Aiming to become an environmentally friendly and customer-trusted company

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# TAMAGAWA



Tamagawa shows up in the world's largest robot exhibition



Lamaqawa,

# Show up in one of the world's largest robot trade show iREX 2023 International Robot Exhibition



The International Robot Exhibition 2023 is one of the world's largest robot trade shows, bringing together industrial and service robots and related equipment under one roof. We will exhibit Motors and Sensors that can contribute to space-saving, high-speed, and safety performance improvement of collaborative robots and industrial robots. Since there are many new products, please come and visit our booth.

## [Overview of the exhibition]

- Date: November 29 to December 2, 2023
- Place: Tokyo Big Sight, East 1-8 hall, West 3&4 hall
- Our booth number: East 8 hall, E8-05
- Admission fee: 1,000 yen ( free for pre-registrants, invitation holders, junior high school students and younger

**Exhibition Contents** 

#### AC Servo Motor





The photo is TBL-i6

Low-inertia AC Servo Motor series with high acceleration and quick motion."TBL-i  $6\alpha$ ", which achieves high speed and miniaturization, will be exhibited for the first time.

Limited angle type Torque Sensor



This is a strain gauge type torque sensor produced by printing technology. Due to its high sensitivity, torque can be detected while maintaining the sensor stiffness.

#### [Other new products]

Ether CAT compatible Servo Driver23 bit battery-less modular Encoder etc.

# **Exhibition Schedule**

#### DSEI London 2023

Date: September 12 to 15, 2023

- Place: Excel London
- Exhibit: Aircraft components

## VR Resolver, Resolver/Digital Conversion IC

## Doublsyn · VRDC



VR Resolver with 2-phase excitation/2-phase output redundancy function and a Resolver/Digital Conversion IC are combined to achieve high-precision motion control.

#### Multi-turn type Torque Sensor

TRQSYN



A magnetostrictive torque sensor directly detects shaft torque. It contains an IC that converts the output signal to digital.

Waterproof/small MEMS IMU

High power & high density Motor

#### FUTURE MOBILITY SHOW 2024

- Date: January 11 to 13, 2024
- Place: Bangalore International Exhibition Center, India
- Exhibits: Automotive/Industrial Components

# Comprehensive exhibition of the defense and security industry Exhibited at DSEI Japan 2023

We exhibited at "DSEI Japan 2023" held from March 15 to 17 at Makuhari Messe. DSEI Japan is Asia's largest comprehensive defense and security exhibition with 291 exhibitors from 69 countries.

We exhibited a wide range of products such as motors, sensors, pumps, and actuators used in tanks, missiles, space, and aircraft. During the exhibition, a large number of people involved in defense and security came from all over the world, and we were able to introduce our products.

In addition, we put capsules containing Iida Mzuhiki, a traditional craft from Iida City, Nagano Prefecture, where our headquarters are located. Customers rotated the handle of Gacha and got a small gift. Many of the visitors from overseas were experiencing Gacha for the first time, and it was very well received.





▲Gacha of "Iida Mizuhiki'

▼We introduce exhibits, please take a look at the video. URL: https://www.youtube.com/watch?v=9xtS6V5xFwc



# Co-sponsored by JAIF(Japan Atomic Industrial Forum) and METI (Ministry of Economy, Trade and Industry) Nuclear Supply Chain Symposium (NSCP:Nuclear Supply Chain Platform)

On March 6, the Japan Atomic Industrial Forum and the Ministry of Economy, Trade and Industry jointly held a symposium at the lino Conference Center in Tokyo to discuss measures to maintain and strengthen the nuclear power supply chain and overseas expansion.

The symposium began with a greeting from METI Minister Nishimura, followed by various sessions, with representatives and experts from nuclear power companies in Japan and overseas taking the stage. Discussions were held on the latest technologies and challenges related to the nuclear supply chain. Approximately 180 companies and 1,400 people (about 110 people at the venue) participated both at the venue and online.

There were also panel exhibitions by 21 companies at the venue.

We have been engaged in the manufacture of nuclear power related products for more than 50 years, and we introduced angle sensors with our technical capabilities and reliability, as well as servo motors equipped with them. Many people show high interest in our products.



▲Scene of Symposium



▲Scene of panel exhibition

▲Panel exhibited

# TAMAGAWA INFORMATION



## FY2023 2nd Sales Meeting First meeting in 3 years in which everyone gathered together

On May 26, the sales meeting, which had been held online since May 2020 due to the COVID-19, was held in a group format for the first time in three years. This meeting was held twice a year and was attended by all employees of the Sales & Marketing Department by about 100 people, and it was a fulfilling meeting with a wide range of topics such as introduction of new business projects, education of products and legal, accounting, and system matters.

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We shared our intention to collect accurate information through face-to-face communication with customers through meetings, strengthen team by deploying such information within the company, and "seek solutions through energetic, serious, and honest discussions" as our future sales policy.

At the social gathering after the meeting, colleagues deepened their friendship by reporting on the latest status, and the venue was very lively with entertainment by young employees.



▲Scene of social event

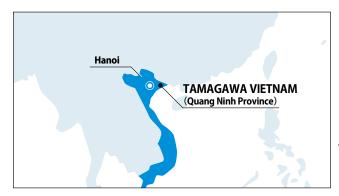


Established a local subsidiary in Vietnam Build a plant to produce automotive angle sensors

TAMAGAWA VIETNAM CO., LTD. will be newly established in Amata City Ha Long Industrial Park in Quang Ninh Province in northern Vietnam to build a plant to produce automotive angle sensors.

As demand for environmentally friendly vehicles such as electric vehicles (EVs) and hybrid vehicles (HVs) is expanding worldwide, construction will begin in 2023 with the aim of increasing production capacity of angle sensors for automobiles, and starting production in 2024.

The total workforce of the new company will be about 220 when the plant is fully operational, of which Japanese will be three. With a site area of 60,000 square meters and a factory building of 10,000 square meters, it will be a base to enhance productivity and profitability and strengthen the export of products mainly to Europe and the United States.







▲ Appearance image (may differ from the actual one)

Amata City Ha Long Industrial Park, where the plant will be built, is located in a coastal area about 130 km east of the capital Hanoi, making it suitable for import and export, and is one of the regions with a high economic growth rate in Vietnam.



# Elementary school students in Iida City visit our company Iida City Super Science Project

lida City, is implementing a super science project for elementary school students in the city, and this year, 11 elementary school students and 9 family members visited our company on August 2 with the aim of deepening their understanding of the mechanism of airplanes flying and the aircraft-related industries in this area.

First, we explained what kind of aircraft our products are installed on and how aircraft will be involved in daily life when they grow up, and then showed them around the History Hall.

At the History Hall, the belt-mounted lathes used at the time of its founding, and the vintage telephones that can still be used today were rare for children, and they seemed to be very interested.

There were comments such as "I'm interested in the work of a pilot, but it was also good to know that there are other jobs related to aircraft close to me," and we will continue to cooperate in such activities so that the local aircraft industry will be an option for the career path for children when they think about their future.



▲Introducing examples of our products in "Scroll" style



▲ Divided into three groups to visit the History Hall

# "Karakuri Lion Dance" Major maintenance for the first time in 7 years

At the Hachinohe Portal Museum Hacchi in Hachinohe City, Aomori Prefecture, the work "Karakuri Lion Dance" by Mr. Minoru Takahashi, is on display.

Every hour, eight lion heads perform rhythmic teething, driven by Tamagawa Servo Motors, Driver and Controllers.

The main lion head has 4 Servo Motors to drive the mouth, neck, and head, and the other 7 lion heads use 1 Servo Motor to drive the mouth. Major maintenance for the first time in 7 years was carried out in June, and all these drive parts were replaced. The work went smoothly and was able to be completed in three days as planned, and the sound of the lion's head teeth beating rhythmically echoed through the hall, just as before the exchange.

We will continue to pass on the technology so that it will be familiar to visitors for a long time as a monument that conveys the time.





▲Adjusting the wooden mechanism (Mr. Takahashi)



▲ Replacement of Servo Motors, Drivers, and Controllers



# **Environmental Picnic/ Tenryu River Watershed**

On May 20, the Tamagawa Seiki Group participated in the environmental volunteer "Tenryu River Watershed Environmental Picnic." This Tenryu River Watershed Environmental Picnic is an event to pick up garbage on the Tenryu River riverbed sponsored by the Nagano Industrial and Commercial Encouragement Organization under the catchphrase "Let's regain the Tenryu River where you can swim, let's build a recycling-oriented society", and this time it was held for the first time in four years due to the influence of COVID-19, but 3,442 people from 78 companies and organizations participated.

A total of 471 people from the Tamagawa Seiki Group participated in this event, picked up garbage from the Matsukawa River and other tributaries of the Tenryu River, and collected 21 bags of garbage in about one and a half hours.

In recent years, marine plastic litter has become an issue, and it was a good opportunity to think about familiar environmental problems.



# 06

# **Company Sport Competition**



Due to the COVID-19, the "Company Sports Event", which aims to promote employee health and interaction, was postponed after 2019. But, on June 17, the event was held at the Oshibora Sports Ground in Iida City, on a sunny day with temperatures exceeding 30°C, blowing away the rainy season.

Approximately 160 employees participated in the ball game "Pétanque," which originated in France, along with softball. In softball, 6 teams played league games and playoff games, and a number of dramas were born, such as good catches of strong batted balls and home runs

that disappeared into illusion, as much as the WBC (World Baseball Classic), which was excited all over Japan in March. In addition, in the newly implemented Pétanque, while struggling with the ball that did not stop as expected, the team worked out strategies, and loud cheers arose each time they approached the target ball.

This event was a great opportunity for employees, who are not involved in their daily work, to get to know each other through sports and to gain a sense of unity.







## Tamagawa Summer Festival

The annual Tamagawa Summer Festival was held on July 17, and about 360 people, including employees and their families, participated.

Outdoor stands such as Yakitori, Gohei mochi, Cotton Candy popular with children, and shooting games were crowed, and the indoor stage was filled with excitement with the annual Japanese drum performance and quiz competition.

Many employees participated with their families, giving us a glimpse of the relaxed aspects of the event that are not seen in the workplace.









# 08

## Introduction of new employees





### Introducing the food and culture of local areas around Tamagawa Seiki

Achi Village is located at the southern tip of Nagano Prefecture, bordering Mt. Ena and adjacent to Gifu Prefecture, and is a charming village famous for its starry sky, hanamomo, and hot springs.

#### Minami Shinshu Largest Hot Spring, Hirugami Onsen Village "Hirugami Onsen Village" boasts



a strong alkaline pH of 9.7 and is one of the best "hot springs for beautiful skin" in the Japan. With a spring quality rich in sodium ions, there is a "water power" that smoothes and moisturizes skin.

#### Hanamomo (flower peach) Road

National Route 256 is also called "Hanamomo Road", and every year in early April to early May, the hanamomo are in full bloom, and the scenery changes to look like a paradise.

Chogakuji Temple

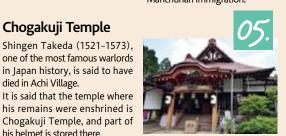
died in Achi Village.

his helmet is stored there.



#### The Memorial Museum for Agricultural **Emigrants to Manchuria**

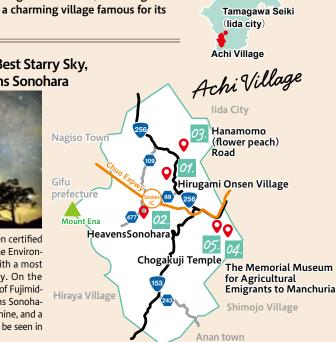
It was established to convey the history of the hardships of the Manchurian pioneers who settled in the former Manchuria, and to pass on the preciousness of peace to the next generation. It is the only private museum in the Japan that deals with the history of Manchurian immigration.



# Japan Best Starry Sky, Heavens Sonohara



by the Ministry of the Environment as a village with a most beautiful starry sky. On the starry sky night tour of Fujimidai Highland "Heavens Sonohara", countless stars shine, and a scene that can never be seen in the city spreads.



#### My recommendation Legal Section Meguri Sato

The starry sky of Achi Village, which has become famous nationwide, is truly a masterpiece, and not only starry sky tours, but also various exciting events such as live performances and film festivals are frequently planned! I was married and moved to Nagano Prefecture and was impressed by the stars, but I will never forget the excitement of being surrounded by hanamomo for the first time. It is especially strange and beautiful that three colors red, white, and pink bloom in one flower.

Full of hanamomo, starry sky and hot springs at a luxurious inn. Would you like to make memorable memories in Achi Village?



Nagano Prefecture



## 42nd Iida Ringon Festival, Tamagawa Team

This was the first time in 4 years that Iida Ringon Festival were held as a dancing festival in Iida city's central area. Tamagawa Seiki group participated in the event as the "Tamagawa Team" and was very exciting.



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## **Motortronics**°



