

CYBER WORLD

2012 **38**

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Yamazaki Mazak is a global company for both marketing and locations of production facilities. This is the third in the series in which we introduce some of the history and culture of the countries where our production plants are located. This issue introduces the Worcester area in the UK where Yamazaki Mazak U.K. Ltd. is located.

MAZAK around the World 03 U.K.



European Technology Centre(U.K.)



Showroom



Cover picture

Worcester Cathedral by night

Worcester Cathedral and the Worcestershire county cricket club beside the River Severn are both very famous. You can easily feel British traditions in Worcester.

Mazak in Worcester: an auspicious history

The city of Worcester has been the headquarters of Mazak's UK operation since 1981. The company moved to its current site in 1986 and the European manufacturing plant opened a year later in 1987. The success of the UK operation led to Mazak's European headquarters being moved from Belgium to Worcester in 1994. Today the manufacturing plant has 29,000m² and is widely regarded as one of the UK's best factories, twice being awarded the Queen's Award, for Export in 1992 and for International Trade in 2007.



Worcester is now the home to Mazak's European

Technology Centre which gives European customers direct access to the Mazak range of machines, a number of which were designed and are built in the UK to the specifications required by European machine tool users.

In 2012, the year of the London Olympic and Paralympic Games, the UK government's Department for Business, Innovation and Skills (BIS) has announced a major public exhibition, called "Make it in Great Britain". Yamazaki Mazak is proud to have been announced as one of a small number of companies to have been selected to participate in this prestigious showcase of British manufacturing. The exhibition will run in London's Science Museum from July to September 2012. [For information please visit <http://makeitingreatbritain.bis.gov.uk/>]

A central location

Located in the county of Worcestershire in the English Midlands, Worcester is a mere 30 miles (48 km) from Britain's second largest city, Birmingham. Worcester is very much an ancient place with a modern outlook. Geographically, the city is dominated by its imposing, twelfth-century cathedral and the River Severn, the longest river in the UK, which runs through the heart of the city centre. The city was the site of the climactic battle of the English Civil War in which Oliver Cromwell's New Model Army finally defeated King Charles' forces. Worcester also boasts a proud cultural and industrial heritage, having undergone significant industrial and commercial development since its modest beginnings as a settlement in the Iron Age.

MAZAK around the World



The River Sever, the longest river in the UK runs through the heart of the city center. Worcester is very much an ancient city with a modern outlook.



Worcester Porcelain works

World famous company known for producing fine tableware and intricate porcelain models with high quality and excellent designs



Worcestershire sauce

Worcestershire sauce itself is of cross-cultural origins. In 1835, Lord Marcus Sandys, an ex-governor of Bengal, approached chemists John Lea and William Perrins, whose prospering business in Broad Street, Worcester, handled pharmaceuticals and toiletries as well as groceries. He asked them to make up a sauce from a recipe which he brought back from India. While his lordship was apparently satisfied with the results, Messrs Lea and Perrins considered it to be an "unpalatable, red-hot fire-water" and consigned the quantity they had made for themselves to the cellars. During the stocktaking/spring clean the following year, they came across the barrel and decided to taste it before discarding it. To their amazement, the mixture had mellowed into an aromatic, piquant and appetizing liquid.

Business in the city

For a city of 94,000 inhabitants, Worcester has an impressive commercial track record and has been home to many entrepreneurs and their inventions. In 1751, the Worcester Porcelain works opened its doors, producing fine tableware and intricate porcelain models, which became synonymous with style and quality the world over (as described in Cyberworld Number 22).

The city also developed an enviable reputation in the fashion world after it became the centre of the international gloving industry in the same century. When production was at its peak, the industry employed some 30,000 local residents, who made high quality gloves for well-known brands such as Dents & Fownes.

This proud manufacturing tradition carries on today with the city home to a number of prominent engineering businesses, such as respected heating appliance manufacturer, Worcester, part of the Bosch Group. In fact, Worcester Bosch recently took delivery of four new Mazak HCN 4000-II horizontal machining centres which are being used in machining operations to manufacture the company's next generation of heat exchangers.

The city is also the UK home to international mining machinery production company, Joy Global, which manufactures mining roof supports for export across the world. Like Worcester Bosch, Joy Global is also a Mazak customer, utilising two CYBERTECH TURN 4500M lathes, a SLANT TURN 50N and an INTEGREGX e-650H- II.



Dents Fownes

Gloves made by Dents Fownes, a famous brand in the fashion world.



Worcester Cathedral and cricket ground

Food & Drink

Few British cities can lay claim to being the birthplace of such a globally recognised culinary brand as Lea & Perrins, the only original and genuine Worcestershire Sauce. This piquant sauce is made to a secret recipe to this day and is widely exported from Worcester to feature in Bloody Mary cocktails and meat dishes at bars and dinner tables around the world.

Worcestershire is also renowned for its local produce, thanks to the fertile soils of the mineral-rich flood plains of the rivers that cross the county. Dubbed the 'fruit bowl' of the country, Worcestershire produces an array of apples, pears, plums and scores of other fruits and vegetables. The county of Worcestershire is Britain's top producer of asparagus, lays claim to being the birthplace of the British potato and is a leading producer of top quality wines, beers and ciders.



Lea and Perrins factory



Asparagus



Worcestershire produce

A sporting heritage

Worcester has a rich sporting history with the city playing host to a wide variety of professional teams and respected venues. Rugby Union is one of the most popular sports in the city and the home of Premiership side, Worcester Warriors. Arguably the country's most rapidly developing club, the team features respected international names from the world of rugby and a first

class stadium catering for up to 12,000 spectators. Cricket is also highly popular with Worcestershire County Cricket Club based in the heart of the city. The stadium sits on the banks of the River Sever in the shadow of Worcester Cathedral. It is considered one of the most picturesque international cricket grounds. The team is currently in Division 1 of the English County Championship and counts household names from the world of cricket, such as Ian Botham and Graeme Hick, as former players and members.

Racing enthusiasts are also well catered for at Worcester Racecourse. One of the oldest racecourses in Britain, it hosts regular National Hunt meetings and still attracts the best jockeys in the sport. With basketball and football also played competitively, sports fans are certainly well catered for in this small but multi-faceted and highly successful city.



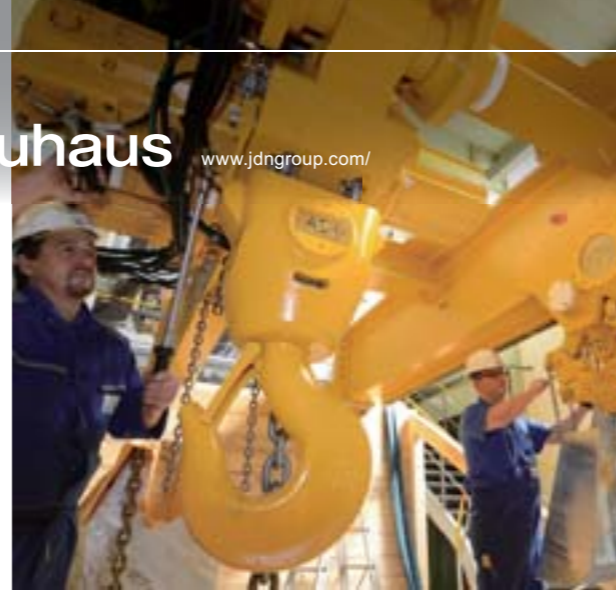
GERMANY

Customer Report 01 J.D. Neuhaus

www.jdngroup.com/



Mr. Wilfried Neuhaus-Galladé, managing director of J.D. Neuhaus in front of the INTEGREX e-420H-ST II



Hoists undergoing final assembly process



Total 12 of Mazak machine tools in the factory



PALLETECH HIGH RISE SYSTEM (3 levels) TOOL HIVE with 330 tool capacity

J.D. Neuhaus invests in the Mazak name

Lifting equipment manufacturer J.D. Neuhaus, a seventh generation family business in Witten-Heven in Germany, had a long tradition of buying German machine tools. So what has made this most traditional of German manufacturers buy eleven Mazaks in seven years?

For over 265 years the city of Witten-Heven has been the headquarters of the family firm of J.D. Neuhaus, which has evolved to become a global player in the manufacture of lifting equipment.

The company's pneumatic and hydraulic hoists and cranes are used in many hazardous applications, such as oil and gas exploration, commodity processing, the chemical industry, heavy engineering and mining.

Today, the J.D. Neuhaus plant in Witten-Heven produces around 8,000 hoists on 12 product lines every year with

all development, production, manufacture and distribution on the one site. The cranes and hoists made by J.D. Neuhaus are sold in more than 90 countries worldwide. This is supported by five overseas offices in the United States, France, Great Britain, Singapore and China.

"We are a family business which means we are run a little bit differently" says Wilfried Neuhaus-Galladé, managing director and owner of the company. "We feel responsible for our customers, employees, our city and the region."

This sense of responsibility extends into the quality and technical development of the company's products. "We want to be the best, not only in terms of technical development, but also in terms of the quality of our manufacturing processes and our customer service. This is our philosophy," he says.

Traditionally, the company relied on German machine tools in its factory, but chose to buy its first Mazak machine, which was the MAZATECH V-515 vertical machining centre, in 1992., The acquisition was, however, not without its problems, which resulted from some inter-generational rivalry.

"My father was a great believer in German machine tools and had never bought from any other country," says Mr Neuhaus-Galladé. "But, when he left the business, I got the chance to invest in new machinery. I did my homework about the different kinds of machines available and chose a Mazak because the machine's performance was better than our existing machines in the factory."

He continues: "When the machine was set up and my father walked through the factory, he stopped in front of the new machine, looked at it carefully and asked who Mazak was. He had never heard this name before. I explained that this is a Mazak machine, built in Japan. At this point my father became red in the face and shouted that he would not have any machine from abroad in his factory, He repeated that he did not know Mazak and

demanded that the Mazak sign be removed immediately!"

Before long, however, the father-son relationship was restored at J.D. Neuhaus. "After a few months it was clear that we were getting much improved performance and profitability, so my father started talking to me again!"

This first Mazak machine is still running to this day and J.D. Neuhaus now enjoys an on-going and very strong relationship with Mazak which has resulted in the continued repeat purchase of machines.

In 2005 the company acquired their first INTEGREX which was followed by several others including INTEGREX 200, 300 and 400 models and an INTEGREX e-420H ST II. The company now also possesses a vertical machining centre and two HORIZONTAL CENTRE NEXUS 5000 II, for a total of twelve machines from Mazak. The latest acquisition is one of the first 3-level PALLETECH FMS systems installed in Europe and has been in operation since autumn 2011. It includes a 60-pallet, 3-level PALLETECH storage system, two loading stations and two HORIZONTAL CENTRE NEXUS 5000-II machining centres. Both of the machining centres are equipped with large tool changers, containing 330 tools each. Along with the pallet storage rack the system ensures flexibility and round the clock operation. In fact, the company now employs a three-shift machining strategy for 24 hour operation with a capacity utilisation of more than 80 percent.

Additionally, while talking about this story

with Cyberworld, Mr Neuhaus-Galladé ordered another two INTEGREX machines, and sealed the agreement with a hand shake. "I appreciate the partnership with Mazak since we are, like Mazak, a family owned company and we know best how family owned companies run business in terms of long-time perspectives. We are very happy with the machines' flexibility, the availability and the consistently high quality service."

The Japanese influence extends beyond machine tools. In recent years, the seventh generation of the family business has re-launched and developed a complete range of products using Japanese production principles such as Kaizen. The company has become faster and more flexible, increasing its cost efficiency

through the latest machining technology and manufacturing practices. "Due to the investment in Mazak machines, the total processing time, from order coming in, to sales, has been reduced significantly," says Mr Neuhaus-Galladé. "Japanese production principles and Mazak machines are now at the heart of our manufacturing processes, helping to make us competitive on the world stage." Mr Neuhaus-Galladé was an honoured guest at the Grand Opening of Mazak's new Technology Centre Duesseldorf in March 2012, during which he was invited to speak and he told the story of his first Mazak machine. He concluded his speech by saying "Please give our first Mazak machine his name back". Needless to say Mazak have made a new nameplate for this loyal, valued customer.



Mr. Wilfried Neuhaus-Galladé, Managing Director and Mr. Yamazaki, Deputy Managing Director with the nameplate of the MAZATECH V-515



INTEGREX e-800V provides a Done-In-One solution for Spromak

When Spromak wanted to cut down on the production movement of some very large flanges and branch fittings for the oil and gas sector, the INTEGREX e-800V II provided a Done-In-One solution.

"Whenever we want to look at reducing machining time and production movement we meet with Mazak," says Paul Sproson, managing director of Spromak Ltd. The company, based in Huyton on Merseyside in the North West of England has been a Mazak user since 1982, when it purchased its first CNC machine tool, a Mazak Quick Turn 15. "At the time, we looked at different machine suppliers, but Mazak seemed to be the company that was being really progressive, particularly in terms of its software for programming, which was becoming much more user-friendly," says Mr Sproson. "Mazak had just brought in the Mazatrol control, which our programmers really liked, and within 3-4 months we had ordered a second machine." Spromak now has 14 Mazak machines, with 35 CNC programmers in a total workforce of 58, manufacturing branch connections for pipelines and pipeline products in the oil, gas and petrochemical industries, both onshore and offshore. All products are designed in-house and enable end users to reduce the number of welds to a pipeline from three separate welds down to two offering significant savings in terms of time and cost. The flanges and branch fittings are made from a range of materials, including carbon steel, stainless steel, duplex steels, high alloys, like Inconel 625, and titanium. What's more, all products are rigorously tested to ensure the integrity of the design. "Each product is proof tested to ensure that it can withstand 1.5 times the designated design pressure of the pipeline," says Mr Sproson. "Quality is therefore a major issue and we are working to very high tolerances as a result."

Spromak's range of approvals includes BP, Shell, Exxon Mobil and Chevron with its products being used all over the world, from the North Sea through to the Gulf of Mexico, Azerbaijan, Norway, South America and China. In fact, Spromak has recently won a major £5 million contract to supply equipment to Chevron for its new liquefied natural gas (LNG) plant at Barrow Island in Australia. However, as Spromak's range of reinforced branch fittings and flanged fittings, known as O'lets, have gradually increased in size, production movement at its Huyton factory has become a growing problem. For example, an insert branch outlet could weigh as much as 142 kg and require a series of machining operations including turning, milling and boring. "Increasingly we had to move larger and heavier product across 2 or 3 machines, which was impacting on our machining times," says Mr Sproson. "We wanted to be able to bring the product off completely finished with all turning, milling and boring operations done."

"Spromak has a tried and trusted method of identifying the machine that will enable it to be more efficient. "We take product samples to Mazak's applications engineering experts in Worcester and work with them to find a solution," he says. "With our products you can't just buy a machine and set it to work straight away. We work with Mazak and our CAM software manufacturers to identify the optimum machining solution. After a lot of hard work we identified the INTEGREX e-800V." The INTEGREX e-800V II is a 5-axis multi-tasking machine with a pallet size of 500 x 500 mm and a powerful, high accuracy main table that can turn large diameter workpieces with a rapid traverse rate up to 50 m/min. The machine has a maximum workpiece diameter of 730 mm and a workpiece height of 1000 mm, which makes for a machining envelope ideally suited to Spromak's needs. "We are using the new machine on some

very large workpieces with a maximum outside diameter of 730 mm and a height of 980 mm," says Mr Sproson. "We have machined individual workpieces weighing as much as 0.5 tonnes." He continues: "Crucially, the INTEGREX e-800V has enabled us to cut cycle times by 6-8 hours. Typically we are cutting machining times by on average 50 per cent with 60-75 per cent not uncommon. This has, in large part, been due to the reduction in production movement now that we are able to complete all operations on the one machine."

To further improve efficiency, Spromak's new machine is equipped with a twin pallet, which enables long 6-8 hour cycle times along with cameras located in the machine which allow remote monitoring. "With long cycle times we can programme the machine offsite and then monitor the production from a laptop at home to ensure that the automatic changes have gone off without a hitch," says Mr Sproson. Spromak's latest acquisition is an

INTEGREX i-400S, which the company hopes will have a similar effect on cycle times as did the e-800V. "We purchased the INTEGREX i-400S to get the benefits of Mazak technology on different products," says Mr Sproson. "The i-series is being used to machine smaller flanges and branch fittings, performing all operations, including milling, turning and boring, on the one machine. With both INTEGREX i-series and the e-800V in our production facility we have really embraced Done-In-One manufacturing."

DONE-IN-ONE

The "DONE-IN-ONE" concept incorporates all machining processes from raw material input through final machining - in just one machine.



Paul Sproson, managing director of Spromak Ltd, inspects semi-machined branch outlets at the company's Huyton manufacturing facility.



Mr. Yoshito Nakamura, President (middle of front row) and staff of the Steel Pipe Processing Center



【Profile】
Head office address:
1-9-3 Tekko-dori, Urayasu City, Chiba
No. of employees: 46
www.az-azabu.com/



Second 3D FABRIGEAR was installed in July this year



New second factory started operation on May 7

The company behind the TOKYO SKYTREE observation

Visitors let out a cry of amazement at the magnificent sky view. Even if seen through a glass window, the view from the observation deck of the TOKYO SKYTREE is still very impressive and engages the hearts and minds of visitors. The structural parts of the observation deck, which is the world's highest free-standing broadcasting tower, were supplied by Azabu Seikei Corporation. The work performed by the company was supported by a 3D laser processing machine from Yamazaki Mazak.

"When we discussed what machine we should purchase, we wanted a machine to perform the jobs that no other company could imitate," says Mr. Yoshito Nakamura, President of Azabu Seikei, recalling the time when they decided to introduce Mazak's 3D FABRI GEAR 300 laser processing machine. Founded in 1980 as a wholesaler specializing in steel products, Azabu Seikei previously outsourced processing operations to its 78 partner plants. After the collapse of the bubble

economy, the company thoroughly reviewed its business plan to focus on integrated production ranging from raw materials to processing. The company shifted to engage in design work for its customers. The company, which was formerly a trading firm handling steel products, determined to start processing operations in 2007, and selected the 3D FABRI GEAR 300 as the core machine for production. Yamazaki Mazak supplied the company a tailor-made machine with loading/unloading equipment to handle 12-meter-long steel pipes. "We needed this equipment to handle the 11-meter-long components required by our customers," says the president. Regarding the breakdown of the company's finished products, automotive parts account for 55%, while construction machinery, industrial machinery, agricultural machinery, building materials, shipbuilding and furniture collectively represent the remaining 45%. After a thorough review, the ratio of wholesale to processing business shifted from 30% to 70%.



Mr. Yoshito Nakamura, President

3D FABRI GEAR 300 helped increase sales by 25% year-on-year

With its main focus on the processing sector, Azabu Seikei decided to replace 2D processing, which had been performed by group companies, with 3D processing and establish a system to "finish products in small lots with high accuracy and fast delivery." The 3D FABRI GEAR 300 was selected during the stage of developing this strategy. As its major advantage, the machine can independently complete steel pipe processing, which usually requires multiple machines

including a dedicated cutting machine, flame-cutting machine and punch press, as well as fixtures and in process inventory. Also contributing to efficient manpower utilization and cost reduction, the 3D FABRI GEAR 300 meets the company's philosophy of "integrated production from raw materials to processing." The machine is actively used for "the jobs that no other company could imitate," including automotive parts, which account for more than half of the company's sales, as well as structural parts of the roof and floor of the TOKYO SKYTREE observation deck and illumination lamps in the area of an underground mall in Tokyo. "The delivery time has been dramatically reduced because drawings can be programmed easily with CAD/CAM. The samples also work effectively as promotional tools, and have led to increases in inquiries and quotations," says Mr. Nakamura. Helping to increase the number

of customers and orders, the machine contributed to a year-on-year sales increase of 25% for the year ending July 2012. **3D FABRI GEAR 300 also improved employee motivation** The president also mentions that the 3D FABRI GEAR 300 has improved the attitude and motivation of the employees toward their work because the accuracy of the machine is far better than conventional equipment. The introduction of the machine has also produced additional benefits along with the increase in sales. For example, Ms. Yumiko Nakamura, who previously worked as a sales assistant and became a CAD operator after the introduction of the machine, commented, "I feel proud and responsible because only I can do the job. So, I feel happiest when customers are pleased." Mr. Ryo Hashimoto, a machine operator, also

indicated that operation of the machine enhanced his motivation to work, saying "I am still in the learning process, but I can feel an extraordinary sense of accomplishment when I have worked hard and completed an operation." Mr. Nakamura emphasizes, "Employees feel proud when their work is noticed by others. Such a feeling could never be experienced if we were a wholesaler. I also hope that sharing of such happiness can result in human resource development." "That said, our structural parts used in the observation deck are not visible from outside. When we perform work for the next broadcasting tower, we want to process the parts that are visible from outside." Mr. Nakamura is already looking for the next opportunity to demonstrate the capabilities of the 3D FABRI GEAR series. His dreams are growing as high as the TOKYO SKYTREE.



Structure made of steel pipes processed by the 3D FABRI GEAR 300



Azabu Seikei also worked on illumination lamps in an underground mall in Tokyo



Cross-section cut with a 3D contour



Branch joint connection



Structural support of an illumination lamp





TOKYO SKYTREE

Photograph by Ryota Atarashi

Employing seismic countermeasures from 1,300 years ago

Japan is prone to earthquakes, such as the Great Kanto Earthquake in 1923, the Great Hanshin Awaji Earthquake in 1995 and the Great East Japan Earthquake in 2011. On the other hand, not a few buildings have survived frequent earthquakes including these and have continued to stand for more than 1,000 years.

For example, the five-story pagoda of the Horyuji Temple, which is known as the world's oldest wooden building, is 1,300 years old and still shows the stately design of the ancient era. It is not only the Horyuji Temple that has survived earthquakes; it is said that no five-story pagodas in Japan have ever collapsed from an earthquake although some suffered from fire, wind or flood damage.

According to the designers of the TOKYO SKYTREE, the image that first occurred to them right after the decision to build the tower was the five-story pagodas displaying excellent seismic capacities that have been standing for many centuries. As keys to withstanding earthquakes, some of the ideas for earthquake countermeasures and the technologies used in the tower are described here.

Introducing the DNA of the Horyuji Temple five-story pagoda

The five-story pagoda has a central column called a "shimbashira" inside. This column does not support the whole structure but is connected with it at only one point at the top of the roof. Separated from the main body of the building, the column sways in a different direction from the building when struck by an earthquake, which is believed to counteract the force applied to the building.

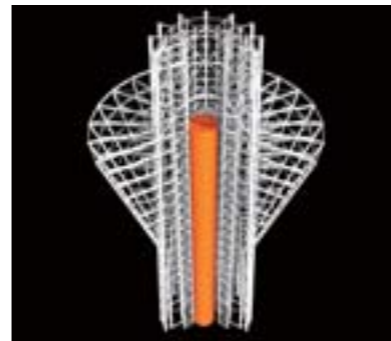
The design team of the TOKYO SKYTREE focused on this structure, and employed the world's first vibration control system using a core column inspired by the shimbashira. Put simply, a circular cylinder of reinforced concrete with a diameter of 8 meters (26.2ft.) is placed inside the core of the tower to

function as a shimbashira. This shimbashira column is structurally independent from the outer steel frame so that the seismic force is counteracted due to the difference in movement.

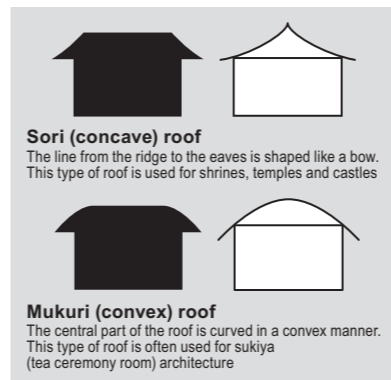
From the ground to a height of 125 meters (410ft.) the steel frame and the shimbashira column are integrated by steel members. From 125 (410ft.) meters to 375 meters (1230.3ft.) they are connected by oil dampers to control the movement and apply damping force to the whole tower. This mechanism absorbs a maximum of about 50 percent of the shaking from seismic tremors.

Graceful shape created by "sori" and "mukuri" curves

"We wanted to make the tower look like it is wearing a kimono," stated the Nikken Sekkei staff who designed the TOKYO SKYTREE as they expressed their intentions regarding the outer appearance. While the cross-section at the foot of the tower is an equilateral triangle due to the conditions of the site, the triangular cross-section is rounded off as the tower rises and transforms into a circular cross-section



Structure around the shimbashira column. The column was formed using a special method to place concrete in a continuous manner after construction of the frame.



Sori (concave) roof
The line from the ridge to the eaves is shaped like a bow. This type of roof is used for shrines, temples and castles

Mukuri (convex) roof
The central part of the roof is curved in a convex manner. This type of roof is often used for sukiya (tea ceremony room) architecture

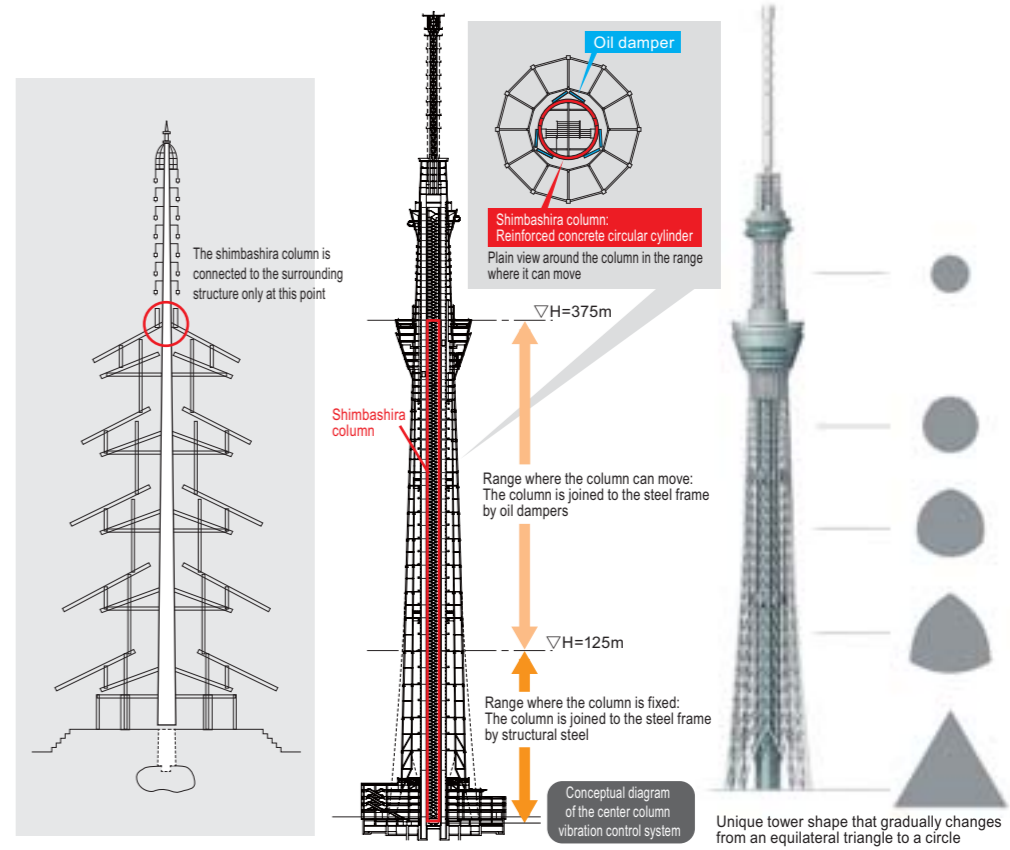
construction

03

Traditional craftsmanship



The building that attracts the most attention in Japan today is definitely the TOKYO SKYTREE®. This tallest free-standing broadcasting tower in the world uses the essence of state-of-the-art technologies from a wide range of fields. At the same time, the design adopts traditional ideas and techniques that are more than 1,000 years old.



The center column vibration control system inspired by the shimbashira of five-story pagodas was adopted for the first time in the world.

about 300 meters (984.2ft.) above the ground. From a lateral view, the lines extending upward from an apex of the triangle at the bottom are concave arcs, which are called "sori," while the lines from a side of the triangle are gentle convex arcs, which are called "mukuri." Sori are often used in the buildings of shrines, temples and castles, and mukuri are widespread in "sukiya" (tea ceremony room) architecture.

The tower was made to look like it is wearing a kimono by combining the traditional Japanese designs of sori and mukuri in an effective manner. "The TOKYO SKYTREE looks symmetrical or asymmetrical depending on the angle from which the tower is viewed." In this way, the design staff introduced a way to enjoy the dynamic silhouette.

The structure of the TOKYO SKYTREE widely used for other buildings

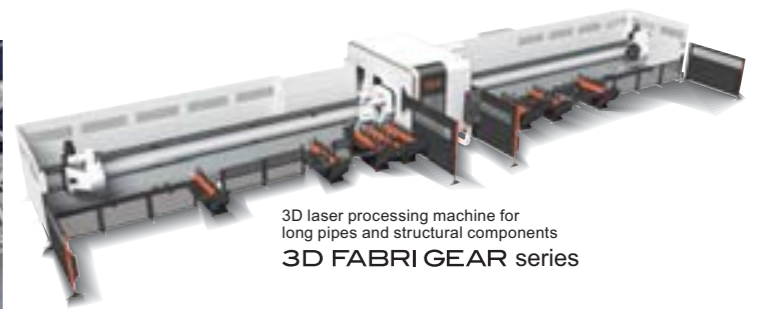
While the TOKYO SKYTREE displays a tasteful figure created with sori and mukuri, its main body employs a truss structure, which joins pipes in a triangular shape. The tower's

structure is original and the horizontal section changes from a triangle to a circle in a three-dimensional manner. To achieve such a structure, circular steel tubes were selected because they have no direction in their shape and are easy to join together. The conventional bolted joint method was difficult for the large and strong steel tubes. Accordingly, several skilled welders worked to join the tubes. The truss structure, which makes the TOKYO SKYTREE unique in terms of structure and appearance, has been widely used in modern buildings all over Japan, including the World Technology Center at the Yamazaki Mazak Minokamo plant. Mazak's laser processing machine 3D FABRI GEAR is actively used to cut the pipes essential for this structure.

The traditional craftsmanship of Japan has been handed down for more than 1,000 years and is incorporated into leading-edge technologies. Yamazaki Mazak identifies customer needs accurately and delivers machines that respond to constantly changing requirements.



World Technology Center at the Yamazaki Mazak Minokamo plant



3D laser processing machine for long pipes and structural components 3D FABRI GEAR series

New products

- Milestone: shipment of 2,000th PALLETECH Manufacturing System



High-productivity three level stocker system
PALLETECH HIGH-RISE System (3 levels)



Ceremony to celebrate production of the 2,000th system

Yamazaki Mazak has reached the milestone of shipping the 2,000th system in April. This flexible manufacturing system (FMS) is composed of highly flexible vertical and horizontal machining centers or multi-tasking machine tools, loading stations and three-dimensional pallet stockers. The FMS can be operated unattended over extended periods which maximize the operation rate and improves factory productivity. An automated unmanned system can be constructed at a low initial cost and is designed for convenient expansion in response to changing production requirements after the initial installation. With this system, customers can establish a facility plan according to their budget and recoup their investment quickly. Starting with the MAZATROL FMS in 1984, Yamazaki Mazak has supplied FMSs worldwide. The 3-level PALLETECH developed in 2009 is designed for high pallet storage capacity with minimum floor space requirements.

Main industries to which systems have been supplied

Construction machinery, aerospace, automotive components, shipbuilding, agricultural machinery, industrial machinery, medical equipment, and others

- New OPTIPLEX 3015 Fiber laser processing system

On June 7 and 8 the Mazak Active Fair 2012 was held at the World Technology Center at the Yamazaki Mazak Minokamo plant, attracting more than 1,600 visitors in two days. The machine that received the most attention was the new OPTIPLEX 3015 Fiber. Demonstrations of the machine laser cutting a thin plate at an ultra-high speed were always surrounded by a large crowd. The OPTIPLEX 3015 Fiber is equipped with a fiber laser, which has a shorter wavelength and higher heat absorption rate than a CO₂ laser. The fiber laser can cut thin plates less up to 3 mm (0.1 in.) thick, including highly reflective materials such as copper, brass and aluminum which are not easily cut by CO₂ laser processing machines, at high speed with high accuracy. In addition, the configuration of the machine has eliminated the need for laser gas and mirrors in the optical path, which are indispensable for CO₂ laser processing machines, which reduces running and maintenance costs. This remarkable laser processing machine is designed for higher productivity and also incorporates environmental considerations.



OPTIPLEX 3015 Fiber introduction

Main specifications of the OPTIPLEX 3015 Fiber

Max. workpiece size	1525×3050mm(60.04"×120.08")
Rapid traverse rate	X,Y:120m/min(4724IPM) Z:60m/min(2362IPM)
Laser oscillator output	2.0kW

News & Topics

- Continued enhanced customer support in Europe

Yamazaki Mazak has a total of 13 Technology Centers and 1 Technical Center in Europe to provide optimum before and after sales service and support. In 2012, three new Technology Centers – the Duesseldorf Technology Center, the Czech Technology Center and the Poland Technology Center were opened.

Opened on March 20th



Showroom



Training room

Duesseldorf Technology Center

The Duesseldorf Technology Center was opened to provide enhanced before and after sales service and support to the expanding German market. This new Technology Center located in Duesseldorf was relocated from the previous Ratingen Technology Center and has a larger area. This new Duesseldorf Technology Center is located in northwestern Germany where customers mainly produce medium to large size components. This new Technology Center will contribute to providing the highest levels of customer service and support across Europe, in particular for the automotive, energy and general machinery industries.

Opened on April 17th



Czech Technology Center

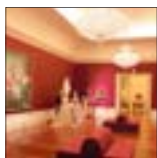
Yamazaki Mazak has announced the official opening of its new Technology Center in the Czech Republic. The new facility is located just outside Prague to ensure it is within a relatively short traveling distance for customers in the Czech Republic and other Central European countries, including Poland, Hungary, Slovakia, Slovenia, Bulgaria, Romania and the former Yugoslavia.

Opened on March 22th



Poland Technology Center

The Poland Technology Center was opened to provide enhanced before and after sales service and support to the expanding Polish market. This new Technology Center will contribute to the highest levels of customer service and support across Europe, in particular for the aerospace, railroad, electrical, automotive and energy industries by providing cutting demonstrations, training, and application support.



No. 4 Masterpiece

THE YAMAZAKI MAZAK MUSEUM OF ART

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NATTIER, Jean-Marc Comtesse de Mailly as a Huntress (La Comtesse de Mailly en chasseuse)

The subject of this portrait dressed as Diana, goddess of the hunt, is Louise Julie de Nesle (1710-1751), also known as the Comtesse de Mailly. Born as the eldest of the five famous sisters of Marquis de Nesle, four of whom would become mistresses of King Louis XV of France, Louise Julie became the king's first mistress. While it is said that she did not have extraordinary beauty, Louise Julie, who was unambitious and did not interfere in politics, gained a good reputation from people around her. After her life as a king's mistress, she devoted herself to charity and faith until her death at the age of 41. In addition to this painting, the Yamazaki Mazak Museum of Art exhibits "The Tease"(La taquine) (1736) by Nicolas Lancret, which was displayed in a room of Marie Leszczynska, the wife of Louis XV, and "Aurora and Cephalus" (L'Aurore et Céphale) (circa 1745) by François Boucher. This is a large work of art ordered by Madame de Pompadour, the official mistress of the king, and who had political power. At THE YAMAZAKI MAZAK MUSEUM OF ART, you can appreciate paintings connected to three of the women around Louis XV, and have a unique experience of enjoying paintings while imagining the world of women in the Rococo period.



NATTIER, Jean-Marc (1685-1766)
<Comtesse de Mailly as a Huntress(La Comtesse de Mailly en chasseuse)>, 1743



DUMAS, Paul Alexandre (date of birth and death unknown)
<Dining room furniture (Salle à manger)>, around 1902

DUMAS, Paul Alexandre Dining room furniture (Salle à manger)

At the end of the 19th century, a new art movement called Art Nouveau was developed mainly in France. Featuring smooth curves inspired by natural motifs such as found in plants and animals, Art Nouveau decoration was full of the joy of life and entertained people at the close of the century. This dining room, which is presumed to have been designed by Paul Alexandre Dumas in 1902, is decorated with the motif of the Japanese mountain ash that bears small red berries in the autumn. The legs of the table are as if firmly rooted in the floor. Rowan trees are spreading their branches on the walls toward the ceiling. Two ornamented cabinets, one small and one large, have plated leaf and berry designs on many parts of their surface. Complete with eight chairs, a fireplace and a wallpapered wall frame, this very precious work is expressive of an autumn forest in the harvest season.

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