

ADVANTEC®



ADVANTEC

## For Science in the Future

The ADVANTEC Group manufacturing started from Japan's first filter paper business and has supported a wide range of research and production in the healthcare, food, microelectronics and energy industries.

It's been 100 years since we started business with the goal of providing better products to the market.

The ADVANTEC Group continues to respond to customer needs with our filtering technology, and scientific equipment.

# Evolution



# Origin

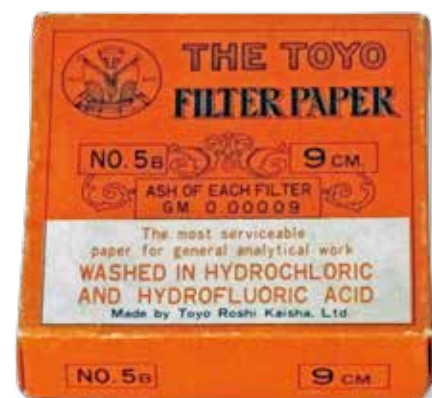
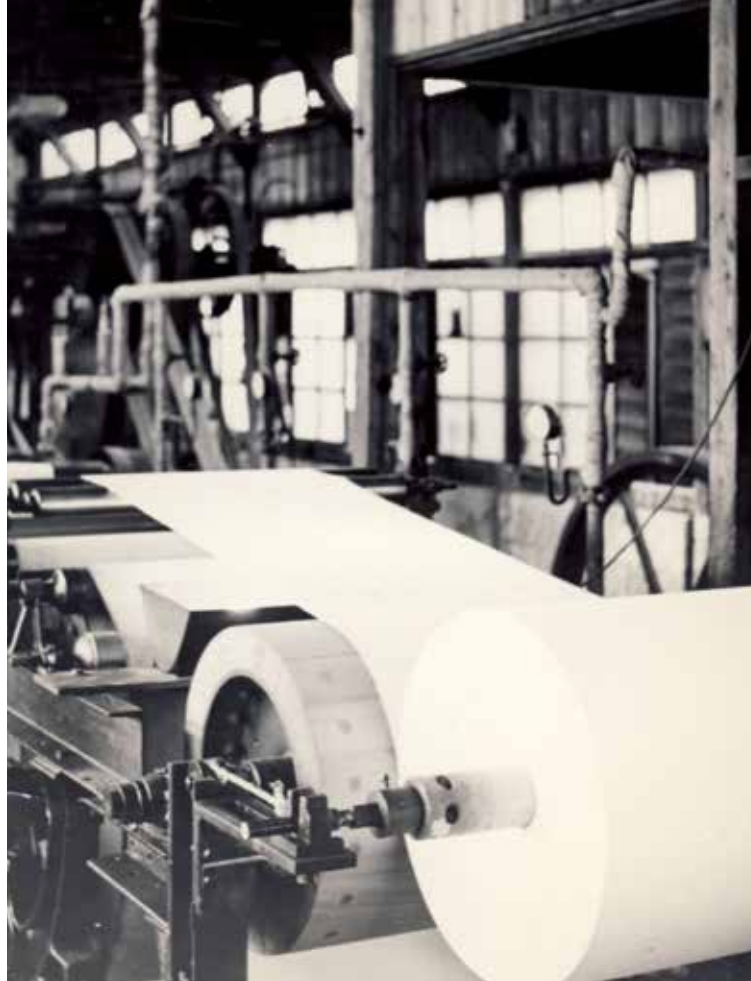


# Challenge





# Origin



To be the first in the nation to produce Japan-made filter papers, the ADVANTEC Group embarked on a rigorous program of R&D.

Supporting scientific research in Japan during and after World War II

In 1917, the ADVANTEC Group was founded as Japan's first filter paper manufacturer for chemical analysis aiming to supply Japan-made filter paper of equal or greater quality than overseas products. Until that time, Japan had long imported filter paper for chemical analysis from Germany. With the outbreak of World War I, however, the supply from Germany stopped. Through comparison of and research on imported and Japanese paper, the Ministry of Agriculture and Commerce Industrial Laboratory (current National Institute of Advanced Industrial Science and Technology) discovered a method of manufacturing filter paper using cotton linter; and the ADVANTEC Group put this research into practical use in the commercialization of filter paper for chemical analysis using cotton linter pulp that contains very few impurities. This was the start of ADVANTEC's history as a filter paper manufacturer.



Our most advanced filtration system contributes to innovation in the beverage, microelectronics and a wide range of other industries.

“Fresh beer” opened a whole new market

In the 1960s, beer production in Japan increased and the industry sought sterilizing methods that would spare the need for heating. The development of a membrane filter, a precision filtration film capable of capturing microorganisms and bacteria that are hard to filter with paper made it possible to produce draft beer. In 1973, the ADVANTEC Group successfully produced Japan's first integrally molded cartridge filter. Forming filtering materials with pleats made compact design possible while allowing sufficient area for filtration, an innovation that prolonged product life. After that, we also developed filters with improved heat and solvent resistance, responding to the refinement of semiconductor for the improvement of information processing capability. Having minimized the particle size of all polyethylene-made cartridge resist filters to one nanometer, we respond to the technological innovation in the semiconductor and liquid crystal industries.



# Evolution



# Challenge

User-friendly and environment-friendly—this is the basic philosophy of our challenges to establish the existence value of scientific equipment.

Implementing the concept of design into research equipment

In 1947, when goods were in short supply after World War II, researchers asked us to supply not only filter paper, but also equipment. In response, the ADVANTEC Group began selling scientific equipment. Soon, the Group started developing such equipment by itself to respond to customers' individual needs. Although most manufacturers had prioritized ease of manufacture rather than appearance and usability, we prioritized the customer's perspective as an essential part of the development process. This resulted in winning two Good Design Awards for innovation in scientific equipment design. Keeping pace with increased interest in environmental conservation, we also continue to take a wide range of approaches that are friendly to both people and environment. These include collecting used ion exchange resin for water distilling apparatuses.



Believing in further potentiality of filter papers, we make more research and development for the future of chemistry.

Technology that protects life

These days, the demand for future-oriented diagnostics is rising and our products are well accepted in such cutting-edge medical fields. Test paper and immunochromatographic membrane for in vitro diagnostics developed through joint projects with universities and other research institutions have already found application in rapid testing of influenza, pregnancy and more in hospitals and homes. The extremely small mesh structure in such products may also find use in the food industry, where filtering out bacteria, viruses and proteins is highly useful in allergen testing. Using the strength of domestic production in distribution, we will provide the new value in markets where overseas manufacturers have a major share. Beyond keeping abreast of current needs, the ADVANTEC Group moves ahead of the times to provide innovative and ingenious products for the market. We continue to improve our research system to develop outstanding products that meet and exceed customer needs.



# Future

## Message from the President

# ONE ADVANTEC

Your best partner, the ADVANTEC Group is capable of providing solutions to challenges in filtration technology and scientific equipment.

Since its foundation in 1917 as Japan's first filter paper manufacturer, the ADVANTEC Group has steadily moved forward as a filter paper and scientific equipment manufacturer, and a dealer with a broad sales network both in Japan and overseas.

Throughout its history of over 100 years, the ADVANTEC Group has overcome the many challenges it has encountered through business expansion and corporate reorganization that would respond to market needs in a timely and effective manner. Through such challenges, we have established an integrated system capable of handling manufacturing, sales, facility construction and after-sales service within the Group. Striving to constantly deliver ever better products, we not only develop our own products, improve manufacturing methods and product quality, but we also handle scientific equipment produced by other outstanding manufacturers to enable us to provide one-stop products and services essential for companies as well as research and inspection institutes in a wide range of industries.

In the midst of significant changes in the business environment, it is necessary for us to quickly grasp customer needs, reflect them to our manufacturing, and develop innovative products and services. The ADVANTEC Group is currently working on improving our system to include all employees in the production and sales divisions to achieve a single goal under the banner of "One ADVANTEC."

This "One ADVANTEC" team aims to be an outstanding partner by providing solutions that contribute to the creation of a better future for our customers.

### Corporate Philosophy

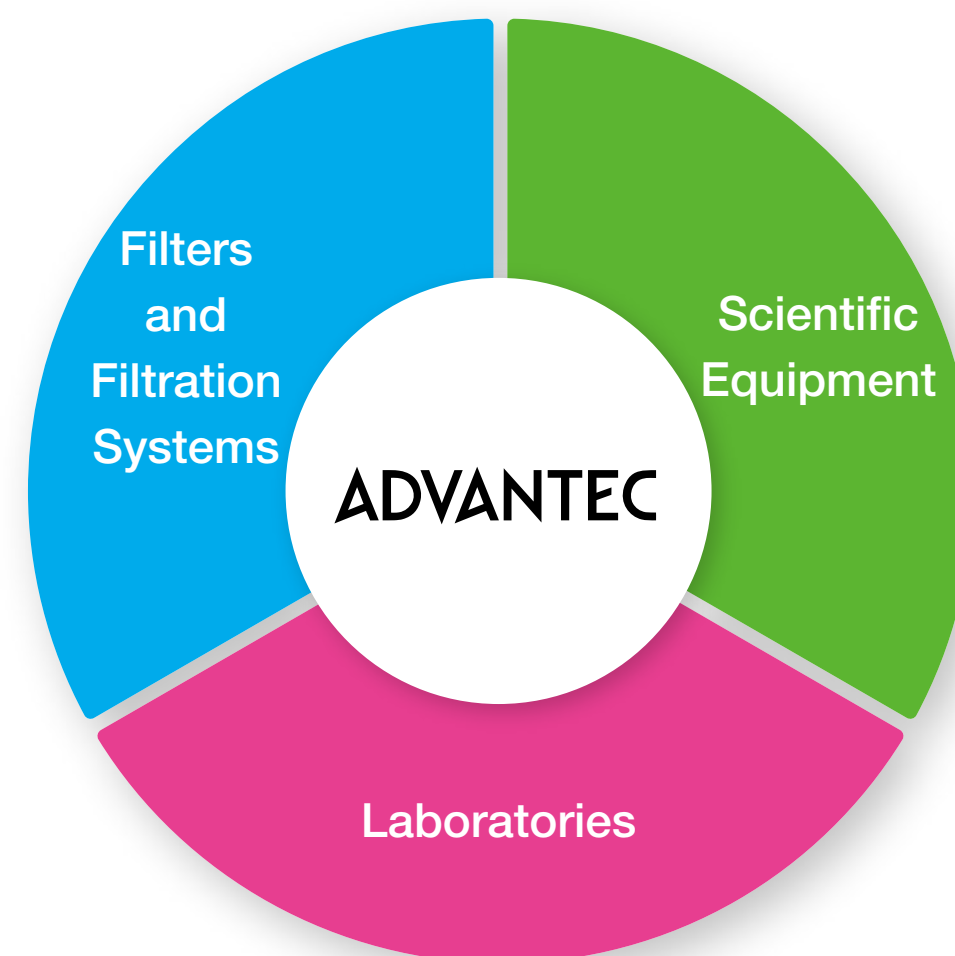
We seek to promote improved coexistence among people, the earth and scientific technology by making full use of technological advances, implementing an excellent sales organization, and providing cleaner air, water and a better natural environment.



Hirosuke Tobe President

## Business Overview

The ADVANTEC Group provides one-stop products and services essential for research, development, production and inspection in cooperation with manufacturers and dealers in the Group based on the three pillars of its business: filter papers and filtration systems, scientific equipment, and laboratories <LABCOM>.



### Filtration

Precision filters are essential for research and production. Our reliable filtration technology boasts a long history of successful achievements and responds to the needs of industries that require ever more ultraprecise functions.

### Science

With a wide product lineup, including general-purpose scientific equipment, analytical instruments and environment test equipment, we support the advanced technology industry as well as test and research institutions.

### Laboratory

We provide one-stop arrangements from construction, relocation and remodeling of laboratories to procurement of equipment and devices to meet the needs of researchers and provide solutions to a wide range of issues regarding laboratories and equipment.



Providing technology nurtured over 100 years of history and achievements

## Filters and Filtration Systems

### Filtration systems essential for research and manufacturing

We have responded to customer needs for filtration at a wide range of companies, research institutions in advanced technology and diverse other fields.

In addition, we have led the industry as Japan's top filter paper manufacturer through the development of a wide variety of filter media by leveraging our ability to look beyond the present to future market needs and effectively apply leading-edge technology developed over years of experience.



Cartridge Filters, Compact/Capsule Cartridge Filters, Lateral Flow Membranes, Analytical Filter Papers, Test Papers, Disposable Syringe Filter Units and Membrane Filters

### Products lineup responding to the needs of the times

The ADVANTEC Group's wide ranging product lineup includes filter papers, test papers, membrane filters, cartridge filters, holders and housings developed through experiences in responding to diversified requests throughout its 100-year history.



### Filtration system usable in a wide range of fields

Precision filters are essential for research and manufacturing in the life science, microelectronics, food, pharmaceutical and chemical industries. Our precision filters are highly regarded by customers for their quality and advanced technology.



### Analytical filter papers boasting a high market share

Almost all our filter paper products designed for analysis are made with pure cellulosic fibers, which reduce the impact on analysis results. Stable supply of high-quality products makes it possible for us to maintain a high market share.



### Test papers supporting safety and health

We have led the world in the development of pH test papers and have supported activities in a wide range of fields. Our products are used at laboratories, in the manufacturing, food and chemical industries, and school education.



### Major Products

- Cartridge Filters
- Cartridge Filter Housings
- Compact/Capsule Cartridge Filters
- Industrial Filter Papers / Filter Pads
- Membrane Filters
- Membrane Holders / Tanks
- Ultrafilters / Holders
- Disposable Syringe Filter Units
- Test Papers
- Analytical Filter Papers

### Filter Selection and Customization

We listen carefully to customer requests and issues to ensure that we can propose the most effective solutions. Proposals from the development and pilot production stages are also available. Please feel free to contact us for customizations.

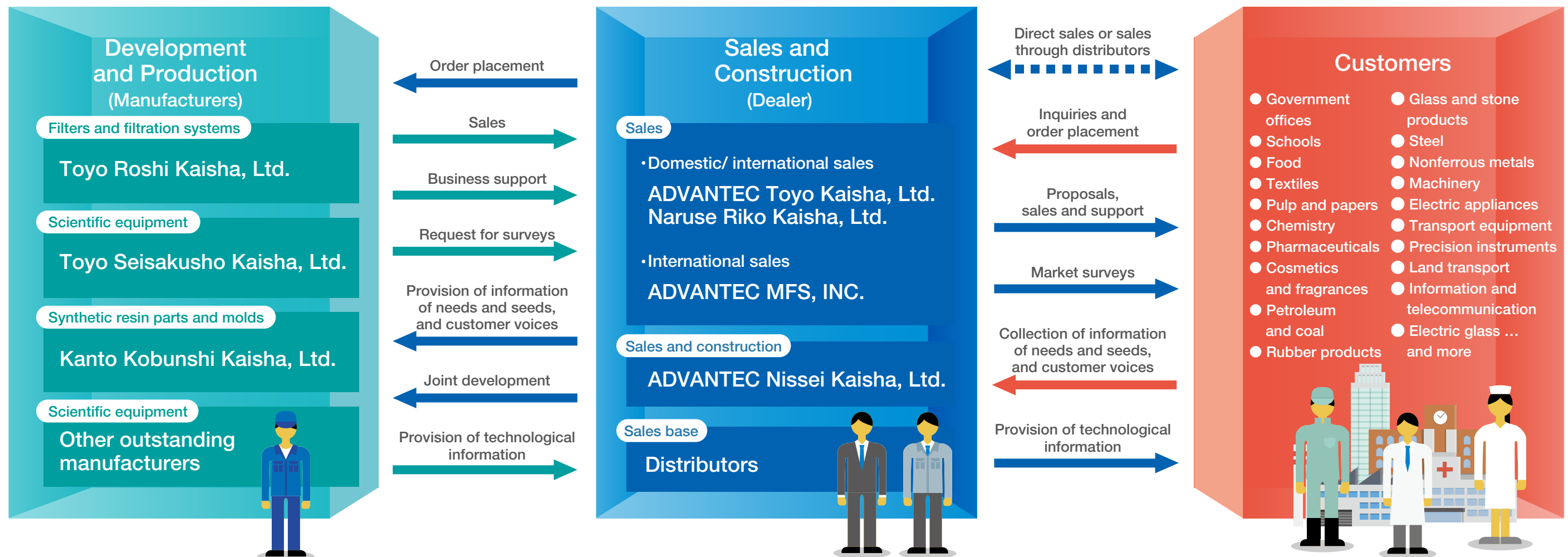


# ADVANTEC

# GROUP Commercial Distribution

A consistent system established through the unification of functions of manufacturers and dealers

Comprising seven companies, the ADVANTEC Group works with outstanding manufacturers and distributors at home and abroad as a team to respond to advanced and diversified needs.



## Toyo Roshi Kaisha, Ltd.

Toyo Roshi is a comprehensive filter paper manufacturer engaged in the development of filter media and manufacture of filtration systems responding to a wide range of customer needs regarding filtration.

## Toyo Seisakusho Kaisha, Ltd.

Toyo Seisakusho develops and manufactures scientific equipment that satisfies production equipment needs in R&D under a flexible manufacturing system handling a wide range of products, from standard to special-specification products.

## Kanto Kobunshi Kaisha, Ltd.

Kanto Kobunshi handles the molding of synthetic resin parts as well as the design and manufacture of molds used for the ADVANTEC Group products to support the development and manufacture of high-performance, high-quality products.

## ADVANTEC Toyo Kaisha, Ltd.

ADVANTEC Toyo focuses on Group product sales providing comprehensive services, from the presentation of proposals to after-sales follow up. It also provides products made by other outstanding manufacturers located both in Japan and overseas.

## Naruse Riko Kaisha, Ltd.

Naruse Riko supports customer research, development, manufacture, and measurement through the proposal and sale of scientific equipment.

## ADVANTEC MFS, INC.

ADVANTEC MFS provides effective solutions to diverse markets in large markets in North America and Europe, and rapidly growing markets in South and Central America to contribute to the development of industry.

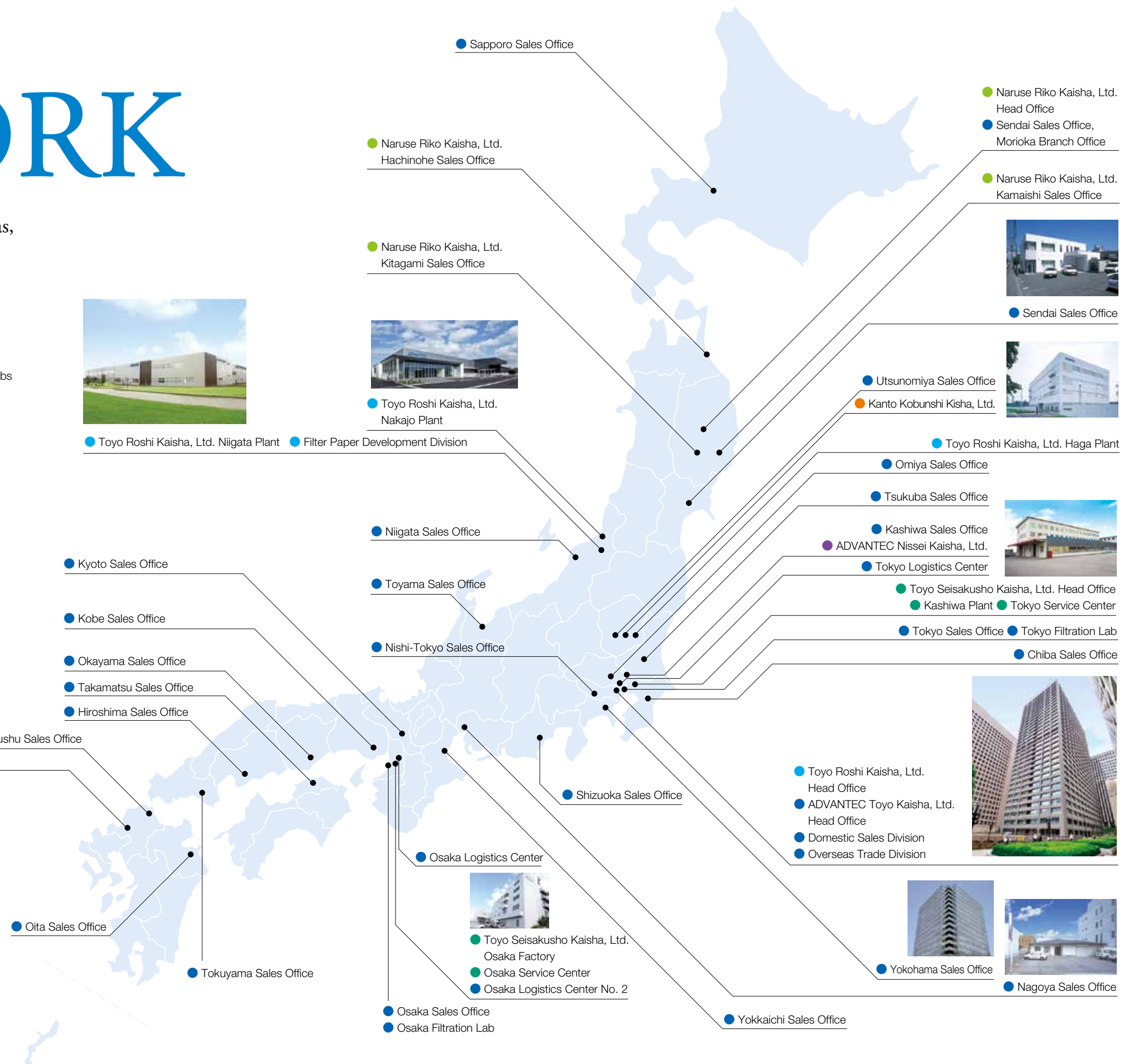
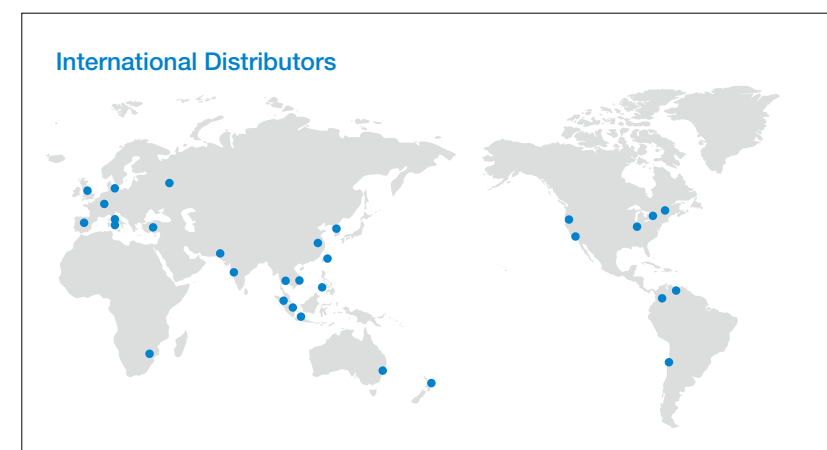
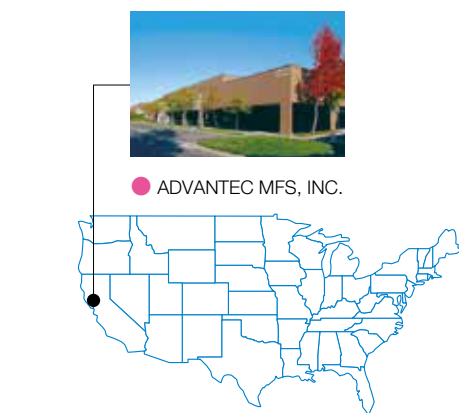
## ADVANTEC Nissei Kaisha, Ltd.

ADVANTEC Nissei handles the construction of water and air-conditioning equipment, and the sale and installation of scientific equipment.

# GROUP NETWORK

Through a broad sales network both in Japan and overseas, the ADVANTEC Group promptly provides products and services to customers.

- Toyo Roshi Kaisha, Ltd. Head Office/ Plants
- ADVANTEC Toyo Kaisha, Ltd. Head Office/ Sales Offices/ Logistics Centers/ Filtration Labs
- Toyo Seisakusho Kaisha, Ltd. Head Office/ Plants/ Service Centers
- Kanto Kobunshi Kaisha, Ltd.
- Naruse Riko Kaisha, Ltd.
- ADVANTEC Nissei Kaisha, Ltd.
- ADVANTEC MFS, INC.





# HISTORY



**1917**

Toyo Roshi is founded as Japan's first filter paper manufacturer.

The manufacture of qualitative and quantitative filter papers, which is currently categorized into analytical filter papers, got the company off to a running start immediately after it opened its doors for business. Our filter paper has been used widely in public research institutions, universities and other educational institutions, and company laboratories.

**1933**

Toyo Roshi Kaisha, Ltd. is established.

**1947**

Toyo Roshi starts selling analytical instruments, and scientific equipment.

In response to calls from more and more researchers who were experiencing difficulty purchasing necessary materials after World War II, Toyo Roshi started the manufacture and sale of glass tools and chemical equipment. Researchers hoped that Toyo Roshi could provide one-stop services as well as sales.

**1951**

Toyo Roshi starts operating four plants, Utsunomiya, Hanahata, Yoyogi and Ohkawa.

**1961**

Toyo Roshi Sales and Manufacturing Departments become independent.

[Sales Department]  
Toyo Kagaku Sangyo Kaisha, Ltd. is established in Tokyo and Osaka.  
[Scientific Equipment Department]  
Toyo Seisakusho Kaisha, Ltd. is established in Tokyo and Osaka.

**1969**

Toyo Seisakusho Kashiwa Plant is established.

**1974**

Toyo Roshi establishes its Los Angeles Office to start business expansion to overseas markets.

**1977**

Toyo Kagaku Sangyo in Osaka merges Toyo Seisakusho in Osaka.

**1979**

Toyo Roshi International, Inc. is established in the United States.

Toyo Roshi establishes the Technical Center (current Filter Paper Development Department).

**1984**

ADVANTEC is established as the unified brand of the Group.

**1986**

Toyo Kagaku Sangyo Kaisha, Ltd. in Tokyo and Osaka are merged to form ADVANTEC Toyo Kaisha, Ltd.

The merger of two companies in east and west Japan enhanced the new company's sales capability throughout the nation. Although we already handled a wide range of scientific equipment made by outstanding manufacturers in each region, the increase in purchasing power along with the merger established a base to provide such products throughout the nation.

**1995**

Toyo Roshi International, Inc. was renamed ADVANTEC MFS, Inc.

**1996**

Current Toyo Seisakusho Osaka Factory is established.

**1998**

Toyo Roshi Niigata Plant is established. The plant starts manufacturing filter papers with a computer system.

The Niigata Plant implemented the most advanced equipment to ensure automation and energy saving and cost competitiveness through the reduction of manufacturing costs. The plant also introduced process flow and process load management systems combined with centralized control by computers as well as unmanned transportation systems for handling semifinished goods.



**2012**

ADVANTEC Nissei Kaisha, Ltd. (previously Nissei Setsubi Kogyo Kaisha, Ltd.) joins the Group.

**2017**

Toyo Roshi celebrates its 100th anniversary.

For the coming century, the ADVANTEC Group reformed its organizational structures considering the Group as one corporation.

**2017**

Kanto Kobunshi Kisha, Ltd. (previously Yugen Gaisha Kanto Kobunshi) joins the Group.

**2018**

The current LABCOM Sales Department is established to initiate laboratory-related business as the third business segment of the Group.

**2019**

The Toyo Roshi Nakajo Plant is established to transfer production from the Ohkawa Plant.

**2019**

Naruse Riko Kaisha, Ltd. joins the Group.

**1930**



Our pH test paper was uniquely developed ahead of the world (certified as the Heritage of Analytical and Scientific Instruments in 2016).

**1937**



Filter pads

**1917**



Japan's first qualitative and quantitative filter papers (certified as the Heritage of Analytical and Scientific Instruments in 2015).

**1951**



Filter papers for automobiles

**1959**

Square-type weight-cutoff fraction collector

Our own developing pioneering scientific equipment, fraction collector became essential in the biochemical field in operations such as the analysis of proteins and amino acids, which was in the focus of attention after the war.



**1963**

Japan's first all-glass water distilling apparatus

**1966**



Temperature gradient shaking incubators

**1967**



Membrane filters

**1969**



Magnetic stirrers/ Water baths (GS-20N)

**1971**



Compact dryers/ Temperature-controlled incubators/ Automatic water distilling apparatuses

**1972**

Japan's first integrally molded cartridge filter - TOCEL® (TC Type)

TOCEL® is made by impregnating cellulose filter media with epoxy resin, stabilizing the pleated form, and welding both ends with polypropylene. The pleated form gives the compact body a broader filtration area, increases product life, and reduces the frequency of replacement. This is an innovative filtration product for manufacturing. In line with TOCEL®, we have also developed a wide range of housings to incorporate cartridges.



**1986**



Compact/ Capsule CF and disposable syringe filters DISMIC®

**1988**

Fraction collectors responding to a wide range of needs

Fraction collector SF-2120 and automatic water distilling apparatuses GS-200, GSL-200 and GSL-500 received Good Design Awards. We started the OEM fraction collector supply to manufacturers in the United States.



**1989**

Ultrapure water system

**1990**



Clean ovens Inert ovens

**1992**



Desktop ultrapure water system

**1998**



Thermo-hygrostats incorporating a color liquid crystal display

**2000**



Sampling equipment for dioxin in water

**2001**



Electrodialysis pure water system with regenerative ion exchange resin for consecutive electrodialysis

**2011**



Electronic constant temperature/humidity chamber

**2012**



Water distilling apparatuses incorporating the high-purity distilled water mechanism

**2014**



AV-CHECK: Test paper for level of deterioration of heated fat and oil

**2018**



Ultraflow membranes

**2020**



Advanced and ultrapure water systems incorporating a color liquid crystal display touchscreen

## ADVANTEC Logos

The logo consists of the word "ADVANTEC" in a bold, blue, sans-serif font, followed by a registered trademark symbol (®).

The group-wide logo was created in 1984. With the group name deriving from “advanced technology,” the logo expresses the contributions we have made and will make to the development of science and technology through the integration of technological capabilities cultivated since our foundation to take the lead in technological innovations for advanced technology in all industrial fields including new materials.



The logo is for the ADVANTEC scientific equipment business. It symbolizes the value that ADVANTEC scientific equipment provides to society: improvement of the products and research environment, maintenance of research quality for customers, and communication of the value offered for the expansion of customer business.



This logo represents the LABCOM business. We created this logo to symbolize our goal of considering every aspect of research environment with the people involved, and working together to create a better research environment.

The word "ADVANTEC" is written in a white, bold, sans-serif font against a solid blue background.