# Worksites

# **R&D** Center

# Introduction to the R&D Center

The R&D Center is located next to the Kawasaki Plant in a section of the petrochemical complex in Kawasaki across the Tama River from Haneda Airport.

The center carries out development of materials that support ZEON Group business, primarily synthetic rubber, through to development of processing technologies. R&D activities are pursued in line with a basic philosophy of contributing to society through the ongoing creation of world-leading products that "do not imitate and cannot be imitated" using unique, innovative, and environmentally friendly technologies.



Aerial view of the R&D Center

On the premises of the ZEON Takaoka Plant, in Takaoka City, Toyama Prefecture, we also

carry out development of optical film for application to LCD televisions and next-generation displays, materials for organic EL lighting, which contributes to energy conservation, and medical equipment, such as catheters, used in the examination and treatment of blood vessels, the digestive organs, the gallbladder, and other parts of the body.

Through the development of such diverse materials and parts that make life more convenient, as well as the creation and delivery to a wide range of customers of new products that contribute to conservation of energy and the natural environment, the R&D Center wants to ensure that ZEON Corporation remains a company that is "friendly to the environment and needed by society."

The center also engages in activities as a member of the local community. This involves the continuation of zero emissions\* efforts through thorough sorting of waste generated by R&D activities, Ecocap (plastic bottle cap collection) activities, street-cleaning activities conducted together with neighboring corporations, and ongoing internships.

In addition to efforts in Japan, the center plans to aggressively advance R&D activities conducted together with research laboratories and technological support service locations in North America, China and Europe, as well as joint research with overseas universities and corporations. We will continue R&D activity to deliver to customers around the world new products that benefit the global environment and human prosperity.

\* Zero emissions:

The establishment of systems that discharge no emissions into the natural world, and the fundamental idea behind such establishment.

# CSR Efforts at the R&D Center

In accordance with the ZEON CSR Policy, all researchers have CSR awareness as they carry out research. In terms of compliance, related laws are strictly observed in all research activities, and the company aims for a highly stimulated and safe research environment that is free from accidents. Before the R&D Center embarks on a new research project, research and administrative departments come together to conduct new experiment safety examinations in which they discuss the research unit's proposal and confirm legal compliance matters and safety considerations, such as chemical substance safety and exposure protection for researchers, as well as ensure proper allocation of resources. ZEON Corporation will proceed with R&D activities under a system that ensures ongoing provision of quality products offering a high degree of safety and that customers can trust.

#### **Environmental and Safety Activities**

In fiscal 2013, we returned to the basics of our safety activities by emphasizing that all staff should greet each other. The safety policy from the beginning was "Greetings are the start point for safety activities. Greetings create communication and put safety first!" Without communication, a risk that has been noticed may be neglected and go unaddressed. In terms of safety exercises, plant managers began each week of the year with a "greetings exercise", which showed employees the importance of greetings. We also implemented risk prediction activities that emphasized noticing dangers, and greetings exercises, which are the starting point for dealing with and communicating those dangers. These activities were successful, and we were able to achieve 9 million hours without accident or incident (zero lost-time accidents), and an accident-free year (zero lost-time accidents, zero non-lost-time accidents, and zero A or B rank safety incidents or environment incidents). The center also continued to keep landfill disposal at zero throughout the year by thoroughly sorting and recycling waste generated by research activities. In fiscal 2014, we will strive to attain accident- and incident-free operations based on the teaching that "Safety does not exist. Danger is a constant presence." In addition, waste recycling will continue in order to keep landfill disposal at zero.

### **Quality Assurance Initiatives**

The R&D Center aims to create products based on unique, innovative technologies that "do not imitate and cannot be imitated" in conformance with the ZEON R&D Policy. We intend to realize this aim by raising our manufacturing capabilities while monitoring a variety of aspects including intellectual property, safety, product quality, costs, and productivity in all development stages. Continuing from the previous year, in fiscal 2013, we collaborated with research facilities on the theme of production sites in particular, with improvement measures attaining significant results.

# **VOICE ZEON Creates the Future**

As we are required to develop new products that match developments in a rapidly changing world, we will undertake the following.

- 1. Researchers shall gather their own information from around the world in order to develop products that anticipate changing trends.
- We will advance appropriate product creation by preparing quality function deployment (QFD) matrices that visualize establishment of design and production quality for each product development process.
- Eliminating the need for "redoing" will be vital for speeding up product development. We will make efforts to establish mass production technologies for ensuring smooth transition from research to actual production.

I believe these initiatives will allow us to develop products that satisfy the customer.



Yoshiyuki Mitsuhira Director & Senior Corporate Officer Division Manager - Research & Development Center (as of April 2014)

#### Living Together with the Local Community

In July 2013, we entered an agreement with Kawasaki City for the use of tsunami evacuation centers when tsunami warnings are issued. This collaboration initiative means that office facilities will be used as temporary tsunami evacuation centers by those who have to evacuate to higher ground when a tsunami warning is issued. In order to identify the corresponding facilities, a sign provided by Kawasaki City is placed at tsunami evacuation centers.

In December 2013, the Kawasaki Plant joined in with other local business on the Kawasaki City-organized "2<sup>nd</sup> Tonomachi-Yako Major Cleaning Operation." The area from the Keikyu Daishi Line Kojimashinden Station to the footpath that runs along the Tonomachi Yakosen street was cleaned.



Tsunami Evacuation Center (No. 8)