

ORANGE NEWS

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SUSTAINABLE DEVELOPMENT GOALS × TAKAMAZ

TAKAMAZ は、常に挑戦し続けるモノづくりを通じて、
企業価値の向上と持続可能な社会の実現に貢献しています。



SDGsの達成



取り組み方針

- 地球にやさしい製品を提供します。
- 企業活動での省エネ・CO₂削減を推進します。
- 政府方針に準じてカーボンニュートラルを推進します。

- 安全・安心・高品質な製品を安定的に提供します。
- アフターコロナを基盤とした企業活動の推進します。
- 協力企業と連携します。
- 地域社会に貢献します。

- 働きやすい、働きがちな職場環境を
創出することで従業員エンゲージメントを高めます。
- 地域貢献を推進します。
- 継続し、成長し続ける社風を醸成します。
- 全社員が社会貢献を行います。
- 事業ポートフォリオへの分析に基づく経営資源の
投入を行い、持続的な成長に努めます。

Interview on Manufacturing

The Present State of Digital Transformation and the Future Lying Ahead of Digital Technologies

WORK & SOUL

UNYTITE Co., Ltd.

TAKAMAZ's Efforts

SDGs and Repolishing Collets

information

MEX Kanazawa 2023 / Installation of Solar Panels
Strolling Through TAKAMAZ

Traveling the Hokuriku Area to Experience Craftsmanship

Visiting the Shiramine District of Hakusan City to explore the fascinating Ushikubi dupioni silk and traditional buildings

TAKAMAZ

TAKAMATSU MACHINERY
PR Magazine Summer 2023

The Present State of Digital Transformation and the Future Lying Ahead of Digital Technologies

Digital transformation (DX) is the process of adopting digital technologies to enhance competitiveness and achieve new growth. We asked about the present state of DX in TAKAMAZ and our vision for DX.

Where We're At With DX

Deputy Director
Technical Development Dept.
Iwai

Our DX initiatives are based on the idea to utilize advanced digital technologies to solve the shortage of engineers at production sites. Meanwhile, some initiatives have developed from IoT.

Our IoT system was originally based on connecting a host computer to a machine tool. However, the number of customers who could adopt it was limited. Reflection on this disadvantage led to the current form of machine tools featuring an operation panel with a built-in computer. Considering that we're a machine tool manufacturer, I think it's fair to say that our IoT system is now what it should be. Enhancing this system for the purpose of improving productivity, an original operation system, TAKAMAZ OS, was developed four years ago, with additional originally developed convenient functions utilizing digital technologies.

General Manager
Tokyo Office
Okabe

Large manufacturers started using digital technologies at the beginning of 2000, initially through LAN cables I believe. Each company built their own original system, and machine manufacturers would provide the requested information. This was done by using computers as platforms for consolidating data, but this type of DX didn't become widespread.

Iwai

Although some customers still use computers for this purpose, a wide variety of devices and connection methods can be used now. This is because the concept of the optimal approach differs from company to company.

Okabe

And the type of data that is needed differs as well. There's actually a wide variety in the types and quality of data required. Data needs also depend on the manufacturer's type and affiliation.

Iwai

They also depend on the standpoint of the user. As the needs vary among operators, supervisors, production

engineers, maintenance technicians, and executives, there's a diverse range in the data and functions that are called for. That's why it's becoming difficult to prepare standard products and sell them as they are.

Okabe

Perhaps the easiest way to do this would be to prepare a wide range of data requested by customers and have them choose and extract what they need.

Iwai

The TAKAMAZ OS automatically saves various data, and it can automatically generate a daily machine report based on the data. It's important to think about data utilization methods based on the purpose, like improving



General Manager
Tokyo Office
Mitsuharu Okabe



Deputy Director
Technical
Development Dept.
Hideki Iwai

labor efficiency concerning manual tasks.

Okabe

While IoT has become a hot topic in the past few years, I think everyone is still exploring the ideal IoT solution.

Iwai

So I think it's important to develop IoT systems based on common purposes like improved productivity and operational efficiency. We also listen to customer needs via our sales staff and do our best to find solutions to those needs through trial and error.

Our DX Vision: The Vision of the Future

Okabe

From a sales perspective, our vision changes depending on what our customers want. Well, the ultimate vision is of course to create tools for getting closer to 100% utilization rate and zero defects.

Iwai

Development also has a never-ending aspect to it because customers are constantly making improvement efforts. Nevertheless, setting that ultimate vision as the final goal, we want to help our customers achieve automation and improve their labor efficiency, thereby contributing to solving labor shortages in companies. In any case, I believe DX tools are

something that you develop together with your customers. It's important for our engineers to be able to make optimal proposals by understanding customer needs as sales engineers.

Okabe

While the production process of most customers involves TAKAMAZ and other machines, customers often ask what kind of DX tools we have to offer. They usually don't have a specific vision when they ask this question. Assisting a customer's DX is to start from this vague state, working on it from a consulting perspective while creating a solution path for achieving the ideal state.

While large manufacturers draw an overall picture of their DX and manage data collection, another method for achieving DX is to pursue the best solution for individual issues. There's no fixed path for DX at this point. We're committed to putting ourselves in the customer's shoes and working together with them to find the best solution for their DX vision by making the most of our experience and know-how. Please share with us your vision of the future ahead of adopting digital technologies.



Mitsuharu
Okabe

Hideki
Iwai

IoT (Internet of Things)

A system in which various things are connected to the Internet and mutually controlled by exchanging data.

DX (Digital Transformation)

The process of using digital technologies to create new business processes, corporate cultures, and customer experiences to meet the ever-changing business and market demands.

TAKAMAZ OS (TAKAMAZ Operating System)
Our original operation system designed to improve productivity with digital technologies.

vol.002

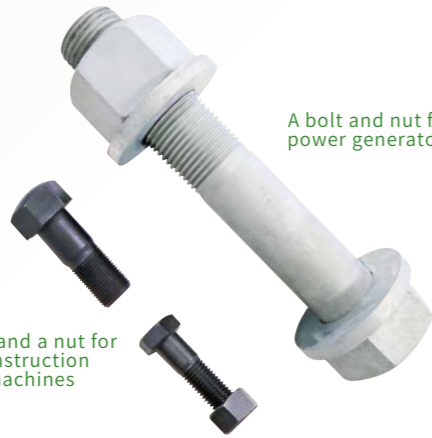
— UNYTITE Co., Ltd. —

IMAGINATION is the beginning of creation.

Tapping new markets with flexible and creative thinking developed through experience in multiple fields



Bolts and a nut for construction machines



A bolt and nut for power generators



* These images are for illustrative purposes only.

From shipbuilding and heavy machinery, construction machinery, construction and civil engineering to automotive, UNYTITE Co., Ltd. supplies fasteners to a wide range of industries. Gaining know-how from experience, they leverage their creativity to expand into new fields.

UNYTITE CORPORATION



[UNYTITE Co., Ltd.]
 3-1-12 Takatsukadai, Nishi-ku, Kobe-city, Hyogo
 TEL.078-991-2233 FAX.078-991-1825
 President: Jun Hashimoto
 Capital: 100,000,000 yen
 Establishment: May 1946
 Business activities: Manufacturing of forged parts for automobiles and fasteners for shipbuilding, heavy machinery, and construction

Founded in 1946, UNYTITE started from delivering large bolts and nuts to major shipbuilding companies in Kobe City. The company initially continued to supply parts to the shipbuilding and heavy machinery industries. However, the 1970s energy crisis coupled with the yen's appreciation brought a period of stagnation to the heavy industries, forcing UNYTITE to undergo a major transformation. The company needed to expand its product lineup to meet the needs of various other industries. In order to meet those new customer needs, the company began horizontal hot forging as well as vertical and horizontal cold heading in addition to vertical hot forging, which was what they had been doing originally. In recent years, the company has expanded its range of products by combining these processes in multiple ways and improving product precision through cutting and polishing. Going beyond supplying bolts, nuts, and screws, UNYTITE now offers

various types of fasteners as well as power transmission components. Through this interview with President Hashimoto, we got a close look at the work & soul of UNYTITE.

I see pictures of famous stadiums in this meeting room! What industrial fields do you provide fasteners to?

“As our past experience geared us toward running a business that is not susceptible to the ups and downs of industries, we now supply fasteners to a wide range of industries including shipbuilding and heavy electrical equipment, construction machinery, construction and civil engineering, and automotive. For example, we’ve made fasteners for oil plants in Saudi Arabia and fasteners for joints used in deep underground tunnels of the Tokyo metropolitan area. Replacing conventional processes, our bolts have been used in an outdoor stadium in California, a large 3,000-room hotel in Las Vegas, and large distribution warehouses across

America. We’re also involved in the field of cultural properties. Our products have been used in the reinforcement and restoration projects of Nijo Castle.”

Where do you think your competitive advantage lies?

“Our view is that no advantage can ever last long. Our current theme is integration. This includes creating new fasteners by combining multiple production techniques and combining functions to create an integrated product. We can’t differentiate ourselves or generate added value just by making things according to the drawings provided by customers. Our current approach is to understand and imagine the big picture behind those drawings, and then generate work by proposing shapes and methods that offer greater functionality and convenience. These proposals also save time and money for customers. The original plan may require meetings with two or three companies, so that time can be reduced, the lead time can also be reduced, and associated costs are reduced as well. There are companies that produce results by pursuing a single technology, but we believe it’s better to have diverse facilities and compete on the basis of our comprehensive and combined strengths.”

It sounds like your business mission has changed a lot. I assume your relationship with customers has changed too.

“We feel that being involved in more industries is not only a means to stabilize our business but also a great advantage in that new ideas and construction methods are generated as a result of the accumulation of experience and know-how within the company. In the old days, our salespeople focused merely on bolts and nuts but now we realize there are actually a variety of other related aspects that our company can help with.

A good example is what developed from an order for anchor bolts of a windmill. In this case, at first we were only asked to supply bolts and nuts. But then we were asked to assemble other members, and then again to pour mortar. In the end we were asked to handle all aspects of the foundation.”

I get the impression that your business system is quite different from those of companies deeply involved in the automotive industry.

“In my view, industries either farm or hunt. The automotive industry is a farming industry. It’s goal is stable production, and for that they pursue a better production environment and improved precision and cost reduction. On the other hand, the construction and civil engineering industry is a hunting industry that keeps searching and chasing markets (large projects). We believe we can minimize the impact of economic fluctuations by supplying products and services to both industries. We’re

open to work on any project involving any type of industry, product field, or construction method. That’s who we are.”

Finally, please tell us about your expectations and requests for TAKAMAZ products, staff, services, or anything else you’d like to comment on.

“We used to have this policy of reducing costs by reducing cutting as much as possible and avoiding losses and waste. But at some point, instead of pursuing only the net shape, we changed our policy to cut parts where cutting would be the best, and this is when our relationship with your company began. That was around 1995. So we’ve been using your machines for nearly 30 years. We’ve adopted several TAKAMAZ machines at our company and group companies. Onsite operators have been very impressed by them as they’ve maintained high precision after many years of use and there’ve been few problems. We also found them appealing because of their compactness since they require minimum floor space. As for the recent order, we’re very grateful for your prompt and meticulous responses to our requests concerning the specifications and for meeting the requested delivery date, which was quite tight. My expectations for your future products are that you develop machines that are people-friendly (ease of operation and maintenance) and eco-friendly (energy saving).



HP



TAKAMAZ's Efforts



SDGs and Repolishing Collets



Manager
Parts Business Dept.
Collet Chuck Section
Jun Miyata

SDGs Encouraged Repolishing

One of the answers to what we can do as a company supporting the SDGs was to develop a system for reuse. Specifically speaking, we've begun extending the service life of collets and flanges by repolishing them to enable customers to reuse those consumables instead of throwing them out. Of course, we aren't alone in supporting SDGs. As our customers' awareness of the SDGs increased,

needs for reusing collets and flanges have gradually increased.

Relaunch with Updated Equipment and Experience

We actually used to repolish some collets and flanges for reuse about a decade ago. But the quality of those collets and flanges didn't always satisfy our customers as we lacked the experience and know-how for repolishing consumables with stable precision. Now that there's a company-wide understanding of the SDGs with the passage of 10 years, we've been able to build a full-scale system for reuse. We've relaunched the project as we succeeded in building a system for repolishing with enhanced precision based on upgraded equipment, accumulated experience, and established know-how.

The Benefits Are Returned to Our Customers and the Earth

As a result, collets and flanges that would otherwise be thrown away are now being repolished with customer-satisfying precision and regaining the same service life as that of a new one. In addition, when it comes to flanges, the cost of repolishing one is about one sixth of the cost of buying a new one. This service significantly benefits customers in terms of cost too.

We can proudly say that this is an eco-friendly service that contributes to SDGs.

We announced the relaunch of our repolishing service for collets and flanges at the Japan International Machine Tool Fair held in November 2022. Since then the number of monthly orders has been steadily and dramatically increasing. While it's hitting home that this is exactly the service our customers have been looking for, we're yet to revive all types with repolishing. We still need to upgrade this service to TAKAMAZ standards by, with the help of our customers, gaining more know-how on the types that we lack data and experience. In any case, it's an accomplishment that we managed to successfully relaunch a service that returns significant benefits to our customers and the Earth, and I'm very eager to build on this accomplishment.



TOPIC1 MEX Kanazawa 2023

We exhibited at the Machinery & Electronics Exhibition in Kanazawa (MEX Kanazawa) held at the Ishikawa Industrial Exhibition Center from May 18 to 20, 2023.

This was the first time MEX Kanazawa was held since event restrictions due to COVID-19 were lifted. The event attracted over 35,000 visitors, 3,000 more than last year, and the venue was bustling with activity from beginning to end. Many visitors came to our booth throughout the three days to see the latest TAKAMAZ technologies.

The main themes of our exhibition were carbon neutrality and automation. We believe visitors experienced some of our different kinds of technologies like an automation system using a robot, and our AI-Powered Automatic Recyclable Waste Sorter, a new project in the non-machine tool area. We will continue to strive to provide products and technologies that support the manufacturing activities of our customers. We'd like to sincerely thank everyone who came to our booth.



TOPIC2 Solar Panels Installed on the Roofs of the Head Plant and Its Carports

We've installed solar power systems on some areas of the roof of the head plant and all roofs of its carports. Using solar-generated electricity will enable us to reduce our carbon emissions, making us more eco-friendly. (Estimated CO₂ emission reduction: approx. 390t-CO₂/year) These systems have also made it possible to reduce our energy consumption by approximately 207 kl/year (crude oil equivalent). We will continue to come up with new initiatives to achieve carbon neutrality.



Strolling Through TAKAMAZ / Sales Affairs Yusei Omote

A fifth-year member, he works in the Operation Section. He takes care of machine shipments while balancing and improving QCD. In addition to his main responsibilities, coworkers also depend on him for advice on computer issues.

His Favorite Places & Tools

1 Immediately after getting his mid-sized motorcycle driver's license last year, he got himself a Yamaha YZF-R25, his current absolute favorite. Of course, he didn't miss the chance to go on a long-distance motorcycle trip with friends during the Golden Week holidays.

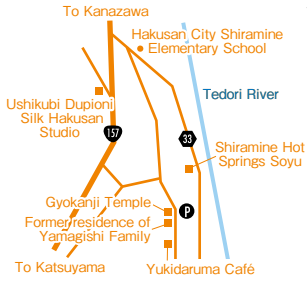
2 His favorite place at his workplace, the Asahi Plant, is the passage that connects the entrance to the factory floor. He gets to spend a brief relaxing moment gazing at his car while walking through the passage during work.

3 Writing instruments and digital notepads are his favorite work tools. His writing instrument set features a mechanical pencil, black and red ballpoint pens, and a large MONO eraser.



Traveling the Hokuriku Area to Experience Craftsmanship

— CRAFT CONSCIOUS —



Visiting the Shiramine District of Hakusan City to explore the fascinating Ushikubi dupioni silk and traditional buildings

Surrounded by mountains, Hakusan City's Shiramine District is covered with heavy snow every winter. Having been practicing advanced sericulture since around the 18th century, the district features a stunning landscape with remarkable traditional buildings, which are nationally designated as a Preservation District for Groups of Traditional Buildings, despite its location deep in the mountains.

About an hour's drive from our Main Office, Hakusan is a perfect destination for exploring craftsmanship.

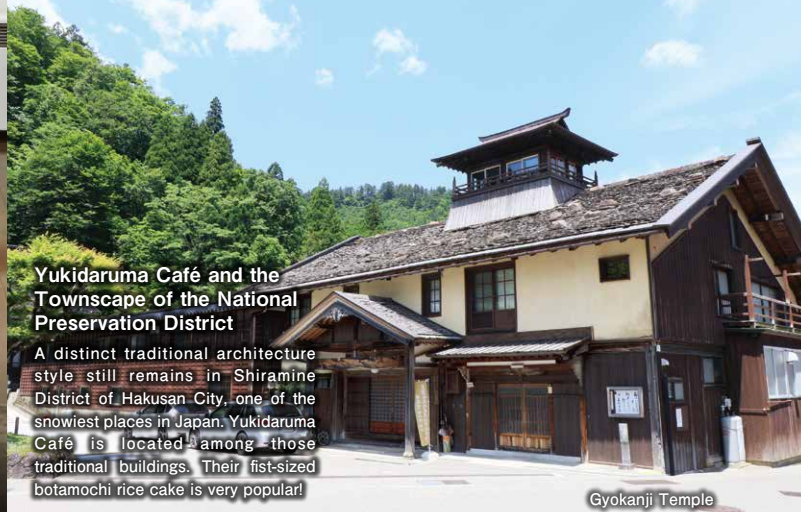


Ushikubi Dupioni Silk Hakusan Studio (Reservation required for a studio tour)

Silk yarns are manually spun from cocoons and the yarns are manually woven into silk fabric. Traditional dupioni silk production processes have been passed down over generations at Hakusan Studio, which offers worksite tours.



Yukidaruma Café



Yukidaruma Café and the Townscape of the National Preservation District

A distinct traditional architecture style still remains in Shiramine District of Hakusan City, one of the snowiest places in Japan. Yukidaruma Café is located among those traditional buildings. Their fist-sized botamochi rice cake is very popular!

Gyokanji Temple

The Shiramine district is often known for its Snowmen Festival or hard tofu. However, it is actually one of Japan's three main dupioni silk production areas. And that is Ushikubi dupioni silk.

With a unique texture featuring the properties of both silk and dupioni, this local silk is strong, beautiful, and comfortable. Attracting international attention in recent years as a material for Western-style clothing, Ushikubi dupioni silk has been used in a designer's

collection presented at the Paris Fashion Week.

Another highlight of the district is its nationally designated Preservation District for Groups of Traditional Buildings. A few hours will quickly fly by as you wander around the district visiting places like traditional houses with huge ladders, the public hot springs bath known for its good water quality, and relaxing café. We also recommend Shiramine as a summer retreat from the heat!

TAKAMAZ

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for more details. ▶

<https://www.takamaz.co.jp>



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