

Possibility of chemistry

The possibilities of chemistry benefiting the world. Denka is committed to creating new technologies needed by society and providing a stable supply of products to make the world a better place through the power of chemistry.

In 2023, Denka formulated a vision and the management plan "Mission 2030" for the eight-year period leading up to 2030, taking a new step forward.

Our mission states that "By 2030, we will increase the value of our human resources and management, and we will focus on creating business value that combines the three elements of specialty, megatrends, and sustainability." Under this mission, we aim to create value in three areas: business, human resources, and management.

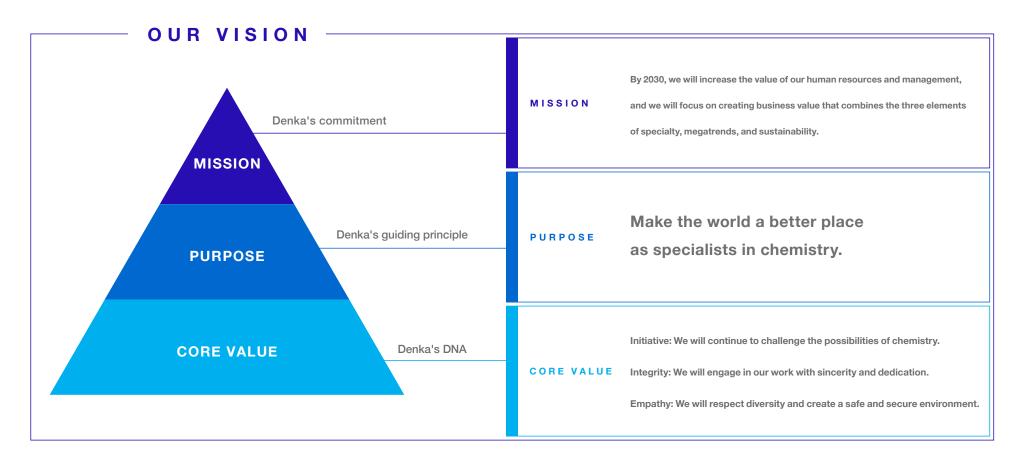
We will enhance Denka's corporate value, clarify our raison d'etre, and create the Denka of tomorrow based on Denka's DNA of Initiative, Integrity, and Empathy.

Denka believes that exploring the unknown possibilities of chemistry will support the security of society and create a prosperous future.

Vision

In formulating "Mission 2030", our eight-year management plan covering the fiscal period from 2023 to 2030, we have established a new vision that has launched in April 2023.

To draw up the vision, we gathered the candid views of our young employees, who will form the core of Denka in the future, while also adding thoughts of our management team. The vision is based on our Core Value, which is Denka's DNA, and overlays our Purpose, which is Denka's guiding principle, and our Mission, which is Denka's responsibility to be achieved by 2030. By structurally visualizing these concepts, we expressed a new vision (future image) for Denka that all employees can identify with. We also created a corporate message to communicate our vision in an easy-to-understand manner both inside and outside the Company.

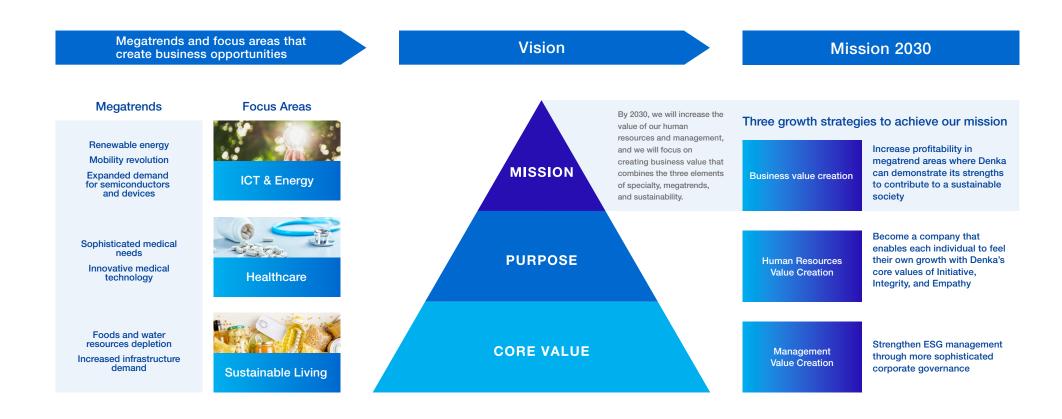


CORPORATE MESSAGE Possibility of chemistry

Toward the realization of the "Mission 2030" management plan

The vision was created based on an analysis of the world we envisage in the future, and the megatrends and focus areas from which new business opportunities will emerge.

To achieve our mission, which is the implementation goal of our vision, we will promote our growth strategies through the creation of three types of value: business value, human resources value, and management value, which will lead to the enhancement of our corporate value.



Denka City

In myriad scenarios throughout society, Denka solutions and products are hard at work. From convenience and comfort to peace of mind and environmental considerations, delivering happiness in spades is the driving force of our efforts to take on challenges, and what brings joy to each and every one of us.

High thermal conductivity and high toughness ceramic base plates

- Electronics & Innovative Products
- Life Innovation
- Elastomers & Infrastructure Solutions
- Polymer Solutions



Heat dissipation filler Denka Spherical Alumina Denka Spherical Magnesia



VINI-TAPE



Gripping materials for emission gas purification units DENKA ALCEN



Special rubbers



Automotive interiors



Home electronics, office equipment, flat panel displays, miscellaneous goods, etc. MS resin, MBS resin



LCD TVs, PC monitors,

ALONBRIGHT



Wigs and hair pieces for fashion



Skin-care products



Label film for PET bottles CLEAREN

Food containers, etc. Thermosheet BOPS



POCT test reagent



Lithium-ion batteries



DENKA CHLOROPRENE









acid fertilizer facilitates the health growth of crops and reduces the stress on





Functional ceramics (Spherical Alumina)

Spherical alumina (thermally conductive filler), developed using Denka's proprietary high-temperature melting spheroidizing technology, can be used as high-loading filler in various resins and rubbers.

Due to precision advances tailored to individual applications, spherical alumina is used for heat management in a wide range of fields, such as the automotive and electronic product fields, and Denka commands the top market share worldwide for these products. We are also increasing our production capacity for low dielectric dissipation factor spherical silica, supplying them not only for their primary usage application, semiconductor sealing material, but also to meet megatrend-related demand such as electric vehicles (XEVs) and 5G communications.

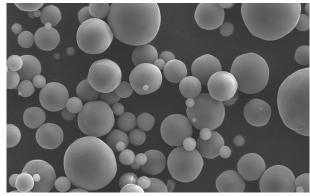


Image of spherical alumina under an electron microscope

Conductive agents for lithium-ion batteries (Acetylene black)

Acetylene black is used in lithium-ion secondary batteries, an essential component in electric vehicles, and in the semiconductive layers of high voltage cables due to its high purity and excellent electrical conductivity. Lithium-ion secondary batteries are batteries in which lithium-ions move between the cathode and anode, allowing the batteries to be charged and discharged repeatedly. Denka maintains the leading global market share of acetylene black, which is used as a conductive material in these batteries. We currently manufacture acetylene black at two sites in Japan and one overseas site. In the future, we will also start up a plant in Thailand to meet growing demand.



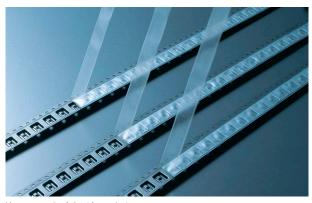
Acetylene black: DENKA BLACK



Use in high voltage power cable sheathing materials

Sheets and tapes for transporting semiconductors and electronic components (sheets for carrier tape, cover tape)

Semiconductors and electronic components are protected using carrier tape and cover tape during shipment. If uneven material surfaces cause components to tilt and to stick to the cover tape due to static electricity, this could result in faulty mounting when attaching components to circuit boards. Denka makes products that contribute to a stable supply of semiconductors and electronic components by utilizing an integrated approach that covers everything from raw material compounding sheet and film development to mass production, one of the Company's strengths.



Usage example of sheet for carrier tape



Cover tape (Denka Thermofilm ALS)



Vaccines

Prevention

To protect people from infectious disease, Denka operates as a major domestic vaccine manufacturer to develop and manufacture vaccines for influenza and other diseases, with a focus on safety and effectiveness. Influenza vaccines are effective in providing a measure of protection against the onset of influenza, and in preventing it from becoming more severe after its onset.

Denka is also collaborating with VLP Therapeutics Japan, Inc. (VLPT Japan) and the Research Foundation for Microbial Diseases of Osaka University (BIKEN Foundation) to develop a seasonal influenza vaccine using self-amplifying "replicon" RNA technology.



Influenza HA vaccine

POCT (rapid antigen testing kits)

Diagnosis

Denka supplies test kits that allow for easy and rapid measurement of infectious disease antigens in medical settings without the need for testing equipment, both domestically and internationally.

Quick NaviTM-Flu+COVID19Ag is a rapid test kit for both COVID-19 and influenza, and is able to determine the presence of antigens in a short period of time. Denka also offers lineups of rapid test kits for a wide range of viruses such as RS virus or adenoviruses, contributing to rapid diagnoses in the infectious disease field.



Simultaneous COVID-19 and influenza rapid test kit

Clinical diagnostic reagent

Diagnosis

Denka's clinical diagnostic reagents are primarily used in automated analyzers in hospitals, testing centers, and medical examination centers. By measuring the composition of specimens such as blood specimens, they provide accurate information that is essential for diagnosis and treatment.



Reagents for automatic analyzers

Elastomers & Infrastructure Solutions

Utilizing the carbide chain that has been in place since our founding, the Division has been supporting safe and secure lives with a wide range of organic and inorganic technologies, including functional elastomers, special admixtures needed for infrastructure toughening, and corrugated pipes and fertilizers for agriculture.



Chloroprene Rubber (DENKA CHLOROPRENE)

Chloroprene rubber is the first special synthetic rubber successfully commercialized in Japan with the use of proprietary technologies. Denka maintains the largest production capacity for chloroprene rubber in the world. As chloroprene rubber features an excellent balance of properties including heat resistance, ozone resistance and oil resistance, it is used in a wide range of applications from automotive to industrial components, adhesives, wet suits and medical gloves. Denka has developed new grades of chloroprene rubber meeting various needs.

Special acrylic elastomer (DENKA ER)

DENKA ER is a copolymer of ethylene, vinyl acetate and acrylic acid ester independently developed by Denka as a special rubber with excellent heat and oil resistance. In terms of performance, it lies between acrylic and fluorine rubber. DENKA ER offers excellent protection against cumulative degradation caused by heat and oil in particular, and is used in applications requiring high performance and high heat resistance including automotive components and machinery components.

Shotcrete Accelerator (Denka NATOMIC)

Denka NATOMIC is a shotcrete accelerator mixed with concrete to obtain quick hardening property that hardens concrete in several seconds to prevent the collapse of bedrock at tunnel excavation construction sites. Denka NATOMIC takes an important role to keep tunnel construction sites and workers in safe, and has been applied for Shinkansen bullet train tunnels and road tunnels all across Japan. Denka has the top share of shotcrete accelerator market in Japan.

Underground Drainpipes (Corrugated Toyo Drain, RaRaSui)

Denka started manufacturing plastic drainage pipes in 1963, and has been contributing to the modernization of civil engineering ever since, from underground drainpipes for agriculture to tunnel and road construction. RaRaSui is an underground irrigation system that integrates water locks, drainage outlets, water supply basins and Toyo Drain underground drainpipes. By optimizing water management, RaRaSui enables the conversion of paddy fields to crop fields, generalization and direct sowing cultivation to achieve low-cost farming. It also supports the high quality and stable high yield of crops.



DENKA CHLOROPRENE



Automotive components using DENKA ER



Tunnel spraying work using Denka NATOMIC



Toyo Drain



High transparency resin (CLEAREN)

CLEAREN is used in a wide range of applications including beverage bottles, shrink wrap for toiletry products, good packaging containers, caps for cosmetic products and toys. It is a transparent resin with excellent impact resistance, and has various properties including special heat shrinkage behavior, high fitting and hinge (flex fatigue properties, and surfaces that do not easily become sharp when fractured. Denka also proposes solutions for reducing environmental impact such as promoting the sorting of used PET bottles and utilizing recycled materials.

MS resin (DENKA TX Polymer)

DENKA TX Polymer is used in a wide range of applications, from the light guide plates used in LCD TVs and monitors to cosmetics containers and high-end goods. It boasts superior dimensional stability to acrylic and high light transmittance on par with acrylic, making it a transparent resin that is ideal for optical applications and products with strong design qualities. It also requires less electricity than acrylic during the molding process, and can help lighten products due to its lower weight.

Heat-resisting additive (DENKA IP)

DENKA IP is used for automotive interior and exterior components as well as home appliances as a heat-resisting additive for ABS resins. When added, DENKA IP increases the heat resistance temperature of ABS resin, preventing components from deforming due to heat, and contributing to improved safety. It also helps reduce our environmental impact by making automotive components lighter and paint-free, by improving cabin environments by reducing VOC usage, and by producing heat-resistance ABS using recycled ABS materials for reuse in automotive applications.

Food packaging material (Thermosheet BOPS)

Thermosheet BOPS are mainly used for food containers. In addition to their conventional use for supermarket food packs and convenience store boxed meal container lids, in recent years demand has increased in the areas of takeout and home delivery. The excellent transparency and anti-fogging properties of Thermosheet BOPS can enhance the marketability of the contents. The sheets can be made even thinner through Denka's proprietary molding process, which helps reduce container weight, cut CO2 emissions and decrease waste.







Cosmetic containers using DENKA TX Polymer



Example of automotive interior use



Food container usage examples



Establishment of a Corporate Venture Capital (CVC) fund

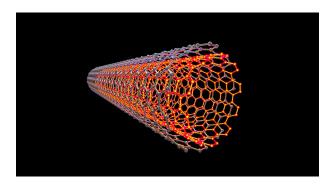
Denka established a Corporate Venture Capital (CVC) fund with Pegasus Tech Ventures with the aim of creating new businesses and acquiring new technologies. By forming this CVC fund, we aim to accelerate the creation of new businesses through investments and business alliances with startups that possess cutting-edge technologies, products, business models, and business ideas. By combining the technologies and businesses owned by promising startups in Japan and overseas with Denka's unique technologies and other management capital, we are striving to create businesses that help solve social issues. We have dispatched employees to Pegasus Tech Ventures located in Silicon Valley, and we are dedicating ourselves to human resource development that improves investment skills and startup assessment abilities.



Investment in a startup that seeks to promote the real-world use of carbon nanotubes

Through the CVC fund, Denka has invested in CARBON FLY, Inc., a carbon nanotube developer.

We are deliberating potential collaborations in which we will use CARBON FLY's design and manufacturing technologies for high purity carbon nanotubes with highly uniform shapes and their diverse applications together with Denka's own acetylene black to improve the performance of lithium-ion batteries.



Investing in a startup to expand high-functional materials business

Through the CVC fund, Denka has also invested in Ares Materials Inc., a developer of Ene-thiol (*1) optical film. Ares Materials' manufacturing technologies for high performance optical film made from Ene-thiol can be used to manufacture optical film that reduces environmental impacts. By collaborating with Ares Materials and using those technologies with Denka's HARDLOC OP series of Ene-thiol adhesives, we aim to improve the visibility of displays and promote their real-world use in the flexible display field.

(*1) Ene-thiol reaction

Refers to a reaction between a thiol (R-SH) and an alkene (C=C-R). It is a method that allows molecules to be easily bonded without using complex chemical synthesis methods when synthesizing molecules with various functions. A typical example is "click chemistry," which won the Nobel Prize in Chemistry in 2022.



Sustainability and Environmental Policy

Environmental problems are the most critical issues threatening the survival of ecosystems.

Under these circumstances, pursuing sustainability is essential for companies to meet their social responsibilities and continue their business, while at the same time improving the competitiveness of products and creating new business opportunities. Denka is committed to "achieving carbon neutrality by 2050," "environmental conservation and minimization of environmental impact," and "promotion of resource recycling" in order to create sustainable business value as envisioned in the "Mission 2030" management plan. In addition, we will promote "provision of products and technologies that help reduce environmental footprints from the viewpoint of LCA (Life Cycle Assessment)."

Efforts toward carbon neutrality

Denka aims to become carbon neutrality by 2050. In addition, under the "Mission 2030" management plan, we will review the previously announced reductions and aim to achieve a 60% reduction in CO₂ emissions by fiscal 2030 (base year: fiscal 2013). We are currently considering and promoting a number of measures, such as expanding the use of clean energy, studying process conversion to lower environmental impact by introducing new technologies such as low-carbon acetylene chains, converting fuel of in-house thermal power plants, and reviewing our portfolio.



Expansion of the use of clean energy

Denka has been constructing hydroelectric power plants since its founding and currently has 17 such plants with a maximum output of 140,000 kW. All hydroelectric power plants are natural inflow type power generation systems, which use the flow of river water to generate electricity and return the water to the river. These systems have a lower burden on the natural environment than dam type power generation systems. In addition, solar power generation facilities were installed on the premises of the Shibukawa and Isesaki Plants in 2013. We are currently searching for candidate sites for new construction at our plants and Group companies in Japan. Denka will continue to increase its renewable energy ratio and reduce the environmental footprints of its production activities.



Oami Power Plant

Environmental conservation and minimization of environmental footprint

Since COP26, the importance of coexistence with the natural environment has been increasing along with the response to climate change. Denka has set "Reduction of Environmental Impact and Conservation and Protection of Biodiversity" as one of its basic ESG policies, and is committed to understanding the impact of its corporate activities on biodiversity and working to conserve and restore it. Regarding biodiversity, in fiscal 2022 we started a survey to identify points of contact between corporate activities and biodiversity. Based on this survey, we have identified and evaluated the risks and opportunities posed by our corporate activities on nature and have begun to consider countermeasures. We plan to complete the survey and evaluation of business sites directly under our control in Japan within three years, and then gradually move forward with measures for conservation and restoration.



Initiatives to address plastic issues

In March 2024, Denka and Toyo Styrene, an equity-method affiliate, completed a chemical recycling plant for used polystyrene within the Denka Chiba Plant.

Plastics are an irreplaceable part of our lives. However, their effects on the environment, including plastic leaking into the ocean, are becoming an issue.

By promoting the chemical recycling of polystyrene, the Denka Group is committed to recycling plastic resources and environmental considerations.



Social Contributions and Health Management

Naming rights for Denka Big Swan Stadium

Denka has held the naming rights to Denka Big Swan Stadium (Niigata Stadium) since 2014. This is part of the Denka Group's social contribution policy, and while respecting the cultures and customs of countries around the world, we aim to contribute to their development through our activities rooted in local communities. Niigata Prefecture is home to Denka's Omi Plant (in Itoigawa-shi), its main manufacturing site, and Niigata and Kagamida Plants (in Gosen-shi), where we produce vaccines and test reagents, making it a region that we have had close ties with for many years.



JSEC

Denka sponsored the 22nd Japan Science & Engineering Challenge (JSEC2024), hosted by Asahi Shimbun and TV Asahi. JSEC is a competition of independent science and engineering research results by high school and technical college students that aims to improve STEM education and nurture students' problem-solving abilities. The Denka Group strives to foster the development of the youth that will become the leaders of the manufacturing world of the future by supporting education, academic research, and culture based on its social contribution policy, actively supports the next generation of academic research, and contributes to cultural development.



tumugu sake made to support reconstruction efforts

As part of its support for the reconstruction effort following the Great East Japan Earthquake, Denka is making "tumugu" sake with the cooperation of a sake brewer. Since the disaster struck in 2011, Denka has been involved in volunteer activities to remove rubble and debris in Minamisanriku and other areas, and has started this initiative by supporting the restoration of farmland and stabilization of production in this area, where rice paddies were devastated by the tsunami. The name of the reconstruction support sake, "tumugu," was chosen by the employees who participated in the volunteer activities, with the hope that the sake will spin the thoughts of those who wish for the recovery of the Tohoku region and connect them to the future. Denka's fertilizers and agricultural materials are used in the cultivation of Hitomebore sake rice.



Diversity, equity & inclusion

Amidst major changes in society, people's environments and lifestyles are also changing dramatically. Denka promotes diversity, equity & inclusion (a culture that mutually recognizes diversity, creates fair opportunities for all, and an organization where everyone is welcome and valued). We are working to foster a workplace environment, system, and culture where employees with diverse views can play an active role. As part of this effort, we continue to challenge ourselves to achieve higher corporate goals, aiming to increase the ratios of managerial positions held by women, experienced employees, and foreign nationals.



Safety measures

Denka strives to ensure employee safety measures throughout the Denka Group. We are promoting the development of rules and the creation of a workplace environment that is intrinsically safe, and we are visualizing the sources of danger in the workplace, inspecting equipment, and strictly enforcing work process rules from a third-party perspective in order to achieve zero serious accidents and disasters. We are also strengthening our employee training system and building an environment that can better support smooth communication in the workplace.



Health management and workstyle reforms

An indispensable asset for a company is its people. Denka regards its employees as "human assets." In order to ensure that every employee can spend a comfortable and motivating working day, we are promoting system reforms to create "a workplace where people look forward to coming back the next day." We will continue our efforts to improve employee engagement by promoting workstyle reforms aimed at health management.

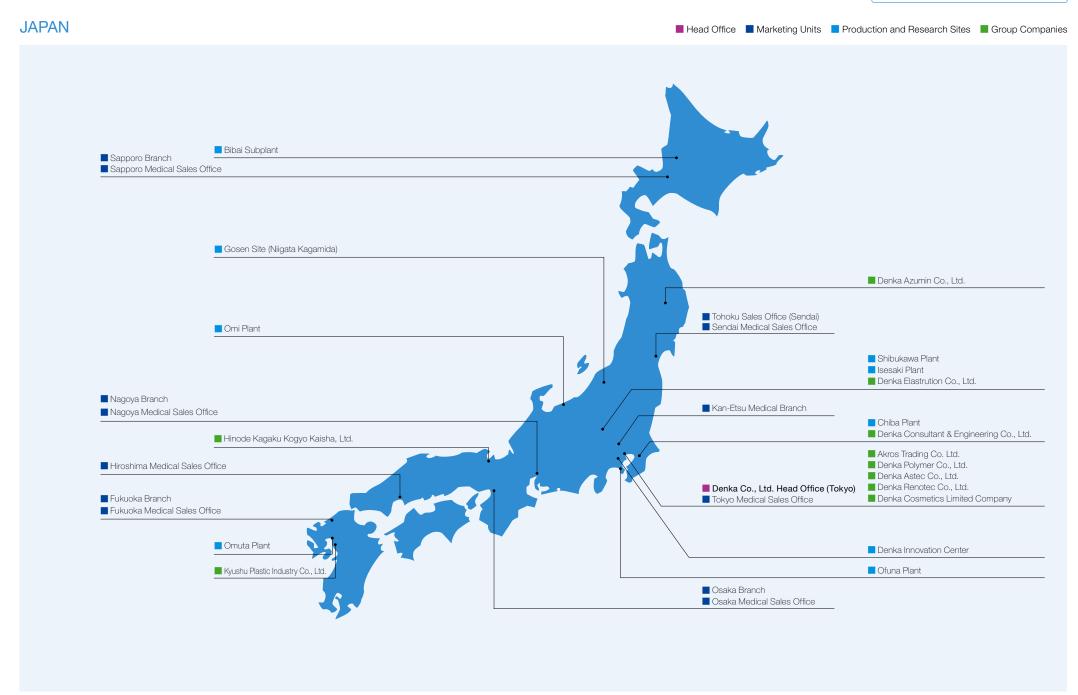


Denka History

	Founding period Dedication to the corporatization	1985	\bigcirc	Expansion into functional chemicals Deep cultivation of Denka's original	2009	Launched sales of sialon phosphor ALONBRIGHT
	of calcium cyanamide			management resources	2012	Denka Singapore Pte. Ltd. launched production of DENKA IP heat-resistant resin
					2013	Denka Advantech Pte. Ltd. launched production of TOYOKALON
					•	Established Denka Inorganic Materials (Tianjin) Co., Ltd.
	Hokkai Carbide Plant Acetylene lamp Dr. Tsuneichi Fujiyama, the pioneer of the carbide industry in Japan			Series of thermal roducts semiconductor uses Denka CSA sub-tast varieties and heat encapsulants materials	2014	Established Denka Innovation Center
1916	Omuta Plant launched production of carbide and	1985		dissipation sheets Shibukawa Plant launched production of HITTPLATE, a high	2015	Acquired the chloroprene business from DuPont
	calcium cyanamide			heat-dissipation electronic circuit board	2020	Merged with Denka Seiken Co., Ltd.
1921	Omi Plant launched production of carbide	1987	1	Chiba Plant completed production facilities for MALECCA, a styrene-based heat-resistant resin	2020 🔷	Taking on the challenge of COVID-19
1942	Omuta Plant launched production of acetylene black	1989		Established Denka Advantech Pte. Ltd. in Singapore (fused silica production)		Becoming a company that is truly needed by society
1945 🔷	Entry into the field of organic synthesis Organic development of the chemicals business	1990		Specialization in core businesses		
	ARAG			The state of the s		COVID-19 rapid antigen test kit No. 6 Power Plant
	Fused carbide Chloroprene plant			Shipping facilities Polystyrene production Head Office of Denka Singapore	2020	Obtained approval to manufacture and market a COVID-19 rapid antigen test kit in Japan
	from electric furnace (Omi Plant)			constructed jointly with plant of the joint venture Sumitom Coska Cement Co., Ltd. Denks Singapore Denks Singapore	2021	Launched production of DELYTACT® injection, a G47∆ oncolytic virus for cancer treatment, at Denka's Gosen Plant on consignment
1949	Listed on the stock exchanges of Tokyo, Osaka, and Nagoya	1992	•	Shipping facilities constructed jointly with Sumitomo Osaka Cement Co., Ltd.		virus for carrier treatment, at Defika's Gosen Plant on consignment from Dalichi Sankyo Co., Ltd. * "DELYTACT" is a registered trademark of Dalichi Sankyo Co., Ltd.
1955	Capital participation in TOYO KAGAKU Co., Ltd.	1996		Vinyl chloride business transferred to TAIYO VINYL CORPORATION, a joint venture with Tosoh Corporation and Mitsui Chemicals. Inc.	•	Obtained approval to manufacture and market a rapid antigen test kit for simultaneous diagnosis of COVID-19 and influenza
1958	Established Gunma Kagaku Co., Ltd. (currently Denka's Shibukawa Plant)	1998		Polystyrene business integrated with Nippon Steel Chemical		virus in Japan
1962 🔷	Expansion into petrochemicals			Co., Ltd. and Daicel Chemical Industries, Ltd. to establish Toyo Styrene Co., Ltd.	2022	New Himekawa No. 6 Power Plant, Denka's 17th hydroelectric power plant, launched operation
	Development of the styrene business		•	Formed business alliance with Sumitomo Osaka Cement Co., Ltd. in the cement business	•	Decided to withdraw completely from the cement business
		2002	•	TOYO KAGAKU Co., Ltd. becomes a wholly owned subsidiary through share exchange	•	Signed an agreement with SCG Chemicals Public Company Limited of Thailand to establish a joint venture company to manufacture and sell acetylene black
		2004	•	Established Denka Chemicals Shanghai Co., Ltd.		Announced a new vision and the "Mission 2030" management
	Chiba Plant at the time of its establishment (1960s) Katori Plant of Denka Polymer	2006		Denka Singapore Pte. Ltd. added manufacturing facilities for	Ĭ	plan from fiscal 2023
1962	Opened Central Research Institute	2000	I	polystyrene, CLEAREN, and clear resin	2023	Toward the future
1969	(currently Denka Innovation Center) Opening of Isezaki Plant	2014	О.	Second founding period	2023	Denka's goal for the new future
1909	(former Fuji Chemical Engineering)		T	A new starting line for the next 100 years		
1979	Acquired shares in Toshiba Kagaku Kogyo Co., Ltd.			the next roo years		Started a new vision and the "Mission 2030" management plan * Please refer to pages 3 and 4 for details.
1373	formerly Denka SEIKEN Co., Ltd.) from Tokyo Shibaura Electric Co., Ltd.				2024	
1980	Established Denka Singapore Pte. Ltd.					
	(acetylene black production)			Denka Sialon phosphor Innovation Center ALONBRIGHT		

The Denka Group's Network of Operating and Production Sites Spanning the World

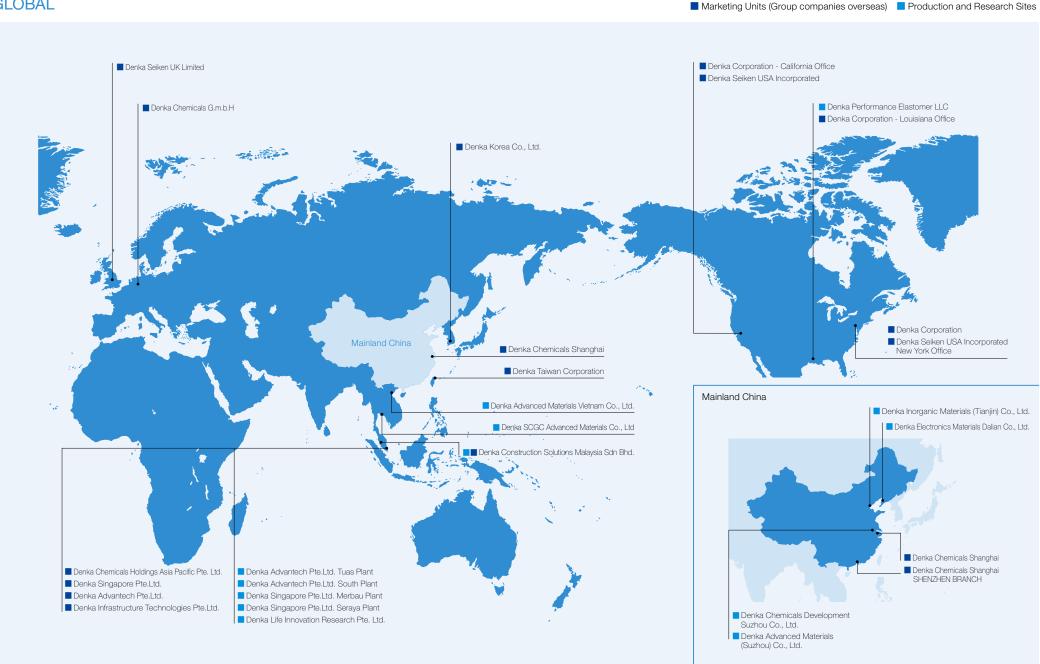
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The Denka Group's Network of Operating and Production Sites Spanning the World

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GLOBAL



Denka Company Limited

Denka Company Limited

1-1, Nihonbashi-Muromachi 2-chome, Chuo-ku, Tokyo 103-8338, Japan

Established: May 1,1915

Paid-in Capital: ¥36,998 million (as of March 31, 2024)

Number of employees: 6,514 (Consolidated), 4,330 (Non-consolidated) (as of March 31, 2024)



Publication: April 2025