

CYBER WORLD

Precision Tools
for Music



World Technology Center

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Museum of Art

2015
No. 46

Having received a total of 150,000 visitors since its opening, the World Technology Center is the start of your visit to Yamazaki Mazak when you are in Japan

We would like to give you an overview what to expect – what you will see, the people you will meet, when you do come to the World Technology Center. Our goal is to make your visit an unforgettable experience and to reinforce your confidence in working with Mazak as your partner.



01



- 01. Visitors are warmly welcomed by the receptionists
- 02. World Technology Center auditorium
- 03. Largest showroom of all our technology centers around the world
- 04. Application engineer explaining component machining
- 05. Lobby with red and white motif. Automobiles from world-famous manufacturers that have components produced by Mazak machine tools are frequently displayed in the World Technology Center lobby

The World Technology Center has been in operation since April 2006 and is located on the site of the Minokamo plant. The design for the lobby features a red and white motif, the same colors found in the Japanese flag. With a total floor space of approximately 10,000 square meters (108,000ft²), the center contains a large showroom, solutions gallery, auditorium, meeting rooms, lounge, dining hall, and other areas that are all used to effectively present Mazak products and manufacturing concepts. Mr. Tomohisa Yamazaki, president of Yamazaki Mazak, states that the center "offers a wide range of machine tool solutions to problems faced by the manufacturing industry and also introduces new concepts for improved business management." The World Technology Center is also the core of our worldwide network of technology centers – new demonstrations and concepts developed here are quickly spread throughout the world.

The showroom always has a large number of the latest machine tools and laser processing machines on display that process demonstration workpieces which represent components found in a wide variety of industries. The solutions gallery displays sample work pieces and machining examples of many types of materials from a wide variety of industries which draws the close attention of every visitor. Application engineers are available to thoroughly explain how machines being demonstrated can be used for individual visitor's production requirements and to answer any questions they may have. Several meeting rooms are available that can be used for detailed technical discussions.

The auditorium which can accommodate more than 300 people is used for a wide variety of purposes, with the size of the audience ranging from just a few persons up to the full capacity. The welcome programs for MIMTA (Mazak International Machine Tool Association) group visits are always held in the World Technology Center auditorium. It is frequently used for company introduction presentations or videos as well as technical presentations. Additionally, presentations will be given that are a collaboration between Mazak and the manufacturers of peripheral equipment.

The construction of the World Technology Center itself is an impressive testament to the benefits of Mazak manufacturing equipment. The entire space frame is comprised of more than 2,000 pipe components that were cut by Mazak 5-axis lasers. The complex contours that are required for a tight pipe joint were cut with high precision by these machines. As a result, the time required for assembly was considerably reduced when compared to conventional construction methods as well as the amount of welding that was required. Additionally, this type of design is very earthquake-resistant, an important requirement for every building located in Japan.

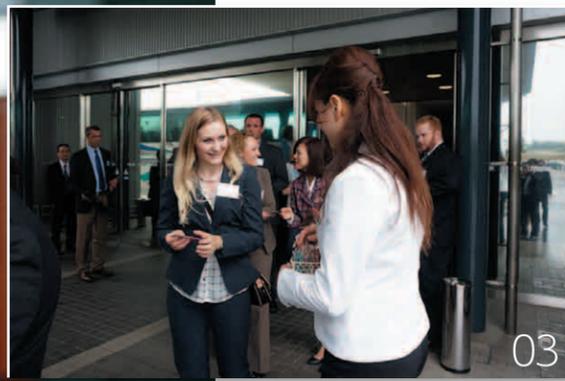
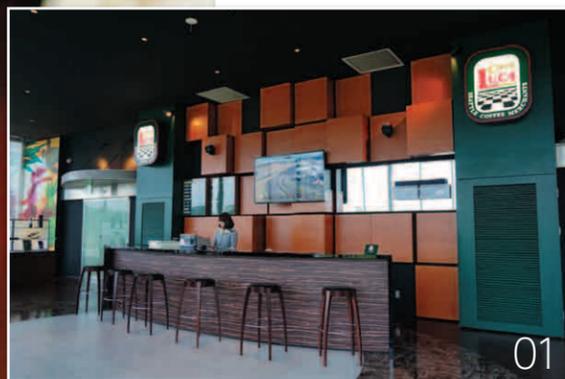
Many traditional Japanese crafts have a long history in the area in which the Minokamo plant is located. These crafts include lacquer-ware, sword-making and washi, or hand-made paper. Our goal is to have these skills of local employees, that have been passed down from generation to generation, now be used to produce precision machine tools. To represent this, visitors are given a souvenir business card case that is made from washi.



▶ Name card case made from Mino washi (hand-made paper)

During their time at the World Technology Center, visitors are looked after by an attentive reception staff with traditional Japanese hospitality that begins with a welcoming cup of coffee or green tea. The reception staff is ready to provide assistance to every visitor while they are here in any way they can. The refreshment counter and coffee lounge is available throughout their entire visit. A commemorative photograph is taken of each person or group during their visit and is presented to them at their departure.

Visitors come to Japan to see the production facilities where Mazak machine tools are made. This technical side of their visit is well balanced by the personal welcome they receive at the World Technology Center. We are looking forward to seeing you here the next time you are in Japan.



- 01. Coffee lounge Café LUCA
- 02. Watching a machine demonstration in the showroom
- 03. Presenting souvenirs to visitors as they depart
- 04. Visitors are welcome to use the golf practice range

News & Topics



- 01. Exhibition booths were crowded, which indicated a growing appetite for capital expenditures
- 02. People waited in line to see the MAZATROL SmoothX section



Setouchi Technology Center will open in the spring of 2016 A solutions fair was held for the announcement and other purposes



Mazak is scheduled to open the Setouchi Technology Center (Hayashima-cho, Tsukubo-gun, Okayama) in the spring of next year. This center, which will provide support to customers in south-central Japan, will contain an office, showroom, 3D measurement room, conference room, training school and other facilities with a total floor space of approximately 2,600 square meters (28,000 ft²). The center is equipped with cutting-edge machines and systems, and dedicated staff members provide services such as explanations of new equipment and advice for the improvement of production efficiency. The center offers convenience and good access for customers in nearby regions to use these services. For advance announcement of the establishment of this center and other purposes, the Setouchi Technical Show 2015 was organized at the Convex Okayama on June 19 and 20, 2015 and received more than 2,000 visitors. Many of them mentioned that they are looking forward to the new center because it is conveniently located and makes Mazak closer to them and they can attend MAZATROL training without a long trip.

Hungary Technology Center will open in the spring of 2016 14th European support site for enhanced service in Central Europe

Mazak will open the Hungary Technology Center in the spring of next year. Its goal is to meet the demand for machine tools in the country, which is growing due to the new facilities being built by many international companies in the automotive, electrical, general machinery and other industries. Along with Hungarian customers, the center is also expected to enhance support of customers in neighboring countries. The ground-breaking ceremony was held to establish the center, which is located in an industrial complex near Budapest, the capital of Hungary. Mr. Marcus Burton, Mazak European Group Managing Director, with other Mazak European management, participated in the Japanese style ceremony.



- 01. Ground-breaking ceremony
- 02. Architect's rendering of the Hungary Technology Center



TOKAIGIKEN CO.LTD.

President and CEO : Hisao Kato
 Address : 307-54 Nagata, Osashima-cho, Ena City, Gifu
 Number of employees : 56
 www.tokaigiken.com



Customer Report **01**
Technical power and pride to accept all orders

Japan TOKAIGIKEN CO.LTD.



"We are willing to do the jobs that others do not want to do." This is a clear corporate motto of TOKAIGIKEN CO.LTD., which is located in Ena City, Gifu Prefecture. It expresses the craftsmanship and pride of Mr. Hisao Kato, President and CEO, and his desire to test the company's technical power through prototype production. How has the company earned a reputation among its competitors that TOKAIGIKEN can address any difficult prototype production?

No industrial products can skip the prototype production stage before being brought into the market. This is similar to a river flowing into an ocean, which starts with a headstream deep in the mountains. Mr. Kato recognized the importance of this stage and founded TOKAIGIKEN in January 1988 to develop the business with a focus on prototype processing of precision automotive parts. Reorganized as a stock company in 2003, the company experienced growth and new construction of a factory several times and then moved to the current location with the new office and plant in 2007.

The main products are prototype parts for shock absorbers, power steering, turbochargers, superchargers and other equipment. TOKAIGIKEN is also renowned for producing high-precision special parts used in races in Japan and other countries. All of the customers are major Japanese companies related to automotive parts. As a result, the levels of requirements and achievements are very challenging, making most competitors decline making quotations. Such orders may involve components that are too unusual, too small a quantity, a delivery period that is too short, materials that are too hard, etc. The jobs that other companies avoid have turned into business opportunities for TOKAIGIKEN.

Flexibility developed through prototype production is an advantage

As one of its advantages, the system developed in TOKAIGIKEN can address any challenges that make competitors reluctant to receive such orders. "Our flexibility, which has been developed through production of prototypes, is second to none. As prototype production inevitably involves quick delivery, low-volume production and difficult manufacturing, we rack our brains to respond to all orders as much as possible," says Mr. Norihisa Kato, Executive Director.

Quick delivery is supported by the integrated production system to internally perform various tasks from machining to heat treatment and grinding. Each operator handles multiple machines in the processing line to improve productivity. The company also has in place a bar-code system to manage more than 1,000 kinds of parts in a comprehensive production control system. A feature of the company is the integrated production anywhere, anytime. The data are also used for management of a huge amount of materials including difficult-to-machine materials. "On the other hand, the most important contributions to quick delivery are made by the large number of Mazak machines, which have been installed since our start of business."



Highly skilled operators making components for prototypes

Expecting the growth of people to support our future development

"Our growth and development is due to the effective use of the Mazak machines as resources. In particular, the interactive programming of the MAZATROL is very useful because it allows us to easily respond to sudden requests from customers for changes in the processing method." The prototype production line of the company can perform quick processing mainly with simultaneous 5-axis and various other machining centers including the VARIAXIS 500-5X II. In the CNC lathe processing area, 45 Mazak machines

such as the QUICK TURN NEXUS 200-II and QUICK TURN 200 are in operation.



"Mazak machines can be used more effectively by training the operators," says Mr. Norihisa Kato

"While the Mazak machines are especially helpful for the jobs involving a high level of difficulty, which are increasing these days, growth of the staff who handle the machines is indispensable for making maximum use of their advantages. We want to enhance training in the future to maintain a balance between machines and people"

TOKAIGIKEN uses Mazak's World Technology Center as a venue for training their employees. The training will help them accelerate the delivery of jobs when full-scale operation of the plant, which is currently under expansion, is started.



Employee training at the World Technology Center this year



- 01. Orderly arrangement of Mazak machine tools on the shop floor
- 02. An operator closely focusing on machining
- 03. Uncompromising dedication to precision
- 04. Employees in front of Mazak machining center

►Turbocharger components, which are used by Aston Martin and Ferrari





Mizusawachukosho

President and CEO : Katsuhiko Oikawa
Address : 1-8-15 Tainichi-dori, Mizusawa-ku, Oshu City, Iwate
Number of employees : 58



Monozukuri Nippon Grand Award in the Application of Traditional Technology Category for 2013.

System from casting, machine processing and powder coating

"We can help bring a product promptly to the market after receiving the order because we can complete integrated production within our site." Most of the mechanical processing in the production system is performed with CNC lathes, multi-tasking machines and other Mazak products. The first Mazak machine for Mizusawachukosho was the QUICK TURN 10, which was introduced in 1984 when the company began mechanical processing. Since 2011, the year when full-scale production of the inner pots was launched, new equipment has been introduced every year. A key to the development of the pots was to produce a thick casting without any holes and then machine a lot of material from it. The processing method for cutting casting with thin walls was developed with the cooperation of the Mazak Tohoku Technology Center in programming and other tasks. Eventually, the company successfully satisfied the strict demand level required by Zojirushi.

Hoping to establish a system to produce their own products in the future

"The ideal machining of thin walls was achieved with the fixtures developed based on the skills and expertise accumulated by the fixture production group of our company. On the manufacturing floor, we had problems because processing was possible in the program, but the tools interfered with the workpiece in actual machining. Our employees made concerted efforts to propose specially shaped tools through trial and error and eventually solved this problem."



"We always do our best," says Mr. Oikawa

Mizusawachukosho expanded the range of casting through the production of the inner pots. Now, the company sets the future target of establishing a system to produce their own products using its core technology of casting. "To this end, manufacturing that breaks the conventional rules, as well as the latest technology, is essential," says Mr. Oikawa, who may already have a blue print in his head for revolutionary products based on the successful experience of producing the inner pots.

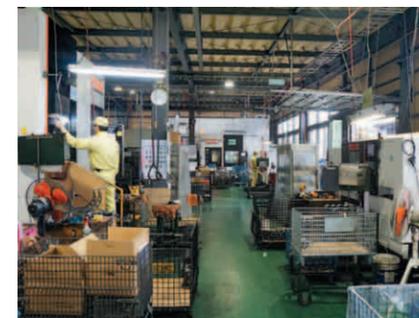


Machining of Nanbu iron pot

Cast iron produced by Mizusawachukosho. Mizusawachukosho is one of the few companies that can handle durable ductile cast iron in Iwate Prefecture



Iron sand, charcoal and quality sand and clay are essential materials for casting. Production of "Nanbu iron" was vigorous in the area of Oshu City, Iwate, because all of those resources were readily available. Mizusawachukosho was established taking advantage of such an industrial infrastructure in 1946. The company moved its main office and plant to the current location in 1963, and was reorganized into the current company in 1969. It produces gray cast iron and ductile cast iron. While components of general industrial machinery were the leading products, the company received an order to manufacture the inner pots of rice cookers at the end of 2010. Zojirushi had been looking for three years for a company with the capacity to process inner pots, key parts of a new product, and finally found Mizusawachukosho.



Many Mazak machines, including old and new ones, are used in the company

"Zojirushi recognized that we had the capacity to provide the required precision of casting and respond to mass production for wide-scale marketing. Another reason why we were chosen was that we were the only company that was able to manufacture a large amount of ductile cast iron suitable for production of the inner pots and we could handle both casting and processing," says Mr. Katsuhiko Oikawa.

As a result, for its work in this product, Mizusawachukosho received the Minister of Economy, Trade and Industry's Award of the

Customer Report 02 Innovation using a traditional material

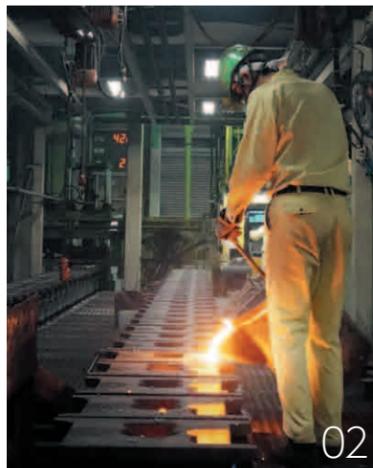


Japan Mizusawachukosho

Rice cookers, bidet toilet seats and thermos bottles are the three most popular products for foreign tourists visiting Japan. One of the bestselling rice cookers is "Kiwame Hagama" of Zojirushi Corporation - its inner pots are processed exclusively by Mizusawachukosho (Mr. Katsuhiko Oikawa, President and CEO) in Oshu City, Iwate Prefecture. In this area with an industrial foundation of "Nanbu iron," the company used to supply parts for vessels as well as railway crossings. How did such a company start full scale production of parts for home appliances?



Iwate, Japan



- 01. The inner pot of a rice cooker is designed to have the solidity of Nanbu iron and a thin wall for easy handling
02. Pouring 1500°C (2732°F) iron
03. The integrated production system from casting to machining and powder coating is a strength of the company
04. Mr. Katsuhiko Oikawa, president and CEO (fourth from the left in front row) and employees



N.E.W. Vietnam Co.,Ltd.
 President : Shuji Nagakura
 Address : No.7 Road, Long Binh Industrial Zones (Amata),
 Bien Hoa City, Dong Nai, Province, Vietnam
 Number of employees : 1,200
 www.nagakura-mc.co.jp



Customer Report **03**

Producing precision parts in an integrated manner with a view to global expansion

Vietnam N.E.W. Vietnam Co.,Ltd.

Nagakura Mfg. Co., Ltd. (Mr. Shuji Nagakura, President), a cold forging company based in Numazu City, Shizuoka Prefecture, established N.E.W. Vietnam Co.,Ltd. as its local plant in Vietnam in 2002. High-precision parts cold forged by Nagakura Mfg. are processed by N.E.W. Vietnam and then exported to the United States, Japan, China, Thailand, Indonesia and other countries. The Vietnamese company has in place a production line composed of more than 100 Mazak machines to play a key role in the strategy of the group that seeks global expansion.



Nagakura Mfg. was founded in 1950 and has since expanded its business with focus on manufacturing and sales of cold forgings and precision molded components for automobiles and motorbikes. The company has steadily promoted its global strategy by starting to export products in 1985 and establishing a wholly-owned factory in Columbus Indiana, U.S.A in 1994. The foundation and operation of N.E.W. Vietnam is part of this strategy, and the business is growing smoothly with the addition of a second factory in 2006 and a third one in 2013.



Mr. Nagakura, the managing director (right), says they started to look at Mazak machines when they decided to start operation in Asia

Practical proposal adopted in the development of QUICK TURN PRIMOS

Among the more than 700 machines operated in N.E.W. Vietnam, more than 150 units, or approximately 20%, are Mazak machines. All of them are QUICK TURN PRIMOS 150 S or QUICK TURN SMART 150 S manufactured by Yamazaki Mazak Singapore. "The main reason for using them is that the size and performance are appropriate for our work. In addition to the procurement of the machines, finely-tuned support is also available from Singapore and Vietnam (Ho Chi Minh), which is another advantage." This is why the company keeps selecting Mazak machines and ordering additional units.



The plant continuously introduces new machines in response to the constantly increasing business

Mr. Nagakura states that the company and Mazak "both consider Asia as an important operational base in anticipation of the development of the region," and emphasizes that the two companies are not just a manufacturer and a user but business partners that share the same values. For example, when Mazak developed the QUICK TURN PRIMOS, practical opinions proposed by N.E.W. Vietnam from the viewpoint of a heavy user were adopted.

Development of a pleasant working environment to develop young workers

As one of the administrative features, both Japanese and Vietnamese employees in N.E.W. Vietnam, including Mr. Teppei

Nagakura, General Manager, are young. It is not uncommon that a local staff member in his/her 30s is appointed as a manager. It is the duty of a company established in a foreign country to develop a working environment where young staff can work actively. While it is said that the turnover rate is high in Vietnam, the extraordinarily high job retention rate of the company is proof of its good working environment.

"As can be seen by the fact that we still have local staff who joined us at the start of our business, our employees feel comfortable working here. I hope that the local staff continue to develop their technical skills to promote a world-class business."

For the company, which aims to expand its presence around the world, expanding its business in Europe, in addition to North and Central America and Asia, the continuous development of technical skills by the local staff will be a milestone of success in its global development.



In addition to Vietnam as shown here, the machines made in Mazak's Singapore plant are effectively used in Mexico as well



02



03

- 01. Employees at work at N.E.W. Vietnam
- 02. Expansive plant with rows of turning centers for large-scale operation
- 03. Teppei Nagakura, General Manager (right), and Taketo Shoji, Manager

▶Net shapes developed by making full use of high-precision extruding and metal forming technologies





Customer Report 04

Fast Cars to Guitars; Shop Plays the Lead in Manufacturing

U.S.A. Wolfert's Tool & Machine Co., Inc.

Fast cars and guitars may be the makings of a country song, but for Wolfert's Tool & Machine Co., Inc., they represent the broad spectrum of markets the job shop serves with its advanced machining capabilities. From its humble beginnings, the St. James, Missouri shop's diversity and willingness to take on any job kept it busy and growing, even in past economically trying years when most others slowed or were forced to close their doors permanently.

The shop machines a lot of high-end aftermarket auto parts, aerospace components, and also produces medical crash carts used in hospital emergency rooms. But in addition to its part machining services, the shop manufactures and sells its own line of aluminum body electric guitars.



St. James, Missouri



02



03

01. Wolfert Tool and Machine's Metalin' Guitars
02. QUICK TURN NEXUS 250-II MSY
03. Company employees



Wolfert's Tool & Machine Co., Inc.

CEO : Ken Wolfert
Address : #5 Industrial Drive St. James, MO 65559
Number of employees : 16
www.wolfert.com



Ken Wolfert, with experience as a tool and die machinist, ironworker and auto mechanic, started Wolfert's in 1995 in Rolla, Missouri. Wolfert's acquired its first CNC machine tool in 1996, a vertical traveling column (VTC) mill that is still in use. The machine features a large worktable and generated an influx of new and different parts from existing customers. So much so that the shop continued to grow and expand its machining capabilities with additional Mazak CNC machines. Being so impressed with that first CNC machine – a Mazak VERTICAL TRAVELING COLUMN (VTC) 20B – Wolfert purchased a second one, then a Mazak VTC 200B, SUPER QUICK TURN (SQT) 15 MS Mark II Turning Center with dual spindles, QUICK TURN NEXUS (QTN) Turning Center and a VTC 16B. However, the shop's most recent Mazaks are a VERTICAL CENTER NEXUS 510C Vertical Machining Center and a QTN 250-II MSY Multi-tasking Machine.

Currently, the bulk of Wolfert's machining is for customers in the aftermarket hot-rod and custom car parts industry. Components include aluminum dashboard panels, front serpentine belt pulleys, crank pulleys, water pump pulleys, AC unit covers as well as an array of mounting brackets and other components. One recent notable hot-rod job designed and machined at Wolfert's was the control knobs for Ford's replica Ford GT40 cars.



A variety of belt pulleys are displayed in the factory

"Our production goals revolve around just in time (JIT)," explained Dave Bast, plant manager at Wolfert's Tool & Machine. "All of our customers want short turnarounds. Jobs that used to have three-month turnaround times must now be done within two weeks, and several of our repeat/long running jobs have forced us to inventory some parts to keep pace with certain high-volume customers."

He added that those customers try to project their future part needs, but the estimates tend to vary greatly from month to month. Wolfert's has to run production in such a way that keeps it one step ahead of orders. To accomplish that, Bast said the shop depends on the speed and processing flexibility of its Mazaks. The machines allow the shop to quickly changeover for a hot job, finish it and return to the previous job. Or it will run the production unattended or

lights out, depending on which machine is used. About 90 percent of Wolfert's programming happens on the shop floor at the machines. So the commonality and ease of use with the Mazak control platform allow the shop's machinists to quickly get up to speed on each new Mazak acquired. And according to Bast, going from print to part right at the machine is fast with the Mazaks, which eliminates a lot of extra steps as compared with off-line programming.



Operator programming a MAZATROL CNC

Among the aluminum parts that Wolfert's machines are the bodies and other components for its own Metalin' brand of electric guitars. This product line represents the opposite end of the shop's production spectrum. In 2009, Wolfert asked Bast to design an electric guitar body that would be made from aluminum. Besides being a guitar player, Wolfert's motivation was the fact that hardwoods as a commodity for the guitar industry would soon be scarce and even depleted, and he wanted to provide an alternative.

Three years later, the shop was manufacturing and selling its aluminum-body guitars. To create a Metalin' brand guitar, the shop starts with a 23-pound(10.5kg) block of aluminum and machines it down to around 3 pounds(1.4kg) – about half of a finished guitar's total weight of 7 pounds(3.2kg). The process involves a lot of material removal and machining very intricate structural details that are imperative to a Metalin' guitar's rich sound and tone.

What is unique about Metalin' guitars is that they are stable and impervious to any severe atmospheric changes in heat, humidity, dampness or cold. In fact, the shop shipped one of its guitars from a 0-degree(-16°C) Fahrenheit climate to a 60-degree(16°C) one and back, and the instrument stayed in tune the entire time. Such dramatic changes would have thrown a wooden guitar immediately out of tune.

"The repeatability of the Mazaks and their consistency in running the same programs over and over is amazing," said Bast. "But at the same time, they give us the flexibility to machine in certain custom aspects to



Mr. Wolfert (right), who developed Metalin' guitar with Jeremy Tessaro (CNC machinist) (left)

each guitar we make. We easily filter these special requests into our standard cutting programs and quickly produce a custom guitar without adding huge amounts of additional production costs."

The Mazak VCN 510C, in particular, does the bulk of the shop's guitar body machining, along with the back cover plates. The shop machines out the back of the guitar bodies to average wall thicknesses of 0.080"(2mm), which helps reduce overall weight.

The shop has also started designing a bass guitar that will be a bit different. As opposed to a hollow body with a thin back cover, the bass will have two fully machined halves fitted together. This design will have a completely different look as compared with the shop's other two model types. It will also involve a lot more machining and contouring with the Mazaks.

Wolfert has produced several custom and commemorative guitars auctioned off at charitable fund-raising events. But by far, one of the most notable Metalin' guitars hangs in Mazak's World Technology Center in Japan. And for both Wolfert and Bast, seeing it there was a true honor.

"We wanted some kind of presence at IMTS 2014," explained Wolfert, "so we offered to make Mazak a guitar sporting its company logo. But instead of the logo being machined into the guitar body surface, we machined away all the material around it so it appears to protrude from the surface. And we made them a motorized stand that slowly rotates the instrument for 360-degree display." "Our first Mazak machine did exactly what it was supposed to do, so we were stuck with them and purchased more," said Wolfert. "The machines run nonstop, and lights-out capability is a big plus for us. It allows us to increase capacity to take on more work while continuing to provide our customers with the level of quality, fast delivery and high value they've come to expect from Wolfert's."

► Unique guitar stand



More detail interview movie on Mazak TV
www.youtube.com/watch?v=6Vr8y9TE7k

MAZAK PEOPLE

Yamazaki Mazak Trading Corporation / E/L Section

 **Mr. Daiki Takeuchi**

Experience broadens your perspective

Yamazaki Mazak operates many bases in Japan and other countries for various functions such as production, sales and before and after-sales service and support. MAZAK PEOPLE introduces employees who are active in the forefront of the Group companies. This issue features Mr. Daiki Takeuchi of Yamazaki Mazak Trading (YMT), who returned to Japan in April this year after working in Singapore for five years and eight months. His work experience is reported below.

PROFILE >> Mr. Daiki Takeuchi

Born in Chita City, Aichi Prefecture in 1983, Mr. Takeuchi was assigned to the YMT Shipping & Administration Sect. E/L (Export License) Team in 2006. He was sent to Singapore in 2009 and returned to the YMT E/L Section in 2015. He relaxes on holidays by washing his car, going for a drive and then watching movies.

—What work have you done since joining the company?

I was assigned to the E/L Team of the Shipping & Administration Section, which is the predecessor of the section to which I currently belong, and worked here for three years in operations to obtain Japanese Government export approval required for exporting machines. I was then sent to Singapore where in addition to the business operations I conducted in Japan, I engaged in marketing tasks that connect overseas sales companies and the Japanese Headquarters, such as reporting of order intake and management of machines in stock and other data, as well as inquiries on delivery date and specifications.

—What are the major differences between Singapore and Japan?

While this may be a typical answer, their cultures are different. For a while after my assignment to Singapore, I was sometimes confused with the different ways of working and thinking. But I learned to accept new ways of thinking. The experience gave me training to broaden my perspective. In fact, my attitude to regard different opinions and ideas as "new proposals" led to smooth communication with others and unexpected discoveries of something interesting.

—How was life in Singapore?

A wide range of ethnic groups live in harmony in Singapore, and their lifestyles are also diverse. So I had meals and barbecue parties with local acquaintances and expats from Europe and the U.S. These opportunities allowed me to learn about different cultures. On weekends, I enjoyed watching movies and plays in my leisure time, to my heart's content.

—Did you have any problems?

I only had experience in E/L operations before the assignment. I was involved in sales activities in Singapore, but I had to start from scratch. So it took time for me to become accustomed to the flow of understanding what was happening in front of me and then making decisions. It was not time to care about my pride, and I asked various people about what I did not understand until I was satisfied. Looking back, I must have annoyed those people to whom I asked childish questions. But thanks to them, the knowledge I gained with such efforts in those days is now a significant asset for me.



International video conference

"I feel happy when I am appreciated by someone, whether they are a customer or colleague, for whatever I have done. Especially when someone is pleased with my proposal to help them solve a problem, I feel glad that I did it," says Mr. Takeuchi. The view and perspective he acquired in Singapore seem to be helping him with his new work duties.

Mr. Takeuchi's business tool

Successful business persons have essential items they always need for business. Mr. Takeuchi particularly recommends the following item:

Tie clasp from his grandfather

Mr. Takeuchi received this tie clasp from his grandfather when he joined the company. His grandfather used it when he was working as a school teacher. Although the tie clasp has no special functions, Mr. Takeuchi has kept it with him whenever he wears a suit and feels that it is a sort of lucky charm. Even during warm weather when he does not wear a tie, he secretly keeps it in his trouser pocket.



News & Topics

State-of-the-art laser technology at Metal Forming & Fabricating Fair Tokyo 2015



01



02



MF-Tokyo 2015

Metal Forming & Fabricating Fair Tokyo

Metal Forming & Fabricating Fair Tokyo 2015, the largest exhibition for presses, plating and forming in Japan, was held at the Tokyo Big Sight for four days from July 15 to 18, 2015. With a total of 1,304 booths operated by 223 companies, this year's event attracted more than 30,000 visitors, exceeding the previous event. Yamazaki Mazak exhibited three models and demonstrated innovative manufacturing with laser processing through technical presentations.

Machine using a new torch developed by Mazak attracted attention

In our booth, the OPTIPLEX 3015 FIBER II, a new model of fiber laser processing machine using the multicontrol torch developed by Mazak, received the most attention. The OPTIPLEX NEXUS 3015, a new machine, was highly acclaimed for its capability of performing

unmanned operation over extended periods by adding a 10-station pallet stocker. The 3D laser processing machine, the 3D FABRI GEAR 220 II which can cut a variety of long structural material, attracted a great deal of attention from visitors. Demonstrations of the models showed that the process integration typical of Mazak machines can make a great contribution to quality improvement of processed products.



03

01. The Mazak booth – a large screen presented case studies of 3D FABRI GEAR installations by customers
02. The corner showing production efficiency possible with square pipe attracted many visitors to the booth every day
03. Technical presentations explained the many features of Mazak machines



Compact, high-performance laser processing machine designed to provide the maximum value

OPTIPLEX NEXUS 3015



Shown with optional 2P/C

- Various Intelligent Functions support the cutting process
- Equipped with touch screen CNC MAZATROL PREVIEW 3
- Easy programming by pattern input – Simple input function for cutting shape

Output	2.5 kW
Max. workpiece size	1525×3050 mm (60.04"×120.08")
Travel (X / Y / Z)	3100/1580/150 mm (122.05"/62.2"/5.91")
Machine size	6450×2960×H2420 mm (253.94"×116.54"×95.276") [STD] 11925×5525×H2420 mm (469.49"×217.52"×95.276") [2PC:OPTION]



This Issue's Cover



Shown on the cover is the guitar produced by Wolfert's Tool & Machine Co. Inc., (the model commemorating the 40th anniversary of the establishment of the Kentucky plant), which is now displayed at the World Technology Center. The beautiful finish of the aluminum body always attracts visitors' attentions.

The Yamazaki Mazak Museum of Art was opened in April 2010 in Aoi-cho, the heart of Nagoya in order to contribute to the creation of a rich regional community through art appreciation and, consequently, to the beauty and culture of Japan and the world.

The museum possesses and exhibits paintings showing the course of 300 years of French art spanning from the 18th to the 20th centuries collected by museum founder and first museum director Teruyuki Yamazaki (1928 - 2011), as well as Art Nouveau glasswork, furniture, and more. We look forward to seeing you at the museum.



GALLÉ, Émile[1846-1904]
Applied and engraved wine ewer with grape design
c.1900

THE YAMAZAKI MAZAK MUSEUM OF ART

Collection Showcase 1

GALLÉ, Émile "Applied and engraved wine ewer with grape design"

The main body of this ewer is constructed of transparent glass with fine air-bubbles and platinum-powder inclusions. Appliqué vines and fruit are added in places over the engraved design on the main body, which is reheated when they are fused into place. Some of the grapes are made with large cabochons (hemispherical pieces) of opal glass containing round pieces of gold foil and attached to cameo-carved pieces of dark-brown glass. A round strip of opal over beige glass is applied around the mouth and a handle of opal glass, bent at right angles, is attached to one side of the mouth and body. The layers of colored glass covering the bottom of the ewer are removed to expose the transparent glass under it, and it is fused to a transparent base.

In ancient times, grapes were a symbol of fertility. As everyone knows, wine is made from them and they can also be associated with the Holy Eucharist in the Christian mass. Gallé produced quite a few pieces of glassware with grape motifs, and grapes also appear frequently, along with wheat, in his furniture designs.

THE YAMAZAKI MAZAK MUSEUM OF ART

Collection Showcase 2

PISSARRO, Camille "Wharf at Rouen, Sunset"

Pissarro was born in St. Thomas, Virgin Islands, a Danish colony in the West Indies. He moved to Paris in 1855 to become a painter. There he met Claude Monet and became an important member of the group of painters known as Impressionists. His subjects were beautiful natural landscapes in the rural areas that he loved. Rouen, the site of this painting, was an old city on the Seine halfway between Paris and the great port of Le Havre in Normandy. The river was quite deep up to this point, allowing the passage of large ships to the port of Rouen, and it had been an important hub of transportation since ancient times. In this painting, Pissarro depicts a wharf on the bank of the Seine at sundown. The dark shadows and masts of the boats provide effective accents. The artist's main concern is the mood created by the gentle evening light, the glittering surface of the water reflecting it, and the softly luminous quality of steam.



PISSARRO, Camille[1830-1903]
Wharf at Rouen, Sunset
1896
Oil on canvas