

# CYBER WORLD

2014 41

## First issue of 2014

01 New Year's Greeting

### Special Discussion

03 Nakashima Medical Co., Ltd. & Yamazaki Mazak

### Events

05 DISCOVER 2013

06 Touch the Future 2014

### Customer Report

07 John Hyde Engineering Ltd. (U.K.)

09 Kureko Co., Ltd. (Japan)

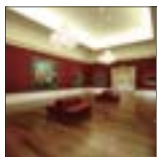
11 Korenaga Shoukai Co., Ltd. (Japan)

### News

13 30,000th Machine Made in Kentucky Shipped  
Yamazaki Mazak Family Day

14 Mazak People – Yusuke Ochia





## vol. 7 Masterpiece

THE YAMAZAKI MAZAK MUSEUM OF ART

Address: 1-19-30 Aoi, Higashi-ku, Nagoya City, Aichi, 461-0004, JAPAN  
TEL: +81-52-937-3737 FAX: +81-52-937-3789 www.mazak-art.com

### MODIGLIANI, Amedeo (Portrait of Dr. Paul Alexandre)

This piece is a portrait of the young Dr. Paul Alexandre, painted by Italian artist Amedeo Modigliani. Modigliani set out from Italy for Paris, the center of avant-garde art at the time, in 1906 at the age of 22. Despite the fact that he was completely unknown at the time, he decided to do no work other than painting, and he lived off an allowance provided by his mother. Dr. Alexandre, who actively collected the paintings and drawings of the then unknown Modigliani, continued to support the young artist financially and emotionally until he was forced to leave Paris due to World War I. This particular piece was painted in Modigliani's third year after leaving Italy when he was 25 years old. With its long, narrow facial features and slender silhouette, the piece is a valuable example of Modigliani's early period, which exhibits the artist's individuality. On the rear wall in the portrait is hung *The Jewish Woman*, a Modigliani painting previously purchased by Dr. Alexandre.

Modigliani passed away in January of 1920 due to alcoholism and was later followed by his pregnant wife, who committed suicide. He was poor, infected with tuberculosis, and addicted to narcotics... dying at the young age of 35, Modigliani's destructive life became legendary, and the tragic life of the gifted artist was later portrayed in the movie *Modigliani*.



MODIGLIANI, Amedeo (1884-1920)  
Portrait of Dr. Paul Alexandre 1909

### GALLÉ, Émile (Small Good People in Green)

This is Émile Gallé's exhibition piece for the 1900 Paris Exposition Universelle. Molded in the shape of a pen tray, an extremely rare form for Gallé's pieces, the very existence of this work has remained almost unknown up to the present time.

In the piece, a frog crawling up a water plant has noticed a red prey insect on the other side of the leaf and has frozen in place. Meanwhile, the red insect, unaware that it is in danger, has opened its tiny mouth wide to eagerly gnaw on the leaf. This is a scene reminiscent of a single frame of a comic. The piece vividly reveals the gallant figure of tiny creatures living to their fullest in a world ruled by survival of the fittest. On the underside of the pen tray is engraved the phrase "Small good people in green," the words of poet Maurice Rollinat. The figures are filled with Gallé's characteristic affection, giving the tiny beings distinctly human expressions.



GALLÉ, Émile (1846-1904)  
- Small Good People in Green - Applied and engraved pen tray

Your Partner for Innovation **Mazak**



2014

New year's greeting

## New Year's Greeting

Tomohisa Yamazaki, President

I wish you a happy New Year.

Although there are regional differences, the global economy is steadily moving towards recovery and for Japan in particular the correction of the overvalued yen continues, which has resulted in a rapidly recovering domestic economy. In addition, the economy in Europe has also come to show positive signs.

Looking at the condition of the global machine tool market, the aerospace, medical equipment, and energy industries were steady. The EMO machine tool exhibition held in Hannover in September of last year was quite active, supporting the strong demand of show visitors for capital investment.

As manufacturing becomes increasingly global, companies involved in the manufacturing industry must flexibly respond to changes in the business environment around them, including in currency exchange rates and the work force, through measures such as moving their production bases abroad or returning to domestic production in order to succeed amidst fierce global competition.

As a leading machine tool company, Yamazaki Mazak will continue to strive each and every day to support customers around the world as their best partner for manufacturing innovation.

Last year, we established the following management philosophy: "Yamazaki Mazak continues to exist by contributing to our customers, employees, and society. We took steps to ensure that all Yamazaki Mazak employees around the world share this same awareness."

In order to truly contribute to our customers, I believe it is necessary that we as an organization continue to have each and every one of our employees see things from the customer's perspective and seriously considers what customer requirements are at the present time.

In order to invest in areas close to where our customers are located, we are continuing to establish support bases for providing high-tech solutions and complete after-sales service to customers. Today we have also established technology centers in 38 locations and technical centers in 40 locations around the world, including countries such as South Korea and

Brazil where we moved and expanded facilities last year. As part of our investment in new markets, last year we established new local subsidiaries in Indonesia and Vietnam, and will be further increasing the quality of support provided to customers there in the future.

In addition, we are also planning on opening the China Service Center, which will provide after-sales service for Yamazaki Mazak products throughout China, next to the Shanghai Technology Center by the end of the year.

As part of our investment in production bases, we started operation of a new plant in Dalian last year, our second in China. Domestically in Japan, we installed a large component unmanned machining system with intelligent robots in our Oguchi Plant in order to increase productivity. Currently we are also expanding plants in Singapore and the United States. Once these are completed this year, not only will they improve productivity, they will also increase production capacity.

Through this plant expansion and equipment augmentation, we will be able to provide benefits to customers both in terms of cost and delivery times. In addition, we are confident that operating plants abroad is beneficial in many ways, including enhanced after-sales service.

To touch on one more point concerning production abroad, our plant in the United States, which was established in 1974, shipped its 30,000th machine to an American customer in September of last year. In addition, our plant in the United Kingdom continues to engage in activities rooted in the community, including receiving a visit from Prince Charles in June of last year, as well as receiving the Queen's Awards for Enterprise twice in the past.

As a partner which provides production methods with high added value to customers and as a partner for the safe and efficient operation of our machines after purchase as well, all of our employees throughout the world will, based on our management philosophy, continue to strive to work together to create even stronger relationships of mutual trust as a highly trusted manufacturer with our customers around the world.

I hope for your continued good health and success and renewed favor in the coming year.



Mr. Yoshio Nakashima, President, Nakashima Medical Co., Ltd.

Nakashima  
Medical Co., Ltd.

&

Yamazaki  
Mazak



Takashi Yamazaki, Vice President, Yamazaki Mazak Corporation

## Taking Aim at the Growing Medical Field

Yamazaki Mazak is building more momentum in equipment development and market strategy aimed at the medical field. By increasing efforts in this field now gaining global attention, Yamazaki Mazak aims to answer new demands from customers while seeking to solve a variety of problems. We asked Yoshio Nakashima, President of Nakashima Medical, Yamazaki Mazak's business partner in the commercialization of prosthetic bones, and our own Vice President Takashi Yamazaki to discuss the significance and future prospects of this field.

### Propeller Manufacturing Technology and Skills Utilized in Prosthetic Bones

—It was said that Nakashima Medical's prosthetic bones have inherited DNA from Nakashima Medical's parent company, Nakashima Propeller

**Mr. Nakashima:** Although we were spun off as a company in 2008, we began working on the manufacture of prosthetic bones some 20 years ago. The processes involved in manufacturing propellers and prosthetic bones have many commonalities, including "casting" → "machining" → "finishing" → "polishing." Actually, the technology and skills we cultivated in propeller manufacturing, such as complex curved surface machining and the craftsmanship required in mirror polishing, continue to be used in our prosthetic bones.

**Yamazaki:** When I visited the plant where our company's machines are in operation, I was surprised by the number of processes and the labor required to make one part. The

process involved up until shipping is extensive, including planning, design, cleaning, and inspections, in addition to the machining by our machines. It is the classic image of the machine industry. I think the reason why this all is managed so smoothly in Nakashima Medical is because it has the base of propeller manufacturing.

### A Business Model Conceived Together with Customers

—What led to Yamazaki Mazak focusing on the medical field?

**Yamazaki:** Although we weren't aiming at this field from the start, our U.S. staff made the groundbreaking proposal to use the INTEGREX 200Y multi-tasking machine with B axis, which went on sale in 1997, in the medical field. This led to its wide spread use among U.S. manufacturers who machine components such as prosthetic bones. Perhaps because its characteristics, including "Done-in-One" machining intended for the manufacture of a wide variety of parts

in small quantities, were well-suited to the type of production employed in this industry, by the time the new Mark III model went on sale in 2002, the series had come to be recognized as the industry standard.

**Mr. Nakashima:** Because prosthetic bones have many variations in size, it is necessary to consider which production method counterbalances the cost involved. The more varieties there are, the more inventory increases. I believe perhaps this is why a large volume is forged and individual parts are cut from the same forging. In that sense, the availability of a multi-tasking machine which can produce a wide variety of parts in small quantities is significant.



In front of INTEGREX i-200



Exchanging opinions as business partners about prosthetic bones

**Yamazaki:** In the U.S., the INTEGREX series is supplied to sixty to seventy percent of manufacturers which handle prosthetic bones and similar materials. This is in fact the top share of the market. I believe that this is a result not of Mazak simply providing these machines, but rather because we have worked together with customers to organize projects and incorporate their requirements.

### Aiming at a 4 Trillion Yen (\$US 38 billion) Market in 2025

—What is your opinion of the medical market?

**Mr. Nakashima:** Currently, it is thought that over 80% of the medical equipment used in Japanese hospitals is imported. However, the high quality level of Japanese manufacturers surpasses others in terms of reliability and safety. That is why I believe the balance of this import surplus will reverse in the future. Currently, the number of senior citizens worldwide age 65 or older who require medical equipment is 400 million, but this will swell to 700 million in 2023. Accordingly, I see this industry as having significant room for expansion.

**Yamazaki:** Because this field is not influenced by the economy, I believe we can anticipate steady growth. Some calculate that here in Japan it will grow to 4 trillion yen (\$US 38 billion) in 2025. Because this field is so important to us, we would like to devote our company's technical and human resources into promoting the development of sophisticated and versatile machines hand in hand with our customers.

**Mr. Nakashima:** Nakashima Medical would like to focus on market development centering on Asia. As part of this, we have gathered some 600 types of data concerning bone shapes in cooperation with doctors of



Machined prosthetic bones

countries throughout the region. This was so that we need not use the larger prosthetic bones made by European and American manufacturers. In the future, we would like to create optimally-sized components suited to this region based on the data we have collected.

### With a View Towards the Integration of Manufacturers and Hospitals

—What are some important points to consider concerning the medical field in the future?

**Yamazaki:** One of our customers in this field in the U.S. has built a hospital next to their company. Patients at this hospital receive custom-made prosthetic bones. Thus, by working closely together they can considerably reduce lead times. This is one possible business model. We would like to promote similar projects with customers while considering changes such as these.

**Mr. Nakashima:** Because the strengthening of this field also goes with national policy, I believe it is important. Being able to help a patient in a wheelchair to be able to walk is also a considerable incentive for us. We would like to focus on the development of custom made components as a business strategy and strive to differentiate our company from overseas manufacturers.

**Yamazaki:** I feel the same. What is important to differentiate ourselves from overseas manufacturers is to listen directly to what our customers have to say, make proposals, and repeatedly engage in discussion in order to make these ideas take form. Yamazaki Mazak has positioned the medical field as a growth industry pillar that will continue well into the future. As such, we intend to establish a system for further strengthening cooperation with customers and will focus our total energies on this field.



In front of INTEGREX 100-IV



## DISCOVER 2013

DISCOVER MORE WITH MAZAK™ EVENTS

DISCOVER 2013 at Mazak Corporation, which ran between October 7 and 16, raised the bar once again for all future private machine tool builder events. Dubbed the year's largest technology-driven manufacturing solutions event, DISCOVER 2013 brought more than 3,000 people to Florence, including metalworking professionals from all across North America. Also, over 20 metal working trade publication journalists and local mainstream media reporters, as well as area students, were in attendance.

With significant emphasis on education, DISCOVER 2013 gave attendees direct access to everything they could possibly need to expand their metalworking knowledge and optimize their operations – from today's most advanced machining technology to the latest metalworking trends to valuable industry expert advice. In fact, more than 70 different presentations took place throughout the course of the event, highlighting topics such as additive manufacturing, improving factory utilization and the revitalization of U.S. manufacturing.

"Mazak frequently hosts industry events, but we raised the bar with DISCOVER 2013," said

Brian Papke, president of Mazak Corporation. "Time is money in today's competitive manufacturing environment, and our goal was to go beyond the typical open house and regional trade show events of our industry and make DISCOVER 2013 a highly interactive experience no one could afford to miss. The record-breaking turnout and positive feedback we've received so far validates our commitment to our customers and the U.S. manufacturing sector as a whole."

### Student Outreach

DISCOVER 2013 kicked off with the "Mfg the Nxt Gen8n" event where 230 students from Northern Kentucky high schools, Gateway Community and Technical College and Cincinnati State College toured Mazak's National Technology Center and North American Manufacturing Plant and got a firsthand look at advanced manufacturing in a real-world setting.

### Interactive Learning

Attendees seeking tips on how to increase production efficiency, improve part quality, shorten lead times and reduce operational costs got what they needed via a wide variety of expert-led learning opportunities, including technical seminars, small-group Intelligence Zones and on-demand presentations involving MTConnect, simulation software and high-pressure coolant systems.



### Technology in Action

Mazak conducted live cutting demonstrations on more than 30 machines inside its newly expanded 100,813-square-foot (9365m<sup>2</sup>) National Technology Center. All of the machines were new in some way. While several models were brand new designs, including the VERTICAL CENTER UNIVERSAL 300, 400 and 500 Vertical Machining Centers, others featured new productivity-enhancing options, such as the QUICK TURN NEXUS 250-II MSY-D with double-turret technology and INTEGREGX i-100 BARTAC-S with an Intelligent Bar Loader System.

### Conclusion

Overall, Mazak wanted DISCOVER 2013 to serve as a unique opportunity for attendees to expand their metalworking knowledge and experience a wide range of complete manufacturing solutions, not just stand-alone machines. According to Mr. Papke, the Mazak team and its industry partners put in a lot of hard work to ensure the event turned out to be like no other. "Because of our dedicated staff and partners, DISCOVER 2013 was a great success where attendees learned how to properly implement the latest technologies and processes, as well as how to improve part quality, shorten lead times, reduce operational costs and achieve the lowest cost of ownership," he noted.



## Touch The Future 2014

Touch the Future 2014 was held on November 8 and 9 of last year at Yamazaki Mazak Minokamo and the World Technology Center. The event was a unique private show conducted by Yamazaki Mazak with the purpose of

providing customers an opportunity to see leading-edge machines and the progress of machining technology. At the event, Yamazaki Mazak displayed 30 machines including our newest models of machine tools and laser processing machines that were exhibited at EMO 2013 held in September in Hannover, Germany. During Touch the Future 2014, we implemented a new project. At areas throughout the plant, we introduced

specific processes unique to Yamazaki Mazak designed to improve performance and quality in each manufacturing area, including machining, assembly, tuning, and inspection. Employees were stationed throughout the factories to answer any questions the visitors may have. During this event, Yamazaki Mazak received approximately 2,000 visitors to extremely favorable reception.

### Customer Interviews — We talked to customers visiting Yamazaki Mazak Minokamo for the first time.



### Amazingly Advanced Japanese Automation Technology

Mr. Mitsuo Sato (right)  
President, Sato Seiki Co., Ltd.

There were explanations from both the perspectives of cost and technology about the various ideas implemented in the plant and it was very easy to understand. Great attention was paid to detail and I was truly impressed. While the plant was in operation there were almost no people actually in it and I was surprised that the automation of production throughout the factory had advanced so far. As someone involved in the Japanese manufacturing industry, I would like this technology to become even more active in the Japanese market.



### Considering Installing Multitasking Machines

Mr. Shinya Tsujikura (left)  
Kubota Corporation

We watched a presentation in the plant and a video introducing Yamazaki Mazak, and I felt that it was a very globalized company. I came to research machining for my company. I was able to observe the actual machining performed by various multi-tasking machines and am now considering introducing multi-tasking machines at my company in the future.



John Hyde Engineering's FLEXIBLE MANUFACTURING SYSTEM (FMS) in use with an INTEGREX e-1060V II.

## Flexible manufacturing

John Hyde is a believer in British manufacturing and his belief is growing with every month that passes.

"We are hearing more and more stories of multi-nationals repatriating work back to the UK from low-cost economies attracted by the quality, efficiency and dependability available from UK manufacturers," begins John, managing director of John Hyde Engineering.

The John Hyde Engineering story is a case study in all that is best about British manufacturing. Founded in 1989, the company is an offshoot of John's great-grandfather's company, Robert Hyde & Son (Holdings) Ltd. It's now a thriving business in Stoke-on-Trent with

customers in the machinery, plant, earth moving and engine building industries across the UK, Europe and America.

"In our case, we're production machinists. We serve companies where stock isn't carried; our products go straight to the production line. Therefore dependability is our competitive advantage," says John.

Initially John Hyde Engineering only machined steel castings before it started to branch out into iron castings and forgings. "We were using old, less accurate and inefficient machines which produced expensive, poor quality products. It became apparent that if we didn't make a bold move, we would not

survive."

He continues: "We took what was an easy decision at the time and bought our first Mazak machine, a HORIZONTAL MACHINING CENTRE FH 8800 with an eight pallet MAZATROL FLEXIBLE MANUFACTURING SYSTEM (FMS), which arrived in September 2001. Now we only have two non-Mazak machines in our factory, and one of those we built ourselves!"

"After just four weeks, our first Mazak was running manned for ten hours, unmanned for nine hours, and was earning 60% more per hour than the older horizontal machines it replaced. Within 12 weeks of its arrival we had



John Hyde, managing director of John Hyde Engineering.

ordered a second machine and a further 16 pallets for the FMS. Many manufacturers are forced by their accountants to cut down the specification of the machinery they buy to the minimum. In my opinion, and experience, this is a mistake because it reduces the effectiveness of their investment by more than the cost saving. You need to buy the best you can afford."

However within months of John Hyde Engineering's first Mazak purchase, two customers out-sourced to low-cost countries, and the market for one product was wiped out by the bankruptcy of Enron. "We went from having a full order book to losing two thirds of it in just a couple of months. Yet when one door closes another opens and we began manufacturing parts for several new customers."

John Hyde Engineering has also heavily invested in Mazak's INTEGREX range, purchasing an INTEGREX e-1060V II in 2008. "We perceived that the INTEGREX's 5-axis technology would really enable us to stand out in the large castings market, which is our forte. It was a conscious decision to get machines with bigger capacities, bigger machining envelopes and more power," continues



An operator removing a complex piston head from one of John Hyde Engineering's new HORIZONTAL CENTRE NEXUS 6000-II machine.

John. "We also use our INTEGREX range to produce shock absorbers for mining trucks. It now only requires one operation whereas before it used to take two or three. Using just one machine also ensures we save time and don't compromise on accuracy. Speed is important as, after all, time is money."

The company now has a total of 13 Mazak machines, including two HORIZONTAL CENTRE NEXUS 6000-II machines bought in July 2012, which were purchased to accommodate a large cylinder head project for a customer. The machines enable John Hyde Engineering to produce 200 of the complex, cast iron cylinder heads every week.

"We like working with Mazak. They're decisive people and they always deliver on time, which is something we can really relate to." In 2010, Cummins, one of John Hyde Engineering's customers, awarded the company a Cummins Supplier Award for 100% on time delivery to its Daventry plant for that year. "FMS has been the most important factor in enabling this performance," says John. "This is the kind of service we aim to provide to all of our customers."

John Hyde Engineering uses Mazak's

FMS across seven of its Mazak machines. "With FMS, we only need to operate on a two shift rotation rather than three as the 'lights out capability' means we can have 24 hours of machine operation with just 16 to 20 hours manning. However, the main benefits of FMS are the zero set-up time and the instant capability to change to a different job."

"FMS adds considerable cost, but brings greater benefits, which repay the initial investment within five years. The customer service benefits FMS brings are intangible and without it, the Cummins Supplier Award would have been much harder to win," John comments.

With regard to the future, John is confident that the relationship with Mazak will continue to grow, especially with the rising number of industry leaders recognising the benefits of sourcing their parts in Britain. "We're not going to stand still though, we have to push on," John concludes. "Mazak is a family company like ours. It looks to the long term and tries to do the right thing, not the thing that makes the most money. It's a rare approach but it's one we like."



Mr. Kurebayashi, President and a VERTICAL CENTER SMART 530C

## Playing a Role in Internal Aircraft Parts

Although the number of businesses directly involved in the aerospace industry is small compared to the automotive industry, the base of the aerospace industry is steadily expanding. Kureko Co., Ltd., a company supplying major manufacturers involved in internal aircraft components, is one company supporting the industry. For Kureko Co., Ltd. which machines almost all of its parts from aluminum, the Yamazaki Mazak product line is an essential partner.

"If possible, I'd like a seat with a good view of the galley..." This is Koichi Kurebayashi's attitude towards airplane seats. His aim is to check up close his company's machined parts used around the galley, such as handles and the red levers which restrain the service carts. Through a major manufacturer which Kureko supplies, the firm's products are used by some 100 airlines around the world. Kureko's machined parts are also used in the lavatories of many airlines. For an airplane, where reducing its total weight is the number one priority in terms of design, the need for strong, lightweight components doesn't stop at their exterior.

In fact, aluminum is used everywhere in internal metal components. Kureko began working on machining of aluminum material in 1984. "At first we manufactured small components using a general-purpose machine, but a customer showed us that we could increase the variety of jobs we could undertake if we used a machining center," says Mr. Kurebayashi, president. As a result, in 1990, the company installed a Yamazaki Mazak AJV-32/405 double column vertical machining center.

### Installing 1-2 New Mazak Machines Every Year

With the installation of the AJV, Kureko

increased the type of jobs they could undertake while at the same time improving quality. In 1996, the company installed a VTC-16 vertical machining center, and a FJV-20 double column vertical machining center in 1998. The



"If possible, I'd like a seat with a good view of the galley"

### [Profile]

Address: 2-2-5-12 Oyamagaoka, Machida, Tokyo - Machida Techno Park  
 Number of employees: 30  
 Website: www.kureko.jp



Main production facility and company headquarters



Production line made of Mazak machine tools

company continued to successfully add Mazak machines to meet the unique needs of their machined parts, with Mazak machine production lines in their other plants. "The programming language used by Yamazaki Mazak machines is different, so our employees, who had mastered our first one, wanted all our machines afterwards to be from the same company they had become used to. It's the truth that Mazak machines are easy to use because they can machine parts that perfectly meet customers' requirements."

Even now Kureko is still increasing the number they have at a rate of one to two new machines per year. Periodic capital investment is possible because their primary business of internal airplane component metalworking and assembly is steadily growing. One might say this is sure proof showing the aerospace industry is prospering. Kureko's technical abilities extend from the development and prototyping of new products to the precise metalworking of numerous parts in small lots, harnessing the capabilities of the various machines orderly allocated on the manufacturing floors of their plants. These abilities are able to clear the strict quality standards of both Boeing and Airbus.

Even so, Kureko is not only involved in internal aircraft parts. The year following Kureko's introduction of the AJV, the company began machining components for robot welding guns for automobiles. In addition, the company also utilizes Mazak machines for work such as machining semiconductor equipment components.

### Aiming not for Number One but to Be the Only One

Concerning Kureko's acceptance of extremely short deadlines, Mr. Kurebayashi says, "That's putting the idea that the customer is number one into practice. For example, we have established a system where we can



Model of aircraft equipped with Kureko produced components

deliver products one to two hours after receiving an order." Of course, there are limits on the jobs Kureko can handle, such as the amount of material in inventory. According to Mr. Kurebayashi, the reason why they are able to achieve this feat is "Thanks to the skills of the operators and Mazak machines which perform the machining, both of which are able to flexibly respond to sudden rearrangements in a production line. We are aiming not to be number one but the only one, so we need to be able to handle unique materials and take on extremely short deadlines." You can see this for yourself by the quality of the components in the galley the next time you fly on a passenger aircraft.



Mr. Kurebayashi, President and employees



Laser cutting by 3D FABRI GEAR 220 II



Steel pipe cut by 3D FABRI GEAR 220 II



Material supply/loading system developed by Korenaga Shoukai for 3D FABRI GEAR 220 II



Mr. Naohiro Korenaga and 3D FABRI GEAR



Mr. Naohiro Korenaga (back row, center) and employees



Korenaga Shoukai is also participating in the "Mega Solar Big Project" in Kyushu through the manufacture of solar panel stands

## Turning the Economic Recession into an Opportunity

"Until now, we matched jobs with the specifications and abilities of the machines we used, but this machine responds to our ideas. I was shocked the first time I saw it, and decided we had to buy it." This is what Naohiro Korenaga, Executive Director of Korenaga Shoukai Co., Ltd., said looking back on his company's purchase of a 3D FABRI GEAR 220 II laser processing machine. His company is an iron and steel material distributor and also involved in cutting steel fabrications. Just what was it that Mr. Korenaga found so interesting?

"Distribution processing"  
For a quarter of a century, this has been the mission for Korenaga Shoukai and its reason for existence. Like other manufacturing industries, the iron and steel manufacturing industry is composed of material manufacturers, wholesalers, and processing business operators. Korenaga Shoukai, however, has determined that it cannot fully exhibit its abilities as a distributor simply by moving things from up the supply chain downwards. In exchange for bearing inventory risk, Korenaga Shoukai has pressed forward with the business of supplying processed components. Not merely wholesaling, but "distribution processing" offering the added value of part processing has become the company's specialty. Currently two 3D FABRI GEAR machines are

in operation at Korenaga Shoukai, but it was the start of the economic recession in late 2008 that encouraged their introduction. Mr. Korenaga says, "While most other companies in our industry looked backwards, I felt this crisis was our big chance. We chose not to go on the defensive but to proactively tackle business in normally neglected offices and industries." Korenaga Shoukai introduced their first 3D FABRI GEAR at the same time that economic conditions started to improve. "We actively proposed projects, telling customers what kind of jobs we could do with this machine."

**The 3D FABRI GEAR Amazes Customers**  
The company's multi-lateral proposals, which showed the economic manufacturing that can



Dark cloud with silver lining

be achieved when using this machine, "Completely amazed customers with performance which demolished existing ideas of what was possible. Now that we had their attention, we were able to engage in concrete business discussions. Everything unfolded exactly as I expected." The machine not only amazed customers, it also brought about dramatic changes in the

company's production. The biggest change was the reduction in man-hours. "Being able to do the processing on one machine which had previously required four or five machines was the most distinctive characteristic. We also had needed one operator per machine but now with only one machine, we were able to save labor and further reduce costs. We also maintained the three key values one must protect as a business: delivery, unit cost, and precision."

Mr. Korenaga especially praised the machine's strong contribution to maintaining the value of "precision". "As a result of the increase in the types of customers we could serve thanks to our purchase of the 3D FABRI GEAR, requirements for precision became even stricter. Losses in precision produced through the usage of numerous machines are eliminated with this machine and its on-board touch sensor. The trust we gained through this was a significant factor in the expansion of our customer base." In fact, their first machine increased the types of customers the company could work with as well as expanded the range of cutting Korenaga Shoukai could perform. People began to say that if you wanted complex cutting, talk to Korenaga. Soon, the amount

of work exceeded the machine capacity. That's when Korenaga Shoukai purchased their second machine with the aim of focusing on speed and further expanding their customer base. By developing loading equipment which automatically supplies the machines with material, Korenaga Shoukai made it possible for just one operator of any physical stature, to be able to handle the machine, greatly increasing work efficiency. Along with operating 24 hours per day, productivity increased three fold.

### Playing a Part in Increasing Employee Motivation

The purchase of these machines which impressed Mr. Korenaga not only raised productivity but also brought about an increase in employee motivation. "The range of cutting we could provide expanded and jobs involving large construction projects increased, which gave employees confidence and pride in their work. Before we bought the machines, our workers had to do monotonous cutting work over and over again. After we installed the machines, each employee not only began to energetically engage in their work, but their interest in cutting also deepened. This was perhaps the

biggest benefit we gained from their purchase." Mr. Korenaga frequently visits the factories of customers to take a look around. Concerning his aim in this, he asserts, "If you go to their plants, you can understand what is causing customers problems. The basis of our business is solving problems and receiving compensation in turn." This attitude of considering things from the customer's perspective, proposing methods useful for solving problems, and supporting customer business is shared with Yamazaki Mazak. What amazed Mr. Korenaga may just have been this spirit.

### [Profile]

Head office plant: 89-1 Nishiminatomachi  
Kokurakita-ku Kitakyushu, Fukuoka  
Number of employees: 18



Head office and plant



## Mazak Rolls Out 30,000th Kentucky-Built Machine

Customer takes delivery of company's most recent U.S. manufacturing milestone



FLORENCE, Ky., September 9, 2013 – With numerous production advancements and innovations accomplished over the years, Mazak Corporation marks another significant U.S. manufacturing milestone at its Florence, Ky., plant with the completion of the 30,000th Mazak machine tool built at that facility. The machine, a QUICK TURN SMART 350 Turning Center, shipped on Sept. 5, 2013, to Mazak customer Custom Machine Inc. in Tiffin, OH, a company that specializes in providing precision machining services.

Since 1974, Mazak's Kentucky manufacturing operations have grown from producing a select number of less complex machines to more than 100 different models,

including sophisticated 5-axis and Multi-Tasking machines. Many of these models are designed and manufactured in the United States, but shipped across North America and to export markets. The company's customer base continues to expand and currently encompasses the automotive, aerospace, energy, electronics, heavy equipment, medical and contract machining industries among others.

"This is an exciting milestone for our entire company, and Mazak extends its sincerest gratitude to Custom Machine and to all our customers for their continued loyalty and trust over the years," said Brian Papke, president of Mazak Corporation. "Our

customers consistently drive us to grow and develop new and innovative manufacturing solutions to meet their toughest challenges – we share this success together with them."

The 30,000th machine joins the ranks of Mazak's other recent Kentucky manufacturing milestones that have resulted from the company's commitment to continuous improvement to better serve its customers. Other recent accomplishments include three major expansions to its Kentucky operations, increasing total floor space to 800,000 square feet (74322m<sup>2</sup>) and making the campus one of the largest of its kind in North America.

This progressive approach to growth and improvement furthers Mazak's operations, which, in turn, allows the company to provide customers such as Custom Machine with the advanced technology they need delivered as quickly as possible to keep pace with today's increased production demands. With the completion of its plant expansion, Mazak boosts its manufacturing plant production capacity to 200 machines per month, depending on mix of models, to meet the needs of a wide range of applications.

## Yamazaki Mazak Family Day



On both November 16 and 17, 2013, Family Day was held for all Yamazaki Mazak employees, alumni and their families at the Yamazaki Mazak Minokamo Plant and World Technology Center. Over the two days approximately 3,000 visitors attended to enjoy a program that

included observing the plant and show room, magic shows, and a class given by a balloon artist. Everywhere could be seen employees introducing the latest Yamazaki Mazak products to their families and explaining what sort of jobs they do. It was a great

chance for families to learn about their fathers' and mothers' (and grandfathers' and grandmothers') roles in the company. Both days had good weather, and all employees greatly enjoyed spending time with their families in an environment different from the norm.

## MAZAK PEOPLE

MEET MAZAK No. 16

### Yusuke Ochiai

Engineering Headquarters  
WANTS Project  
1999: Played in the Japanese High School Baseball Championship with Nara Prefectural Takada Senior High School  
March 2005: Graduated from the Faculty of Received B.B.A. From Aichi University  
April 2005: Joined Yamazaki Mazak



Yusuke Ochiai talking passionately about the baseball team

## Samurai MAZAK

A member of the WANTS Project, Yusuke Ochiai is in charge of developing new products and spends his days passionately developing even more innovative machines while listening to the opinions of customers and the sales staff.

During the summer of 2012, Mr. Ochiai demonstrated his natural dynamism by establishing the official Yamazaki Mazak baseball team (Samurai MAZAK) as captain.

What led him to establish the club was spotting an article about a baseball tournament sponsored by the Japan Machine Tool Builders' Association held in March of that year where most of Yamazaki Mazak's rival machine tool manufacturers participated. Wondering why Yamazaki Mazak, one of the leading companies in the machine tool industry, was not participating, Mr. Ochiai's latent desire to further inspire the staff at Yamazaki Mazak through baseball was ignited.



Hitting one for Mazak

### Yamazaki Mazak Spirit

Mr. Ochiai formed a team in the following month of April, marshaling the best players from every plant and department, with the members' ages ranging from 19 to 40.

At first, Mr. Ochiai was worried whether he, as captain, would be able to create a working team with members gathered from diverse departments which normally had little contact with each other such as sales, production control, assembly, and human resources.

During the weekly trainings and the send-off party held in July, however, the team fostered an atmosphere of understanding. The whole team was able to share in their goal for the tournament



Samurai MAZAK in a huddle before a game

championship. In the beginning, the team could not have been said to be a single, cohesive unit. Under a policy of all members maintaining an

awareness of their status as representatives of Yamazaki Mazak, doing their hardest working at their jobs each day, and being players who would each serve as models for every department, the team grew into a group of samurai with the Mazak spirit which went beyond the walls of individual departments.

### A Lucky Man

In August, Samurai MAZAK participated in its first tournament. In their



As captain, Mr. Ochiai assembled a team of players aged 19 to 40

first game they clinched an orderly victory. In their second game against the runners-up from the previous year, the opposing team went on a rampage, going through their batting order, resulting in a 2 point spread at 5-3. None of the Samurai MAZAK members gave up, however, until the very end. In the sixth inning with one out, bases loaded, Mr. Ochiai came up to bat. Mr. Ochiai approached the batter's box with a desire to do something for everyone who was cheering them on and his teammates not on the bench. Mr. Ochiai brazenly

swung at the first, straight pitch, smashing the ball between first and second and unleashing a hit that turned the tables. The team then held on to win. It was a dramatic turnabout.

After this game, however, the team failed to achieve a win and ended in fourth place out of nine teams. The team, however, has established the goal of winning next year, and this loss has actually helped to deepen their team bonds.



Welcoming high fives after successfully reaching home

Looking back on the season, Captain Ochiai stated, "I am happy to have experienced this passion for the team, and thankful to the people who had such passion and cheered us on, the people in the various departments that supported us, and everyone on the team." Already looking forward to the next season, Mr. Ochiai further stated, "Through baseball we were able to engage in activities which went between the borders of individual departments, and I would like to continue to inspire everyone at Yamazaki Mazak."

Through this interview, we are confident that the passionate members of Samurai MAZAK will be sure to excite everyone at Yamazaki Mazak through baseball. Look forward to their future exploits.



Samurai Mazak deepened their bonds during the season