

Central

Tradition & Innovation in Manufacturing and Advance to High Technology

Japan



Welcome to Central Japan

Central Japan is located in the center of the Japanese Archipelago, composed of the five prefectures of Aichi, Gifu, Mie, Shizuoka and Nagano.

Among them, Aichi, Mie and Shizuoka face the Pacific Ocean, featuring the fertile Nobi Plain created by the three major rivers Kiso, Nagara and Ibi, rich fishing grounds such as the Ise and Suruga Bays and grand Mt. Fuji, as well as nice warm weather. Gifu and Nagano, on the other hand, are inland prefectures with many hot springs and ski areas located in superb nature close to the Japan Alps with 3,000-meter-high mountains. The natural environment in the five prefectures is diverse and beautiful.

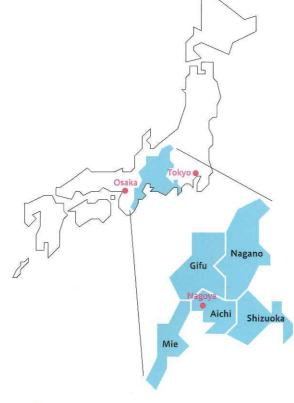
In such a blessed climate, since the beginning of recorded history, Central Japan has developed prosperous life, culture and history. It has also been a vital area for transportation that connects the eastern and western parts of Japan. Notably, the "three heroes" Oda Nobunaga, Toyotomi Hideyoshi and Tokugawa Ieyasu, who made great achievements during the Sengoku period (period of warring states) in the 16th century at the beginning of the modern era, along with other feudal warlords and daimyo, were based in Central Japan and promoted the development of local communities and industries to allow local people to have a prosperous life. This resulted in the growth of traditional indigenous industries such as pottery, textiles, cutlery, Japanese paper, lacquerware, woodworking and furniture production, as well as traditional performing arts, including Ukai (cormorant fishing), Bunraku (traditional puppet theater) and farmers kabuki, and local cultures including dashi (festival floats) and festivals, which have been handed down to the modern era.

Based on such traditions, a large number of companies located in Central Japan are successfully developing global business activities. This world-class industrial cluster that was established by them in the region accounts for approximately 15% of Japan's GDP. Good old Japan and high-tech Japan thus coexist in Central Japan.

Principal city of Central Japan: Nagoya

With a population of 2.29 million, Nagoya is the fourth largest city in Japan behind Tokyo (23 Wards), Yokohama and Osaka.

The city is the economic, industrial and administrative core of Central Japan.



Area: approx. 42,908km²
(as of October 2014)

Population: approx. 17 million people (as of October 2014)

Located in an area extending

from 136 to 139 degrees of east longitude and from 34 to 37 degrees of north latitude

Economic Power of Central Japan

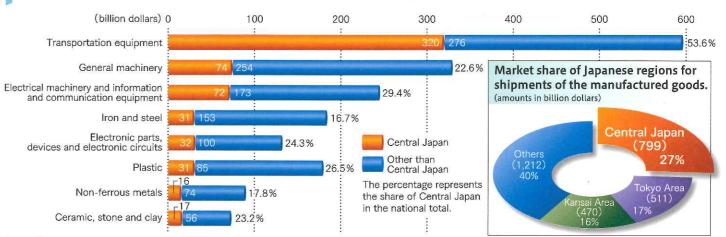
The manufacturing industry is a prominent feature of Central Japan, composed of diverse sectors such as automobiles, electronic devices, machine tools, precision machinery and fine ceramics. The products are also internationally competitive, and the value of manufacturing products shipped from the region is approximately 78 trillion yen, which accounts for 25% of the total value in Japan.

Central Japan also has Japan's largest concentrations of companies in the automobile and aircraft industries. The region produces approximately 45% of the automobiles produced in Japan. The aerospace industry in the region produces about 50% of the aerospace-related parts and, in particular, 70% of the aircraft body-related parts produced in the country.

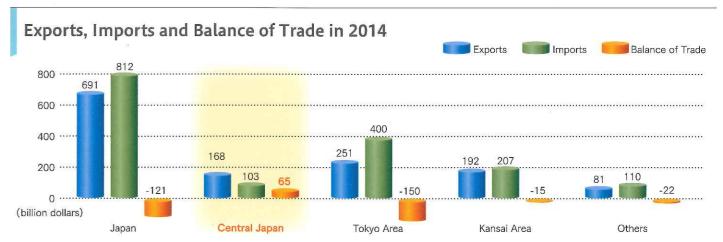
Central Japan is the top region in Japan in terms of the value of shipments of the manufactured goods.

The region holds a large share in the national production of transportation equipment and various other products

Central Japan's share of the market for shipments of the manufactured goods, breakdown in sectors.

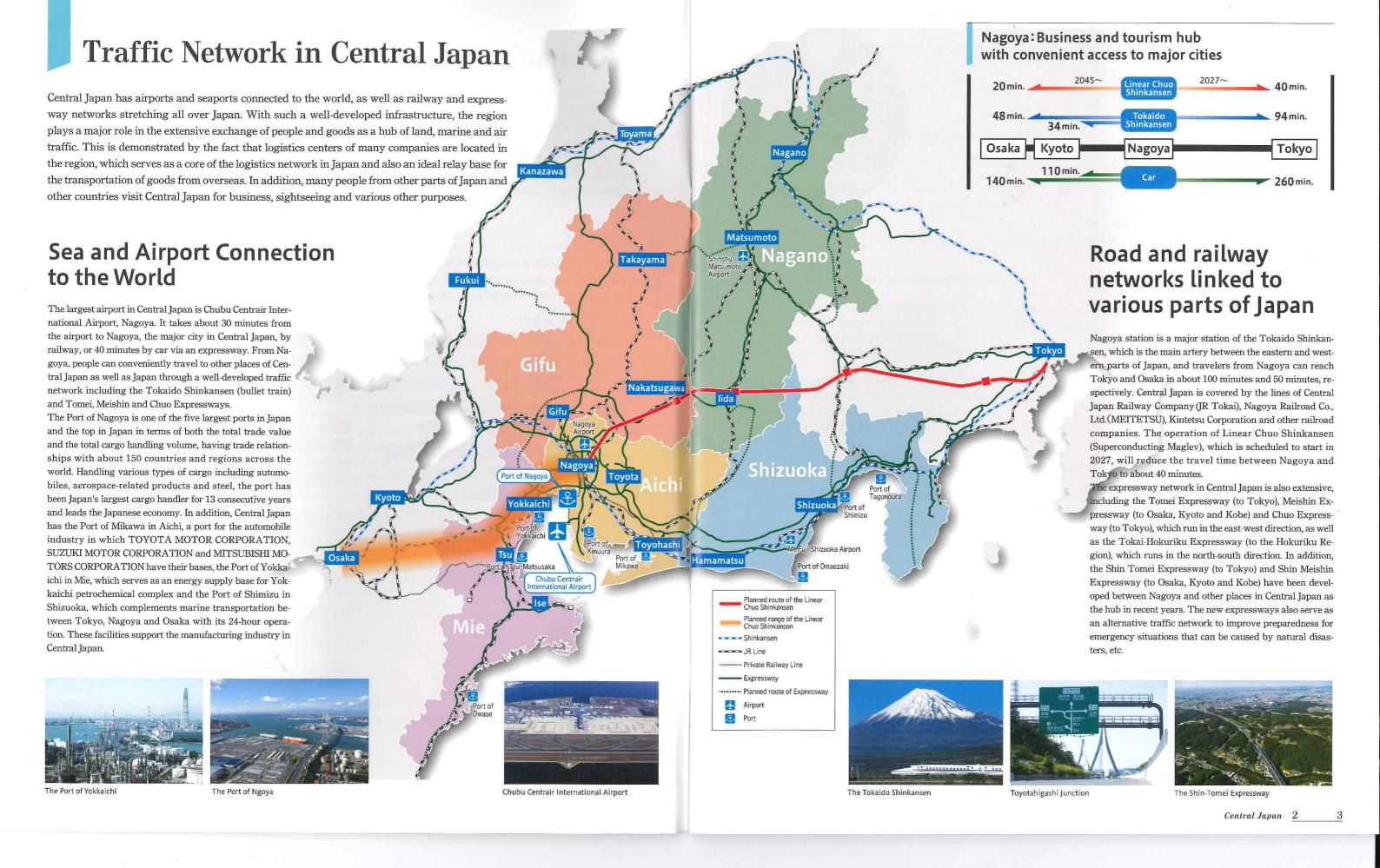


[Source] Value of manufactured goods shipments: data from "Census of Manufactures (Revised Report) 2013" by Ministry of Economy, Trade and Industry of Japan, converted into dollars at the average exchange rate during 2013 (97.6 yen/USD) Tokyo Area: Saitama, Chiba, Tokyo and Kanagawa Kansai Area: Shiga, Kyoto, Osaka, Hyogo, Nara and Wakayama



[Source] Export and import values: data from "Trade Statistics" by Ministry of Finance Japan and Nagoya Customs, converted into dollars at the average exchange rate during 2014 (105.83 yen/USD)

Central Japan



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Birth and Development of Modern Industries

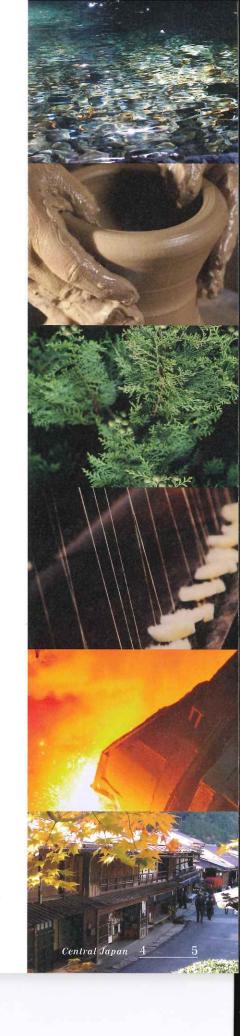
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Photo by Oikawa Ryoichi

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Open the Door for Manufacturing:

The Origins of Manufacturing Traced Back via 6 Routes

Central Japan leads the manufacturing industry in Japan.

For what reasons did the region achieve its strength in manufacturing?

Why have a variety of sectors been born in the region?

Water, Soil, Wood, Yarn, Iron and Road.

As far back as more than 400 years ago, traditional crafts were born with rich natural resources, and people made creative efforts for many years to pave the way to manufacturing in the modern times. There were six routes to open the door for manufacturing. The origin of each route is traced back below.

2 Road









The Kiso, Nagara and Ibi Rivers flow from the Kiso and Hida Mountain Ranges in the Japan Alps, which is called the rooftop of Japan. These major rivers of Japan have created the fertile Nobi Plain stretching from the southern part of Gifu to the western part of Aichi.

The large volume of water in the Kiso River caught the attention of Momosuke Fukuzawa, who was later called the king of electric power. Fukuzawa committed himself to hydropower generation in the Kiso River, and made great achievements in the development of power sources as well as the establishment of a long-distance power transmission system to deliver electricity to cities and help the industry grow. An essential item for the power transmission system was insulators, which were produced with the pottery technology that had been developed in Central Japan. Abundant electric power also brought new styles of manufacturing to the region.

Rich water resources have created a vast flatland and fertilized the soil. They have also supplied industrial water and abundant electric power, which are indispensable for business activities, in addition to water for daily life, to contribute to the development of Central Japan as a region of manufacturing.



Journey on Water, and Manufacturing

Tour of sake breweries in Takayama



It is said that good sake can be found in a cold place. Blessed with abundant water and relatively low temperatures throughout the year, Takayama has produced many brands of high-quality sake that we still enjoy. Most of Takayama's famed seven brewers have a history of more than 200 years. It is recommended that you taste the distinctive sake of each brewery while travelling around the quaint old town of Takayama.

Takayama City Tourism Department

2-18 Hanaoka-machi, Takayama-shi, Gifu TEL:0577-32-3333

Sugitama(ball made with cedar leaves) hung under the eaves is a sign that new sake has been made. Photo courtesy of Takayama City Tourism Department



In this traditional style of fishing, each cormorant fishing master on a boat controls 10 to 12 cormorants at the same time by handling the leash ropes attached to the birds to make them partially swallow sweetfish and catch the fish alive. This unique tradition on Nagara River has been passed along for almost 1,300 years. The visionary scenes illuminated by bonfires are fascinating. This event is held almost every day from May 11 to October 15 of each year.

Gifu Convention and Visitors Bureau

The Gifu Chamber of Commerce and Industry Bldg. 1F, 2-2 Kanda-machi, Gifu-shi TEL:058-266-5588

Photo courtesy of Gifu City



0 bara Paper

A traditional papermaking art has been inherited in Obara, which is located in a mountain area of Toyota City, Aichi. Broussonetia kazinoki, the raw material of the Japanese paper, is dyed and used as a paint to give patterns to a paper in this art craftwork. Tatsukichi Fujii, a craftsman, looked at





Garyu Cherry Tree Norivuki Kasugai

early times and raised the paper to 216-1 Hora, Eitaro-cho, an art form while taking advan-Toyota-shi, Aichi TEL:0565-65-2151 tage of the raw material.

N atural springs in Kakita River



Rainwater and melted snow seep into the deep underground of Mt. Fuji, and the water flows through lava stones to be naturally purified and springs up near Kakita River Park as extremely transparent fresh water. The daily volume of the spring water is about a million tons, which is the largest in Japan. Kakita River takes its water from the spring water, and is one of the three clear-flowing rivers in Japan along with Nagara River in Gifu and Shimanto River in Kochi.



Spring water from Mt. Fuji

Kakita River Park 71-7 Fushimi, Shimizu-cho, Sunto-gun, Shizuoka TEL:055-981-8224 Photo courtesy of Shimizu-cho

Kamikochi

Kamikochi is a beautiful mountainous spot located in Matsumoto City, Nagano at an altitude of 1,500 meters. Along with Kappa Bridge over the clear Azusa River and the spectacle of mountains, the dreamy view of Mt. Hotaka reflected on the mirror-like water surface of Taisho Pond is a representative landscape of Kamikochi. The nature charms people in a different way in each season, which is protected by restriction of access by private cars.

Kamikochi Information

4468 Kamikochi, Azumi, Matsumoto-shi, Nagano TEL:0263-95-2433 Contact telephone number during winter: 0263-94-2537

Photo courtesy of Nagano Prefecture



The landscape enjoys timeless popularity.





Journey on Soil, and Manufacturing



which had been a major producer of such products, stopped the supply with the outbreak of World War I, Seto started to increase its production. The designs cultivated in the long history of pottery, as well as the painting techniques, receive a high evaluation in other countries as well, and many products are exported to the United States and European countries.

SETO-GURA MUSEUM

1-1, Kurasho-cho, Seto-shi, Aichi TEL: 0561-97-1190

Photo courtesy of SETO-GURA MUSEUM

Koubeigama

This kiln is located in a 200-year-old folk house in a quiet mountainous area. It is a representative pottery producer of Mino ware, which has a history of more than 200 years. Takuo Kato (1917-2005), the sixth generation producer, a Living National Treasure, who restored the techniques of Persian pottery and created works combining tradition with originality

such as lusterware and Persian colored ceramics. There are many attractions on the premises including the Old Pottery Museum, along with the Craft Gallery, which displays works of his ancestors.

4-115 Ichinokura-cho, Tajimi-shi, Gifu TEL:0572-22-3821



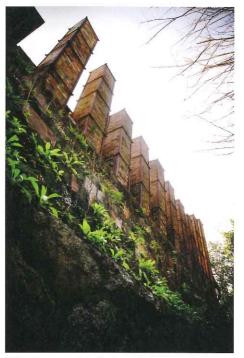


Koubeigama is placed in a relocated 200-year-old folk house.

Flower vase in Sansai (three-color) style "Soyo" Takuo Kato



Tokoname: View of an ascending kiln



With Tokoname-yaki potteries and galleries, the adjacent area is popular as a pottery promenade.

Tokoname City, Aichi is the producer of Tokoname ware. The city has "Toeigama," Japan's largest ascending kiln with a total length of 22 meters. Since its creation in the Edo period, the kiln has been continuously used to fire jars and pots in the old days and produce clay pipes essential for urban development in modern times.



Pottery Promenade

Tokoname Sightseeing Association 5-168-2 Koiehonmachi, Tokoname-shi, Aichi TEL:0569-34-8888

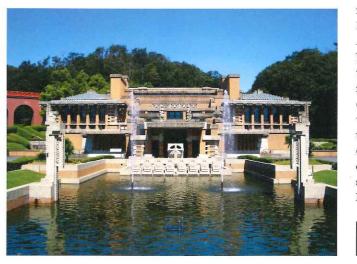
E arthen pots produced in Yokkaichi

Dishes cooked in pots are essential food for Japanese people in winter. An earthen pot is placed in the center of a dining table, and people put ingredients in it and share the food. Yokkaichi City, Mie is the largest producer of earthen pots in Japan. The development of

thermal-resistant earthen pots made with a mineral called petalite to prevent cracking has led to an increase in the city's share. Various types and designs of earthen pots are now offered, including earthen pot rice cookers and casserole earthen pots.



The Museum Meiji-mura: The former main building of the Imperial Hotel was built with the design of Frank Lloyd Wright, an American architect, in 1923. Wright wanted to use bricks with a light color instead of red bricks.



The former main building of the Imperial Hotel was built with the Wright wanted to use bricks with a light color, instead of red bricks, for the exterior walls. Then, he selected soil in Chita Peninsula in Aichi. Bricks made of the soil were baked in Tokoname and delivered to Tokyo by ship. As many as four million bricks made in Tokoname decorated the gorgeous exterior view. The former main building of the Imperial Hotel was regrettably demolished in 1967, and the main entrance hall and lobby are now stored and exhibited in the Museum Meiji-mura.

1 Uchiyama, Inuyama-shi, Aichi TEL:0568-67-0314 Photo courtesy of Museum Meiji-mura





Journey on Wood, and Manufacturing

Takayama **Festival**

The Takayama Festival is the collective name of the Sanno Matsuri (Sanno festival) held in spring and the Hachiman Matsuri held in autumn. The main attraction is gorgeously decorated festival floats with lively carvings, beautifully embroidered fabrics and karakuri ningyo showing exciting actions with elaborate devices. The spring and autumn festivals have a parade of 12 and 11 floats, respectively, which is accompanied by hundreds of people who march through the town. The night festival is also visionary with a parade of the floats lit up with lanterns.

Takayama City Tourism Department

2-18 Hanaoka-machi, Takayama-shi, Gifu TEL:0577-32-3333 Photo courtesy of Takayama City Tourism Department













Furniture production started in Matsumoto, Nagano in the latter half of the 16th century. Traditional drawers and tea cabinets produced by craftspeople in the area around Matsumoto Castle were sold in various parts of Japan. Matsumoto grew as a furniture producer, and had the largest market share in Japan in the production of Japanese furniture until the outbreak of World War II. Matsumoto furniture produced with inherited skills takes advantage of the warmth of wood and is popular among many people.

Matsumoto Mingei Kagu (folk-craft furniture) 3-2-12 Chuo, Matsumoto-shi,

Nagano TEL: 0263-33-5760

N agoya Castle Hommaru Palace

Nagoya Castle used to have Hommaru Palace to the south of the tower. Although the palace was the first early modern castle building designated as a National Treasure and recognized as a masterpiece, it was burnt down along with the donion in an air raid during World War II. The reconstruction of the Hommaru Palace is currently in progress with the target of completing it by 2018.

A target in the approach adopted for the reconstruction is to use traditional materials and construction methods wherever possible based on the documents prepared in the Edo period that survived the war in addition to survey maps and photos. Precious timber such as hinoki cypress is used in various parts such as pillars, floor boards and even frames of paper screens, and decorative metal fit-



started with the wood processing

that had been active since ancient

times. Many companies that used

to manufacture wooden model air-

planes and ships shifted the mate-

tings and paintings on the walls and sliding doors are produced with the devotion of craftspeople and painters. The entrance and Omote-shoin (main drawing room) are now open to the public.

1-1 Hommaru, Naka-ku, Nagoyashi, Aichi TEL: 052-231-1700 Photo courtesy of Nagoya Castle





rial from wood to celluloid and plastic. Japan's first plastic model was born in Shizuoka in 1958. Since then, the prefecture has created a series of hit products, including supercars, Gundam and Mini 4WD cars, attracting global

Shizuoka Hobby Square SouthSpot Shizuoka, 18-1 Minami-cho, Suruga-ku, Shizuoka-shi, Shizuoka TEL: 054-289-3033

Journey on Yarn, and Manufacturing Yarn **M**atsusaka cotton Matsusaka cotton features sophisticated stripes called "shima watari" and indigo dyeing in depth. It enjoyed a boom among people of Edo in the Edo period, and it is said that Edo had many kimono shops of Matsusaka merchants. Matsusaka Momen Teori Matsusaka City Industrial Promotion Center, 2176 Hon-machi, From the Edo period to the Meiji period, Central Matsusaka-shi, Mie TEL:0598-26-6355 Japan was a major region of cotton and silk textile production with the Mikawa area, a major cotton textile producer, as well as the Okaya area, which had an active silk industry. Under the policy of the central government to encourage new industries, the region grew to play a pioneering role in Japan's textile manufacturing while the country was developing to be a modern state. In the field of spinning yarns, a spinning machine invented by Tacchi Gaun (1842-1900) from Nagano Prefecture in 1873 played a key part. This machine was used most positively in the areas along the Yahagi River in Aichi. As the power source to operate e machine, a rapid stream was used in the mounainous areas of Okazaki and Toyota, which were ocated upstream of the river, and water wheels were attached to both sides of a boat in the downstream areas where the flow was slow. With the introduction of the spinning machine, which was called "garabo" after its characteristic rattling sound during operation, yarn spinning developed to be an indigenous industry. Textiles were produced by female farmers. One of them was the mother of Sakichi Toyoda, the founder of the Toyota Group. He grew with the sight of his mother working on the farm in the daytime and weaving at night. He was called a master inventor,

and improved weaving machines in different ways.

His creative efforts were the origin of the manufac-

turing of Toyota.

Sakichi Toyoda **Memorial House**



Toyoda power loom invented by Sakichi



House where Sakichi Toyoda was born

In this house, Sakichi Toyoda (1867-1930), the founder of the Toyota Group, was born and raised, and Kiichiro Toyoda (1894-1952), who established Toyota Motors, was also born. The house is located in Kosai City, Shizuoka, overlooking Lake Hamana. Thanks to the achievements made by Sakichi, who devoted himself to the study of automatic looms in the 1900s, most of the imported looms in Japan were replaced by domestic products, and the production even grew to the point where they exported the looms. "Open the window. It's a big world out there!" His phrase which symbolizes the heart of manufacturing has been passed along until now.

113-2 Yamaguchi, Kosai-shi, Shizuoka TEL:053-576-0064

rimatsu tie-dyeing

the old Tokaido Road, and still has the townscape of tie-dyeing wholesalers, warehouses and houses with lattice doors that have been retained since the Edo period, which can be seen in the works of Utagawa Hiroshige, an ukiyo-e painter. Arimatsu tie-dyeing was developed as an indigenous industry under the patronage of the Owari Domain, and became popular as a souvenir among travellers on the Tokaido Road. Various tiedyeing techniques have been

Arimatsu, Nagoya is located along handed down from mothers to daughters.

> **Tie-Dyeing Museum** 3008 Arimatsu, Midori-ku, Nagoya-shi, Aichi TEL:052-621-0111





se Katagami

Katazome (stencil dyeing) is one of Japan's traditional dyeing techniques. It was used to dye hakama (skirts) for samurais in the Edo period. As the technique was developed, Ise Katagami (pattern paper) became widespread throughout Japan under the patronage of the Kishu Domain.

The skills of stencil makers are excellent, and the elaborate patterns and designs are also highly valued not just as pattern papers but also as interiors and artworks.



ou Kaikan

3-10-1 Jike, Suzuka-shi, Mie TEL: 059-386-7511

