CyberWorld

2014 41

First issue of 2014

Mega-Watt Solar Power Generation System at Yamazaki Mazak Minokamo

E

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 company continued to successively add Mazak machines to meet the unique needs of their machined parts, with Mazak machine production lines in their other plants.

"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

Model of aircraft equipped with Kureko produced components

"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 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 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."

Dark cloud with silver lining

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^2) 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

Hitting one for 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.

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 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.

Samurai MAZAK in a huddle before a game

A Lucky Man

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

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

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