending on the type of work each of us is doing, for example the molding of light guide plates and mold design," Ms. Azumi says in reflection of her work. "Other times, I realize that I didn't properly communicate something because of an unclear explanation, and I end up causing unnecessary work in the end."

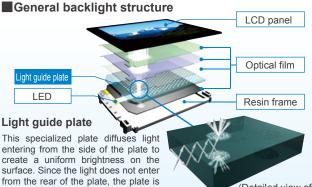
Mr. Kawai has high expectations for Ms. Azumi. "Once we build some experience, we learn to anticipate what other people are thinking and what information they need under certain circumstances. It's hard to make progress on a project independently, but I expect you to mature into a developer who can think and act for yourself, instead of just an operator in

a process," Mr. Kawai adds. (entered company in 1994)

ideal for thin LED panels featuring

minimal disparity in brightness.

Manager, Development Section Product Technology Department Lighting Device Business Unit



(Detailed view of light guide plate)

Aiming for High Quality Customers Can Trust

The backlight products developed by Mr. Kawai and Ms. Azumi are not visible to users of the end-products, but they are critical to giving users a beautiful LCD experience. Additionally, by developing increasingly thin backlights, they are supporting the creation of smaller, more energy-efficient products with reduced burden on the environment. "Our direct customers are the LCD panel manufacturers, but our real goal should be to manufacture high-quality products that satisfy the device manufacturers and product users," notes Mr. Kawai. "It's very motivating to know that I've helped to develop a product that is playing a useful role in society," adds Ms. Azumi. "I'd like to see Minebea as a company that continually manufactures products reflecting next-generation needs, and which is relied upon by customers to create products of the highest quality and functionality."

This desire among product developers to provide affluence and convenience to society through the creation of great products is a spirit passed down from past generations of Minebea employees.

Materials procurement

Supporting responsible materials procurement by linking the company internally and externally

Thorough Compliance to Protect Trust in the Company

The Procurement and Logistics Division is responsible for procuring necessary materials and delivering them to manufacturing sites. The division's Purchase Department, Administration Section is responsible for ensuring that the procurement and logistics functions are carried out in compliance with laws and regulations. Ms. Tomomi Suzuki is in charge of confirming that goods shipments to overseas sites comply with Japan's Foreign Exchange and Foreign Trade Act*. "In my work, it's critical to be accurate and cautious in handling shipments," notes Ms. Suzuki. "But I also feel a lot of pressure because I don't want a delay in my decision to have a negative impact on overseas plants."

Her manager, Mr. Kyuichiro Miyatake, understands her

problem. "We have to clearly understand the situation at plants, which need us to rapidly send shipments. But at the same time, we must comply with all laws, and we can't allow ourselves to make an incorrect decision because we are hurried."

> Ms. Suzuki and her colleagues are frequently asked by people in and outside the company to



provide their advice on internal controls and the foreign trade laws. "There are still many cases where I can't make my own decision and need the help of my supervisors and colleagues," notes Ms. Suzuki. "I'm just getting to the point where I can propose my own solution based on my accumulated skill and experience before seeking the help of my superiors," Ms. Suzuki adds with

a forward-looking attitude. Mr. Miyatake is quick to praise her approach. "First, it's important for you to find your own solutions. Then, you can actively take advantage of discussions with your colleagues on issues."



Ms. Tomomi Suzuki (entered company in 2008) Administration Section, Purchase Department Procurement and Logistics Division

Leveraging Specialized Know-how to Coordinate Projects

With laws being revised frequently, Ms. Suzuki realizes that there is no limit to the subjects she could study to stay abreast of change. It's possible that a change to the foreign trade laws could make it impossible to ship certain materials to another country without government

Mr. Kyuichiro Miyatake (entered company in 1981) Manager, Administration Section, Purchase Department Procurement and Logistics Division

* A law controlling the movement of funds, products, and services between Japan and foreign countries, as well as foreign exchange.

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permission, which would significantly obstruct the procurement process. The role of materials management is to coordinate with both suppliers and manufacturing departments to find solutions to these types of issues. "Ideally, our department acts not only as a purchaser and supplier of goods, but as a coordinator which can use its expertise to solve problems when they occur in the purchasing and supply processes," notes Mr. Miyatake.

"We are strengthening our coordination with our suppliers to respond to the recent societal demand for

green procurement," adds Ms. Suzuki, who shares responsibility for executing the department's important responsibility. "I'd like to build knowledge from my various experiences to become a true professional and the kind of colleague people feel confident in consulting," she adds in discussing her professional goals. Minebea's manufacturing operations cannot succeed unless materials reach the manufacturing sites properly. In this sense, the Procurement and Logistics Division underpins Minebea's manufacturing foundation.

Manufacturing

Realizing the highest-quality products through even higher efficiency

Intuition Backed by Long Experience

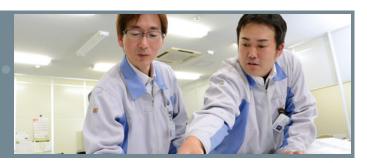
Mr. Tsuyoshi Ishida and Mr. Toshiaki Isomura are part of the Production Engineering Section, a core part of Minebea's manufacturing operations. The section builds production lines, supplies mass production equipment and molds to manufacturing sites, and develops new methods to rationalize the manufacturing processes. "When we design production lines for new product models, we collaborate with the engineering departments and quality management departments to build processes from scratch," says Mr. Isomura. "Then, we monitor manufacturing sites after mass production starts and make improvements based on feedback from the sites. There are a lot things to worry about, but there's also a lot of enjoyment in the process of

resolving problems."

Unforeseen problems often occur, posing challenges to meeting severe quality and delivery deadlines. Mr. Isomura admires the speed with which Mr. Ishida, his boss and the manager of the Production Engineering Section, makes decisions when confronting problems. "I have a tendency to brood over problems to the point where I can't act," says Mr. Isomura. "With their long experience, my superiors take

Mr. Toshiaki Isomura (entered company in 1999*) Brushless Motor Business Unit Manufacturing Headquarters. **Production Engineering Section**

a very practical approach of



just trying new solutions without fear of failure." Mr. Ishida smiles wryly. "Even if a decision ends in failure, if we act quickly enough we have the time to go back and fix it again. Most of all, I've found that our initial instincts often hit the mark. We rely on intuition based on long experience. It's important for us to value that intuition."

Mr. Tsuyoshi Ishida (entered company in 1981*) Brushless Motor Business Unit

Production Engineering Section

* Panasonic Corporation (at the time) Manufacturing Headquarters, Transferred to Minebea Co., Ltd. in 2010 with the roduction Engineering Section transfer of the Brushless Motor Business Unit

Improving Manufacturing with **Unconventional Thinking**

Mr. Ishida has high hopes that Mr. Isomura and other young employees will reassess the importance of process technology, which has traditionally been one of Minebea's strengths. "The manufacturing industry depends on the ability to process materials. It's up to our young employees to discover, from among all the diverse processes, new methods with superior efficiency, instead of just following the conventional methods. To do this, young employees have to continually challenge themselves by asking, 'Can't we try this?'" Mr. Isomura listens with interest. "I'm often surprised at Mr. Ishida's advice because he suggests new ways of looking at things. I'd like to think more carefully about his advice on a personal level and develop my own ideas."

Mr. Ishida communicates the important role of the Production Engineering Section in the manufacturing process to the future generations. "For us, manufacturing products with high quality is a basic

Sales

Staying close to customers to accurately respond to their needs

Grasping Customer Needs and Coordinating with Internal Organizations

Sales organizations play a critical role in resolving customers' product development issues by showing them how Minebea products can support their goals. Assigned to Automotive Device Sales, Mr. Kota lizuka works closely with automobile manufacturers. "Development projects for automakers can last three to five years, and that length of time makes it critical to build trusted relations with customers," he notes.

Mr. Kaoru Fujinaka, manager of the Precision Motor Business Unit, coordinates projects between the sales, development and manufacturing departments. Mr. Fujinaka shares product information and frequently collaborates with Mr. lizuka and his department, which sells precision motors as a mainstay product. Mr. Fujinaka leverages his past experience in overseas sales. "In sales, we sometimes receive very challenging product specification and performance requests. In those cases, we don't just pass the requests to the development departments, but rather build an

> understanding of the customer's product development strategy and the background to their needs. Using this comprehensive understanding, we need to communicate the requests internally and smoothly execute

projects."

Mr. Fujinaka supports Mr. Iizuka's desire to become involved with overseas sales. "That's an important challenge. The sales methods overseas are different, based on local culture and social customs. It might seem

Mr. Kota lizuka (entered company in 2011) Automotive Device Sales, West Japan Sales Unit performance by finding ways to lower costs. Combining our expert process technology with unconventional thinking enables us to supply customers with low-price, high-quality products."

requirement. Our job is to maximize manufacturing

difficult at first because we can't rely on common sense to guide us, but that will make the experience even more valuable. Wherever we do business, we must respect the local culture with humility."

Enhancing Manufacturing through Sales

Thinking beyond just price and performance, Mr. lizuka focuses on what he can do to convince customers to choose Minebea products. "When working with product

manufacturers, the most basic requirements are to meet their specifications and provide consistent quality," he notes. "In sales, it's very important for us to strengthen our customer relationships by going beyond this standard. We must become very sensitive to customer attitudes in our daily work and pay meticulous attention to their needs." Mr. ((Mana Fujinaka strongly agrees.

Mr. Kaoru Fujinaka (entered company in 1988) Manager, Sales Headquarters, Precision Motor Business Unit

"It's very important for us to actively communicate the latent needs we've grasped through customer meetings to our development department with the hope that we can realize them. As perfectionists, developers are often cautious about creating entirely new products, but we can work with them to determine what we can do now based on the market trends. In this way, the sales departments are using the customers' voices to advance Minebea's manufacturing," says Mr. Fujinaka, explaining how sales should best link the market needs with development and manufacturing.

* Positions/assignments current as of time of interview (December 2013)

