The Rengo corporate logo has its origins in a stylized version of the Japanese characters ‘san’ (three) and ‘sei’ (achieve) used in the original name of the company, “Sanseisha,” when it was first founded by Teijiro Inoue in 1909. Use of the original symbol continued even after the successor company, Rengo Shiki K.K., was established, since it was considered to be graphically representative of the characters for “ren” (continuous) and “go” (putting together) in the context of corrugated materials. The Rengo corporate logo is thus a symbol of our history and identity.
Growing beyond Packaging through Innovation

“General Packaging Industry (GPI)” Rengo

Since manufacturing the first corrugated board in Japan in 1909, the Rengo Group has striven to respond to the needs of customers for value-added packaging, as well as contribute to society by helping to optimize the flow of products through the distribution process.

Recent years have seen packaging requirements become more diversified and demanding as the lifestyles of people change and their environmental awareness increases. Based on a wide-ranging product lineup, a highly refined service network, and a wealth of packaging technologies built up over the years, the Rengo Group has continued to study the most efficient, optimal forms of packaging for our customers.

We employ a reliable, fully integrated production system, from paperboard to corrugated packaging. Our business domains cover folding cartons, flexible packaging and other forms of packaging for consumers, as well as heavy duty packaging used in a wide variety of different industries, and even extend to cater to overseas markets. This structure allows us to achieve substantial synergistic effects and deliver diverse packaging solutions.

Intrinsically suited to recycling, corrugated board primarily utilizes recovered paper, which is recyclable and eco-friendly, as its raw material. As the birthplace of corrugated board in Japan, the Rengo Group considers the concept of “always caring about people and the environment” as the cornerstone of our business activities.

Not only do we maintain strict controls with respect to air and water pollution, but we also proactively seek to use energy and resources as efficiently as possible while giving consideration at all times to the minimization of environmental impact and reduction of CO2 emissions.

Over time, in addition to their fundamental functions of product packaging and protection, corrugated board and other packaging materials have incorporated decoration and printed information on their surfaces. As such, they have the potential for further advances in the future as tools enabling people to communicate with one another.

The Rengo Group defines itself as a “General Packaging Industry” that creates new value in packaging in a wider range of fields and actively proposes solutions to fulfill all the packaging needs of various industries through continual changes in thinking and innovation. With our eyes on further enhancement of our overseas operations in the light of advancing globalization, Rengo will continually commit to being active and taking on new challenges, both in Japan and worldwide, thus promoting the sustainable development of the economy and society and enriching more comfortable lifestyles.

Kiyoshi Otsubo
Chairman, President & CEO
We are a comprehensive packaging provider that actively proposes solutions to fulfill all the packaging needs of various industries.

The Rengo Group has provided optimized solutions to packaging needs through comprehensive capabilities that employ the group’s packaging technology and expertise accumulated over many years. Today, the Rengo Group is conducting diverse business in six core fields: paperboard, corrugated packaging, folding cartons, flexible packaging, heavy duty packaging, and overseas business.

By acting as an accomplished packaging partner, the Rengo Group seeks to become a packaging provider that proposes comprehensive solutions to fulfill all the packaging needs of various industries through continual changes in thinking and innovation. In order to achieve this goal, Rengo is defining itself as a “General Packaging Industry,” and as such we are committed to staying one step ahead of the times so we can create meaningful packaging with true value that is friendly to people and the environment.

The General Packaging Industry

### Group Network

Our production network is expanding both domestically and overseas. Our sales representatives positioned throughout the network gauge customer needs in their respective regions and provide reliable responses.

#### Domestic Network (directly managed plants)

- **Rengo Group Companies in Japan**
  - Corrugated Packaging: Nihon Mingei Co., Ltd. / Toyo Kikyo Co., Ltd. and 38 other companies
  - Folding cartons: Shikoku Shiki, Ltd. / Inoue Shiki, Ltd. and 2 other companies
  - Flexible packaging: Hidae Shikou Co., Ltd. and one other company
  - Heavy duty packaging: Shikoku Maki Co., Ltd. / Toyo Waku Co., Ltd. and one other company
  - Other businesses: Rengo Logistics Co., Ltd. / Rengo Nonwoven Products Co., Ltd. and 17 other companies

- **Rengo Group Companies Overseas**
  - Asia / Europe / Middle East / U.S.
  - Total of 125 plants and 20 representative offices / sales companies

### Product Lineup

- **Paperboard**
  - Containerboard
  - Highboard
  - Tube board
  - Chipboard
  - Processed paper

- **Corrugated Packaging**
  - General purpose corrugated packaging
  - Fire-retardant corrugated board
  - Water-resistant and moisture-proof corrugated packaging
  - Flame-retardant / Insect repelling corrugated packaging
  - Antifungal and anti-static corrugated packaging
  - Corrugated pallets

- **Folding Cartons**
  - General purpose cartons
  - Multi-purpose cartons
  - Mini-Rolls corrugated board
  - FLUTEPRESS

- **Flexible Packaging**
  - Film wraps
  - Labels
  - Shrink film
  - Blister packaging
  - Chicaner

- **Heavy Duty Packaging**
  - Flexible bulk containers
  - Heavy duty polyethylene bags
  - Kraft paper bags
  - Heavy duty corrugated packaging

- **Functional Materials**
  - Viscopearl beads
  - WaSAAce
  - Cellgaia
  - Viscose-processed paper
  - Tinted film

- **Other**
  - Nonwoven products, laminated products
  - Adhesive tapes, hot-melt adhesive
  - Logistic services / other

- **Sales Promotion Tools**
  - POP advertisements
  - Other tools

- **Packaging Machinery**
  - Packaging systems
  - Cases
  - Case/Bag makers
  - Sealing machines

### Research & Development

Rengo provides comprehensive support for the entire packaging process of products in order to meet the packaging needs of customers, while taking into consideration sales promotion benefits and cost.

#### Packaging Technical Department

- Designs transport packaging and cushioning materials, conducts various packaging tests, and develops packaging technology such as no-staple corrugated boxes and Universal Design products.

#### Design and Marketing Center

- Designs product promotion plans and proposes packaging designs and sales promotion tools based on marketing concepts.

#### Central Laboratory

- Conducts research on materials and production methods for paperboard and corrugated board, and develops new functions and new products.
Standing Side by Side with Our Customers, Offering Attentive Service

From Hokkaido in the north to Kyushu in the south, Rengo directly operates 34 manufacturing plants throughout Japan. These plants form the core of the Rengo Group network, which includes diverse member companies providing locally-oriented services. We also have 125 plants and 20 representative offices / sales companies throughout Asia, Europe, the Middle East, and the United States offering comprehensive support to the global packaging needs of our customers.

Taking advantage of our unique network throughout Japan and overseas, Rengo is able to leverage an enviable track record and level of reliability to deliver the right proposals and products to meet an increasingly extensive variety of customer requirements.
“Less is more.”
The base concept behind Rengo’s packaging innovations.

“Less energy consumption”
“Less carbon emissions”
“High quality products with more value-added”

The Beginning of the Age of “L”
Shin-Nagoya Plant
A Leading-edge Corrugated Plant Thoroughly Dedicated to the Concept of “Less is More.”

Always at the leading edge.
At the Rengo Group, that is one of our missions as a company that contributes to society through packaging.
The Shin-Nagoya Plant, which began operations in January 2014, is a new initiative focusing on the coming age of linear motors.
The new plant is full of many leading edge technologies and various techniques for environmental conservation injected with the pride of being a pioneer in corrugated packaging.
As the leading company in the packaging industry, under the key phrase of “Less Weight, Less Carbon,” we have worked to use less carbon in corrugated packaging by making it more lightweight through technology such as Less Caliper & Carbon (LCC) containerboard and Delta Flute.
We will now open up the future of packaging by pioneering a completely new corrugated plant that creates great value with fewer resources, in other words, “Less is more.”

Bird’s-eye view of the Shin-Nagoya Plant
Photovoltaic panels on the plant building roof
Radio-type, seismically isolated automated warehouse
Automatic guided vehicle
Panoramic view of the corrugator
Converting equipment
Rengo's Domestic Production Plants

**Paper Mills**

**Top containerboard production volume in Japan**

**Yashio Mill**

The Yashio Mill is a highly efficient mill located in the Tokyo metropolitan area that provides a wide range of products for this massive market, including corrugating medium, linerboard, tubeboard, and chipboard. This is the number one mill in Japan in terms of the production volume of paperboard. Most of the raw material for the paperboard comes from recovered paper collected in the metropolitan area. The mill is also considered to be the local environment, having undertaken such measures as a major reduction in CO₂ emissions through the introduction of energy-efficient facilities that generate electricity such as biomass boiler and other methods.

- **Location**: 330 Nihondaira, Yashio-ct, Saitama Prefecture, Japan 340-0833
- **Tel**: +81-48-922-1131 **Fax**: +81-48-924-8639
- **Operations commencement**: April 1964

**Tonegawa Division**

The Tonegawa Division has diverse functions, from paperboard production to printing and converting. The paper mill is the flagship plant for Rengo’s paper business, not only in terms of scale and facilities, but also from the perspective of production volume and developmental prowess as well. Equipped with a No. 1 paper machine for boxboard and a No. 4 paper machine for linerboard production, the plant manufactures a broad range of products. Meanwhile, the printing and converting business is becoming the main base responsible for the production of multi-pack products, particularly canned beer six-packs.

- **Location**: 5269 Iwai, Bando-shi, Ibaraki Prefecture, Japan 306-0631
- **Tel**: +81-297-35-2301 **Fax**: +81-297-35-1484
- **Operations commencement**: Paper mill: October 1961; Folding carton plant: April 1999; Printing and converting plant: July 1987

**Diverse functions, from paperboard production to printing and converting**

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**Corrugated Plants**

**Flagship plant for corrugated packaging**

**Tokyo Plant**

The Tokyo Plant, which is located within the greater Tokyo metropolitan area, the primary region of demand within Japan, is our flagship plant for corrugated packaging, equipped with one of the largest corrugators in Japan. With a veritably long history among our manufacturing facilities, the Tokyo Plant brings together outstanding engineering and know-how to meet the diverse needs of the Tokyo metropolitan market. All of the processes—from receiving the paper roll to corrugating, converting, and shipment—are uniformly managed under an integrated production management system called COMETS, increasing productivity and thoroughly ensuring improved quality and service.

- **Location**: 330 Nihondaira, Yashio-ct, Saitama Prefecture, Japan 340-0833
- **Tel**: +81-48-922-1131 **Fax**: +81-48-924-8639
- **Operations commencement**: April 1964

**Plant that symbolizes the concept of “Less Weight, Less Carbon”**

**Fukushima-Yabuki Plant**

Featuring a total of around 9,000 photovoltaic panels—which supply all of the plant's daytime electricity needs and make this one of the largest projects of its kind in Japan—alongside use of clean energy in the form of liquid natural gas (LNG), and a diverse range of energy-saving equipment, the Fukushima-Yabuki Plant is the ideal corrugated plant for the 21st century and represents the crystallization of all the expertise in environmental technology that Rengo has accumulated up to now. By making maximum use of naturally available resources and promoting energy recovery and recycling, we have achieved a CO₂ emissions reduction of around 40% compared to the previous plant. It is an eco-friendly plant that quite literally embodies the concept of Less Weight, Less Carbon.

- **Location**: 115-1 Suwanomae, Yabuki-machi, Nishishirakawa-gun, Fukushima Prefecture, Japan 969-0247
- **Tel**: +81-248-41-0252 **Fax**: +81-248-41-0256
- **Operations commencement**: May 2010
The General Packaging Industry RENGO

RENGO Network

Paper Mills

Kanazau Mill
- Location: 1-11 Jogyakata, Asami-cho, Furuura Prefecture, Japan 391-0024
- Tel: +81-532-41-3151 Fax: +81-532-41-3129
- Operations commencement May 1961

Eniwa Plant
- Location: 1893 Tanabe, Goryo-cho, Hokkaido, Japan 040-8516
- Tel: +81-542-89-3211 Fax: +81-542-89-3207
- Operations commencement January 1999

Toyohashi Plant
- Location: 1785 Oike, Nakahara-cho, Toyohashi-shi, Aichi Prefecture, Japan 441-3106
- Tel: +81-532-41-3151 Fax: +81-532-41-3129
- Operations commencement May 1992

Corrugated Plants

Yodogawa Mill
- Location: 2-2-21 Kago-Chori-cho, Yodogawa-ku, Osaka, Japan 553-0007
- Tel: +81-6-6465-5065 Fax: +81-6-6462-2806
- Operations commencement January 1936

Asahikawa Plant
- Location: 1-10 K知晓wartsu, Asahikawa-ku, Hokkaido, Japan 060-0111
- Tel: +81-146-39-0110 Fax: +81-146-39-0119
- Operations commencement November 1996

Amagasaki Mill
- Location: 1-4-1 Minamishin-machi, Kuise, Amagasaki-shi, Hyogo Prefecture, Japan 660-0822
- Tel: +81-6-6488-2561 Fax: +81-6-6489-1122
- Operations commencement April 1948

Oyama Plant
- Location: 1340 Kousakakita, Oyama-cho, Toyohashi-shi, Aichi Prefecture, Japan 441-0888
- Tel: +81-532-41-3151 Fax: +81-532-41-3129
- Operations commencement May 1992

Shin-Sendai Plant
- Location: 6-3-2 Matsusakadaira, Taiwa-cho, Kurokawa-gun, Miyagi Prefecture, Japan 981-3408
- Tel: +81-22-344-0070 Fax: +81-22-344-0071
- Operations commencement April 2012

Corrugating Process

Corrugator

- Single facer
- Paper roll and reel stand
- Glue machine
- Double facer
- Slitter scorer
- Cutoff machine
- Stacke
Rengo’s corrugated packaging and folding cartons have been recognized for their contribution to the conservation of sustainable forest resources. The Forest Stewardship Council® (FSC) certification can now be applied to almost all corrugated packaging and folding cartons that use the paperboard produced at Rengo mills.

Rengo acquires FSC® certification for its products from paperboard to corrugated packaging and folding cartons.
Comprehensive Capabilities Supported by Locally-oriented Group Enterprises in Japan

Rengo Group Companies in Japan

Efficiently divided work responsibility between directly managed plants and group companies is essential to the strength of the Rengo Group in terms of integrated manufacturing ranging from paperboard to corrugated packaging. At the same time, cooperation within the group is also crucial to the effective development of non-corrugated businesses such as folding cartons, flexible packaging and heavy duty packaging. An extensive network of locally-oriented group enterprises in Japan, each having its own technology and expertise, is what supports the comprehensive capabilities of the Rengo Group.

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**Paper / Paperboard**

<table>
<thead>
<tr>
<th>Company</th>
<th>Location</th>
<th>Main products</th>
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**Corrugated Packaging / Folding Cartons**

<table>
<thead>
<tr>
<th>Company</th>
<th>Location</th>
<th>Main products</th>
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</thead>
<tbody>
<tr>
<td>Yamaichi Shiki Co., Ltd.</td>
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**Flexible Packaging**

<table>
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<tr>
<th>Company</th>
<th>Location</th>
<th>Main products</th>
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<tbody>
<tr>
<td>Howa Sangyo Co., Ltd.</td>
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**Heavy Duty Packaging**

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<tr>
<th>Company</th>
<th>Location</th>
<th>Main products</th>
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<tbody>
<tr>
<td>Nihon Metall Co., Ltd.</td>
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Other

- **Rengo Logistics Co., Ltd.**
  - Location: Osaka
  - Main products: General truck transport, warehousing, insurance, real estate
- **Rengo Nonwoven Products Co., Ltd.**
  - Location: Osaka
  - Main products: Nonwovens
- **Rengo Paper Business Co., Ltd.**
  - Location: Osaka
  - Main products: Nonwovens
Contributions to Development in Asia by Group Enterprises Overseas
Rengo Group Companies Overseas

As our customers’ production locations are expanding throughout Asia, requirements are also expanding for local availability of high quality corrugated materials. Rengo’s response to these overseas requirements has been to expand our packaging solutions network overseas in a similar way to how we have expanded our network in Japan. Leveraging our time-tested, first class packaging technology, we are working to meet our customers’ requirements overseas while contributing to economic development and packaging in Asia.
A Diverse Product Lineup to Meet Every Packaging Need

Corrugated materials are an important part of daily life, given their ability to safely protect and attractively present the products they contain, as well as their intrinsic functionality and suitability for recycling. Rengo, always a leader in the history of corrugated packaging in Japan, has created an integrated manufacturing system for a range of materials from paperboard to corrugated packaging. This system has enabled us to develop our business according to our customers’ requirements, as well as facilitated a wide-ranging lineup of products. All of the products we handle, starting with corrugated materials and extending to paperboard, folding cartons, flexible packaging, heavy duty packaging, packaging machinery and functional materials, represent Rengo solutions to customer requirements. Within them can be found a broad spectrum of knowledge and technology based on nearly a century of experience.

From containerboard to boxboard, tube board, chipboard, and processed paper

Paperboard

In order to supply user-oriented products, we are expanding our business toward the area of paper manufacturing. As a manufacturer of top-class paperboard, we are engaged in the production and sale of a wide range of products covering everything from containerboard such as linerboard and corrugating medium, to boxboard and tube board, chipboard, and processed paper.
From water-resistant, freshness retaining, and antirust materials to decorative printing

**Corrugated Packaging**

In addition to our general-purpose corrugated packaging, which retains freshness and excels at water and rust resistance, we also offer corrugated packaging for a wide range of special uses, from functional corrugated packaging to decorative printing to enhance sales of the customer’s product.

All of our corrugated packaging is recyclable.

**Functional Corrugated Packaging**

- **Water-resistant and moisture-proof corrugated packaging**
  - RENCOAT (low to medium water resistance), HIGH RENCOAT (high water resistance), and ULTRA RENCOAT (super water resistance and high moisture prevention)

- **Water-resistant and moisture-proof corrugated packaging**
  - Combines a high level of resistance to water, comparable to wax dipped corrugated packaging, and a high level of recyclability.

- **Cold storage box**
  - RECYCOOL (cold storage / freshness retention)

- **Corrugated packaging with a specially coated bottom liner for cool insulation**
  - Ideal for the refrigerated transport of items such as fruit and vegetables, processed marine and meat products, and alcoholic beverages.

- **Moisture-proof corrugated packaging and freshness retaining agent to maintain the freshness of vegetables**
  - Damp-proof (moisture prevention / freshness retention)

- **Corrugated packaging with reduced frictional resistance of surfaces**
  - Reduces film wrap pinholes and the rubbing of paper labels caused by vibration during transportation.

- **Corrugated packaging is ideal for protecting goods**
  - Specially coated linerboard ideal for packaging of fruit and vegetables, processed marine and meat products, and alcoholic beverages.

**Decorative Corrugated Packaging**

- **Decorative corrugated packaging**
  - FOR PRINT (decorative corrugated packaging)
  - B-FLUTE (175 g/m²)
  - C-FLUTE (200 g/m²)
  - D-FLUTE (220 g/m²)

- **Conductive corrugated packaging**
  - AS Black (conductive corrugated packaging)
  - Manufactured with a special coating to prevent rust on metallic surfaces.

- **BUGLESS**
  - This conductive corrugated packaging is ideal for protecting electronic components from potential damage by electrostatic discharge.

- **Insect-resistant corrugated packaging**
  - BUGLESS (insect-resistant corrugated packaging)
  - Special mixture of ink and varnish coating on corrugated boards repels insects, discouraging them from entering the box.

- **Conductive corrugated packaging**
  - AS Black (conductive corrugated packaging)
  - Manufactured with a special coating to prevent rust on metallic surfaces.

- **B-FLUTE (175 g/m²)**
  - C-FLUTE (200 g/m²)
  - D-FLUTE (220 g/m²)

**Corrugated Board**

- **Fire-retardant corrugated board**
  - RAFEP (fire-retardant corrugated board)

- **Antirust corrugated packaging**
  - GASTORD (anti-rust corrugated packaging)

- **Conductive corrugated packaging**
  - AS Black (conductive corrugated packaging)

- **Insect-resistant corrugated packaging**
  - BUGLESS (insect-resistant corrugated packaging)

**Delta Flute Corrugated Board**

- **Delta Flute**, an original Rengo product, is a brand new corrugated board that has never existed. Based on the concept of “Less is more,” this new GPI Rengo innovation in corrugated board creates great value with few resources, reduces impact on the environment and is both more lightweight and more functional.

**Features**

1. Offers greater transportation and storage efficiency than E-flute, accomplishing the further optimization and streamlining of packaging.
2. CO₂-emissions are reduced and impact on the environment is mitigated through further reduction of corrugated board weight.
3. Delta Flute has greater flat crush strength than E-flute. It makes printing possible that is sharper and more beautiful.
4. Because Delta Flute is stronger than E-flute, it can be used as outer corrugated packaging with the functions of inner boxes.

**Less is more.**

**Retail Mate Series**

Packaging with a new concept, developed from a retailer’s point of view

Until now, conventional corrugated packaging has been designed with a focus on “protecting” and “transporting” their contents. The Retail Mate series is a corrugated packaging series with a new concept developed from a retailer’s point of view that addresses issues in retail outlets, pursuing ease of opening, display performance, and sales promotion. As well as achieving increased efficiency in byard operations and in-store sales promotion through standardized displays, this series also plays a big role in improving efficiency of product sorting in warehouses. A range of packaging options are available to suit different product specifications, characteristics, and sales approaches.

- Mango Smart Display Packaging (RSDP)
- RECO Palette
- Slip Guards
- Sheet Pallets
- RECO Pallets

**For Distribution and Shipping**

- RECO Pallets
- Slip Guards
- Sheet Pallets
- RECO Palette

**Various Types of Packaging**

- **High Value Package**
  - High Charm
  - Stack-on Outer B
  - Spiking out cushion
  - Supersized box – To protect strawberries from impact

- **Corrugated cushioning materials**
  - Compact design side back cushion
  - RakuPPa – easy-to-assemble trays

- **Corrugated packaging for fruit and vegetables**
  - Uniform packaging
  - Unimarky
  - REPRINT – GRAVIAN
  - COSREN

- **Decorative Corrugated Packaging**
  - CORFLEX
  - REPRINT – GRAVIAN
  - UNIMARKY
Bolster sales promotion

Folding Cartons
We provide a wide array of folding cartons which enhance marketing efforts by presenting products such as confectionaries, foods, beverages, and sundries in an attractive way. Our service covers everything from planning and designing to manufacturing.

● General-purpose cartons and gift packaging  We offer general-purpose cartons for individual and inner boxes, as well as gift packaging.
● POP displays  Eye-catching POP displays that are tailored to the sales location and highlight the product's special characteristics assist sales promotions at stores.
● Multi-packs  Used to package together multiple units of a product, such as cans or glass bottles. In addition to being ideal for sales of multiple product units packed together, multi-packs are easy to handle and offer display benefits through attractive printing. CAP/VT is the new face of PET bottle multipacks.

Beautifully wrapped; superior protection

Flexible Packaging
We offer a lineup of flexible packaging, including film wraps, cellophane, and molded packaging, which covers items attractively and offers outstanding protection.

● Film wraps and labels  Centered around Howa Sangyo Co., Ltd., we offer various types of flexible packaging and a wide range of labels and stretch film perfect for PET and glass bottles.
● Cellophane  An old standard, this transparent wrapping is a cellulose film manufactured from wood pulp. Cellophane is readily biodegradable and is friendly to the environment, emitting no noxious gases even when burned. It remains an ideal wrapping for food items and pharmaceuticals.
● Molded packaging  Can be used for individual compartments for trays, cups, and gift sets; available in a variety of different materials.
● Cleantainer  bag-in-box  Strong, protective “bag-in-box” containers consist of an inner plastic bag with a corrugated outer box. Select from various materials and configurations to suit the contents and usage conditions. We offer a full package processing system, including filling machines.

Supporting wide array of industries

Heavy Duty Packaging
With a diverse product lineup, we answer all needs in areas from agriculture to food products and industrial raw materials.

● Flexible bulk containers  Our highly functional, high quality, clean flexible bulk containers are produced by Nihon Matai, a Rengo Group company with the largest market share in Japan for flexible bulk containers. With manufacturing technology accumulated over many years and complete quality control system, Nihon Matai produces a diverse range of flexible bulk containers in Japan and other Asian countries. We offer order-made ideal products to meet the customer requirements both in Japan and abroad.

● Heavy duty polyethylene bags  Our heavy duty polyethylene bags, suitable for a wide variety of applications, from fertilizers to chemical products, gardening products, and foodstuffs, are made by Nihon Matai, a pioneer in polyethylene bags in Japan with the largest market share in the industry. Consistently seeking to expand into new fields, we are the first in the industry to have developed gusseted heavy duty polyethylene bags for synthetic resin, and meet the full range of customer requirements.

● Kraft paper bags  The multi-ply kraft paper bag (1-ply to 4-ply) is a packaging material ideal for product transportation and storage. Nihon Matai’s large kraft paper bags, developed with unique technology accumulated over many years, have earned the trust of customers across many industries for their high quality and added value. By pursuing quality control measures such as insect control and foreign material prevention, we ensure the manufacture of hygienically reliable products.

● Tri-Wall Pak, Bi-Wall Pak  Heavy duty corrugated packaging refers to triple or double wall corrugated board made from high-strength containerboard. It is used for packaging of products including automobile components, aircraft components, electrical machinery, mechanical equipment, electrical components, and glass products.

Making life more comfortable

Functional Materials
As exemplified by the development of cellulose, Rengo constantly works to develop new functional materials utilizing the manufacturing know-how we have built up over many years. By combining packaging types, we are not only achieving higher functionality but are also contributing to making life a little easier.

● Viscosepearl (porous cellulose beads)  These cellulose beads, manufactured from wood pulp, offer excellent porosity and can provide gradual-release action for medicines and other such products. Used for enclosing other functional materials such as aromatic agents and activated carbon.

● Cellgae  A tightly integrated mixture of two natural substances: biodegradable cellulose fibers and the mineral zeolite. The material has outstanding properties in terms of absorbing gas, preventing mold, and absorbing/retaining water, and it is used with non-woven fabric in various types of filters and diapers, etc.

● Viscose-processed Paper (SAFLON)  Processed paper coated with viscose obtainable from high-grade cellulose pulp such as paper and nonwovens. Offers controlled air permeability, excellent resistance to hot water, and remains strong even when damp, making it ideal for packaging such items as insecticides, medicines, and foodstuffs.

● WaSAAce (natural anti-bacterial/anti-mold agents)  Employing wasabi and mustard constituents, these products are used as anti-bacterial and anti-mold agents. When processed into a film, in addition to prolonging the shelf life of foods, they can be placed in shoes and bags to prevent mold.

● Water-absorbent mats and sheets  These “spunbond” materials, produced by thermally binding fibers using heat rollers or hot air, are used as surface materials for sanitary-related products, primarily diapers, as well as in other materials to retain freshness by absorbing the water or dew from fruit and vegetables, fish, and the like.

● Tinted film  Tinted or transparent film used for automobiles and building windows. Available in dark tint, light tint, and a variety that blocks ultraviolet light.
Packaging serves multilateral functions. It must protect products, present them attractively, convey information, and not have an adverse impact on people or the environment. Packaging is constantly evolving as a medium that links our customers to the end user. Rengo helps provide solutions to all manner of packaging-related issues from three perspectives: packaging technology, design marketing, and research and development. The wealth of packaging technology we have accumulated forms the base of our "total solutions" to our customers for every scenario in the creation of a product, from product development, packaging and distribution to store sales promotions.

Support 1: Packaging Technology Support
Packaging Technical Department

For a customer’s product to arrive safely in the hands of consumers, the right packaging needs to be selected in terms of type, dimensions and material in accordance with product characteristics and distribution conditions such as transportation and storage. Rengo offers in-depth support on packaging technology issues through close coordination between sales personnel, who also hold professional packaging qualifications, and our nationwide network of packaging engineers with the Packaging Technical Department as its hub. It is our job to submit proposals for safe packaging and we also suggest optimal designs that take into account the ability to recycle, ease-of-use, transportation efficiency and cost performance. Additionally, we implement material and package tests. We are also engaged in the development of new packaging technologies and impart timely information on packaging and distribution.

Packaging sales specialists collaborate with the Packaging Technical Department in providing support on packaging technology issues

Features of packaging design
The Packaging Technical Department develops optimal specifications for the customer through a combination of “dimension design,” used to determine the best dimensions to match the contents and the shape of the box, “strength design,” for determining appropriate material properties for the specific distribution conditions, and “package testing,” for checking for faults in the designed packaging.

Materials and package tests
Material tests and evaluation for paperboard, corrugated packaging
Package tests (drop, compression and vibration tests, etc.)

Packaging-related technological development
Types, techniques and systems, etc.

Provision of information on packaging technology

Research and Development Support
Central Laboratory

Packaging Technology Support
Packaging Technical Department

Support provided
Design and improvement proposals for transport packaging
Design and trial production using CAD/CAM
Simulation of distribution, including different pallet loading patterns

Material and package tests
Material tests and evaluation for paperboard, corrugated packaging
Package tests (drop, compression and vibration tests, etc.)

Packaging-related technological development
Types, techniques and systems, etc.

Provision of information on packaging technology

Support service
Packaging technology support

Proposals for new corrugated cushioning materials
A wealth of know-how relating to corrugated packaging design that has been developed over the years is tapped in order to come up with new cushioning products made from corrugated board as opposed to polystyrene.

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Facilities for verifying packaging safety and functionality
The department uses controlled atmosphere rooms for recreating temperature and moisture conditions during the distribution process, as well as vibration testing machines and other facilities to scientifically analyze the safety and functionality of packaging.
To create “top-selling” products, the Design and Marketing Center provides support ranging from product planning, package design to store sales promotions.

Rengo’s Design and Marketing Center (DMC) is a team specializing in the consultation and the proposal of designs as a partner of customers. It provides real time marketing-based consulting and proposals in a wide variety of areas. While they of course handle topics such as product planning and packaging design, they also look beyond outer packaging, such as corrugated boxes and inner boxes, as simply a medium for transportation, and embrace it for its value in in-store promotions. Through packaging, the DMC makes proposals that cover everything from customers’ product development to sales promotions in order to explore and realize the latent possibilities for better selling products.

As a pioneer in corrugated packaging, Rengo creates new products through research and development of raw materials and manufacturing methods.

Rengo was the first company in Japan to become involved in the corrugated business and has been successful in making one innovative product after another. The driving force behind this is Rengo’s research and development structure led by the Central Laboratory. The Central Laboratory carries out research and development in a broad range of fields that deal with Rengo’s main products. The research covers an extremely varied field from the realization of a wide range of packaging functions, such as water resistance, moisture prevention and freshness retention, to the development of environmentally friendly products and new functional materials such as Cellgaia. The laboratory also undertakes development of energy-saving and resource-efficient manufacturing methods and waste recycling technology, as well as research involving chemical analysis relating to product safety and quality and environmental analysis aimed at protecting the environment.

Central Laboratory's Cellgaia functional material

Products that use Cellgaia

Central Laboratory

Support organization

Design and Marketing Support

Central Laboratory

Support provided

Overall project management

Packaging design

Strategy

Marketing

Central Laboratory

Support service

Support provided

Overall project management

Packaging design

Strategy

Support provided

Overall project management

Packaging design

Strategy
Less Weight, Less Carbon

Our key phrase in environmental initiatives focused on the future of people and the planet

Having cultivated an entire business around corrugated packaging, which is considered a “role model” for recycling, Rengo maintains a corporate culture of looking after the earth’s resources. We clarified that stance in 1999 by establishing the Environmental Charter and setting up the Environment Committee. The CSR Committee was formed in 2005, putting in place a framework for collective efforts to fulfill our social responsibility beyond just the sphere of environmental protection. ISO 14001 certification, the international standard for environmental management, has already been acquired by all plants. Rengo believes an environmentally considerate style of management is essential for sustainable growth, and intends to achieve this through ongoing, companywide initiatives, performed under the key phrase “Less Weight, Less Carbon,” that include promoting utilization of recovered paper, installing energy-efficient facilities, converting to fuels that emit low levels of CO₂, and recycling waste.

Promotion of CSR Management

Rengo has set up five subcommittees within the CSR Committee through which to promote CSR management. Seeking to fulfill our responsibility to society as a good corporate citizen, the subcommittees will pursue activities targeting all the various stakeholders, including shareholders, customers and suppliers, local communities, and employees.

Eco-friendly Production Systems—Less Weight, Less Carbon

27% reduction in CO₂ emissions

Rengo is actively introducing energy-efficient facilities and adopting less harmful, clean energy sources, as part of its efforts to reduce CO₂ emissions, which have a significant impact on the global environment. In addition to the installation of gas engines that are highly energy efficient, as well as biomass boilers fueled by manufacturing waste, Rengo is also actively converting other boilers from fuel oil to liquefied natural gas (LNG) or processed natural gas, which have a lower CO₂ conversion coefficient than fuel oil. Furthermore, with the adoption of a large-scale photovoltaic power generation system at one of its plants, a first in the corrugated industry in Japan, and other initiatives, Rengo is most likely to achieve a 27% reduction in CO₂ emissions for 2015 compared to 1990 levels. Going forward, Rengo has set group-wide CO₂ emission reduction goals of 32% by 2020 and 50% by 2050.

Waste reduction

Trimming waste, the most common type of waste generated by corrugated plants, is recycled back into corrugated board at Rengo’s paper mills. This contributed to Rengo’s 98.3% recovered paper utilization ratio in 2015. Ragger rope shredding and sorting machines have also been installed. These enable ragger rope to be broken up and separated into iron and plastic scrap, whereas it used to be disposed of as waste in the past.

Prevention of air and water pollution

Water is a vital resource used in the production of paperboard. We have long been looking into ways to utilize water effectively at our paper mills, where water is currently used for ten cycles on average. Water that has been used repetitively like this is then returned to a state below maximum regulation levels before being released into river systems. Air pollution prevention measures include converting to clean energy sources as well as working to reduce levels of SOx and NOx through the installation of flue gas desulfurization and denitrification systems.

Eco-friendly Packages—Less Weight, Less Carbon

Environmentally-friendly C-flute and Delta Flute

The flute height of C-flute and Delta Flute is about 1 mm thinner than conventional corrugated boards. The corrugated board is thinner and therefore improves load efficiency and saves on storage space. Along with the synergistic effects of lightweight Less Caliper & Carbon (LCC) containerboard, it greatly reduces CO₂ emissions. Rengo is working on research, development and design of eco-friendly products based on a policy of “Reduce, Rouse, Recycle.”

Corrugated Recycles symbol

The Corrugated Recycles symbol is a mark used worldwide as designated by the International Corrugated Case Association. The Rengo Group is actively involved in promotion and education relating to the symbol and has proposed that recyclable products should display the symbol in order to encourage the proper reusing of used corrugated boxes. As a result of these efforts, domestic recovery rate of corrugated packaging has reached 97.2% of all corrugated boxes since its inauguration.

Rengo’s social contribution activities

Support to the Antarctica Expedition

Rengo has been supporting scientific research by the Antarctica Expedition since its inauguration, providing corrugated boxes for packing materials and goods.

Support for the Orchestra Ensemble Kanazawa

The Orchestra Ensemble Kanazawa is constantly breathing new life into Japan’s classical music circles as an orchestra of international standing. Rengo offers ongoing support, for example by lending a Stradivarius violin to the orchestra and sponsoring concerts.

Tonegawa Summer Evening Festival

The Tonegawa Division invites members of the local community to its annual Summer Evening Festival. Nearly 3,000 people turn up each year to take part.
The path Rengo has followed

Rengo and Corrugated Board—A Shared History

Teijiro Inoue, founder of Rengo, shaped the history of corrugated board in Japan.

The history of Rengo can be said to be synonymous with the history of the development of corrugated board in Japan. In 1909, Teijiro Inoue, the founder of Rengo, established Sansesha (predecessor of Rengo), marking the beginning of commercial production of corrugated board in Japan. The origin of the corrugated board business can be traced back to the moment when Inoue, after a long and difficult effort, completed a “layered (dan) corrugated cardboard (boru-gami)” product that he called “danboru.” He thought that the cardboard (boru-gami)” product that he produced and printed upon. On top of this, it can be folded up and recycled. Demand for corrugated board instantly grew, replacing wooden boxes and other containers, which had been the mainstream for packaging materials used in distribution.

In 1920, Inoue established Rengo Shiki K.K. to begin full-scale production. The name meant a company that produced packaging containers by employing sheets of paper layered on top of one another. In 1923 when the Great Kanto Earthquake struck the Tokyo area, the company overcame the disaster and established an integrated production system covering the production of containerboard, corrugated board and boxes. Indeed, it could be said that this laid the foundation for the development of the corrugated board industry in Japan.

Later, Rengo Shiki began to construct a modern large plant capable of producing all products—from containerboard to corrugated boxes—in a streamlined, integrated manner, and completed the Yodogawa Mill, then the largest in Asia, in 1936. Meanwhile, from the end of the Taisho period (1912–26) to the beginning of the Showa period (1926–89), the company continually developed and introduced new technologies for production equipment and systems and created corrugated packaging solutions to pack light bulbs, canned foods, bottled beer, ceramics, clothes, and other products.

As a result of these steady efforts, Rengo Shiki’s network of operations extended to other East Asian countries, paving the way for today’s Rengo Group, which leads the industry in Japan.

Promoting the expansion and modernization of equipment in line with growing postwar demand for corrugated box

After World War II, Rengo Shiki strove to establish a nationwide supply network centered on the Yodogawa Plant, which had suffered relatively slight damage. The company also pushed forward with aggressive business development, including the consolidation of major plants, the opening of local sales offices, plants and branches, and the establishment of affiliated companies. The company built up a firm position in the industry by meeting growing demand for corrugated packaging as Japan’s exports rose. At the time, Rengo Shiki produced almost all corrugated boxes for marine products, particularly frozen fish, and its corrugated boxes were used for a wider range of products that included ceramics, canned foods, and fruit.

Amidst the rapid growth in postwar demand for corrugated boxes, the company imported and introduced a cutting-edge corrugated board manufacturing machine, called the “corrugator,” into its Tokyo Plant I in 1963, ahead of other industry players. In this way, Rengo Shiki led the way in expanding and modernizing production equipment, while in subsequent years constantly leading the industry in developing corrugated board production technologies, including high-speed corrugators.

In 1961, the company opened the large Tonegawa Mill to increase the production of containerboard to be used at its own corrugated plants. The paper mill, equipped with the latest paper machine and other necessary equipment, doubled its high-speed production and in-house containerboard production, and combined with the establishment of new corrugated plants nationwide it further upgraded the company’s integrated production system.

Establishing its position as a comprehensive packaging company by meeting diversifying packaging needs

In 1970, Rengo Shiki, not satisfied with the modernization of production equipment alone, proposed the “total packaging system,” which laid the foundation for today’s Rengo as a comprehensive packaging company. The aim was to provide the optimal packaging systems by participating in customers’ product planning from the choice of packaging materials and design to the delivery methods.

In 1972, the company changed its name from Rengo in Chinese characters to Rengo in katakana to create a more approachable and likeable image. This name change indicated the company’s intention of expanding into new fields, with corrugated packaging as its core business, in order to establish itself as a comprehensive packaging company.

As needs for decorative packaging grew along with the maturing of the consumer society, Rengo developed high-precision printing technologies, such as pre-printed COMPLEX corrugated boxes that are made using printed paperboard. Along with the innovative advancement of corrugated board production technologies, specifically the achievement of continuous corrugator operation, these printing technologies opened up a new world for corrugated board and other packaging materials.

“Kintoma”: Management philosophy of the founder Teijiro Inoue

Teijiro Inoue created corrugated board after a great deal of effort as well as trial and error. He is the person who came up with the name “danboru” for corrugated board, which is now a household term. After experiencing many difficulties, he developed his own management philosophy, called “Kintoma.”

Written in hiragana, the term “Kintoma” consists of:

- “ki,” which indicates “money” and “iron will,” and
- “ma,” which means “sincerity” and “timing.”

“Ki” is a conjunction that connects “ki” and “ma.”

The Chinese character meaning “ma” can be combined with other Chinese characters to create other words that variously mean “time,” “space” or “human being.”

In short, “Kintoma,” coined by Teijiro, indicates an invariable principle of business. In line with this principle, he tells businesspeople that they once have acquired “iron will,” “money,” “sincerity” and “timing” they should hold onto these qualities for life. He emphasizes that they should grasp business opportunities in a timely manner and value personnel, equipment, capital, and anxiety when managing their business. A modern translation of “Kintoma” would be that “businesspeople, having money and a strong will, must engage in the management of their business with sincerity while placing an emphasis on personnel, time, and equipment.”

Since the foundation of Rengo, the “Kintoma” philosophy has been handed down from generation to generation as a guiding principle and code of conduct.
The path Rengo has followed

Expanding production systems for packaging in a new age

In the 1980s, as Japan entered the full-fledged information age, Rengo led the industry in working to establish computerized systems. Rengo also branched out into peripheral areas to meet the increasingly diversified packaging needs of users. Some of the business areas related to corrugated packaging into which the company made inroads were folding cartons (including offset printing); nonwovens, which were in greater demand because of their use in disposable diapers; processed paper, such as printed paper and aluminum or film laminated paper; flexible packaging and multi-packs closer to consumer packaging; and packaging machinery.

Furthermore, with the economic growth of Southeast Asian countries and China, Rengo expanded into overseas markets earlier than anyone else in the industry in working to establish their markets. At the same time, Rengo acquired Fuki Chemical Industry, a paperboard manufacturer in 1991, and relocated old plants, including the Osaka (currently located in Senda) plant, implanting the latest machinery at that time. In this way, Rengo steadily reorganized and upgraded its production structure.

Bolstering the integrated production system through acquisition of Settsu

In 1999, Rengo acquired Settsu Corporation, a major paperboard manufacturer. This helped Rengo establish itself as an integrated manufacturer of both paperboard and corrugated board in both name and substance.

In acquiring Settsu, the company consolidated the paper machines to establish a new production structure that suited the level of demand, spun off Settsu’s corrugated business unit as Settsu Carton Corporation, and reorganized other group companies engaged in the corrugated business, leading an industry-wide structural reform. These steps taken by Rengo greatly helped reform the industry in all three areas—recovered paper, paperboard, and corrugated packaging—and significantly improve its status.

“General Packaging Industry (GPI) Rengo”

In 2009, the year of Rengo’s 100th anniversary, the Rengo Group added as a subsidiary Nihon Matali Co., Ltd., a heavy duty packaging and synthetic resin product manufacturer; and in 2013, added Marsol Holdings Co., Ltd. (merged with Nihon Matali), complementing its list of existing products—paperboard, corrugated packaging, folding cartons, and flexible packaging, with heavy duty packaging. This addition further enhanced Rengo’s structure, making it capable of meeting all its customers’ packaging needs.

The Rengo Group now defines itself as a “General Packaging Industry” that creates new value in packaging in a wide range of fields and actively proposes solutions to fulfill all the packaging needs of various industries through continual changes in thinking and innovation. With our strong Rengo’s further enhancement of our overseas operations in the light of advancing globalization of the economy and society, Rengo will, over the next 100 years, continually commit to being active and taking on new challenges, both in Japan and worldwide.
**Corporate Profile**

**Company Name**
Rengo Co., Ltd.

**Head Office**
Nakanoshima Central Tower, 2-2-7 Nakanoshima, Kita-ku, Osaka, Japan 530-0005 Tel: +81-6-6223-2371

**Tokyo Head Office**
Shinagawa Season Terrace, 1-3-70 Konan, Minato-ku, Tokyo, Japan 108-0075 Tel: +81-3-6716-7300

**Website**
http://www.rengo.co.jp/english/index.html

**Founded**
April 12, 1909

**Incorporated**
May 2, 1920

**Business Scope**
1. Manufacturing and sales of corrugated board, corrugated boxes, and folding cartons
2. Manufacturing and sales of paperboard (containerboard, board, and tube board, etc.)
3. Manufacturing and sales of flexible packaging and cellophane
4. Manufacturing and sales of heavy-duty packaging (high-density polyethylene bags, kraft paper bags, and container bags, etc.) and highly functional resin products
5. Sales of packaging-related machinery
6. Manufacturing and sales of a variety of functional materials (porous beads made from cellulose, high-performance zeolite, natural antibacterial agent made from wasabi and mustard, etc.)
7. Manufacturing and sales of nonwovens, paper converting machinery, and transportation business, etc.

**Laboratories / Packaging Technical Departments**

- **Central Laboratory**
- **Central Laboratory (Fukuoka)**
- **Packaging Technical Department, Tokyo**
- **Packaging Technical Department, Osaka**
- **Shanghai Packaging Technical Center**

**Mills and Plants / Sales Offices**

- **Paper mills**
  - Tonegawa Division
  - Yabata Mill
  - Kainai Mill
  - Yoshinaga Mill
  - Aragase Mill

- **Corrugated plants**
  - Enraku Plant
  - Arakawa Plant
  - Aomori Plant
  - Shin-Sendai Plant
  - Fukushina-Yabeki Plant
  - Oyama Plant
  - Mawashibashi Plant
  - Tokyo Plant
  - Chita Plant
  - Shiron Plant
  - Nagano Plant
  - Naganose-ku Plant
  - Shin-Kyoto Division

- **Sales offices**
  - Hakodate Sales Office
  - Kishin Sales Office
  - Aomori Sales Office
  - Akita Sales Office
  - Tottori Sales Office
  - Cynthia Sales Office
  - Okayama Sales Office
  - Takasago Sales Office
  - Komatsu Sales Office
  - Okayama Sales Office
  - Kofu Sales Office
  - Nakatsu Sales Office
  - Gifu Sales Office
  - Nagaoka Sales Office
  - Kurobe Sales Office
  - Shibata Sales Office
  - Kochi Sales Office
  - Kumamoto Sales Office
  - Miyazaki Sales Office
  - Oita Sales Office
  - Kokura Sales Office

**Rengo Group Companies in Japan**

- Paperboard: 2
- Corrugated packaging / Folding cartons: 42
- Flexible packaging / Heavy-duty packaging: 5
- Other: 19

**Rengo Group Companies Overseas**

- Asia / Europe / Middle East / U.S.
- 125 plants and 20 representative offices / sales companies

March 2017