

Issuance of the Ota City Industrial Guide

Ota City is one of Japan's leading manufacturing cities where SMEs with advanced processing technologies are concentrated. The city has been the backbone of the entirety of Japanese industry since the postwar period of rapid economic growth and has supported the development of cutting-edge technologies by taking advantage of the strengths in the concentration of a wide variety of processing technologies.

Companies in the city have overcome many crises. These include the collapse of the bubble economy from 1991 to 1993, the global financial crisis in 2008, the Great East Japan Earthquake in 2011 and the spread of COVID-19 in 2020. These companies have survived with their advanced technologies. Ota City and the Ota City Industrial Promotion Organization are developing various projects to serve as concrete measures to stop the decrease in the number of factories and to secure the future of manufacturing in Ota City. These projects include those on support toward the maintenance and development of industry concentration, support for technological and management innovation, and support to secure and develop manufacturing personnel. In addition, we are organizing efforts to develop original products and to ensure young workers smoothly inherit techniques by the companies themselves utilizing their advanced processing technologies and development capabilities. We have seen some companies take on the challenge of entering next-generation industries such as the growing industries of medicine and nursing care, aerospace, and robots in recent years. Industry in Ota City is about to approach a new transition phase.

We hope that many people in Japan and overseas in addition to those living and working in Ota city come to further understand and take an interest in the industry in Ota City through this Guide.

Ota City Industrial Promotion Organization

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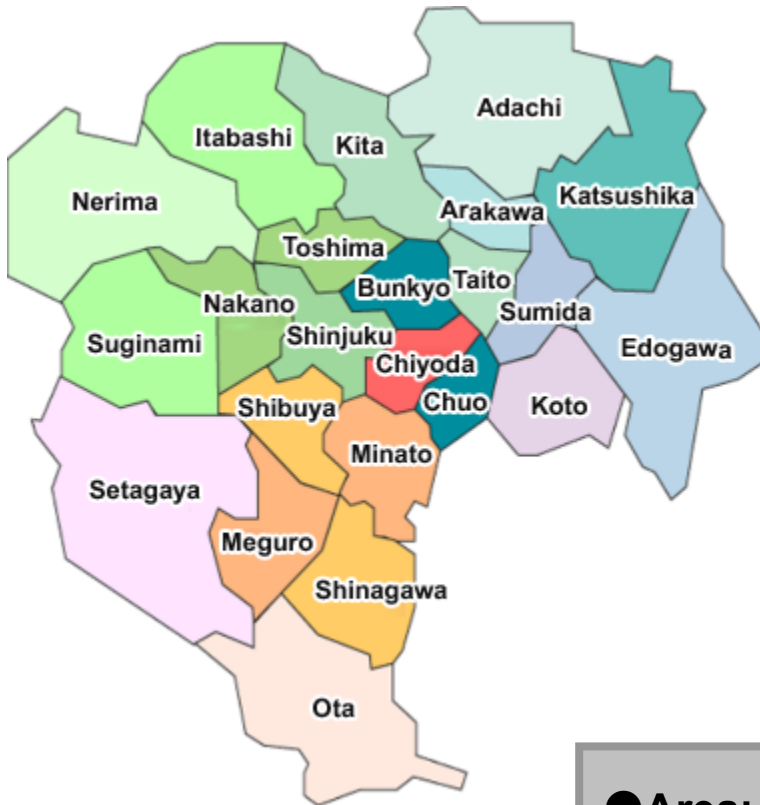
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1 Location and Characteristics of Ota City

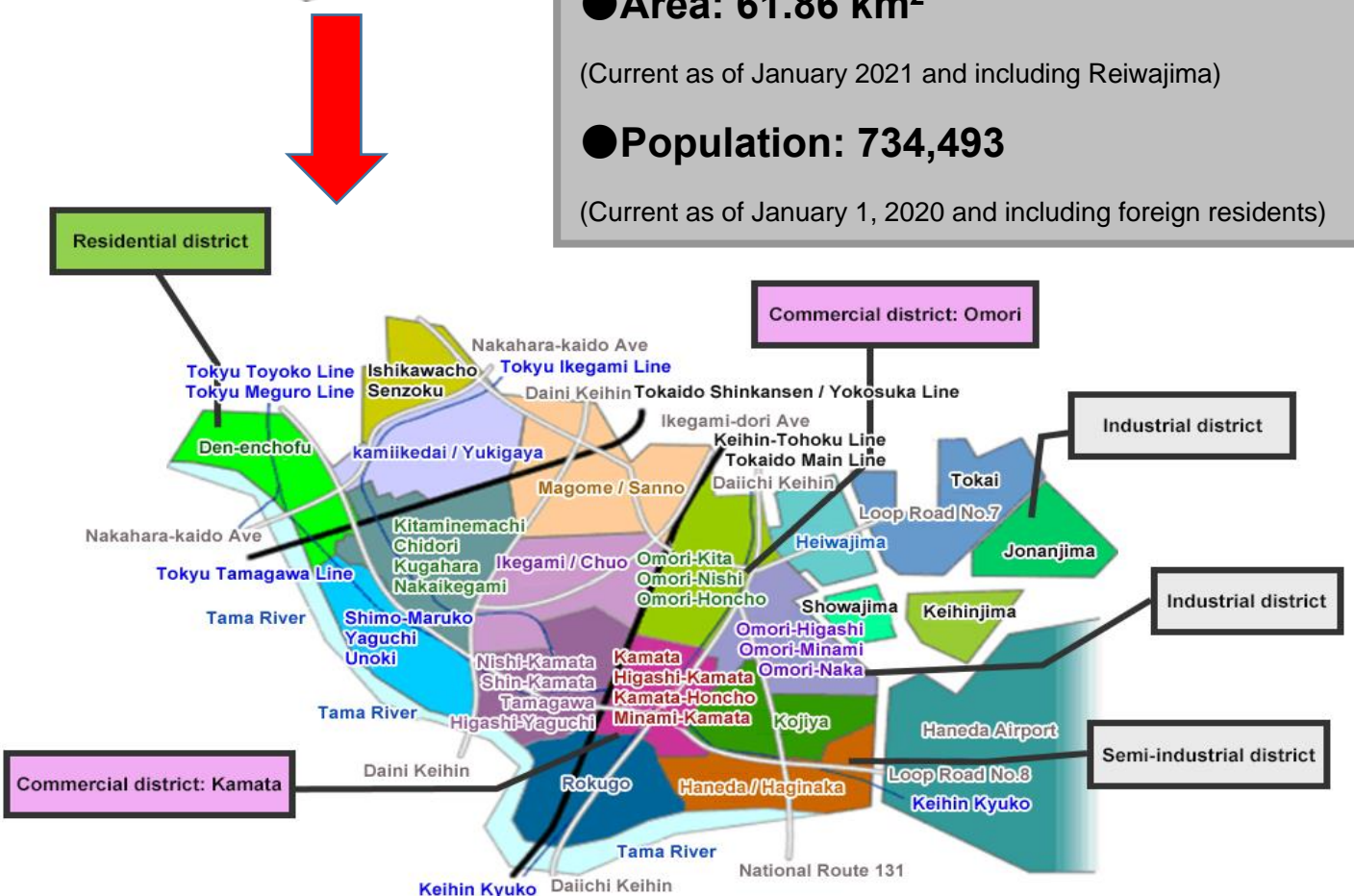
Ota City is located at the southernmost tip of Tokyo's 23 cities. It has the largest area of those 23 cities.

The population is the third largest after Setagaya City and Nerima City. A major feature is that the daytime and nighttime populations are almost the same. The city has different characteristics in each area (e.g., industrial districts, commercial districts and residential districts). Corporate activities and living spaces coexist throughout the entire city.

In addition, the city is replete with a national highway and ring road that runs through the north, south, east and west of the city. There is also a substantial railway network (e.g., JR, Keikyu and Tokyu), Furthermore, the number of flights and users has been increasing significantly at Haneda Airport, a leading airport of Japan, due to internationalization. It is playing a greater role than ever before as a gateway connecting the world

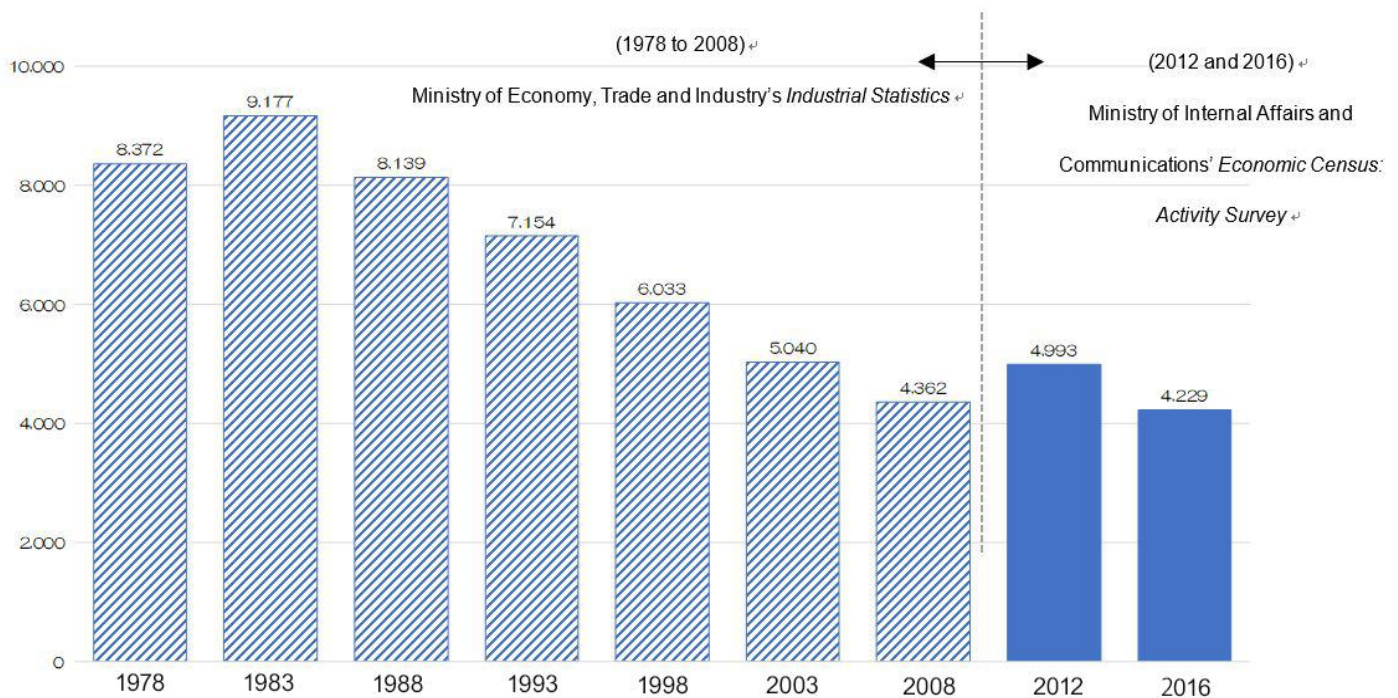


●Area: 61.86 km²
 (Current as of January 2021 and including Reiwajima)
●Population: 734,493
 (Current as of January 1, 2020 and including foreign residents)

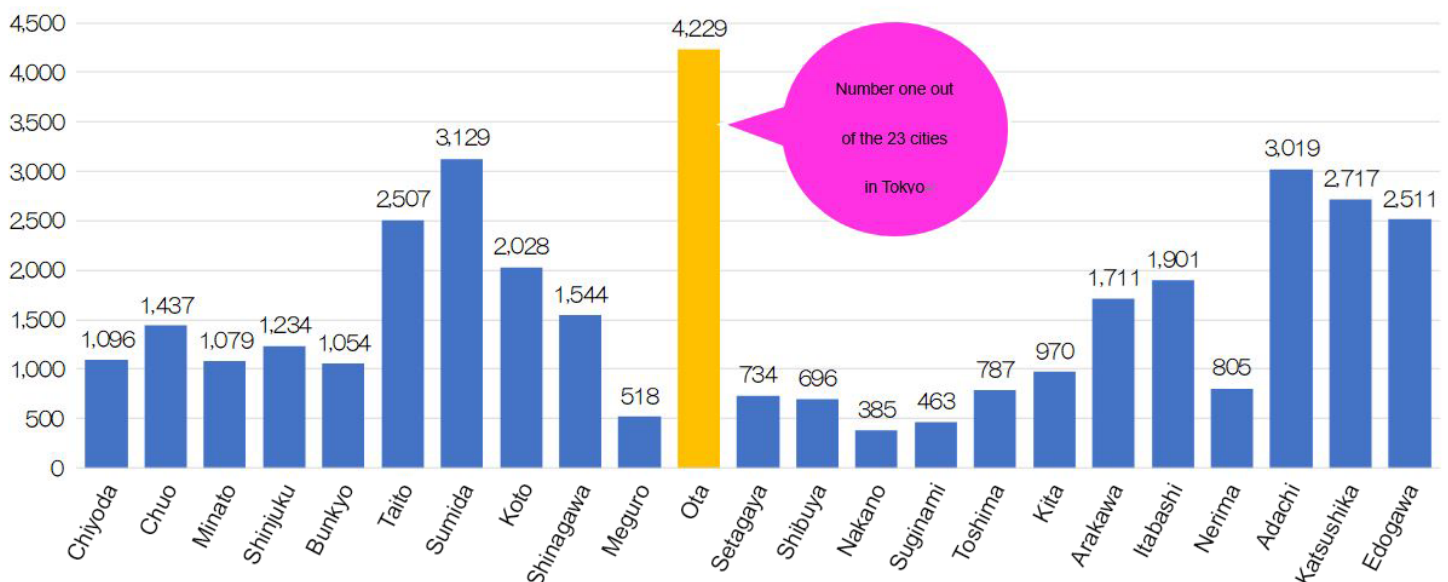


2 Number of Factories in Ota City

■ Number of Manufacturing Plants (Number of Factories) Located in Ota City



■ Number of Manufacturing Plants Located in the 23 Cities of Tokyo (2016)

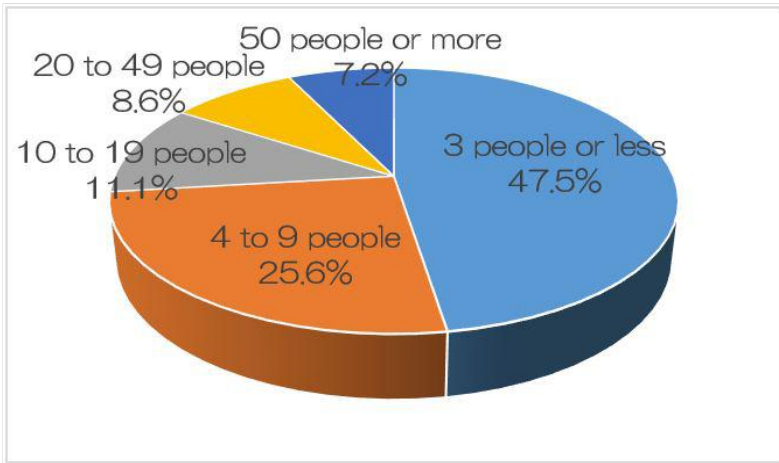


The number of manufacturing plants in Ota City is approximately 4,000. This makes it one of the leading concentrations of small factories in Japan. However, this number has been on a consistent downward trend since peaking at 9,177 in 1983. The main reasons for the decrease include the economic downturn due to the collapse of the bubble economy and the financial crisis in 2008, a slump in demand due to the relocation of companies overseas and companies changing business or going out of business due to a shortage of successors. Nevertheless, many small factories that have overcome this difficult time by developing their own

products and refining their own technologies are found concentrated in Ota City.

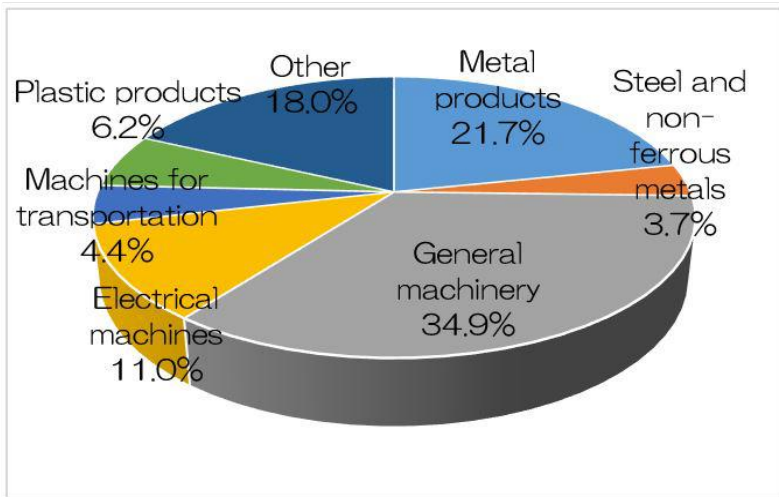
3 Overview of the Factories in Ota City

■ Number of Employees in the Entire Company



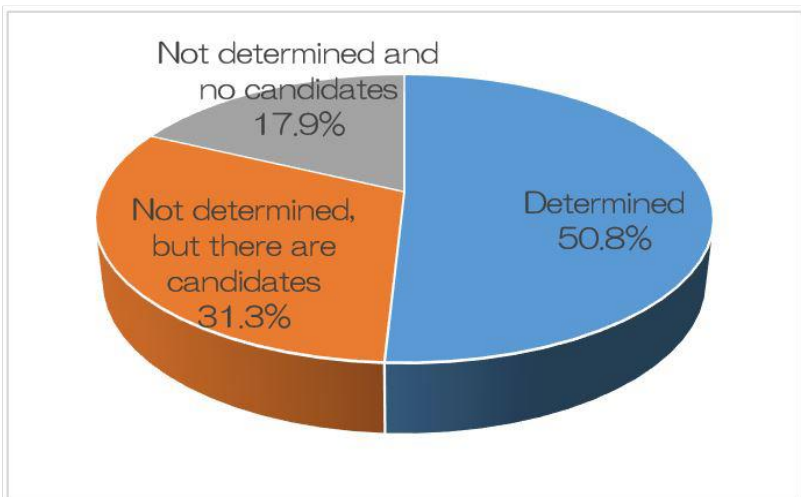
Approximately half of factories in Ota City employ three people or less. If we add factories that employ four to nine people, just under 80% of factories employ nine people or less. A major feature is that there is a concentration of small factories in Ota City.

■ Major Industries in Ota City



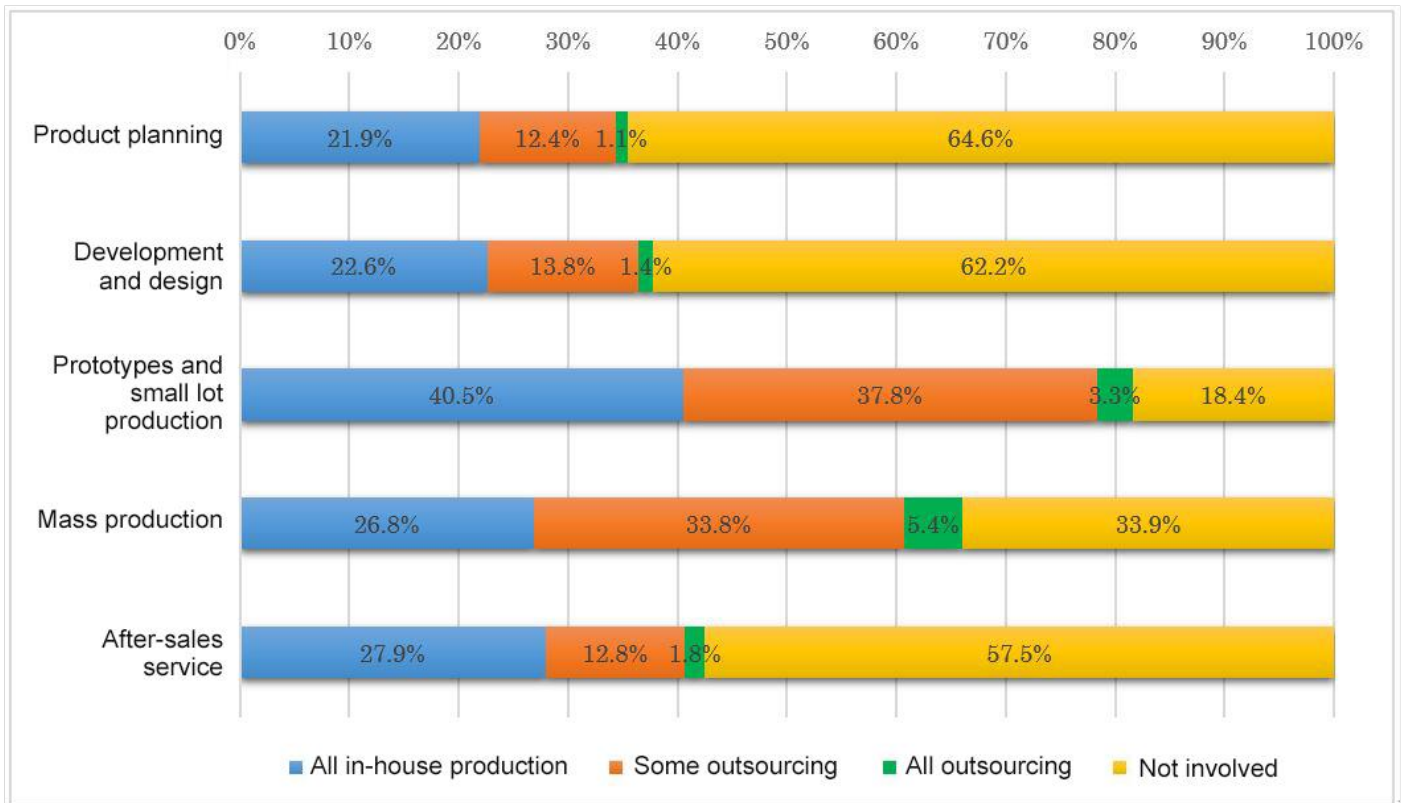
More than half of factories in Ota City are involved in the metal products and general machinery industries. With those factories in the electronic machinery and transportation machinery industries added, more than 80% are involved in machinery and metal processing. Another feature of the factories in Ota City is that there are many factories specializing in the **high-mix, low lot production** of prototypes and jigs with high added value.

■ Existence of a Business Successor



Despite the concerns about a shortage of successors, more than half of companies in Ota City replied that they have determined a business successor. In addition, if we add those who have not made a determination yet but which have candidates to be successor, more than 80% of companies replied that they are planning to solve their successor problem.

■ Functions/Operations and Areas Handled by Plants in Ota City



A conspicuous number of plants in Ota City handle prototypes / small lot production and mass production as their functions/operations and areas. If we check the status of in-house production and outsourcing, we can see that the ratio of outsourcing (some outsourcing and all outsourcing) is large and that the outsourcing network between companies is also very important to firms in Ota City.

4 Strengths of the Factories in Ota City

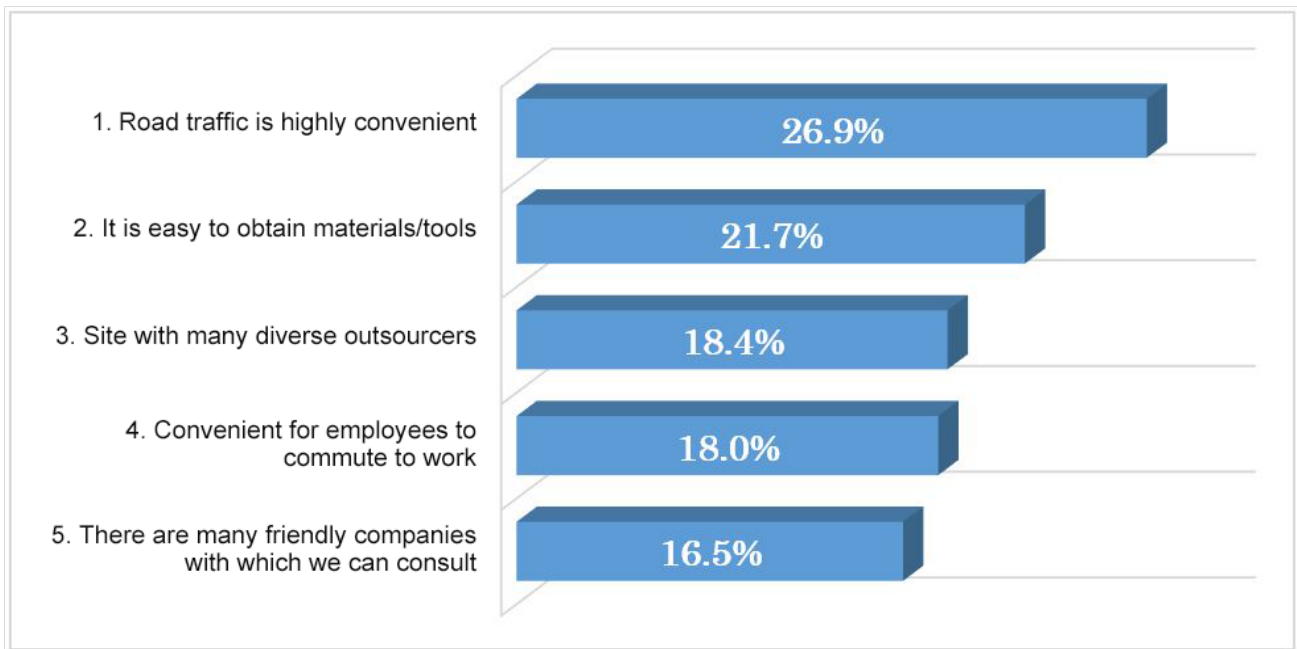
■ Strengths with Respect to Customers



(We extracted responses chosen by 30% or more of plants)
The response most considered by plants to be their strength with respect to customers is their “relationship of trust with customers” at 40.4%. This was followed by their “ability to respond to customer needs” at 39.0%, “production to short deadlines” at 33.2%, “prototype and small lot production” at 32.7% and “skills of experienced technicians” at 31.4%.

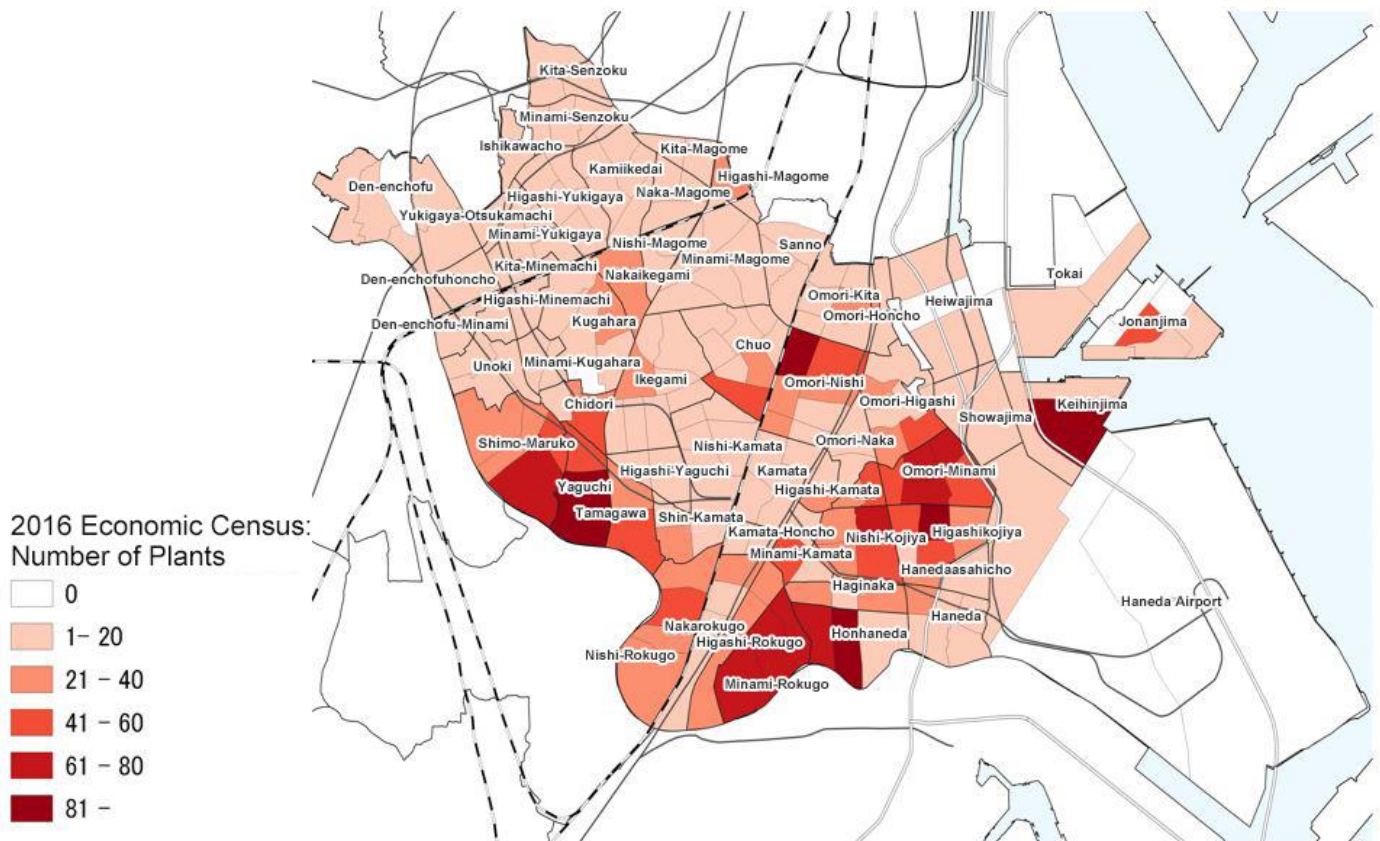
The strength of the small factories in Ota City is that they have gained the trust of their customers by responding to the needs of their customers (e.g., support for detailed specifications and fine processing adjustments) with the skills of experienced technicians.

■ Advantages of Operating in Ota City

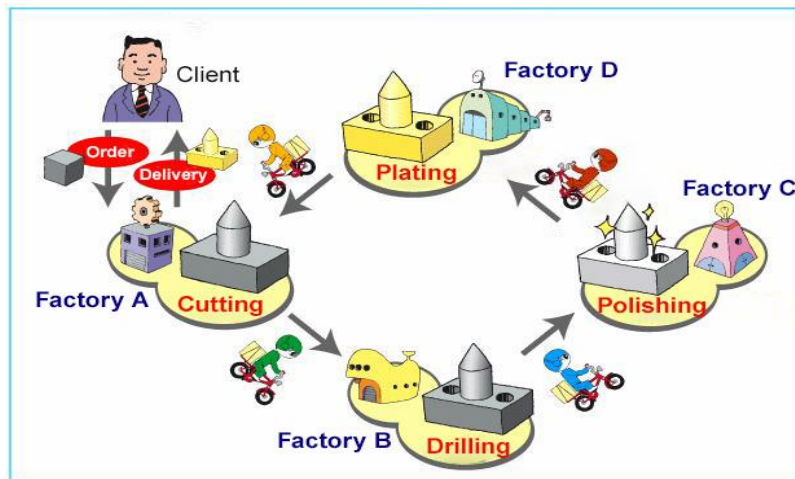


The transportation network in Ota City is substantial. Therefore, a high percentage of responses gave this as an advantage of operating in the city: “road traffic is highly convenient” and “convenient for employees to commute to work.” In addition, we can see that many plants consider the concentration of factories and the formation of a thriving networks in the same types of industry in Ota City to be an advantage: “it is easy to obtain materials/tools,” “Ota City is a location with many diverse subcontractors” and “there are many friendly companies with which we can consult.”

■ Concentration of Plants in the Manufacturing Industry Located in Ota City (Number of Plants Located in Each Town District in 2016)



5 Nakama Mawashi Network



Source: "Kagayake! Factories of Ota" on the Ota City website

The factories in Ota City each have their own field of specialty and have mastered advanced processing technologies by specializing in those fields. As a result, factories with various processing technologies are concentrated in the city. These factories have built a collaborative structure called the "Nakama Mawashi Network." The fact these factories with a compact scale of management have advanced processing technologies enables multiple product and small lot production under short delivery deadlines. This is a major feature of the network. The following is an example of this processing technology.

(1) Cutting



This is the process of whittling down metals and plastics. There are also factories that specialize in the high-precision processing of special metal materials (e.g., tungsten).

(4) Plating



This is the process of covering the surface of metals with film. The purpose of this is to prevent corrosion of the base and to improve the texture of the surface.

(2) Drilling



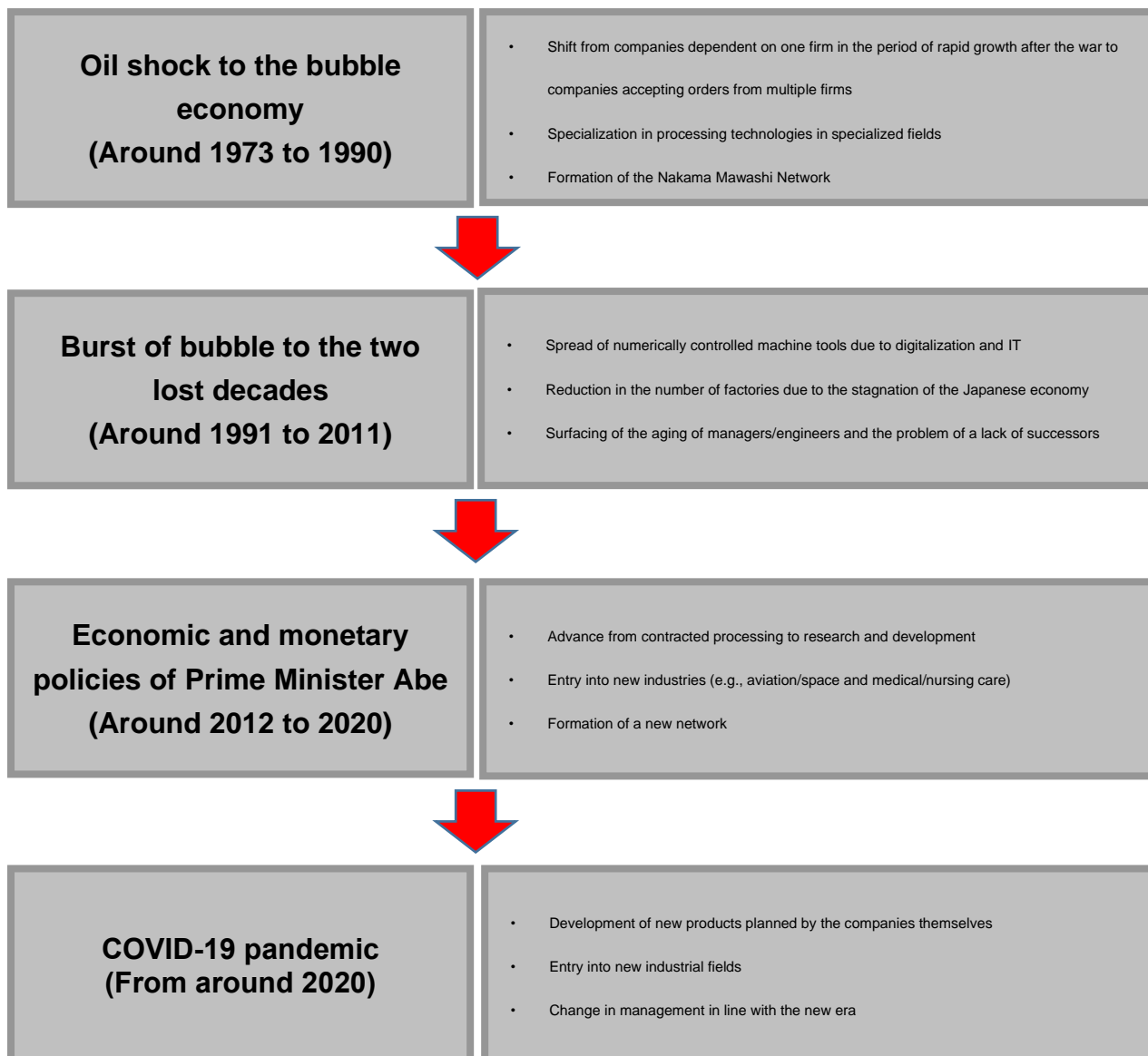
This is an example of ultra-fine drilling at the micron level (1/1,000 mm). It is even possible to drill holes in a 0.5 mm mechanical pencil lead.

(3) Polishing



This is the process of polishing and smoothing the surface of metals and glass. This work is also done by the hand of craftsmen in addition to machines.

6 History of Industry in Ota City from the Viewpoint of the Economic Situation



The uncertainty about the future of the business environment is growing due to the spread of COVID-19. Against this background, it is now possible to see cases in which companies in Ota City are developing new businesses and new products in new industrial fields by firms planning/developing in-house and by cooperating with those in different industries.

The Ota City Industrial Promotion Organization is showcasing the manufacturing industry in the city by promoting the planning/development capabilities in companies in addition to their inherent strengths (e.g., the Nakama Mawashi Network, advanced processing technologies and the ability to support tight delivery deadlines).

Moreover, we are supporting companies that are cooperating with firms inside/outside the city and taking on challenges in new fields under the aim of changing management in line with the new era. In this way, we are looking to support companies in their attempts to acquire orders from inside/outside Japan and to create innovation.

7 Situation During the COVID-19 Pandemic

■ Spread of COVID-19

COVID-19, which was first discovered in Wuhan, Hubei Province in China in December in 2019, spread all over the world in the blink of an eye. Restrictions on travel and going out were enforced through 2020 as measures to prevent COVID-19 in many countries. Nevertheless, the arrival of the winter brought an increase in the pace of the disease's spread. Lockdowns, regulations on the opening of stores and restrictions on residents from going out have been enforced overseas in 2021.

As the spread of COVID-19 continued, the restrictions on the movement and interaction of people and the operation of stores severely restricted normal economic activities. This had a massive impact on people's consumption and production activities. In particular, demand for food and drinks, tourism, and aviation plummeted on an unprecedented scale. Both this slump on the demand side and limits on the supply side due to self-restraint of operations has led to a new kind of economic crisis with an expanding economic impact. Each country is providing large-scale economic support.

With COVID-19 spreading all over the world, Japanese companies have been forced to take measures (e.g., temporary suspension of operations at factories in Japan/overseas and adjustment of production) due to the disruption in the overseas supply chain, the sudden decrease in demand and disease countermeasures. The vast majority of SMEs responsible for industry in Ota City operate by directly or indirectly accepting orders from major companies. Therefore, the economic situation changes completely depending on the situation in those major companies. Under such circumstances, companies in Ota City have started new efforts to overcome COVID -19.

■ Efforts by Companies in the Time of COVID-19

First, let's look at the products developed in-house by companies to deal with COVID-19 as the efforts tackled by firms in Ota City.



We worked on developing an acrylic panel to prevent droplet infections by asking multiple companies for their cooperation utilizing our Receiving and Placing Orders Consulting Service Desk while considering countermeasures against COVID-19 in the Ota City Office buildings in early April. We realized a short delivery deadline of one week for this acrylic panel. These panels were then installed in those buildings. This effort was widely reported in the media. That led to approaches to develop goods to prevent COVID-19 from other companies in the city.

There are few companies with their own in-house products in Ota City. The overwhelming majority of companies process parts used in electronic devices and automobiles. These companies have used their ingenuity to develop products as countermeasures against COVID-19 in response to the spread of this disease. These have included face guards for medical professionals, bottles of disinfectant sprays and contact-free touchless tools in addition to these acrylic panels to prevent droplet infections. Furthermore, some products have been manufactured in cooperation with companies in Ota City. These efforts have not only increased sales; free donations have led to daily telephone calls and e-mails expressing gratitude. This has helped improve the motivation of employees.



Another effort being undertaken by companies is to prevent COVID-19 in their firms.

In addition to wearing masks and washing/disinfecting hands, companies have been adopting staggered working hours and reduced working hours while recommending the use of private cars, motorcycles and bicycles when commuting. Moreover, companies have been making efforts to reduce opportunities for contact with people to reduce the risk of infection (e.g., restrictions on meetings and reviews of cafeteria layouts).

Furthermore, the number of companies in the City that have introduced telecommuting has increased. There are companies which have improved efficiency by establishing the facilities and an environment that enable employees to work at home in terms of software and hardware. There are also companies that have done this by making it possible to complete on-site meetings and business negotiations by teleconferencing (e.g., Zoom) or by e-mail. Although some types of occupation and company do not allow for the introduction of teleworking, COVID-19 has led to a transformation in work styles at a rapid pace.



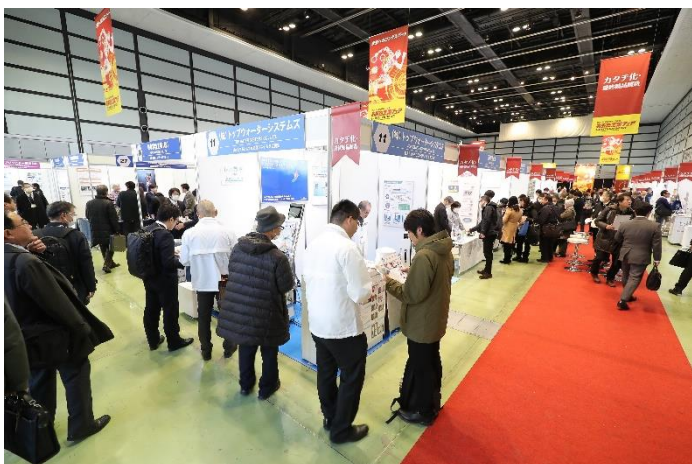
The use of the Internet has also progressed in sales activities. Some companies have increased B-to-C product sales by establishing their own stores on major electronic commerce sites in addition to their own sites. There are also companies that have registered their technologies and products on B-to-B technology databases. In this way, companies are strengthening sales on websites. In addition, we have seen new efforts to appear at exhibitions. For example, companies have been using video conferencing systems to appear remotely at online business meeting events and real exhibitions.

The number of companies that applied for our New Product and Technology Competition in FY2020 doubled to 43 compared to the previous fiscal year. The number of companies working on the development of new products is increasing due to COVID-19. We have observed various efforts for new product development. There are companies working with other firms to develop new products. There are companies raising funds through crowdfunding. There are also companies utilizing social networking sites as a marketing tool. Companies are being asked to flexibly respond to the new environment starting from what they are capable of during the COVID-19 pandemic.

8 Expansion of Business Opportunities and Entry into New Industries with Exhibition & Business Meeting Events

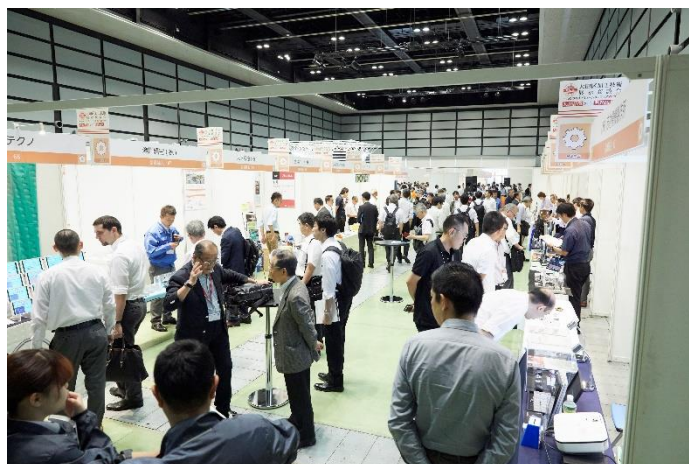
We hold various self-planned exhibitions and business meeting events by purpose to showcase advanced processing technologies and to create new business opportunities. We introduce examples of them here.

Ota Industrial Fair



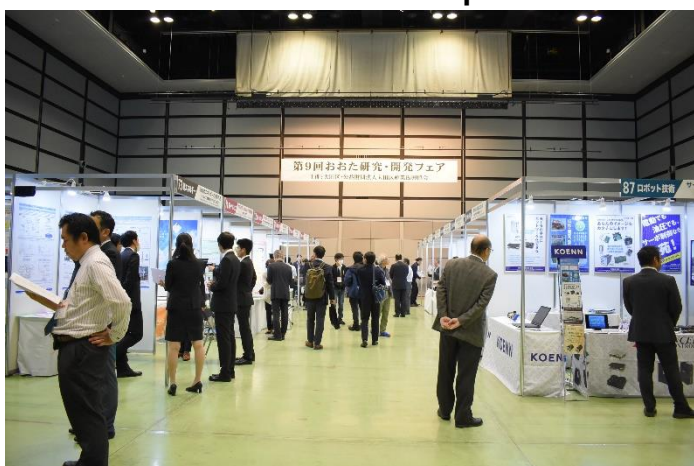
The Ota Industrial Fair is held over three days every year in February. It is the largest event for manufacturing companies in Ota City.

Processing Technology Exhibition and Business Meeting Event



This is a one-day exhibition focused on the theme of processing technology. Even factories with 10 employees or less find it easy to participate in this event.

Ota Research and Development Fair



The Ota Research and Development Fair is an exhibition focused on the theme of “industry-academia collaboration.” Universities, technical colleges and research institutes from all over Japan exhibit cutting-edge technologies and products here.

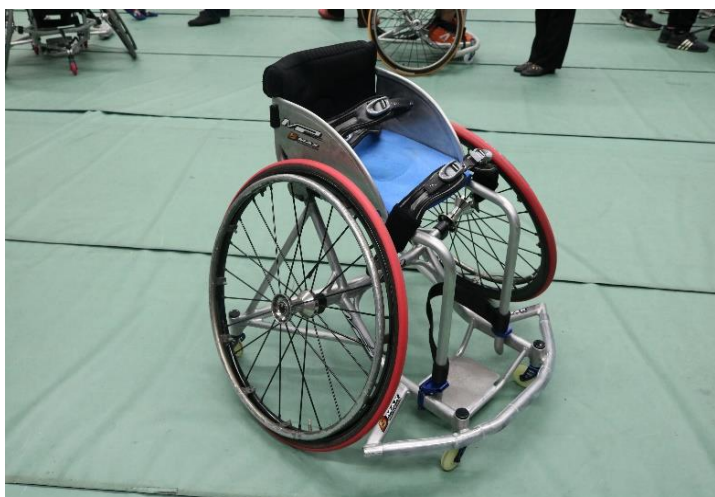
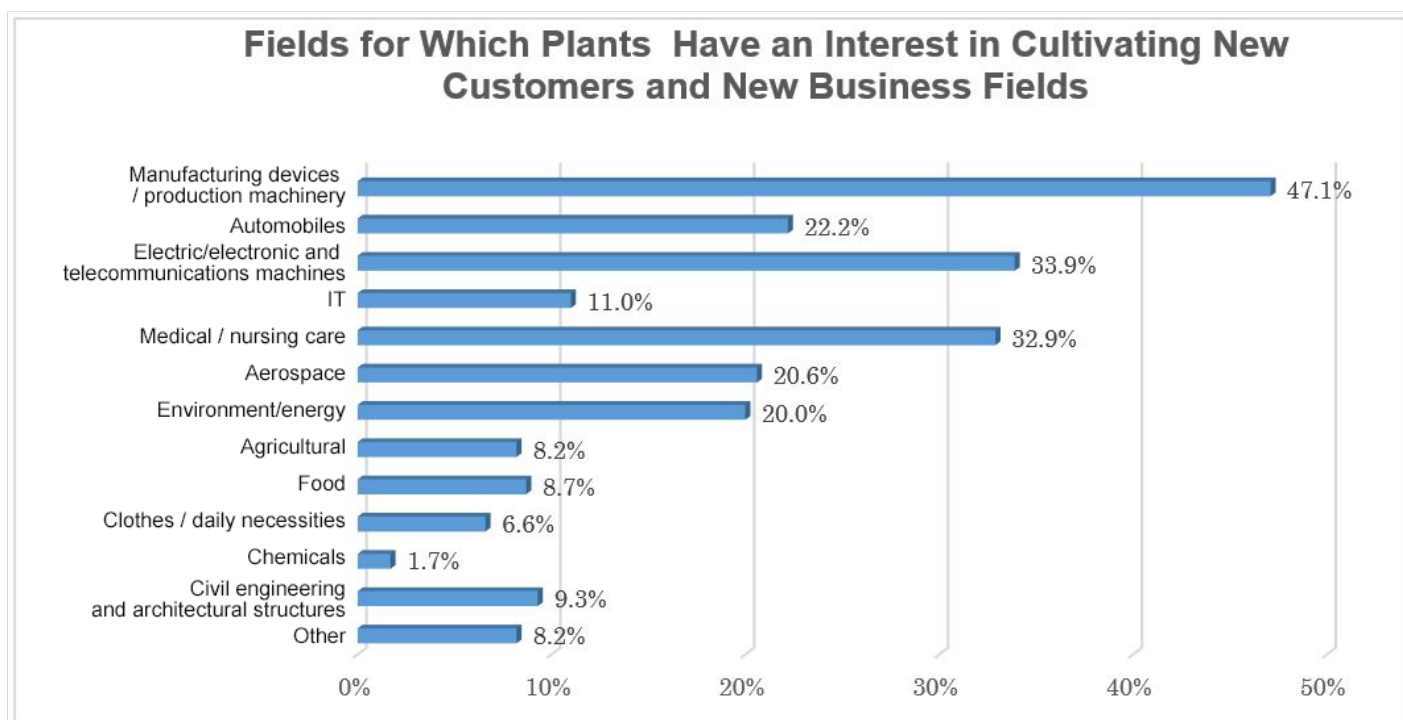
Manufacturing Order Business Meeting Event in Ota



This is a business meeting event that brings together companies from all over the country centered on Ota City under one roof to cultivate new manufacturing company business partners and collect information.

9 Entry into New Industries

In a difficult business environment with declining domestic demand and intensifying competition, we have seen companies entering new industries by utilizing the advanced technologies they have cultivated over many years to acquire new business opportunities. We can see in the graph below the intention of many plants to cultivate new next-generation industries (e.g., medical/nursing care, environment/energy and aerospace) expected to grow in the future from fields that serve as their main business (e.g., manufacturing devices / production machinery and electrical/electronic/telecommunications machines).



B-MAX made in Ota Tokyo Model is a wheelchair for basketball developed jointly by SMEs in Ota City and a wheelchair manufacturer.



We showcase the new products and processing technological capabilities of companies in Ota City to those concerned at manufacturers by exhibiting product samples at exhibitions and HICity.

10 Measures and Prospects of the Ota City Industrial Promotion Association

COVID-19 has been threatening the whole world since last year. The industrial world in Ota City has been pressed into a situation it has never faced before. Demand and services have changed significantly. For example, face-to-face services have decreased while non-contact services have increased. In addition, the introduction of IT and digitalization have progressed rapidly. There is also a need to change conventional management and work styles.

Under these circumstances, the Ota City Industrial Promotion Association has been working to support companies in the city by taking countermeasures against COVID-19 (e.g., decentralization of workplaces and shift work). In particular, products as countermeasures against COVID-19 have made a big splash. These include the droplet infection prevention panel developed through our Receiving and Placing Orders Consulting Service Desk. Furthermore, as events were canceled one after another, we held online exhibition and business meeting events with thorough measures taken to prevent COVID-19. We use real and online spaces to build relationships between companies and to develop new customers in the time of COVID-19. We will continue to provide support so that companies in Ota City can adapt to the changes while taking into account various changes in the business environment in the future. At the same time, we will develop the following businesses to develop industries in Ota City while retaining a mid- to long-term perspective.

First, we opened a Haneda Base Office in Haneda Innovation City built on the site of Haneda Airport. We will use the potential of Haneda to attract customers to support cooperation with companies inside/outside Japan and research institutes and companies in Ota City in the future. This will lead to the strengthening of international competitiveness and the creation of new added value. Moreover, we are providing displays and translations for overseas exhibitions and overseas company credit check services as support for expansion outside of Japan.

Next, factories with advanced processing technologies (e.g., parts) in a wide range of product fields are concentrated in Ota City. We will widely support industry-academia collaboration and conduct open innovation activities by linking up with our Kamata and Haneda bases to continue to build a vibrant regional economy in the future. We will then develop business to form industrial clusters in eight fields: (1) life science, (2) robotics, (3) next-generation mobility, (4) rare earth elements, (5) environment/marine plastic waste, (6) agriculture-industry cooperation, (7) new energies and (8) anti-terrorism/defense.

Furthermore, we have prepared founder support, business succession, management consulting and other assistance programs to offer a business environment in which companies in Ota City can work on manufacturing with peace of mind. We will provide receiving and placing order services in addition to exhibition and business meeting events to strengthen the foundations of corporate management.

Society and the economy have changed greatly due to the spread of COVID-19. As the business environment changes from moment to moment, companies must act in anticipation of the new normal after the COVID-19 pandemic. We will continue to work on revitalizing industry in Ota City by supporting the growth and development of companies in the city in the future with top priority given to the on-site feeling so as not to stop the progress of corporate growth.



We hold various exhibitions in the HANEDAxPiO interaction zone.

*Note: The statistical data comes from the *2019 Ota City Manufacturing Industry Fact-finding Investigation Report* (issued in May 2020).