# Value Creation Process

### Financial & Non-financial Value



At DMG MORI, we divide financial and non-financial capital into eight categories. Through the promotion of MX business model, our capital generates high value-added outputs and thus new management resources in a virtuous cycle.

### New markets

• One-stop support for multinational customers installing equipment at

 Cutting-edge technology from technical requests by industry leaders

### Production know-how

• In-house production of key components using DMG MORI machines • Strict protection of trade secrets

equipment from partner companies

# Machine tools in service globally

In 2024: approx. 5 million In 2050: approx. 1 million

Addressing operator shortage



Realization of ultraprecise machining and improved productivity

### Reduced environmental impact

/ Intellectual Capital

Human Capital

pital / Social &

# Marketing, Sales & Service Capital

### Marketing

# Focus on Targeted Marketing and Customer Relationships



Irene Bader Director in charge of Global Corporate Communication

In a world saturated with information, targeted and meaningful engagement is essential. Building trust through personal relationships, supported by strategic marketing efforts that transmit clear, relevant information and prioritize human connection, will be key to fostering long-term partnerships, driving customer loyalty.

Trust-based relationships are vital in the machine tool industry. Sales, MRO engineers are not just representatives; they are trusted advisors who bridge the gap between customer needs and advanced technology. Comprehensive training equips these teams with technical expertise and the soft skills necessary for clear, empathetic communication. This ensures every interaction resonates with relevant customer support and reinforces trust.

Personal events, such as factory tours and technical days, remain indispensable for engaging customers. These opportunities provide hands-on experiences and direct access to experts, making complex technology relatable. Complementing these are technical content strategies like detailed explanation videos, application stories, and real-world case studies that cater to decision-makers' needs.

Marketing supports these relationships by tailoring content to the specific needs of each customer segment. For example, an automation-focused customer might benefit from performance comparisons and efficiency case studies, while another exploring entry-level solutions might value step-by-step application guides. CRM (Customer Relationship Management) systems play a central role, enabling the personalization of content and tracking customer interactions to ensure consistency. Effective use of CRM ensures that customers receive information aligned with their decision-making stage and avoiding overload.

Targeted marketing is essential to cutting through the noise. Examples include using CRM data to invite a select audience to a specialized technical day or providing tailored videos on machining applications to specific industry sectors. This precision delivers relevant information while respecting customers' time. Equally important is internal communication. Marketing, sales, MRO teams must align goals and messaging. Structured internal training ensures consistency across all customer touchpoints, from digital communications to in-person engagements, reinforcing the company's credibility and professionalism.

Events will remain central to the customer engagement strategy, evolving to become even more focused and industry-specific. While factory tours and technical days will continue to offer hands-on experiences, exhibitions will undergo a strategic shift. Rather than participating in numerous general trade fairs, DMG MORI will concentrate on a select number of global flagship shows, complemented by targeted exhibitions tailored to specific industries. This approach ensures that customers receive precise, relevant information and solutions that address the unique challenges of their sector.

The marketing strategy 2030 is a blend of technical depth and personal connection. By prioritizing personal events, creating precise technical content, leveraging CRM for targeted outreach, and fostering internal alignment, customers can navigate the complexities of today's communication landscape. This approach builds trust, empowers teams, and ensures the best support and longterm growth.





With 105 specialists and modern machine tools, Sandvik Coromant Trondheim delivers first-class tooling solutions to customers worldwide across all industries, from standard products to special developments.

Since 2001, they continuously relied on DMG MORI products, and since 2020, they have introduced automation systems featuring NZX 1500 and NTX 3000 with robot handling systems.

In high-cost countries like Norway, where Sandvik Coromant Trondheim operates, automation is vital to gain a competitive edge. Automation solutions increase component quality as manual work is minimized. However, given the company's focus on high-mix, lowvolume production, achieving flexibility in production posed another challenge for them.

"Our aim was to double our production capacity while machining a wide range of CAPTO tool bodies", recalls Technical Operations Manager Steinar Løkken, reflecting on the start of their new concept.

DMG MORI was able to implement all those requirements with an automation solution based around the NTX 3000. The system features three loading stations equipped with pallets for different-sized materials. The robot for workpiece handling automatically switches between grippers suited to the material size and performs tasks such as removing the protective caps from the materials, transporting them to the washing machine, loading them into the NTX 3000, and unloading finished parts after machining. "We can now process up to 150 parts of different sizes without manual intervention and run up to four unmanned shifts, which effectively doubled our production capacity", explains Mr. Løkken.



The post-machining measurement is also automatically completed within the machine itself. Ensuring machining accuracy within a few tens of microns is essential for the damping system that is a key feature of the company's tooling products. "We use in-machine measurement to check every workpiece", says Process Development Engineer Kristoffer Bjørnstad. This eliminates the need for manual measurements of all parts, allowing for random sampling inspections instead. Additionally, in-machine measurement can automatically feed back offsets for enhanced machine control.

"The long-standing cooperation between Sandvik Coromant Trondheim and DMG MORI has been mutually beneficial, as complex manufacturing solutions always provide new learning opportunities", summarizes Mr. Løkken. "We hope to leverage these benefits when investing in new automation solutions in the future".



Kristoffer Bjørnstad Process Development Engineer

Steinar Løkken Manager Technical Operations

### Sandvik Coromant Trondheim

https://www.sandvik.coromant.com Ranheimsvegen 127

7053 Trondheim, Norway

- After decades of close partnership, Sandvik Coromant took over the former Teenees, based in Trondheim
- Group of 105 experienced specialists
- · Development and production of tools with damping system



Development Capital

/ Intellectual Capital

Human Capital Social & Re

Customer Story

# Creating future machining standards together with DMG MORI

## AeroEdge Co., Ltd.

AeroEdge is a leading manufacturer and market share holder of titanium aluminum blades for LEAP engines used by major aircraft parts manufacturers in the US and Europe and is known for its innovative and enterprising manufacturing styles. Its main plant is located in Ashikaga City, Tochigi Prefecture, Japan.



### What does DMG MORI mean for you?

**Mr. Morinishi:** I started my career as a machine tool operator, and the first machine I used from Mori Seiki Co., Ltd.= (formerly) was a turning machine of the SL series back in 1990. Even then, Mori Seiki machines were known for their precision and reliability, consistently delivering accurate results. The high rigidity also gave me confidence, as any operational mistakes could be easily resolved through repairs. If you ask me, DMG MORI machines are ideal for operators eager to take on new challenges. In addition, with DMG MORI today, you have the option to choose NC systems from the world's four leading NC manufacturers. Each system comes with its own strengths and weaknesses, and having the ability to choose a system of your liking significantly expands the range of machining possibilities.

**Mr. Honda:** When it comes to after-sales service, DMG MORI also shines with its prompt support. No matter the issue, a service engineer quickly arrives to analyze the actual machine data. In some cases, even developers come to assist. We really feel in good hands.



Jun Morinishi President & CEO

### Creating future machining standards with DMG MORI

**Mr. Morinishi:** At our new plant, completed in June 2024, we are taking on the challenge of mass-producing new types of parts – not by electrical discharge machining (EDM) usually required for such components, but through cutting. This method allows us to maintain stable quality with high repeatability while preserving the material's inherent strength, viscosity, and other properties. Additionally, cutting significantly reduces machining time compared to EDM, leading to lower power consumption and CO<sub>2</sub> emissions. DMG MORI's solutions for process integration and automation are proving invaluable in meeting the aerospace industry's growing demand for high quality and environmentally friendly production.



**Mr. Honda:** We collaborated closely with DMG MORI during the development phase. In pursuit of new processes that are difficult to achieve with conventional machines, DMG MORI engineers not only mobilized all of their internal expertise but also involved CAM manufacturers to jointly develop optimized machining methods and specifications. As a result, we completed process development and verification on schedule, and our customers were highly satisfied. We were able to meet such challenging goal thanks to DMG MORI's rich machining know-how and their strong partnerships with CAM manufacturers.

**Mr. Morinishi:** With our major customers located in the aircraft industry, many of our parts require individual certification. Therefore, we see great potential in setting new standards through the combination of DMG MORI machines and AeroEdge machining technology, creating a win-win for both parties. For example, Tier-1 manufacturers of aircraft parts may specifically request the use of DMG MORI machines when placing orders for similar processes with other companies in the future. We are looking forward to DMG MORI's continued support in fields such as additive manufacturing and future proposals for implementing the right machines and processes to secure all necessary certifications.

**Mr. Honda:** While DMG MORI machines may come at a higher price point, their value is clear. DMG MORI's superior spindle performance, driven by continuous in-house development and production of spindles and ball screws, ensures exceptional machine accuracy and

rigidity. As we develop new aerospace parts with advanced shapes and materials, and further establish ourselves in the aerospace industry, the high functionality and reliability of DMG MORI machines are essential to stay competitive. For these reasons, the investment is more than justified.



Takuya Honda Executive Officer VP, Production HQ

# New materials driving growth in emerging industries

**Mr. Morinishi:** Our corporate mission is to "create something from zero", and we are dedicated to staying at the forefront of innovation in line with this vision. In particular, we plan to increase our processing capabilities



for industries where demand is expected to grow in the future.

We anticipate growing demand for aircraft parts maintenance, driven in part by the need to conserve resources. This is where DMG MORI's LASERTEC 65 3D hybrid excels, enabling component repair through additive manufacturing. Additionally, in the aviation sector, new materials such as ceramics are gaining traction for their role in reducing aircraft weight. DMG MORI is uniquely addressing this need with their Ultrasonic series. With the support from DMG MORI, we are committed to mastering these cutting-edge technologies and expanding our business opportunities.

**Mr. Honda:** The medical devices, renewable energy, and social infrastructure sectors are also expected to see significant growth in the future. Taking on new challenges often brings new difficulties, especially when working with new materials. We are excited to collaborate and grow alongside DMG MORI as we jointly explore the best processing solutions.

AeroEdge Co., Ltd. https://aeroedge.co.jp/ 482-6, Teraoka-cho, Ashikaga City, Tochigi Prefecture, 329-4213 Japan

- 2016: Aerospace Business Carve-out from Kikuchi Gear, started operation
- •2019: Total of 100,000 turbine blades delivered to Safran Aircraft Engines
- •2023: Listing on Tokyo Stock Exchange, Growth Market
- 2024: Completion of New Factory (Building B) Construction





Front Runner Vol.11 AeroEdge

Intellectual Capital

Human Capital

### Engineering

Delivering the most suitable solution to customers worldwide based on shared application information

Test cut machines

Global total approx. Test cut machines in DMG MORI showrooms (distribution map)



Application engineers Global total approx.

### Three standardization initiatives for better proposals

The most significant point of DMG MORI is that we offer tailor-made solutions to customers worldwide to enhance the four pillars of MX: Process integration, automation, Digital Transformation (DX) and Green Transformation (GX).

If we look into the future on application, we will be able to expand the functions of "Digital Twin Test Cuts". At the moment, this technology provides estimated machining time without actually cutting the material. In the future, we aim to forecast the behavior of material, lifetime of tools, and expected guality of finished parts etc., and provide our customers with even more realistic pictures. Standardized and digitized datasets of machine and peripheral equipment as well as globally accumulated results of real test cuts are essential to develop such sophisticated new functions. In addition, as a global one company, it is mandatory that we provide the same quality of proposals to the customers

based on the same technical data, no matter where they are. This leads to the three standardization projects which the engineering department is currently working on.

approx.

Ratio of orders with

automation (2024)

The first standardization project involves test cut machines in our showrooms worldwide. All machines in showrooms globally have been connected with our Messenger SC, a DMG MORI online tool to check, monitor, and improve operations of machines in a secured manner. The data is stored on our local Microsoft SharePoint and will be transferred to our CELOS Xchange Cloud in the coming years.

At the same time, we have built a Microsoft Power App "Test Cut Machine Finder", with a search function by machine location, machine types, specifications, and automations. This provides a quick and easy tool for the sales team to find the right machine and the right contact person. Detailed specification information can also be easily checked as this app is based on our production and stock management system.

As a 2nd big step into standardization, we globally rolled out our DTC (Digital Technology Checklist) in 2024. The DTC is an online request format for any pre-sale technology support, from a feasibility study to a full turnkey quotation. Besides standardization, the system brings transparency to



The 3rd standardization project is currently under development. Target for a global rollout is the first half of 2025. We plan to provide a standardized calculation program of machining time. This requires correctly maintained technical details such as idle times for tool change and dynamic values of acceleration and deceleration. We are collaborating closely with the R&D department of each factory for this purpose. In order to cover the growing amount of highly sophisticated turnkey and automation requests, DMG MORI must improve the skills and expertise of the current 1,100 application engineers as well as with future hires. Through the new skill and training program started in the 3rd quarter of 2024, we are going to analyze the skill of each individual application engineer to identify additional training needs and, in parallel, prepare the courses together with DMG MORI ACADEMY. The knowledge expected of our engineers is not only in machining,

- all technology projects and their status, such as due dates, communication history, project data.
- The DTC is connected with our global CRM (Customer Relationship Management) system, making it easy to share the necessary information between the sales and service team and the factories. Because the above-mentioned Test Cut Machine Finder is linked to the DTC and CRM, sales managers can quickly share a new customer request with the engineers.

- controls, and programming but also in better
- understanding of material properties, automation, and usage of digital tools like simulations and Digital Twin Test Cuts. This is a longer-term strategy to deal with the lack of expertise in machining in the industry.
- However, this "skill up" strategy will benefit our customers in 2 directions; on one side by better performance of our application teams, and on the other side by providing part of such trainings also to our customers.
- DMG MORI offers a huge variety of machine tools and standardized automation products. Although they are a good basis for our customers, we are requested to provide more and more holistic and customized solutions including fixtures, tooling, and additional peripherals. With technology integration, end-to-end automation, and digitization solutions, we will increase the customer's productivity and resource efficiency at the same time.

Intellectual Capital

Human Capital

### Global Key Account Management

# Managing Global Key Account Investments **Through Direct Sales Network**

For customers with global operations, navigating the complex process of purchasing production equipment across multiple locations worldwide is a major challenge. Traditionally, local production leaders negotiate specifications and prices individually with different manufacturers and distributors, often resulting in regional inconsistencies in the quality of technical proposals and slowing global expansion efforts. To address this, DMG MORI's global key account sales teams leverage the Group's direct sales and service organization to provide customers with uniform terms, cutting-edge solutions, and comprehensive after-sales support one-stop on a global scale.

DMG MORI has a total of 20 global key account managers, whose mission is to build relationships with customers' key decision-makers. This allows them to gain an early understanding of customers' medium- to long-term

### business expansion and investment plans and propose the latest technologies and products to fit their needs. Each manager is supported by a team consisting of top-level application engineers as well as experts in the fields of service, legal, and more. Worldwide, they provide MX solutions to approximately 140 customers across more than 7,000 production sites.

The majority of DMG MORI's global key account customers operate in high-tech industries with extensive machine installations and great investment potential such as aerospace, medical, semiconductors. We close comprehensive global contracts with these customers after negotiations on board level. With an annual growth rate of 20%, these global key account partnerships not only drive process integration and automation for highly efficient production across the manufacturing industry but also contribute to the sustainable development of DMG MORI.

### Global key account order intake ratio:

Large-scale projects with multiple machines for customers running a global operation make up a significant portion of DMG MORI's order intake

### Number of global key account customers:

Global contracts are closed after negotiation between the customers' board and he global key account team.

### Number of global key account production sites:

more than

With global contracts in place, customers can purchase machines and access after-sales services under the

### Global key account industries:



Industries in need of high-level technology account for a large proportion of orders relative to the Group's total order intake

### Supporting US government projects

# Direct sales channel to meet the highest security requirements for national defense and repair business



Mark Mohr Executive Officer DMG MORI Federal Services, President

DMG MORI Federal Services, Inc. (DMFS) is our organization focused on growing United States Government (USG) opportunities in advanced manufacturing. The USG is the largest buyer in the world with \$759 billion in fiscal year 2023 on contracts across all industries. This procurement cycle is highly complex and can last years with hundreds of regulatory requirements.

The DMFS was created specifically for business with this large-scale customer in a relationship of complex rules that presents a tremendous opportunity for the Group if properly mastered. The DMFS was formed in May 2021 and formally started operations in January 2022. Since then, DMFS has achieved over \$45 million in order intake and machine installations in over 15 government facilities across the US Department of Defense and the US Department of Energy. DMFS' vision is to position the Group as a credible partner to the USG as it embarks in a government-wide effort to employ advanced manufacturing technology to modernize USG equipment and processes not just within the United States, but anywhere in the world with a USG installation.

DMG MORI solutions address a specific need by US defense agencies to produce critical components efficiently and rapidly

### Accumulated order intake (since founding)







Photo by Cibi Chakravarthi on Unsplash

repair and return equipment to the point of need. This is demonstrated by a DMG MORI flexible manufacturing cell (FMC) in the US Navy's Fleet Readiness Center Southwest. The FMC has 6 DMC 125 FD duoBLOCK and a pallet system that replaced at least 12 machines for the repair of F/A-18 and E-2/C-2 landing gears. The FMC was projected to save the US Navy approximately \$2.5 million annually in set-up time.

Beyond 2025, DMFS expects demand for advanced manufacturing solutions to markedly increase as the US Army goes well into its \$18 billion modernization plan, the US Navy into its \$21 billion shipyard infrastructure optimization plan and the US Air Force into its \$10 billion modernization plan for military installations in Japan. This once-in-a-generation investment in modernization within USG defense agencies is happening in parallel to similar investments in domestic manufacturing and clean energy by US civilian agencies such as Department of Energy, Department of Commerce and NASA, started by the CHIPS and Science Act, the Infrastructure Investment and Jobs Act and the Inflation Reduction Act of 2022.



Number of installed bases (since founding)



Intellectual Capital

Human Capital Social

### Service (Maintenance, repair and overhaul) Strategies

# Expanding Maintenance and repair Capability with Mid-Career Recruiting and Training



Markus Piber Senior Executive Officer EU Global Service, EU Academy and EU CIRCULAR

Sascha Mertins DMG MORI Global Service GmbH Managing Director



Hiroki Nishikawa DMG MORI SALES AND SERVICE CO., LTD. Service Control Department / DMG MORI CO., LTD. Global Service Department Senior General Manager

on your experiences, what are the actual expectations of our customers regarding MRO requests?

**Mr. Mertins:** Generally speaking, the customers' expectation is to hear back from us within an hour of the initial MRO request and to have an engineer dispatched the next day. *my* DMG MORI allows us to receive reports with photos and programs attached. Thanks to this digital function, DMG MORI is able to process MRO requests efficiently, and the former expectation is generally met. The latter, on the other hand, depends on the engineer's schedule and spare parts availability, so we sometimes have to keep customers waiting for 2 to 3 days.

**Mr. Wang:** I would say what customers around the world ask for is "getting it right the first time". With highly complex systems that involve 5-axis machines, mill-turn centers, and automation, even one day of downtime can lead to significant opportunity losses for the customer. These complex installations often blur the lines between mechatronics, electrical systems, and software, as well as machining technologies such as turning and milling. This complexity requires extensive knowledge and expertise from the on-site engineers. Customers expect DMG MORI engineers not only to be highly skilled but also



Ronny Wolf DMG MORI Deutschland Vertrieb und Service GmbH Managing Director

Jayaram Gopal

thoroughly familiar with their special machine.

**Mr. Gopal:** In the U.S., if the engineer who comes in cannot fix the machine in two days, the customer often asks for another engineer to be dispatched. The amount on the bill becomes rarely a problem if the machine can be fixed quickly.

**Mr. Piber:** It is important to increase both the skills and the number of MRO engineers in order to meet customer expectations for quick machine recovery. From a quality perspective, how do you structure the training programs for MRO engineers to ensure they meet these demands?

**Mr. Nishikawa:** In Japan, newly hired MRO engineers are first assigned to an assembly plant for about six months to gain deep understanding of our products. This is followed by another six months of on-the-job training, during which they accompany senior engineers and learn the practical aspects of MRO work. After completing this training period, all engineers spend one or two weeks per year at our DMG MORI ACADEMY to stay up to date on new models and automation technologies. Based on my experience as an MRO manager, it typically takes at least two years for new engineers to be capable of handling 80% of MRO

### DMG MORI's Field MRO Strategy

DMG MORI's value-adding solutions are delivered and supported worldwide by its direct sales, maintenance, repair and overhaul (hereafter, MRO) network. Our MRO engineers, and their capability to keep our machines running, are particularly and increasingly pivotal to our Machining Transformation (MX) strategy. Therefore, DMG MORI plans to increase the headcount by approximately 800 over the next five years. In September 2024, MRO managers from all around the world met online and discussed ongoing challenges and future strategies.

Mr. Piber: DMG MORI's MRO division has a two-tier structure.
The first tier consists of field MRO engineers who visit
customers' factories to perform repairs. They belong to the
local subsidiaries in each country. Many MRO requests, no
matter which model, are handled by them in the local language.
For more complex technical matters which require close
cooperation with production and development departments, the
second tier comes into play: dedicated global MRO engineer
teams operating out of factories in Japan, Germany, Italy,
Poland, and other locations. Through an effective combination
of local and global employees, we aim to provide the same
quality of MRO services to customers around the world. Based





Kevin Wang DMG MORI China Co., Ltd. Vice President-Service

General Manager, National Service

requests by themselves. Some engineers with prior experience at other machine tool manufacturers may be able to work independently within six months. However, as products become increasingly complex, the required training period is getting longer.

**Mr. Gopal:** I agree with Mr. Nishikawa about the length of time required for training. In terms of the local characteristics of the training program in the U.S., it is worth noting that many machines are imported from Iga or Pfronten factory. It means that showrooms across the U.S. also serve as important training facilities in addition to our Davis factory in California. We send vocational trainees (apprentices) on a 3–6-month business trip to a factory in Japan or Germany. However, in the case of engineers who already have responsible regions, it is not practical to send dozens of them for long-term overseas training. Instead, we invite trainers from Japan and Germany to increase the training efficiency. In addition, lecturers from NC manufacturers, local peripheral equipment manufacturers, and other suppliers can also be arranged locally.

Since our machines are equipped with mainly four different brands (FANUC, Mitsubishi, Siemens, and HEIDENHAIN) of numerical control (NC) systems, our MRO engineers must also

### Marketing, Sales & Service Capital

Average age: 42.4 years

61-65

66+

56-60

51– 55

46-50 L / Development Capital

l / Intellectual Capital

Human Capital / So

be familiar with all of them. We have already prepared a training plan for the next one to two years.

**Mr. Wolf:** A very important point to remember is that our MRO engineers are not only required to fix the latest models. In our customers' factories, our products that are 15 to 20 years old, sometimes even more than 30 years old, are still operational. As long as there are MRO requests, engineers must also possess knowledge of these older machines. For cases that cannot be learned during formal trainings, engineers must acquire the necessary expertise through hands-on experience in the field.

**Mr. Mertins:** With regards to that point, one cannot forget the fact that DMG MORI has a long history of corporate mergers. The older the machine, the more likely it is that the technical

Field MRO Engineers: Age distribution

(Germany, Austria, and Switzerland)

[No of engineers]

80.0

70.0

60.0

50.0

40.0

30.0

20.0

10.0

26- 31- 36- 41-30 35 40 45

21-25 information needed for MRO is missing or scattered in different IT systems. Given the limited skills and number of engineers, these challenges need to be addressed to carry out MRO jobs as efficiently as possible.

**Mr. Piber:** It is also important to have a management system for customer and machine information that is easily accessible to engineers in the field. Although there are some variations depending on the distance from the main plants, the framework for training programs seems to be almost similar in all countries. With that in mind, how do you secure a sufficient number of engineers? The situation must differ from country to country.

**Mr. Gopal:** In the U.S., we face many challenges in hiring new employees and keeping them in the company. The retention

### Hotline Engineers: Age distribution (Germany, Austria, and Switzerland)



### Field MRO Engineers: Years of experience (Germany, Austria, and Switzerland)



### Hotline Engineers: Years of experience (Germany, Austria, and Switzerland)



rates are very low in this country. Not only our employees, but also the younger generation in general (between the ages of 25 and 35), tend to move from one job to another once they find a job with slightly better conditions.

**Mr. Wolf:** In the German speaking countries (Germany, Austria, and Switzerland), we have MRO engineers, supported by hotline support engineers ready to assist when needed. (See graph on page 47)

In both groups, the largest portion of the workforce is in their late 50s. As we plan for their retirement, we are reorganizing regional allocations to minimize travel distances for engineers while prioritizing recruitment in areas where resources are stretched. We are also offering an apprentice training program with a curriculum of approximately 2 years. Many trainees begin working with DMG MORI immediately after completing the program.

Mr. Mertins: I feel that among the younger generation, there is a declining willingness to accept long-term business trips and overseas assignments. Many young people pay close attention to the balance between local work and business travel when they take the job. In order to improve the retention rate of young engineers hired through a big recruitment effort, we need to offer more flexible work styles on top of a better salary and other benefits. For example, the flexibility to choose how many months of the year to spend on long-term business trips and how many months to commute from home to work, or the job-change opportunity where the employee can switch to a position requiring higher skills after a few years of overseas assignment. In particular, whether or not the engineer can envision the next career after 10 years of MRO experience tends to be a trigger for turnover. Looking at the data from the German speaking countries, the average length of experience at DMG MORI is about 10 years for field MRO engineers and about 20 years for the hotline experts. Without action, the equivalent of this difference in knowledge will be lost. Therefore, we ask experienced engineers to transfer their knowledge to younger people at the DMG MORI ACADEMY as

**Mr. Nishikawa:** In Japan, we currently have about 250 field MRO engineers, and we would like to increase this number to 300 by around 2027. Considering the turnover rate, including retirees, we need to hire 30 to 35 people each year. We plan to cover half by hiring new graduates and the other half with mid-career candidates. We also value communication on long-term career

their final task before retirement.

paths in Japan. Compared to other regions, Japanese engineers are more motivated to work overseas. During the recruitment process, we pay close attention to their workplace preferences and interests in overseas assignments. Since their work priorities may change over the years, we also conduct regular interviews and keep up to date with their personal circumstances.



**Mr. Wang:** In China, we mainly target students from top-level technical schools for our recruitment activities. Fortunately, we are not facing any imminent recruitment difficulties, but in the medium- to long-term, we would like to increase the number of people with good language skills (English, Japanese, or German) in addition to their technical background.

**Mr. Wolf:** In order to hire a large number of highly motivated young engineers, a marketing perspective is also essential. DMG MORI utilizes social network platforms to share its business activities in local languages and is supporting important international events such as the WorldSkills\* competition.

\* WorldSkills is a registered trademark of WorldSkills International.

**Mr. Piber:** It has become clear that different HR strategies are adopted based on each region's characteristics. In the past, the after-sales MRO businesses were like "spare tires for a car", meaning they made only a little extra revenue on top of the main business. However, as MX has progressed, after-sales MRO business has become more important, and better MRO work has created a virtuous cycle that leads to the purchase of the next machine. My long-term goal is to generate enough profits from the MRO and spare parts business to cover the costs of the entire sales, maintenance and repair companies. There are only a few manufacturing companies in the world that have achieved this, but I would like to ask for every employee's dedication to take on this challenge on a global scale for the sustainable development of both our customers and our company.

Intellectual Capital

Europe

Social & Relationship Capital

# Sales Strategies by Region

### Japan





Masaru Tamba Managing Executive Officer DMG MORI Sales and Service CO., LTD., President SAKI Corporation President /

since April 1, 2025

DMG MORI Sales and Service DMG MORI Sales and Service CO., LTD., Chief Advisor,

CO., LTD., Vice President DMG MORI Sales and Service CO., LTD., Vice President / Miyawaki Machinery Co., Ltd., Board Member since April 1, 2025

Senior Executive Officer

# Satoshi Hashimoto Executive Officer DMG MORI Sales and Service CO., LTD., Vice President

DMG MORI Sales and Service

CO., ITD., President.

since April 1, 2025

events for DMQP partners and their peripheral equipment.

### Acceleration of Automation and MX

As we approach 2030, process integration is becoming the industrial norm, DMG MORI understands the need to train professionals who can propose a total solution for the entire shop floor. DMG MORI is building a foundation for systematically proposing high-guality, long-term (5-10 year) investment plans.

In Japan, as mentioned earlier, younger generations have started to take over business, but they often find the current situation outdated and unsatisfactory. DMG MORI has established "5 Axis Machining Association" with such young, ambitious leaders, and is arranging visits to advanced factories outside of Japan and hosting study sessions. During the overseas factory visits, the participants witness how all the processes that traditionally require manual operations in Japan are fully automated. This often gives the young executives a concrete picture of what they should do next and accelerates their efforts toward automation and MX.

To support the young generation, DMG MORI intends to not only stay involved in future investment decisions but provide training opportunities at local DMG MORI Academies and continuously offer DMQP products to improve productivity of the 170,000 machines in the field throughout their lifecycles. In this way, DMG MORI is enhancing the value of the Company for its customers.





Harald Neun Dr. (Business Economics) Executive Officer DMG MORI EMEA North Managing Director and Chief Sales and Service Officer

Michael Budt Dr. (Business Economics) Executive Officer DMG MORI EMEA South Managing Director and Chief Sales and Service Officer

### 2024 summary and 2030 strategic vision

In 2024, the market trends and conditions in Europe considerably varied by industry. High-technology industries such as the semiconductor, medical, and aerospace industries were performing well and provided continuous growth opportunities. In contrast, the automotive industry and some others were struggling. This created a challenging situation for the Sales and Service companies in countries such as Germany, Czech Republic, Hungary, Poland, and Romania. Small job-shop companies, which represent a significant portion of our market potential, were holding back investments due to macroeconomic uncertainties.

DMG MORI's MX (Machining Transformation) strategy with the focus on innovation and customer-centric solutions positions us well to navigate through this complex landscape. DMG MORI has the necessary resources to thrive despite current and future challenges and to ensure continued market success.

The 4 pillars of MX strategy, Process Integration, Automation, Green Transformation (GX) and Digital Transformation (DX), allow the Group to address variation of customers' needs to remain competitive. With its latest product innovations in 2024, DMG MORI has once more proven its innovative approach. A prime example is the high-runner NLX 2500 2<sup>nd</sup> Generation, on which DMG MORI has reworked the machining concept based on the market feedback and equipped it with the brand new "SINUMERIK

### Market Landscape in Japan

With the pressing labor shortages throughout the Japanese manufacturing industry, process integration is gaining attention all over the country. Process integration models now account for over 60% of the sales revenue in Japan. Since Japan has long relied on skilled and experienced technicians, it and has generally lagged behind Europe and the U.S. in this trend. However, with the working environment changing drastically, Japanese customers have begun to take actions with a sense of urgency.

To address each customer's concerns and challenges, DMG MORI has 60 Area Sales Managers throughout Japan, who are all ready to offer tailored solutions, and 250 Field Service Engineers to help customers maintain machines and peripheral equipment throughout their lifecycles. DMG MORI has also begun to offer insurance alongside its machines to cover accidents and damage caused by operator errors due to lack of experience. With "Technology Fridays", which are private exhibitions at the Iga Campus and Tokyo GHQ initiated during the pandemic, DMG MORI has welcomed thirty quests each week (6,000 in total) and carefully catered to the interests and needs of the participants. In addition to this, DMG MORI opened the last of four new DMG MORI Academies in Okayama City in 2024. Together with the Sendai, Hamamatsu, and Kanazawa Academies, which were opened in 2023, we support local customers in solving their day-to-day problems by showcasing MX solutions, providing hands-on experience with process integration models, and hosting

### Order composition (Europe)



ONE"<sup>\*1</sup> control by Siemens, Germany<sup>\*1</sup>. Now, the machine is even more rigid, precise, and energy-efficient. To spread the MX strategy in the markets, DMG MORI is also strengthening its sales and service organizations. This step is pivotal to DMG MORI's success. First of all, it requires a high level of sales expertise to advise customers on complex processes. To achieve this, DMG MORI is continuously organizing sales training and encouraging everybody to expand their skill set.

DMG MORI strives to deliver state-of-the-art reliability to our customers. To uphold this goal, DMG MORI is expanding its service and application teams and enhancing its service capabilities significantly. Additionally, DMG MORI offers "Full-Service 5.0", which extends the product warranty period to five years. This new service is unique in the market. For the customer, this means 5 years of all-round MRO, worry-free operation, and full cost control. All these measures are taken with one goal in mind - to be the most competent and reliable partner for our customers, from the first contact to the after-sales service. In conclusion, the MX strategy with its 4 pillars underlined by a strong sales, MRO structure enables DMG MORI to thrive in a competitive market.

DMG MORI is confident that its efforts will not only meet but exceed the expectations of its customers and stakeholders for now and in the years to come.

\*1 SINUMERIK ONE is a registered trademark of Siemens Aktiengesellschaft.

### **Eight Capitals**

Americas

Keiichi Ota

Americas and ICT

Managing Executive Officer.

Dr. Eng.

Marketing, Sales & Service Capital

John McDonald

DMG MORI USA, Inc.

Vice President of

Sales & Technology

**Development Capital** 

Intellectual Capital

Manufactured Capital

Human Capital

China



Sales Managers. Looking ahead to 2030, our game plan is clear: build a stronger team, boost communication across departments, and maintain

transparency in project management. We will continue to empower our engineers with the right training, technology, and software to stay ahead of the curve. By offering customized MX solutions that meet the specific needs of each customer and ramping up our MRO capabilities, we are confident we can improve response times and customer satisfaction. Through consistent and disciplined execution of these initiatives, we are aiming to grow our market share in China from approx. 3.5% in 2024 (13% in high-tech segment) to over 5% by 2030 (more than 20% in high-tech segment).

Asia



Sunil Rao DMG MORI India Pvt. Ltd. Managing Director

annual training sessions.



Order composition (China)

2024 6%



Katsuaki Tamaki DMG MORI CO., LTD. DMG MORI Asia Chief Sales & Service Officer



Order composition (Asia)





Frank Beermann Dr. (Economics and Business Administration) Executive Officer DMG MORI China, Managing Director and Chief Sales and Service Officer



Managing Director & President



Order composition (Americas)

2024

22%

Strengthening Our Organization Across the U.S. and the Entire Americas

Marlow Knabach

Managing Executive Officer

DMG MORI MANUFACTURING

Executive Vice President

DMG MORI USA,

USA, Chairman

In North America, the trend of reshoring in the manufacturing industry is driving steady and active investment, particularly among major corporations. Additionally, cutting-edge sectors such as aerospace and medical technology continue to experience remarkable growth. However, despite this strong demand, a significant shortage of engineers and other skilled workers is becoming increasingly evident, leaving many customers struggling to maintain and advance their manufacturing operations.

Machining Transformation (MX) proposed by DMG MORI is the optimal solution to these challenges. Twice a year, Open House events are hosted in Chicago, attracting around 1,500 customers each time. These in-house events provide an opportunity for in-depth technical consultations with customers, conducted in front of our products that exemplify MX. Our area sales managers from across the Americas, along with technical sales representatives based in various regions, collaborate as a unified team to deliver the best possible solutions.

In 2024, the market did not necessarily show strong momentum, partly due to a wait-and-see approach ahead of the U.S. presidential election and high interest rates. However, relatively large-scale investment projects continued, driven by advanced industries, major corporations, and government procurement initiatives. As a result, we were able to win orders that far exceeded those of the previous year, even on a local currency basis. At the same time, we are committed to strengthening our organization with a focus on medium- to long-term development. Key initiatives include expanding apprentice programs, hiring more engineers, improving security measures to meet government requirements, and renovating the Chicago headquarters to enhance technical exhibits and create a better work environment. Additionally, we have established a

subsidiary in Costa Rica to provide better support for the rapidly expanding medical industry. The Davis plant in California is also developing an SLM-based AM machine, which is expected to be ready for market launch in 2025.

Looking ahead to 2030, we aim to steadily strengthen and expand our business in the region. Key priorities include enhancing our proposal capabilities, such as automation and DMQP, and building the capacity to handle multiple large-scale and complex turnkey projects at the same time. We also plan to expand our service network, improve quality, and strengthen support for global customers entering the Americas. To achieve these goals, we are strengthening recruitment and talent development. Additionally, I intend to deploy digital technologies to improve operational efficiency and enhance employee benefits. Such efforts are essential for fostering loyalty in a highly fluid labor market.

For our Querétaro office in Mexico, we plan to establish a new facility near its current location by 2026, aiming to further strengthen our market presence. The Americas remain a key region due to their potential and alignment with our MX strategy, and we are committed to driving strong growth in this market.



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### Empowering high-value sectors with unparalleled technology

China's manufacturing industry is gearing up for impressive growth over the next 5 to 10 years, thanks to the country's latest Five-Year Plan. This plan focuses heavily on tech innovation, green energy, and high-value sectors like medical. The move marks a clear shift from the old-school, labor-heavy

manufacturing approach to more advanced, automated, and eco-friendly methods. For DMG MORI, this is a huge opportunity. DMG MORI is ready to meet the associated demands for hightech machines such as horizontal machining centers, turn-mill centers. 5-axis machines. and automation solutions.

With two factories already set up in China, DMG MORI has more than 120 MRO engineers, 40 application engineers and 60 Area

### Supporting cross-border projects

In Asia, the business landscape is changing quickly. Along with in-bound investments from Japan, Korea, and Western players, investments within the Asia-Pacific region are on the rise; such as Thai companies setting up factories in Malaysia and Vietnam. The Indian market, in particular, is seeing rapid growth. In addition to the automotive industry, DMG MORI targets markets such as aerospace and semiconductors in Asia. In 2024, more than 70% of our orders in India came from inquiries focused on process integration and automation. When promoting MX solutions to high-end users, the in-house exhibitions at local showrooms and technical proposals given by local employees in the same language as the customer play a crucial role. Out of 10 DMG MORI sales companies in the Asia-Pacific, most are operated fully by a local manager without intervention from global headquarters. One of such managers is Mr. Rao. He joined the former DMG India 25 years ago and has since contributed to developing customer relations in the region. On the other hand, cross-border communication between the customer and factories in Japan and Germany are required for large-scale global projects. It is crucial that key stakeholders maintain open communication, which is fostered through face-to-face,

DMG MORI will continue to hire top-level engineers and strengthen cross-border collaboration to meet the dynamic demands of the Asia-Pacific market.

Intellectual Capital

# DMG MORI's Digital Solutions

We offer various digital solutions to boost customers' productivity.

### my DMG MORI

my DMG MORI is a digital platform provided by TECHNIUM CO., LTD. that supports efficiency and productivity improvements in manufacturing by offering features such as visualizing machine operation status, managing maintenance schedules, placing online orders for parts and consumables, and accepting service requests for remote support. This platform enables users to easily and quickly request necessary services, supporting the optimization of the entire manufacturing process.







TULIP allows operators to easily create apps tailored to on-site needs, enabling the digitization of various manufacturing operations without requiring specialized programming knowledge. DMG MORI's production sites have also adopted TULIP, utilizing it for tasks such as managing inspection data, automatically collecting and analyzing in-machine measurement data, and digitizing assembly quality records. These efforts, led by on-site teams, contribute to improving operational efficiency and quality.



# DMQP: DMG MORI Qualified Products

### DMQP: DMG MORI Qualified Products

DMQP is a collection of carefully selected and certified peripheral equipment for DMG MORI machines that excels in quality, performance, and maintainability.

By combining machine tools from DMG MORI with the most suitable, high-performance, and high-quality peripherals, we enable customers to achieve rapid production start-ups and further improve productivity. Since December 2024, the DMQP collection can also be easily ordered online from eMarket on my DMG MORI, further supporting customers in selecting the optimal equipment.

### Benefits of DMQP

DMG MORI arranges highquality, high-performance, and maintainable equipment on behalf of customers

warranty applicable for base machines

### Extensive product lineup of peripheral equipment



DMG MORI's JIMTOF 2024 booth featured a dedicated DMQP Partner Area showcasing high-performance, high-quality peripheral equipment from 9 partners, including coolants, tooling systems, tools, holders, and CAM solutions optimized for machine tools. This attracted significant interest from many customers. By introducing top-tier peripheral equipment together with its global partners, DMG MORI aims to deliver added value to its customers through increased productivity.



Customers enjoy a "2-year warranty", the same (This benefit is offered only in certain regions and does not cover consumables such as cutting tools

365-dav toll-free maintenance service (offered in Japan only)



### Joint Global Development

Enhancing MX: Strengthening Software Development, Improving Process Integration Machine Performance, and Ensuring Long-Term Precision in Automation Systems





The Company has recently released ERGO*line* X with CELOS X, our newly redesigned HMI (Human-Machine Interface), marking the first full model update in about 10 years. Developed jointly in Japan and Germany, ERGO*line* serves as the hardware component of our machine tool HMI, and together with the CELOS software, it provides a unified interface experience for our customers. HMIs are critical components of machine tools.



At DMG MORI, we offer five different types of NC systems to meet different machine characteristics and customer requirements. While maximizing the unique features of each NC system, we strive to standardize usability as much as possible. Additionally, we provide our common functionalities across all control systems, such as DMG MORI Technology Cycles, simulations, DMG MORI MESSENGER, energy-saving features, and remote maintenance, to maximize the added value of our machine tools. MX (Machining Transformation) aims to free operators from heavy labor through process integration and automation, to overcome labor shortages in factories, and to realize GX through efficient production. Digital Transformation (DX) with CELOS greatly contributes to MX.

One of the key features of CELOS X is its online update capability. Machine tools are typically used in customers' factories for around 20 years. Traditionally, even if the machine was state-ofthe-art at the time of purchase, the software would become outdated over time, creating a performance gap compared to newer models. With online updates, customers will have the possibility to continuously benefit from the latest software.

It is no exaggeration to say that software provides the highest added value in modern machine tools. At DMG MORI, we employ several hundred software engineers in Japan and Germany, and several dozen in the US. They are dedicated to advancing HMIs, automation system software, simulation, programming support through DMG MORI Technology Cycles and other measures, monitoring of machining conditions and tools, on-machine measurement, and machine learning. These technologies are actively embedded into machine tools and peripheral equipment, driving the advancement of MX.

Our software packages have been updated approximately twice a year. For example, new DMG MORI Technology Cycles enable DMG MORI 5-axis and mill-turn machines to perform operations previously possible only on dedicated machines. Moreover, these updates will be offered online, allowing customers to swiftly use new machining capabilities on existing machines. At DMG MORI, software development remains our top priority.

DMG MORI has development sites in Japan, Europe, and the U.S., as well as a production site in China, but our hub development centers are located in Japan and Germany. We have established a corporate culture in which unique development concepts in Germany and meticulous improvements in Japan are put into use.

Since 2013, we have held the annual GDS (Global Development Summit), a face-to-face event bringing together around 200 members from R&D. Germany's development and planning expertise has resulted in the new INH, NTX, and NLX 2<sup>nd</sup> Generation, as well as digital products for MX promotion.

Similarly, Japanese software and peripheral devices are incorporated into German-made machines and automation systems. Together, we hold the JQM (Joint Quality Meeting) once a quarter, and by applying Japanese principles for pre-shipment



GDS in 2024

inspections and shipping packaging in Germany, we were able to greatly reduce problems within one month after delivery of European-made products. As a global company, DMG MORI strives to improve customer satisfaction by openly learning from the strengths of each region and culture.

In recent years, numerous quality violations have been uncovered in the Japanese manufacturing industry. While the Company has not experienced such issues, we adopt digital tools to proactively prevent such matters from occurring.

At our production plants, we utilize the supportive app creation platform TULIP to digitize work manuals for in-process and final inspections.

For highly critical accuracy inspections, we use digital measuring equipment directly linked to digital check sheets to free operators from the need to manually input numerical values. This prevents input errors and ensures accurate values are recorded on the check sheets. Furthermore, we intend to completely eliminate human intervention in the future by gradually expanding automatic inspection processes.

The Company collects and statistically processes digital data and holds bi-weekly meetings to review adequate levels for quality threshold values prior to shipment. This is part of the Company's ongoing commitment to precision improvement. Key challenges are identified and used as input during the development of new models, setting targets to enhance accuracy from the design stage. In light of the importance of measurement, the Company has also established a Measurement Analysis Center in 2024 to further improve our measurement analysis technology.

Intellectual Capital

Human Capital

### WORLD PREMIERE

### NLX 2500 | 700 2<sup>nd</sup> Generation

The Company premiered 19 machine models in 2024, and one of them is the NLX 2500 | 700 2<sup>nd</sup> Generation – the latest mill-turn center at the core of its Machining Transformation (MX) initiatives.

As the Company's best-selling model, the NLX 2500 has set sales records and continued to do so since its first release in 2010. This is the first complete model change in fourteen years, and the basic performance as a mill-turn center has been significantly improved; the built-in motor turret is now driven by an internally developed, small-sized, high-speed, high-torque, high-output DDM (Direct Drive Motor) for rotary tools, and the rotary axis is precisely controlled by the embedded Magnescale encoder. The renewed model offers powerful milling performance and accuracy comparable to a machining center and has contributed to customers who aspire to realize advanced process integration. Together with its partners, DMG MORI has also released high-speed, high-torque rotary tool holders for this occasion.

### LASERTEC 30 SLM 3rd Generation

In the area of additive manufacturing, the LASERTEC 30 SLM 3rd Generation from Germany was released in 2024. The LASERTEC 30 *SLM* is a PBF (Power Bed Fusion) model jointly developed with the former REALIZER GmbH (current DMG MORI Additive GmbH), which became a group company in 2017. While the first and second generations were developed around the know-how of additive manufacturing specialist REALIZER, the third generation has undergone a complete model change with a new project team and reflects DMG MORI's machine tool expertise.

First, we have drastically changed the structure in pursuit of accuracy. The twin ball screws and symmetrical frame have improved Z-axis guiding accuracy, and full closed-loop control by Magnescale's linear scale has greatly enhanced the Z-axis positioning accuracy. Second, the design of elements critical to deposition accuracy, such as powder handling, optics, and chamber gas airflow control, was optimized through repeated simulations. Each unit was developed independently and evaluated thoroughly over time before being integrated into the main unit.

As for automation, which is an essential part of MX, long-term, stable accuracy is key. To this end, the Company optimized the basic structure using Digital Twin analysis and applied control compensation technology to enhance rigidity, accuracy, and thermal stability - which has led to significantly improved long-term machining accuracy.

Equipped with ERGOline X and CELOS X, the machine allows access to the latest software at all times. The Company plans to release more NLX 2<sup>nd</sup> Generation models in the future, starting with NLX 3000, NLX 4000.



NLX 2500 | 700 2<sup>nd</sup> Generation + MATRIS Light (Automation solution)

These efforts have resulted in significant improvements in machine reliability and positioning quality. Two types of lasers, 600 W / 1000 W, are available, with single, dual, and quad laser specifications to choose from. The new model also inherits the features of its predecessors, such as the rePLUG cartridge system for easy powder replacement and a powder recycling function.

In developing this machine, we prioritized and pursued operator safety and operability. CELOS X provides easy-to-understand guidance for machine operation and maintenance.

With this newly released model, we are able to offer the highest quality AM machines for both DED (Directed Energy Deposition) and PBF types.



LASERTEC 30 SLM 3rd Generation



### 14 Product Lines, 59 Products

DMG MORI is a one-stop provider of total solutions. Supported by our expertise in machines, fixtures, tools, and programs, we cater to our customers' needs and make productivity-boosting automation systems and digital data-driven smart factories possible.

WORLD PREMIERE 2024 PH Cell 500



DMU 65 monoBLOCK PH Cell 500 2<sup>nd</sup> Generation





LPS 4<sup>th</sup> Generation Dedicated software to control DMG MORI pallet pool system





Intellectual Capital

Human Capital

# Intellectual Capital

### Joint Research with Academic Institutions

In line with its MX strategy, DMG MORI is working together with various academic institutions to deliver new solutions to the manufacturing industry.

### Leibniz University Hannover

Leibniz University Hannover and DMG MORI participate in "Factory-X," a project funded by the German Ministry for Economic Affairs and Climate Action and run by a consortium of over 50 research and commercial partners. The project aims at building an open and collaborative digital ecosystem. "Factory-X" has various working groups, and DMG MORI is currently working on a project to improve energy efficiency. As machine tools use more than 60% of their total electricity for cutting fluid supply and cooling systems, we see great potential to reduce power consumption through the efficient use of these systems. Togetherwith Prof. Denkena of Leipniz University Hannover, DMG MORI is developing a system for optimal coolant flow rate and control to save power while maintaining tool life and machining accuracy.

### Technical University of Aachen Fraunhofer Institute for Production Technology IPT

Together with the Fraunhofer Institute for Production Technology and the Technical University of Aachen, DMG MORI is participating in the International Center for Turbomachinery Manufacturing (ICTM). The ICTM targets to identify future challenges and accelerate innovation with a focus on aviation and power generation in various research fields, ranging from horizontal process chains with advanced machining and additive manufacturing to digitalization and future approaches. As a member of ICTM, DMG MORI actively supports about 20 research projects each year. Additionally, we have begun collaborations with startups from the Technical University of Aachen and the Fraunhofer Institute for Production Technology.

### Technical University Braunschweig

The rapidly growing electromobility sector is driving demand for battery systems and electric motors. To overcome challenges in recycling, the research project "ZIRKEL" aims to develop innovative technologies for dismantling, disassembly and separating of components for electromobility. Together with the Technical University Braunschweig and other partners, various process strategies are analyzed and optimized by means of automation and artificial intelligence (AI). The investigations include also a prototype of a robot-based machine tool kinematic from DMG MORI.



### Kempten University of Applied Sciences

Process data can offer valuable insights for process optimization and increased product quality in machining. In collaboration with the Institute for Data-optimized Manufacturing (IDF) of the Kempten University of Applied Sciences and industrial partners, the research team utilizes the state-of-theart sensor technology of DMG MORI machines to develop AI-based solutions to predict tool life and workpiece quality.

For this purpose, comprehensive data collected by the sensors is stored and made available in a cloud environment for subsequent analysis. This data enables various applications, such as monitoring of state-of-the-art machining processes or tool wear detection.



### Kyoto University

DMG MORI has combined the cutting technologies of 5-axis and mill-turn machines with laser-based 3D additive manufacturing and coating to realize process integration of parts machining. The next step to further advance process integration and automation is the development of even more compact and highperformance laser sources. DMG MORI is engaged in joint research to adopt the Photonic-crystal Surfaceemitting Laser (PCSEL), a compact laser with high beam quality for metal processing.

Northwestern University

Northwestern University and DMG MORI are developing the next generation process controls in metal additive manufacturing through the Army's Versatile Tactical Power and Propulsion Essential Research Program. The partnership's goal is to develop hybrid electric aircraft propulsion systems utilizing additive manufacturing with improved performance and reliability. The specific research outcomes are active process monitoring, digital data fusion, and physics based data informed process controls for selective laser melting (SLM). Importantly, new technological developments from this joint research will be available on the next generation of LASERTEC 30 SLM in 2025.

### The University of Tokyo

Servo motor control technology, which drives each axis of a machine tool, has a direct impact on improving machining accuracy and machining capacity. In collaboration with the University of Tokyo, the Company is researching optimal control methods for the generation of optimum acceleration / deceleration trajectory considering vibration control and quadrant projection suppression control of twin drive shafts and mechanical dynamic characteristics.

### **Keio University**

The Directed Energy Deposition method of metal additive manufacturing has attracted significant attention for its ability to reduce environmental impact compared to conventional manufacturing methods. In particular, its use for coating to add different kinds of materials to a base material for added functionalities is becoming increasingly popular. However, it is crucial for the deposition of hard materials that defects such as cracks and voids are not generated. Together with Professor Kakinuma of Keio University, the Company is tackling this challenge to develop technologies for selecting deposition conditions and controlling properties.



Intellectual Capital

Human Capital

### Leibniz University Hanover Prof. Dr. Eng. Berend Denkena

The Institute of Production Engineering and Machine Tools (IFW) at Leibniz University of Hannover in Germany has been working closely with DMG MORI for several years to our mutual benefit. The focus of the cooperation is on two main topics: (1) The development of innovative machine components or processes, including associated investigations in the early phase of machine tool or process developments and (2) Train students for their future work in the development areas of DMG MORI. The 'knowledge transfer through human interactions' is essential for DMG MORI and IFW. This enables students to function as a bridge between cutting-edge academic research in the field of engineering and business, creating new value. Here, master or Ph.D. students at IFW conduct research according to the agreed research topics in the first phase. In the second phase, they share the gained knowledge and apply it in product or process developments for DMG MORI. Such cooperation between DMG MORI and IFW resulted in innovative technology such as: significantly increasing the energy efficiency of machine tools mentioned later, automation of optimizing advanced cutting condition optimization using sensors, and process monitoring without the need for operational training.

This relationship greatly increases the chances that the university's cutting-edge research will be put to practical use in actual machine tools, which is a great motivation for the university's research team. As for DMG MORI, it leads to the practical application of cutting-edge technology and to the recruitment of talented students, making this a valuable collaboration for both the university and the company.

For instance, a researcher presented a study at the International Academy for Production Engineering (CIRP) in 2018 regarding development of a system to measure cutting force using strain sensors. By integrating this system into the spindle head of machine tools, precise monitoring of machining conditions became possible. Based on the

measurement results, automatic estimation and correction of tool deformation were achieved, leading to a 90% reduction in machining deviations and enabling highprecision finishing processes. The student who conducted this research was subsequently hired by DMG MORI for a position in the R&D department and successfully continued the development until the commercialization of the product "Process Force Monitor"

In another study presented at CIRP in 2023, a researcher presented a system which was developed to control the coolant supply during machining according to the machining type and tool. This system reduced energy consumption by more than 30% during machining, thus showing the potential to significantly reduce CO<sub>2</sub> emissions. DMG MORI has also begun implementing this technology in some of its machine models, with plans to expand compatible models starting in 2025.

A further research domains under this partnership demonstrated that DMG MORI mill-turn centers can not only be used to manufacture and re-grind milling or drilling tools but also achieve the same levels of accuracy as those currently achieved by conventional tool grinding machines. In a further collaboration, with focus on the time-consuming setup of machine tools, a method for monitoring manufacturing processes without the need for training was developed. In a recently completed project, a system based on artificial intelligence was able to support operators in setting up skiving.

The close cooperation between DMG MORI and IFW has resulted in exciting innovations, which will improve future machine tools, improve manufacturing accuracy as well as user friendliness, and reduce energy consumption. It has also been shown that this close collaboration is valuable for the training and further education of both DMG MORI employees and students.

### Keio University Prof. Yasuhiro Kakinuma, Ph.D

### Shaping future innovation: the power of industry-academia collaboration

As a researcher in industrial engineering, I have been deeply involved in technological developments in the machine tool industry. The accelerating pace of innovations makes collaboration between companies and universities more important than ever. Conducting joint research with DMG MORI, one of the world's leading manufacturers, has been a key element in realizing advanced technologies. In this essay, I will discuss the latest technological trends in the machine tool industry, the value of industry-academia collaboration, and what I expect from DMG MORI in the future.

### Technological trends & the future of the machine tool industry

One of the current trends in the machine tool industry is the growing adoption of Digital Twin and IoT technologies. These innovations connect real-world machining processes with digital models, leading to significant improvements in machining accuracy and efficiency. Additionally. Al-driven machine learning is now enabling the autonomous optimization of production lines. Sustainability efforts have also made significant progress. Machine tools have traditionally consumed substantial amounts of energy, but today, energy-saving technologies and developments aimed at reducing environmental impact are advancing rapidly. DMG MORI has been at the forefront of adapting these trends and actively incorporating smart manufacturing technologies into both machine tools and peripheral equipment. In recent years, Additive Manufacturing (AM) for 3D metal printing has gained attention in the machine tool industry. Unlike conventional cutting methods, additive manufacturing enables the production of lightweight parts with complex shapes, making it especially useful for advanced applications in aerospace, medical, and



### Prof. Dr. Eng. Berend Denkena

Executive Director, Institute for Manufacturing Technology and Machine Tools (IFW), Leibniz University Hanover

- 1987 Graduated from Mechanical Engineering, Leibniz University Hanover
- 1992 Doctorate, Leibniz University Hanover
- 2001 Managing Director, Institute for Manufacturing Technology and Machine Tools (IFW), Leibniz University Hanover
- 2013 Member of the Supervisory Board, GILDEMEISTER AKTIENGESELLSCHAFT (currently DMG MORI AKTIENGESELLSCHAFT)
- 2024 President 2024 / 25 of the International Academy of Production Engineering (CIRP)



### Prof. Yasuhiro Kakinuma, Ph.D Department of System Design Engineering, Faculty of Science and Technology, Keio University

- 2002 Bachelor, Faculty of Science and Technology, Keio University 2006 Ph.D., Faculty of Science and Technology, Keio University
- Keio University
- Keio University (incumbent)

### automotive sectors.

DMG MORI plays a pioneering role in the research, development, and practical application of AM technology with their state-of-the-art product portfolio. They have achieved significant breakthroughs in processing systems and simulation technology for producing high-precision, high-strength parts, which are expected to revolutionize the entire manufacturing process.

### Advanced technology emerging from industry-academia collaboration

Joint research between my laboratory and DMG MORI has yielded positive results in multiple areas. Our foundational research on process monitoring has contributed to the development of Digital Twin technology for machine tools. Our collaboration is also unlocking new possibilities in AM technology, with the potential to become a game changer for manufacturing. Industry-academia collaborations are essential for accelerating technological innovation by combining the cutting-edge research of universities with the practical expertise and technological capabilities of companies.

### What I expect from DMG MORI

DMG MORI has always pursued a future-oriented strategy, taking on the role of a market leader with its advanced technological expertise. As the need for sustainability and smart technology grows, DMG MORI is expected to continue leading innovation on the global stage. I am confident they will keep driving value creation through enhanced collaborations with research institutions around the world

From the side of academia, I also intend to further strengthen our cooperation with DMG MORI and contribute to the development of cutting-edge technologies.

2011 Associate Professor, Department of System Design Engineering, Faculty of Science and Technology,

2019 Professor, Department of System Design Engineering, Faculty of Science and Technology,

Social & Relationship Capital

# Manufactured Capital

# Globally distributed manufacturing sites

DMG MORI operates multiple manufacturing sites around the world, including Iga Campus in Japan, our Group's largest production site, and Pfronten Factory in Germany. By producing directly in the regions of high demand, we are able to improve transportation efficiency and respond quickly to diverse customer needs, while also strengthening our business continuity capacities in the face of geopolitical risks.

Germany





DMG MORI **Bielefeld Factory** 



Europe

DMG MORI Seebach Factory



DMG MORI

machines

others

**Pfronten Factory** 

DMU / DMC Series and

One of the world's largest production sites for 5-axis

DMG MORI

Ultrasonic Lasertec Factory



DMG MORI Poland Factory (Poland)



DMG MORI Bergamo Factory (Italy)



DMG MORI Tortona Factory (Italy)



India

LMW Limited (Production consignment, Coimbatore)



Davis, CA Factory







Pinghu Factory

# Iga Campus



Nara Campus





Magnescale



### Japan

One of the world's largest manufacturing sites for mill-turn centers, turning centers, and machining centers

One of the world's largest turnkey automation factories for machine tools

### Group Companies (Japan)





DMG MORI Precision Grinding / TAIYO KOKI



DMG MORI CASTECH



DMG MORI Precision Boring



Saki Corporation

Intellectual Capital

### Global Manufacturing Strategy

# Operational Excellence for Competitive and Sustainable Value Chains

At DMG MORI, we strive for excellence based on our MX Strategy. This sets high expectations for our entire value chain.

We follow a clear framework that targets customer orientation as well as First Quality production, and assigns our strategic and operational activities to the following four main fields of action:

### **1. Resilient Footprint**

To establish a resilient global production network, we are constantly improving the strengths and capabilities of our production sites worldwide. This involves not only optimizing our machining and assembly processes but also improving collaboration between our factories. By insourcing crucial key components, we additionally ensure high quality and a secure core supply chain, which is further supported by our strong network of suppliers and partners.

### 2. Efficient Processes

As efficiency is at the heart of our operations, we optimize our entire value chain, from supply over production to delivery. Therefore, our production system contains proven standards and methods with a strong focus on continuous improvement. To ensure lean and synchronized processes, we particularly emphasize low inventory levels and customer order-specific material purchasing by targeting a 1-month raw material stock range.

To balance cycle time and individual variations in our one-piece flow assembly, our production system is designed to be flexible, utilizing respective hardware and skilled employees. Moreover, our production and product development are closely integrated, as managing high complexity in production and logistics begins with consistent standardization in product engineering. Similarly, we use our own value chain to test and improve our newly developed system solutions. Overall, our optimization approach allows us to reduce the delivery times of standard machines to below 6 months.

### 3. Digital Technologies

The ongoing global implementation of SAP serves as the digital backbone for our future analytics and optimization efforts.

We expect our factories to significantly benefit from this state-of-the-art ERP system, offering cloud-based availability and compatibility with various other applications, such as intersections for supplier integrations. Overall, it provides transparency between correlating business areas, e.g., production planning and sales.

The integration of the MES system connected to SAP, in combination with TULIP will additionally support optimized operation planning and execution as well as intelligent operating and machine data logging.

On the shop floor level, we already use the low-code software platform TULIP to increasingly implement paperless production processes and automated quality checks. For this purpose, our employees have so far developed more than 800 individual applications to support daily operations with digital worker manuals and checksheets. These applications significantly improve quality, aiming to eliminate human errors in our internal process chain. Furthermore, we leverage our data for closing the circle towards optimized fundamental process design, mainly enabled by factory simulation. At an early stage, we challenge selected concepts through simulation of processes and process times, as well as resource deployment and utilization.

### 4. Learning Organization

Empowering our employees is fundamental to our success. New education centers in Seebach (completed 2023) and Pfronten (completion 2026) provide supporting conditions for our apprentices and trainees, as well as qualification programs for our experienced employees for lifelong learning. In the field of operations, DMG MORI TAKT Academy particularly offers Lean Six Sigma methodology training in Europe, where the major certification projects completed in 2023 resulted in calculated first-year benefits of approximately EUR 2.5 million.



Pfronten factory

### Iga Campus

The Company's Machining Transformation (MX) strategy is driving cleaner, more efficient production through seamless process integration, automation, and Digital Transformation (DX) – benefiting both its customers and its own operations. In 2024, the Company focused on three key areas to further enhance its production processes.

### 1. Factory Digitization:

In its commitment to quality, the Company has accelerated the digitization of its factories. By adopting a fully digital management system for the development and production of new machine models, it has significantly improved the efficiency and reliability of its assembly processes. The Company has also integrated digital measurement tools that automatically log results into digital quality control sheets. These DX initiatives ensure precision and consistency with little room for human error, while enabling the automatic collection and storage of accurate, unaltered data.

### 2. Data-Driven Optimization:

Through the collection and analysis of micro-level data, the Company has= identified and resolved bottlenecks in its factory operations. For example, a detailed review of process interruptions revealed areas where operator skills needed improvement. Additionally, categorizing warehouse inventory and examining long-term stock items allowed the Company to cut down on excess inventory and save storage space. This data-driven approach has uncovered hidden inefficiencies and enabled the Company to eliminate wasteful practices within its production.





**62**% less

### 3. Eco-friendly Manufacturing:

The Company is continuously modernizing its production methods by introducing process integration machines for the in-house manufacturing of key machine tool components. This has led to a reduction of work-inprogress, CO<sub>2</sub> emissions, and factory floor space. Over the past 10 years, Iga Campus has replaced more than 300 machine tools with just 56 units, cutting CO<sub>2</sub> emissions by 45% and saving factory space by 62%. A remarkable achievement in 2024 was the replacement of 5-face machine on Iga Campus with the DMU 1000 SE. a large 5-axis machining center from Pfronten plant in Germany, which tripled productivity. Moreover, the Company's subsidiary DMG MORI CASTECH began recycling used machines as casting material, a step that is expected to lower pig iron consumption and reduce Scope 3 CO<sub>2</sub> emissions.

The Company believes these initiatives, alongside future efforts to optimize its use of production capital, will greatly enhance its corporate value. Efficient data utilization plays a key role, as factories are often filled with hidden, underutilized information. By leveraging digital tools to transform this into big, actionable data and consistently improving the quality and quantity of its databases, the Company aims to maximize resource efficiency – whether it be personnel, equipment, plants, or raw materials. Additionally, the Company plans to establish a centralized database linking factories in Japan, Germany, and other countries, to create a globally optimized production system.



Human Capital Soc

### In-house production of key components

# Cutting Lead Times with In-House Production and Global Supply Chain Integration



Kazutoyo Moriguchi Senior Executive Officer DMG MORI Iga CO., Ltd., Vice President / In charge of Production Engineering (Machining)

The Company is using its own high-precision 5-axis and mill-turn machines, from ultra-large to compact sizes, to process key components. This self-sustaining approach – where DMG MORI machines produce components for future DMG MORI products – is unique even by global standards.

The foundation of our in-house production is the Iga Campus, the Company's largest production site, which brings our MX strategy to life through seamless process integration and automation with DMG MORI machines. Here, customers can witness firsthand how process integrations and MX solutions lead to dramatically shorter lead times, optimized space efficiency, skilled operator retention, and reduced CO<sub>2</sub> emissions through lower power consumption. Serving as a dynamic showroom, Iga Campus demonstrates the full benefits of DMG MORI's advanced production methods. In 2024, Iga Campus boosted its productivity with 16 new state-of-the-art DMG MORI machines, including the DMU 1000 SE, an ultra-large 5-axis machining center introduced in April that reduces the machining time for large castings by two-thirds; the NTX 2500 for mass and integrated production of ball screw grinding; the NLX 2500 and NTX 1000 for fully automated machining of small, high-precision parts; and the NTX 3000 for smallsized gear machining.

Centered around Iga Campus, DMG MORI has established a global supply chain for key components like ball screws and spindles, combining both domestic and international resources. Within Japan, the Company supplies spindles to group companies such as DMG MORI Precision Boring and DMG MORI Precision Grinding (TAIYO KOKI), while internationally, Iga Campus and European plants collaborate on the joint development of specialized, high-quality components that rival those of dedicated manufacturers.

### Heading for 2030

Towards 2030, the Company is aiming to increase the use of in-house key components in its European products. Currently, the European plants still source ball screws, turrets, ATCs, and other key components from specialized manufacturers. By leveraging DMG MORI's innovative development capabilities and production techniques honed at Iga Campus, along with its MX solutions, the Company plans to expand these practices across the entire DMG MORI Group and achieve 80% in-house production of key components.

# Ultra-large 5-axis Machining Center DMU 1000 SE Automated production of small, high-precision parts Image: Source of the state of the

### Turnkey Automation System Factory

# One of the World's Largest Turnkey Factories for Automation Systems Set to Begin Full Operations at Nara Campus in 2025

In recent years, as the global workforce continues to shrink, our customers increasingly expect not only standalone machine tools but also total solutions. These include automation integrated with complex, highprecision workpiece processing, software, robots, measuring instruments, and other peripheral equipment. This demand has been growing year by year.

Since January 2016, the Company has been operating a 5,000 m<sup>2</sup> dedicated area for building automation systems at its Nara Campus. By the end of 2024, the Company completed the expansion and renovation work that began in April 2023. In spring 2025, it will launch one of the world's largest turnkey factories for automation systems, expanding the facility to 20,000 m<sup>2</sup> — approximately four times its previous size.

The expanded facilities at Nara Campus will be able to simultaneously accommodate up to 50 automation cells, each averaging approximately 11 m  $\times$  15 m, and supports automation lines up to 140 m in length.

Automation systems vary widely in form, not only depending on the workpieces being processed but also on factors such as factory environment, work schedules, and production volumes. This necessitates customized solutions tailored to each customer's specific needs. To support this, specialized engineers — handling every stage of the process, from business negotiations and design to assembly, delivery, engineering, and full-scale production at the customer's site — will be brought together in a modern development office. This state-ofthe-art workspace, designed to inspire innovative thinking,

### Automation System Construction Area

Starting from Spring 2025 Approximately

**20,000** m<sup>2</sup> (4 times the conventional size) will be located next to the turnkey automation systems factory and is set to open in April 2025 following renovation work.

Moving forward, the Company will focus on in-house production of peripheral equipment integrated into its automation systems. This approach enables the Company to retain all core technologies and expertise required for total solutions within the group, allowing it to deliver automation systems as a one-stop provider. Compared to automation systems built by independent third-party integrators separate from machine tool manufacturers, this strategy will further enhance the Company's strengths in performance, quality, and service, setting it apart from competitors.

To meet the rising demand for total solutions, the Company must not only expand its= team of specialized engineers but also focus on developing well-rounded professionals, who can work closely with customers, ensuring smooth system implementation and delivering results that exceed expectations. The Company has gained valuable experience from delivering and operating over 100 MATRIS systems and other automation solutions developed at Nara Campus. This knowledge is now being used to train its engineers and boost overall capabilities. By doing so, the Company is building the expertise needed to fully operate one of the world's largest turnkey automation system factories. This will allow the Company to serve more customers worldwide and help improve productivity on a global scale.



### **Quality Management**

# Deming Prize 2024

### 1. Introducing Total Quality Management (TQM)

In the mid-2010s, the Company shifted its sales strategy from dealer business to direct sales to gain direct customer feedback and generate added value. Since then, the Company has expanded its portfolio by offering robots and other peripherals for automation and system proposals, while also providing services for operational data analysis. However, this expansion also brought various quality-related challenges with it.

Through our capital and business partnership with the former GILDEMEISTER (Germany) since 2019, we realized our mutual strengths to overcome these challenges. Iga Campus took the lead in refining our quality management approach and applying it globally to deliver only reliable products to customers.

Amid this background, it was thanks to a customer that the Company became aware of Total Quality Management (TQM) and launched its TQM activities in 2017.

### 2. From TQM to Deming Prize

To improve its quality management, the Company started its TQM activities by studying quality management and QC tools, then applying the learnings for top-down focus topics and bottom-up QC circles. However, during its first TQM assessment in 2020, the Company received critical feedback, noting that integration of company policies and process management were insufficient. As a next step, the Company reevaluated its approach from zero and started department-specific TQM training in 2021 while receiving coaching from external advisors on the implementation of PDCA & SDCA cycles in different departments. This helped us understand how to make the most of TQM in each part of the company. The Company also encouraged its employees to acquire QC certificates and take courses to deepen their knowledge and foster SQC experts.

In 2022, the Company announced its Medium-Term Business Plan 2025 and defined its core competitive strengths while drafting how it wants to be in 2030. The plan covers three years, in which the Company set the foundation for its new organization to provide added value to customers, partners, employees, and various stakeholders in society. As part of this challenge, the Company put its TQM skills to the test and applied for the Deming Prize, which Iga Campus successfully received in 2024.

### 3. Our TQM approach (1) Building a business model

As technology becomes more sophisticated and complex, customer needs are also becoming more diverse. In addition, machine tools support our customers' production activities, and the Company will continue to have a relationship with its customers for more than 10 years. The Company's business model supports the whole lifecycle of machine tools from the early introduction up until machine disposal to offer comprehensive manufacturing solutions tailored to each customer. To operate this business model, the Company has been establishing new systems and corporate structures. Its accumulated track record of meeting diverse customer needs has created a virtuous cycle in which customers invest in DMG MORI equipment with peace of mind and the machines contribute to increased earnings of customers through their stable operations.

### (2) Fostering New Management Talent

The Company's management has always been adapting to market dynamics and social changes with new products and services. As customer needs diversify and the Group further expands, the Company faces a need to foster a new generation of managers. The Company selected these future managers from mid-level employees and assigned them to 6 workshop committees as part of its Medium-Term Business Plan.

Here, they are responsible for planning, internal communication, plan execution, and progress management. Finally, at monthly Medium-Term Business Plan Meetings, they report on their projects and receive feedback from the upper management.

### (3) HR Development

Developing employees is one of the cornerstones of TQM. When the Company laid out the Medium-Term Business Plan, it also defined 9 core skills necessary for all DMG MORI employees so that various operations could run with less intervention by management. The skills are not only aligned with the MX strategy but also current good/ bad practices, making them relatable to a vast number of employees.

To enable all employees to acquire these skills, the Company not only launched a training program but also conducted management training in each department. The manager training was based on the "Manager Guidelines", which define the role and mindset of managers, and is designed to change the distribution of awareness from an emphasis on management to an emphasis on development. In the end, the Company appointed 19 lecturers from the above-mentioned future leaders to educate others and all employees in managerial roles completed the assigned training program.

### (4) Daily management with TULIP

Machine tools are the origin of all other machines and thus follow ultra-high precision standards. With diversifying customer needs, machine specifications have become more complex in recent years. No machine is built the same, and assembly processes take longer than ever before, resulting in increased work manuals, check sheets, and human errors.

By utilizing the digital platform "TULIP", the Company established a process under which assembly workers can only advance to later processes when each previous process has been cleared. Sensors and digital tools automatically collect data for traceability and quick error analysis in case of mistakes. The Company is expanding its use of the TULIP digital management platform to departments outside of production.

### 4. Outlook

The Deming Prize made us reevaluate and build up a systematic approach for meeting high customer expectations. It aims to further develop its systems through PDCA and expand its TQM scope to other companies of the DMG MORI Group all around the globe for continuous improvement. The Company will continue its endeavor to offer total solutions across the entire machine tool lifecycle while addressing social issues and enhancing its corporate value.

- \*1 Deming Prize: A world-class award for Total Quality Management (TQM) established in 1951 to commemorate the achievements of the late Dr. William Edwards Deming, who popularized statistical quality control in postwar Japan and elevated the quality of Japanese products to the highest global standards. (From the website of the Union of Japanese Scientists and Engineers)
- \*2 As a management style, TQM stands for "Total Quality Management" and translates to "Comprehensive Quality Management" in Japanese. It encompasses the ideas, efforts, methods, systems, and methodologies aimed at maintaining and improving the overall quality within corporate activities and guiding them toward the achievement of management goals. (From the website of the Union of Japanese Scientists and Engineers)





Intellectual Capital

Human Capital /

# Human Capital

# DMG MORI Group's Human Capital



### **Current Global HR Development**

DMG MORI follows a unique business approach in the industry with 124 locations for engineering & sales and 17 production sites. Our Board of Directors consists of 15 members, including 12 Japanese nationals. A total of 41 executive officers, including 24 Japanese nationals, oversee sales, R&D, manufacturing, corporate, and other responsibilities at the regional level. In addition, our team of around 100 general managers, including 37 Japanese nationals, is responsible for sales, engineering, and manufacturing companies, as their managing directors. At DMG MORI, executive officers are elected by the Board of Directors and represent a diverse range of nationalities and age groups. The Board also evaluates the performance of those top 140 managers and executive officers, of which 60 are Japanese nationals.

### Global HR Strategy for 2030

With 53 independent R&D, engineering, sales, and production sites in Germany and across Europe, we require a global talent recruitment system to build a strong future base. While the Board monitors about 140 managers and executive officers, this number equals only 1% of the total of approx. 13,500 employees at DMG MORI. It is crucial to identify talents from the remaining 99% and provide them with training opportunities. Therefore, in our next Medium-Term Business Plan for 2026 onwards, we will establish a system for early detection of such talents and introduce a common global Job Grade evaluation for managers and staff.

### New European Headquarters in Munich

The role of the European headquarters in Munich is to enhance corporate value across the group by monitoring sales, engineering, and production companies in Europe, reviewing the product portfolio, and focusing on key products and new business development. To achieve this, the Company will centralize its European holding functions such as corporate communications, group auditing, legal, IT, HR, and finance. A unique aspect of our strategy is the dual-headquarters structure, with offices in both Tokyo and Munich. This setup ensures robust support and monitoring for our 53 European locations for R&D, sales, engineering, and production.

### **Enhanced Engineer Training & Hiring**

Our mission for 2030 is to provide holistic solutions to customers to promote MX (Machining Transformation in the sequence of Process Integration  $\rightarrow$  Automation  $\rightarrow$  DX & GX). For that, we require application engineers capable of delivering comprehensive manufacturing solutions and installation support as well as service engineers for repair and maintenance after machine installation. Our HR strategy defines a clear direction: We will increase our application engineers from around 1,100 to 2,000, and maintenance, repair, overhaul (MRO) engineers from around 2,200 to 3,000 by 2030. In Europe and the U.S., we will utilize our unique apprenticeship systems, while in Asia, we will focus on hiring new graduates similar to Japan.

### **Promoting Female Leadership**

With the establishment of our second headquarters in Munich, the Company has unified its definition of HQ functions at Tokyo and Munich and will strive to achieve an









equal gender ratio (50:50) among employees at both headquarters within the period of the next Medium-Term Business Plan. We aim to achieve the same ratio for management positions in the future as well.

Human Capital / Social & R

# Human capital data

### Employee-related Figures at Major Locations



\* Japan-based permanent or fixed-term employees

2022

who worked full-time throughout each year.

Percentage of female employees

25.0%

20.09

15.09

10.0%

5.0%

2020

\* Japan-based employees only



Japan

\* Japan-based employees only

Average seniority

(years)

25

### Percentage of female employees in management positions



Percentage of female employees in management positions





Average total working hours per person \* Aggregation based on internal standards



Germany

2024

2024

Percentage of female employees



15.7%

2023

15.99

2024



Average total working hours per person

Aggregation based on internal standards

 \* Aggregation based on the contractual obligation (overtime not included)
 \* Working hours decreased in production departments

in 2020 due to the lockdowns during the pandemic

Percentage of female employees



U.S.A

Percentage of female employees in management positions \* Aggregation based on internal standards \* Aggregation based on internal standards







\* Only includes full-time employees based in Japan

\* Includes base salary, qualification salary, position salary, bonus, child allowance, housing allowance, and overtime allowance.

\* Excludes fringe benefits such as dormitory / company housing, meal allowance, commuting allowance, employee stock ownership incentive, childcare expense support, travel expense support for family visits, medical checkup support, and other fringe benefit related payments.

### Number of new hires by gender (Japan-based employees only)







Intellectual Capital

Human Capital / Socia

### Advanced Learning for Career Growth

DMG MORI's Mission Statement emphasizes the importance of proactive learning. Out of the many employees worldwide who embody this commitment to continuous education, we are proud to highlight four exceptional cases. They spent a number of years at university pursuing doctorates, MBAs, and other advanced degrees, sometimes while working full-time, to accelerate their professional careers.



### Dominik Dahlmann Dr. Eng. DMG MORI Bielefeld GmbH Head of R&D Automation

After having worked as a leader of mechatronic components and head of the machine tools and controls division at a research institution, Dr. Dahlmann joined Gildemeister Drehmaschinen GmbH (now DMG MORI Bielefeld GmbH) in 2017. He is currently the Head of R&D Automation at DMG MORI Bielefeld. He completed his Dr. (Engineering) in 2022.

After finishing a mechanical engineering degree in 2010, I spent the following 12 years for my doctoral degree in engineering. I studied microstructures of cylinder liners to enhance the fuel efficiency of combustion engines. At the time, the microstructures required long machining times, so I have developed a tool for high performance structuring and honing of cylinder liners. While performing tests in the laboratory and collecting data for my study, I also worked for a research institute for seven years, during which I had an opportunity to lead a team of approximately 20 scientists. After joining DMG MORI in 2017, I continued to analyze data and write my thesis until I successfully completed my doctor's degree in 2022. I am currently the Head of R&D Automation here at the Bielefeld factory.

For 5 years after joining DMG MORI, I spent my working weeks for my work and family and wrote my thesis during holidays. Through my academic experience, I was able to get a taste of many areas in the development and applications of machine tools. This gave me a good overview from the start of my career. As I advanced to higher positions as manager, I got to experience control units and other fields of technology, which also taught me a lot. The combination of work, managerial responsibility, and study proved to be challenging, but looking back, I would choose this path again at any time, even if my own research had to take a back seat.



### Yoko Hirono Dr. Eng.

### Executive Officer DMG MORI Additive CO., Ltd., Vice President / AM General Manager

Dr. Yoko Hirono worked in the machine tool design and development department at her previous company. Since joining DMG MORI in 2019, she has led the development of several new AM machines, including the LASERTEC 3000 *DED hybrid*. In 2024, she acquired her Dr. in engineering.

# What motivated you to return to university for further research after joining DMG MORI?

In the field of Additive Manufacturing, the combination of subtractive processing and DED (Directed Energy Deposition) methods has gained attention as an alternative to hardening and hard chrome plating. To develop practical applications for crack-free, highhardness cladding – something traditionally difficult to achieve – I felt that further academic research was required. At DMG MORI, when you enter a doctoral program, your research plan is reviewed at an internal planning meeting. You must present your proposal to the company's doctor's degree holders, including Dr. Mori, explaining the technological developments your research aims to achieve, how it will contribute to customer success, and its potential impact on order value. By making such commitments, research activities are recognized as part of your work. This approach aligns with one of the Company's mission statements, "continuously strive to enhance the productivity and efficiency of our customers worldwide". Knowing that my research is not driven by personal curiosity but focused on contributing to customer success has provided both a motivating challenge and a deep sense of satisfaction throughout the extended research process.

### What advice would you give to young students who are unsure whether to pursue higher education or find a job?

Lately, I have come to realize that nothing in life is wasted. No matter what choices you make, they all hold value. Whether you choose to complete a doctoral program and pursue academia, join a company after that, or start working right after high school, technical college, or university, or even return to your studies later in life, there is no right or wrong answers. Just follow your goals and the path you want to follow.



### Toshimasa Kawashima LL. M. DMG MORI USA, Inc. Senior Counsel & General Manager

Mr. Toshimasa Kawashima joined the Company as a new graduate in 2005. He worked 4 years in sales and 7 years in corporate functions before moving to Chicago in 2017 to study at the University of Chicago, Law School. He received his attorney license from Wisconsin in 2018, and became a local hire of DMG MORI USA, Inc. in 2022 after working for 1.5 years as a secondee. He is currently based in the Los Angeles office.

It was about 10 years after I joined the company that I decided to make a career change to the legal department. While working in the department overseeing the collaboration with GILDEMEISTER, I witnessed how the Company's executives made decisions in consultation with outside counsels, and I decided that I would like to study law professionally and to make it a pillar of my career. In 2017, I took a leave of absence to study at the University of Chicago Law School, and the scales fell from my eyes. I was able to put business practices and contracts that I had heard or read about in legal context, and the one-year course seemed almost too short.

I passed the bar exam in the U.S. and now work as in-house counsel for a U.S. subsidiary, advising on a wide range of areas including intellectual property, product liability law, contract law, data privacy, and sustainability regulations. In addition to modifying contracts and pointing out legal risks, I try to propose solutions that speak to the intent of the business units if time allows.

Another important task of mine is to monitor newly enacted laws and proactively alert group companies about those that affect the business. Laws are constantly changing in response to the political and economic situation of the countries and regions where they are enacted, as well as the rise of new technologies. I believe that my own continuous learning and sharing my findings with the business units is the key to increasing the sensitivity of the entire organization to legal risks.

I will continue to improve my skills as a member of the Legal Department which supports long-term growth and risk management.



### Christina Ivaska DMG MORI USA, Inc. Marketing Manager

Ms. Ivaska joined DMG MORI in 2013 and has been an integral member of the global marketing team, focusing on digital marketing and event management across various countries. Now serving as a manager, she oversees marketing operations throughout the Americas. She is currently pursuing an MBA at Lewis University near Chicago, specializing in strategic leadership and digital marketing.

### What degree are you pursuing now?

I started an MBA program in early 2024 and aim to finish it by 2026. After 11 years in the field, I decided to pursue an MBA to enhance my skills and broaden my perspective. The flexible format allows me to balance studies with professional commitments and engage with a diverse group of professionals worldwide, while applying these skills in real-time.

# What impact does your academic experience have on your current job?

The courses within the program provide a solid foundation in finance, operations, and management, enhancing my understanding of organizational success. In the leadership module, I can build on my experience and internal training program to become a better leader. The digital marketing focus updates my skills to support our sales team effectively in the dynamic American markets.

# Do you have any message for the younger generation?

I feel that gaining practical experience first can make further education more engaging and meaningful from my perspective. Other suggestions are 1) explore different industries and roles, 2) consider flexible learning options including part-time and online programs, 3) stay curious and open-minded, 4) reflect on your long-term goals and 5) network with colleagues and friends and seek advice. There is no one-size-fits-all path, so consider a balanced approach that values practical experience and academic learning.

Human Capital / So

### Promoting Health Management

# Selected for the Second Time as "Health & Productivity Stock Selection" by METI and the Tokyo Stock Exchange

\*The term "Kenko Keiei" is a registered trademark of the Nonprofit Organization Kenkokeiei

Dr. Mori's 2021 New Year's announcement of the "Health & Productivity Management Declaration" marked a pivotal moment, which led to a significant enhancement and formalization of the Company's employee health initiatives. To gain external recognition for its efforts, the Company has applied for certification in the "Certified Health & Productivity Management Outstanding Organizations program", led by the Ministry of Economy, Trade and Industry (METI), every year since 2022.

# Selected Two Years in a Row as "Health & Productivity Stock Selection"

The Company received high recognition for its consistent health initiatives and was selected for the prestigious "Health & Productivity Stock Selection 2025" in March 2025. This is an outstanding achievement two years in a row. Out of 3,869 large corporations, the Company was ranked in the top 50 (and thus certified as a "White 500") and rated the top company in the machinery sector among 118 firms, based on both initiatives and financial performance. Our efforts were featured in the "Health & Productivity Stock Selection 2025 Report on Selected Companies" by METI and the Tokyo Stock Exchange. The Company also received a commemorative plaque with the logo.



### Regular Health Checkups: The Foundation of Health Management

Enhancing regular health checkups is a key priority for health management. Since 2019, the Company has offered advanced health screenings at carefully selected clinics that exceed statutory requirements in both quality and scope. Uniquely, the Company treats these screenings as work attendance and all necessary expenses are fully reimbursed by the Company as business travel expenses. This robust health initiative has led to notable outcomes, including early detection and successful treatment of conditions such as early-stage cancer.

### Collaboration with Tokyo D Tower Hospital (TDH)

To strengthen daily health management, the Company has established a full-scale partnership with the advanced medical team at TDH. This collaboration includes services such as expert medical video content, 24/7 medical consultations, online medical appointments, and access to specialized treatment for critical brain and heart conditions, serving as a "last line of defense". Additionally, the Company receives comprehensive support and advice on its overall health management initiatives.

### Implementing a Population-Based Approach

A prime example of the Company's population-based approach is the already implemented company-wide smoking ban. Additionally, it has been a year since the Company launched the "Low-Salt Menu Day" on the 17th of every month at its in-house restaurant at Iga Campus, where all campus employees have lunch. This initiative aims to raise awareness about managing blood pressure. The program has since expanded to other locations, and approximately 2,200 employees now consume low-sodium meals once a month. Among male employees, two-thirds, and among female employees, three-fourths, find it helpful in reminding them to monitor their salt intake. Furthermore, the frequency of checking sodium content on nutritional labels has nearly doubled compared to before the initiative began.

### Addressing Women's Unique Health Challenges

In September 2023, the Company conducted its first survey on "Women's Health and Work-Life Balance (WLB)". One key issue highlighted by the responses was the treatment of menstrual leave, which has now been revised in the Company's employee handbook from unpaid to paid leave. Addressing women's unique health challenges, alongside WLB, is essential from a perspective of both diversity and inclusivity.

### Promoting Work-Life Balance

With a declining workforce and an aging population, supporting the balance between work and life events such as illness, childbirth, childcare, and caregiving has become a critical issue for all companies.

Through its commitment to health management, the Company aims to extend working lifespans and create a workplace where employees feel a sense of purpose and pride.



### Safety & Health Management

# Top-Class Workplace Comfort and Safety-First Culture

To prevent workplace accidents and create an even more comfortable work environment, the Company established a Safety and Health Center in January 2023. The company-wide health and safety initiatives rank among the best in the industry. The Company conducts risk assessments for both near-miss incidents and potential scenarios. Safety measures include scientifically backed, high-quality engineered tools and clearly defined production zones, enabling continuous evolution toward a safer and more refined factory environment. We have also adopted durable protective eyewear from the brand "RUDY PROJECT"\*1, as well as jackets and pants that combine safety, comfort, functionality, and design – earning high praise both within and outside the Company. To strengthen the Company's safety and health initiatives, the Central Safety and Health Committee holds a meeting twice a





Organized and clean facilities suitable for factory tou



Adoption of high-quality, durable Uniforms combining safety, comfort, functionality, and design \*1 RUDY PROJECT is a registered trademark of Rudy Project s.p.a.

year, chaired by the president and attended by executive officers. These meetings report and discuss safety and health policies, as well as the progress of key initiatives, ensuring toplevel decisions are communicated to group companies in Japan. In addition, monthly Safety and Health Committee meetings are held at each site with employee representatives to address location-specific challenges and share relevant information. In the event of an accident, an investigation committee analyzes the scientific root cause and determines permanent preventive measures, which are then implemented Company–wide. In 2024, the Company also established the DMG MORI Group Safety and Health Liaison Committee to further enhance collaboration within the Group.



The Safety Dojo has 12 interactive experience booths, where regular education and training sessions are conducted based on real-life scenarios. This contributes to fostering individuals who consistently practice safe behavior and are conducted in workplace teams to nurture a sense of mutual care and attentiveness among colleagues. Additionally, the equipped driving simulator supports employees of all experience levels in improving their driving skills and preventing traffic accidents.



Educational and training programs using Safety Dojo and driving simulator

The Company has MRO engineers stationed across Japan to respond promptly to customer needs. Before starting any task, they refer to a manual, which prominently highlights key safety precautions to prevent workplace accidents. This ensures even greater safety and reliability during their work, especially at customer sites.

### Balancing Work and Life Events

# **Diverse Workstyles for Every Life Stage**

Q: Please tell us about your career journey since you joined DMG MORI.

**Ms. Sasaki:** I joined DMG MORI in 2006 and have spent most of my career in processing technology-related departments. Over the years, I have worked at nearly all our major domestic locations, including some that have since closed, and also completed a two-year overseas assignment. In my third year as Group Manager, I welcomed my first child and returned to my previous role after taking a six-month maternity leave, utilizing a shortened workday schedule. Later, after being promoted to General Manager, I had my

second child. In 2024, I returned to work as General Manager in a different department before my leave. While I knew that the Company would consider my previous experience when placing me after my leave, I felt nervous because I was only informed about the decision shortly before my return.



Mr. Hagihara: I joined DMG MORI in 2017. After working at the Iga Solution Center, I transitioned to roles in the Development HR Department and the DMG MORI Academy, where I focused on training engineers and developing educational materials and curricula. I took three months of parental leave for the birth of my first child in 2022 and again for my second child in 2024. While the Company offers significant financial support and encourages male employees to take at least one month of parental leave, only a small minority currently take the full three months. Ms. Saiki: I joined DMG MORI in 2008 and started at the reception desk in Iga before gaining experience in corporate planning, investor relations, and internal auditing at the Nagoya and Tokyo offices. In 2018, I temporarily left DMG MORI to accompany my husband on his job transfer. However, I rejoined two years later through the company's "comeback program". After taking maternity leave for my child's birth, I returned to work and am now working in the Internal Audit Department.

### Q: When you experienced significant life events, such as marriage, childbirth, or career changes in your family, were there any company policies or programs that were particularly helpful to you?

**Mr. Hagihara:** When my wife, pregnant with our second child, was unexpectedly hospitalized, we urgently needed to find daycare for our older child before the end of the year. The first thing I did was look into the Company's in-house nursery school. After consulting with the Company, my child was offered a spot immediately at the beginning of the calendar year. I had heard it was difficult to secure a spot in

an external daycare for a one-year-old, so I was incredibly grateful for the Company's support and quick response. The caregivers are attentive and reassuring, and I appreciate the convenience of not needing to bring diapers or bedding. What started as a temporary solution became a permanent choice, and soon our younger child will be joining the nursery as well.



Ms. Sasaki: The nursery schools at Iga and Nara Campus are highly enviable from the perspective of employees at other locations, offering both a great environment and exceptional convenience. In the Tokyo metropolitan area, where most people commute by train, it is not realistic for the Company to provide such facilities, as many employees prefer daycare facilities closer to home. That said, even if you choose an external daycare, the Company covers daycare expenses up to 70,000 yen/month (for the Tokyo metropolitan area), which is a significant benefit. In my case, my children are now in elementary school, and I rely on after-school care. However, I am already concerned that after-school care is less available to older children. Ms. Saiki: The "comeback system" I used is designed for individuals who have left the company due to circumstances such as marriage, childbirth, childcare, nursing care, or a spouse's transfer, but wish to return to the Company when they are able. This corporate alumni system appears to be a win-win situation: it provides employees with the possibility to resume their careers at DMG MORI the same company despite having to leave for major life events, while also enabling the Company to benefit from rehiring experienced alumni. Since having my child, I have been particularly grateful for the family



leave system, which can be used flexibly on an hourly basis. Not only is the number of days and the eligible age range more generous than what is legally required, but the leave can also be used for purposes beyond illness, such as attending school events.

# Q: How do you balance work and childcare? Is your workplace supportive?

**Ms. Saiki:** I work shortened hours to accommodate picking up and dropping off my child. My workplace operates as a team, with tasks assigned based on each member's circumstances. Since I am currently not willing to take on work that requires business trips, my team members kindly step in to handle those responsibilities for me.

**Ms. Sasaki:** In my family, my husband and I share drop-off and pick-up responsibilities in the mornings and evenings. My work occasionally requires me to travel to Sapporo, so for such irregular days, we plan ahead. If we are unable to coordinate, we sometimes rely on our parents, who live nearby. I have also heard of colleagues using private sitter services or seeking help from local volunteers. I believe it is important to build your own support system and regularly involve others, rather than relying solely on the mother or the two parents.

**Mr. Hagihara:** My wife will soon be returning to work after her second childcare leave, and we plan to make full use of the Company's "core working hours" program to share responsibilities. While it is now encouraged for male

employees to take more than one month of childcare leave, and there is a growing awareness among employees and their supervisors about the importance of participating in childcare, the feasibility of sharing responsibilities between the spouses may vary

depending on the department.



**Ms. Sasaki:** From a managerial perspective, the ideal scenario in any department is one where each team member takes their own responsibility and exercises discretion, while also supporting one another and functioning cohesively as a team. While it is necessary to consider individual circumstances when assigning work, I take extra care not to make decisions based on an unconscious bias based on gender or the presence or

Hiroki Hagihara DMG MORI CO., LTD. DMG MORI Academy Education Planning Group, Staff

### Mariko Sasaki DMG MORI Digital CO., LTD. Machine Tool Control Development Division Program Simulation Software Development Department, Full time Manager

absence of children. For example, excluding an employee from travel duties or meetings without consulting them because they are raising a child will diminish their motivation and hinder their career development, leading to losses for the organization in the long run. I myself am raising a child, and it is often possible for me to participate in business trips and meetings as long as I have time to make prior arrangements. Of course, everyone's situation is different, so as a supervisor, I feel it is important to strive to create an atmosphere where people feel comfortable talking to me at any time, and to make the department a place where subordinates feel comfortable expressing their wishes.

### Q: As a senior employee with years of experience both professionally and personally, what advice would you offer to younger colleagues?

**Mr. Hagihara:** Since having children, I feel like I hardly have any time outside of work and childcare. I strongly recommend taking the opportunity to study while you still have the time.

**Ms. Sasaki:** No matter what happens, I think it is important to maintain an open mindset and tell yourself, "It is okay to have phases like this". Life includes not only marriage and childcare but also caregiving for other family members, and there will naturally be times when you can fully focus on work and times when you can't. It's okay to change jobs, take a break, or even come back to the Company — you don't need to be tied down to one workplace or way of working.

**Ms. Saiki:** There is plenty of information out there about work-life balance, but it is impossible to prepare for every potential situation in advance. Looking back, including the two years I spent overseas accompanying my husband, I realize that all of my experiences have contributed to who I am today. In each moment, I believe the best approach is to focus on what is right in front of you.



Human Capital

Social & Relationship Capital

# Social & Relationship Capital

# **Operator Support for All Across the Manufacturing Industry**

### Expanding DMG MORI ACADEMY across Japan

To foster the development of young engineers across the manufacturing industry and ensure a smooth startup process for customers with new NC machines, DMG MORI hosts machining and operation training programs at its facility in Iga, Mie Prefecture. In addition, DMG MORI has been establishing DMG MORI Academies across Japan since 2023 to support nationwide operator trainings. The regional ACADEMY facilities allow more customers and students to participate in hands-on training on our machines at locations close to them. Four Academies in Kanazawa, Sendai, Hamamatsu and Okayama have already opened. Another one is planned to open in Fukuoka.

Each Academy is equipped with the latest 5-axis and mill-turn machines, allowing customers to acquire machining skills through actual operation. Experienced DMG MORI engineers offer tailored guidance based on each customer's skill level. Additionally, DMG MORI provides "DIGITAL ACADEMY", a hybrid learning course of e-learning and on-site training, enabling customers to study effectively and efficiently at their own pace.



DMOP comina



Practical digital manufacturing course for technical college students



Preventive maintenance seminar

Furthermore, DMG MORI ACADEMY offers specialized training, including private 5-axis machining lessons and small-group seminars to promote MX. Seminars are held frequently and include DX seminars for DMG MORI GATEWAY, TULIP, WALC CARE, and more, automation seminars for introducing automation solutions such as gantry loaders, MATRIS, and MATRIS Light, DMQP seminars where DMQP partners explain and propose products, and preventive maintenance seminars to provide hands-on experience with daily inspections and introduce repair cases.

Moreover, ACADEMY offers training to students. In 2024, DMG MORI held a practical digital manufacturing course for technical college students during summer vacation, and a total of approx. 100 participants from 19 schools attended the course at Iga Campus or other ACADEMY locations. The course focused on acquiring knowledge and skills in operating the latest 5-axis machines and robots to foster highly skilled engineers of the future. The ACADEMY location in Kanazawa also hosted a workshop for elementary and junior high school students to experience machining spinning tops and welcomed 32 participants (out of which 14 were female students)



### 5-Axis Machining Association

"5-Axis Machining Association" was founded in 2021 to cultivate business opportunities and raise the technological skill of customers who purchased DMG MORI 5-axis machines and mill-turn centers. The Association's top priority is networking; each member's equipment and technical capabilities are shared among participating entities as a database to foster collaborations. At the general assembly held twice a year, industry leaders in the automotive, aircraft, semiconductor, and other sectors are invited, so that members can gain insights and make professional connections. The Association boasts a network comprising of 142 member companies and organizations and is functioning as a solid business foundation through which members order works to one another.

In 2024, the Association organized study tours to Germany and the United States. These tours, during which participating members visit overseas manufacturing sites, are well-received as opportunities to seek potential customers and gain local information necessary for those which are considering establishing an international entity. To unleash the full potential of 5-axis machines and mill-turn centers and enhance shop floor productivity, customers must have machine operators with updated skills. That is why the Association organizes various activities - CAM study sessions to learn how to program

### Music Box at JIMT0F2024

As the first co-production project of the Association, the member companies designed and manufactured the "Music Box" collaboratively since March 2023, which was displayed at the DMG MORI booth at the JIMTOF2024, Japan International Machine Tool Fair. The Music Box was made from 1,500 components, which were all processed on DMG MORI machines. After requiring a full year of assembly, the Music Box surprised and impressed many visitors with its playful structure and the melody of an iron harp. The Association received many inquiries from companies and educational institutions, which were not aware of the Association; hopefully, this project will leave positively impacts on the participating companies and attract new business opportunities as well as talents for them.

The 5-Axis Machining Association will continue its activities to unleash the creativity and technical skills of those who work in the manufacturing industry and strive to contribute to the Japanese economy and the society at large.



with 3D models, "5X Contests" to exchange 5-axis machining knowhow, and networking events for operators who use same types of machines.



5-Axis Machining Association's first co-production project Project theme: Fusion Number of parts: 1501 parts, 202 types Number of participating companies: 70



Intellectual Capital

Mori Manufacturing Research and Technology Foundation

Human Capital

### Mori Manufacturing Research and Technology Foundation

### **Driving Innovation and Empowering Talent**

The Foundation currently provides three-year scholarships to engineering graduate students at Kyoto University, the University of Tokyo, and Keio University, as well as to humanities and social sciences graduate students at Kyoto University. Starting in April 2024, this program was expanded to include students in the master's program at Kyoto University's Graduate School of Advanced Integrated Studies in Human Survivability. Since the program's introduction in 2019, a total of 48 students have received scholarships as of December 2024. After earning their doctoral degrees, recipients have gone on to excel in various fields, including careers in private companies and continued research at universities. Additionally, new scholarships have been approved for the April 2025 cohort, including three engineering students and eight humanities students in doctoral programs. Many recipients actively participate in overseas study programs and internships, further enhancing their research endeavors. At Nara Product Development Center (Nara PDC), the Foundation has established an annual tradition of hosting interdisciplinary study sessions, encouraging lively discussions among students that go beyond the boundaries of academic institutions and fields of studies. The Foundation also emphasizes English language development, providing support for academic papers and conference presentations. Moving forward, the Foundation will continue to support doctoral candidates with advanced expertise to thrive globally, regardless of their fields of studies.

### Restaurant on Kyoto University Katsura Campus

In April 2024, the campus restaurant *Cenatio Silva\**<sup>3</sup> opened on Kyoto University's Katsura Campus, made possible by a donation from the Foundation. The previous restaurant was transformed into a comfortable, open space layout with newly renovated interiors and furniture to offer a dining experience that sets it apart from standard university cafeterias and provide a space for campus members to have meaningful exchange.

The restaurant quickly became popular among faculty members and students, with long lines forming every day. In late June, a bar counter was added, allowing for alcoholic beverages and private parties. Kvoto University President Dr. Minato presented the Foundation with a letter of appreciation for the Foundation's support. We hope the restaurant will continue to provide the Kyoto University community with nutritious, delicious meals and a place for intellectual and cultural exchange with people from around the world.

\*3 Latin for "Forest Restaurant"

### **Regional and Cultural Support**

The Foundation actively engages in regional and cultural support activities, focusing on areas such as Yamato Koriyama City, where DMG MORI CO., LTD. was founded, Iga City (Mie Prefecture), home to DMG MORI's Iga Campus, and Nara City. This year, the Foundation has undertaken various initiatives, including maintaining the environment at Yamato Koriyamajo Hall, removing weeds and caring for the cherry tree-lined



neral Incorporated Foundation

### Number of Scholarship Recipients (incl. those who withdrew mid-program)

		2019	2020	2021	2022	2023	2024	2025 Plan
Doctoral Program	Engineering	6	5	3	8*1	2	8	3
	Humanities and Social Sciences					4	5	8
Master's Program*2						1	6	8

\*1 Includes one student who enrolled in the fall of 2021.

\*2 Includes first- and second-year students in the five-year integrated doctoral program.





banks along the Bodaisen River, supporting operations of local museums and art galleries, and sponsoring community events such as festivals, fireworks displays, and ekiden races (longdistance relay races) organized by municipal governments. Through these efforts, the Foundation supports and enriches the community activities of local residents.

### The 19th Cutting Dream Contest

Since 2004, the Company has been hosting the Cutting Dream Contest for companies, schools, and research institutes in Japan's machining industry. Through the open competition among users of advanced subtractive or additive machine tools, the Company aims to raise industrial skills and knowledge and spark collaboration among participants.

In the 19th Contest held in 2024, Professor Yasuhiro Kakinuma of Keio University chaired the panel of six judges. Following a rigorous evaluation process, the jury selected 24 winners out of 93 admissions across five

### **(Production Parts Machining Category** Gold Prize Thin-film molding die (For circuit board)

Murata Manufacturing Co., Ltd



# THE PARTY OF THE P



Silver Prize: Resonance pin ISHIYAMA NE7LCO I TD Bronze Prize: Fixture for long rotating part wafer Koga Denki Corporation Technique prize: One-touch chucking of multiple analysis (medical centrifuge) Yoshioka Seiko Co., Ltd

Silver Prize: Honeycomb KYOCERA Corporation Bronze Prize: World's lightest dumbbell SAKATA PRECISION CO., LTD. Multi-Layer Ceramic Capacitor sand clock Murata Manufacturing Co., Ltd. Technique prize: Two-bon - Vases with lip diameter  $\phi$ 38, body diameter Ø116, depth 39 mm -Ohwada Carbon Industry Co. 1 td Self-standing float Koga Denki Corporation

Gold Prize Beacon of technology J·3D Co., Ltd.



Silver Prize: Ceramic wristwatch Fukushima Ceramic Co., 1 td. Bronze Prize: Regular icosahedron

Murata Manufacturing Co., Ltd.



Gold Prize>

Silver Prize: Metal pencil & Pencil stand Keio University Faculty o Science and Technology Bronze Prize: Logo projection freeform micro-lens array Keio University

Cutting Dream Contest special site 🕨



different categories; production parts machining (4), prototype and test cut machining (6), artistic form machining (6), advanced machining (3) and academic research (5).

All the winning entries were showcased at DMG MORI's booth during JIMTOF2024 in November. The Company also sponsored an article featuring the event, the winners, and their workpieces in a Japanese, nation-wide newspaper, hoping that the publicity will draw major attention to the outstanding technology of the participants.

### (Prototype & Test Cut Machining Category



### 〈Academic Research Category

Machined anti-gravity device



**(Artistic Form Machining Category** Gold Prize Too small horse Asuka Industry Ltd.



Silver Prize: Net Seibu Co., Ltd Bronze Prize: Water droplets and ripples on a water mirror Circle and Square Co., Ltd. Stripe island Sanei-Kikai Co., Ltd Technique prize: To the one who cuts ASAHI YUKIZAI CORPORATION Montagna Sacra (Sacred Mountain)

FRASCO CO., LTD

Technique prize: Biomimetic low-noise drone propeller Iwate University Advanced Manufacturing and Prototyping Center 0.2 mm-fine tensegrity Kindai University Technical College

Marketing, Sales & Service Capital

Development Capital

Intellectual Capital

DMG MORI ART GALLERY

Human Capital /

Support for Emerging Artists

Since 2020, the Company has been supporting leading artists both in Japan and abroad, including sponsoring the ARTISTS' FAIR KYOTO, an exhibition showcasing emerging artists in their 20s and 30s. In collaboration with Professor Noboru Tsubaki of Kyoto University of the Arts, the director of ARTISTS' FAIR KYOTO, the Company also exhibits artworks at its offices and facilities. With over 200 pieces, including paintings, photographs, and sculptures, these displays aim not only to delight visiting customers but also to inspire the Company's employees, fostering creativity and contributing to the development of better products.

### DMG MORI SAILING TEAM

In October 2018, the Company established the "DMG MORI SAILING TEAM" with the maritime adventurer, Mr. Kojiro Shiraishi, as the skipper.

In the solo, non-stop, no-supply round-the-world yacht race "Vendée Globe 2020" which commenced on November 8, 2020, Kojiro made waves and history as the first Asian sailor to complete the race. Then, after competing in 10 qualifier races in 3 years since 2022, the team qualified for the next challenge – the Vendée Globe 2024. The race started on November 10, 2024, and the team successfully crossed the finish line at 10:36 a.m. local time (6:36 p.m. Japan time) on February 9, 2025. Out of 40 participants, they came in 24th with a record time of 90 days, 21 hours, 34 minutes and 41 seconds. The team's foil "DMG MORI Global One" features components machined on DMG MORI's simultaneous 5-axis machines and mill-turn centers. To nurture young





Hayaki Nishigaki "Retto-funen" Kenryou Gu "A fleeting moment"



talents who can compete in offshore sailing, the Company has established the "DMG MORI SAILING ACADEMY" in June 2021. Currently, six trainees are preparing for the Mini 6.50 class races (entry-level offshore sailing competitions) at the Company's training facilities in Lorient, France, and Hayama, Japan.



### Fostering Next-Generation Engineers

### Factory tours for local students

To foster the next generation of industry-leading engineers, the Company offers practical manufacturing courses for technical college students in Japan. In 2024, approx.100 students from 19 schools visited the Iga Campus and other DMG MORI ACADEMY locations to learn the principles and operations of the latest 5-axis machines and industrial robots.

Furthermore, the Company occasionally invites local elementary and junior high school students to Iga and Nara Campus for factory tours. A total of 2,600 students from 51 schools joined the tours in 2024, each witnessing the Company's factory operations first-hand, interacting with employees on site, and exploring diverse working styles and careers. This is a great opportunity to have local children know more about machine tools and the Company's business.



### Empowering High School Students Through Career Education

DMG MORI actively supports the development of young talent globally. One example is the "Advanced Machining iSTEM Academy" career education program, which was launched by the Desert View High School in Arizona, USA, in 2016. Currently, eight students in the program are using a CMX 1100 V vertical machining center to work on a project dedicated to the production of prosthetic legs for Latin American countries. As a partner, DMG MORI Academy first trained the program's instructor, Mr. Cesar Gutierrez, in the operation of the machine and control system, enabling him to pass on this knowledge to his students. Through the strong partnership with the school, DMG MORI helps students develop advanced machining skills that pave the way for better career opportunities and higher education.

### Family Day

### Exclusive factory tours for family members

To provide employees' families with opportunities to learn about DMG MORI's business initiatives and products, the Company organizes exclusive factory tours. At Iga Campus, for example, we held 10 campus tours from the end of July to August 2024, and each time invited around 20 family members. They enjoyed the rare opportunity to see machine tools performing powerful cutting operations and robots efficiently automating the processes, watching the demonstrations with excitement and awe. Similar family events are also held at overseas factories

### Japan National Orchestra

### **Promoting and Sharing Music Culture**

Since its establishment in May 2021, Japan National Orchestra Co., Ltd. ("JNO") has been based in Nara, Japan, where DMG MORI CO., LTD. was founded, and performing globally, contributing to the creation and development of new culture and art through classical music. In April 2024, JNO held its first audition, welcoming two exceptional new members. In September, JNO hosted its first "Shareholders' Benefit Concert", featuring five performances that were warmly received by a large audience of shareholders of DMG MORI CO., LTD. Also in September, in partnership with Nara Prefecture, JNO launched the "Musik Camp" program, designed to discover and nurture future musicians. Led by four JNO members, Moreover, the prosthetics manufactured by the students contribute to providing affordable options and improving medical accessibility in countries with high amputation rates. The experience of creating something that directly impacts the lives of those in need serves as a powerful source of motivation for the students and brings significant benefits to the entire community.



and sales bases, often on the final day of in-house exhibitions. These events provide an opportunity to showcase the innovative fields the employees work in, fostering communication among families and employees while contributing to increased employee engagement.



the program brought together a string ensemble of 11 participants for three inspiring days of musical collaboration and learning.





Recycle

Share

Intellectual Capital

Human Capital

### Social & Relationship Capital

# Natural Capital

### Contributing to a Circular Economy

### Recycling scrap materials from decommissioned machines and cutting chips as casting materials for key machine tool components

DMG MORI CIRCULAR CO., LTD. was established in November 2023 to enhance sustainability and productivity in the machine tool industry. In addition to overhauling and retrofitting long-used machinery, CIRCULAR collects and repurposes old machines that have reached the end of their lifespan, recycling the leftover scrap materials as casting materials for new components. Cutting chips

Maximized resource utilization

Non-renewable Resources

Materials & Parts

Products

Maintenance, Repair, Overhaul

Use

Collection

generated during in-house and outsourced machining processes are also reused as casting material after separating coolant and compressing the chips. The melting and casting of the collected materials is carried out by DMG MORI CASTECH (Izumo City, Shimane Prefecture).

Remanufacture

Reuse /

Refurbish

Maintain / Repair / Overhaul

This means that cutting chips are recycled on shorter cycles, while scrap materials from decommissioned machines are reused on longer cycles, aligned with their lifespan. Throughout its supply chain, the Company implements rigorous quality management which also covers recycled castings. This ensures not only environmentally friendly practices but also high-quality castings necessary for stable machine performance. To make this recycling initiative truly sustainable as a pillar of its environmental contribution business, the Company has begun to improve the efficiency of transportation methods for equipment collection and scrap materials, and to recover scrap materials generated during sheet metal fabrication in addition to chips from

### Recycle

### **Recycling decommissioned machines**

• DMG MORI CASTECH reuses sheet metal and castings from old machines as casting materials • The Company plans to cover 20% of annual casting demand



### **Recycling cutting chips**

Remanufacture

Spindle rebuild and repair

Used machine sales





Cutting chip



# • Approx. 1000 spindles in 2024 **Reuse / Refurbish**



• Contributing to stable and long-term use of machine tools

Maintenance, Repair, Overhaul

(over 25% of revenue)

### Share

**DMG MORI ACADEMY** • Sharing DMG MORI's training programs



Waste minimized

machining process, and the Company expects to make the business profitable from 2025 onwards.

Natural Capital

- Furthermore, DMG MORI CASTECH handles both casting production and assembly. By partnering with local machining specialists in Shimane Prefecture, the entire production cycle – from casting and machining to assembly and shipment - is completed within the region. This eliminates the need for transport to Iga's Precise Processing Plant in Mie Prefecture, significantly reducing CO<sub>2</sub> emissions from truck transportation.
- The Company is striving to contribute to a circular economy throughout its entire product lifecycle beyond production and sales by promoting DMG MORI ACADEMY, AM Lab & Fab, and its spindle rebuild business.

Intellectual Capital

# **Financial Capital**

### Financial Strategy for MX-driven Growth



Kobayashi **Executive Vice President** Director in charge of Accounting / Finance and Sales

### **Maximization of Free Cash Flow**

The machine tool industry is defined by a cyclical demand. The Company aims to achieve stable sales growth and improve profitability over the medium to long term through its MX strategy. Based on the FY2024 results, the Company targets sales revenue of JPY 800 bn., operating profit of JPY 120 bn. with a margin of 15%, and net profit margin of 10% through organic growth with its current business model by 2030.

The Company's annual average growth amounts to approx. 7% in sales revenue and approx. 18% in operating profit. To support this growth, the Company made proactive investments of more than JPY 40 bn. in FY2023 and FY2024,

respectively. These investments were aimed at expanding the Company's production capacity for growing automation needs, enhancing its showrooms to offer specific highvalue proposals to customers, establishing new academies (training facilities) to address the global shortage of operators, and introducing a new ERP system (SAP S/4HANA) to improve business efficiency and speed up decision making by the management team.

To increase free cash flow, the Company has set KPIs focused on sales growth and profit margin improvement, along with strict management of capital expenditures within depreciation limits and control of increase in working capital. Investments for medium-term growth and efficiency improvement have been completed, and from FY2025 onward, the Company plans to keep investments within the depreciation range. To make up for the increase in accounts receivable and inventory assets associated with sales growth, the Company intends to increase the down payments to be received upon order and balance out working capital. With these measures, the Company plans to align free cash flow more closely with profit growth starting in FY2025.

By improving its profit margin, the Company plans to maximize its cash flow. This will be allocated to the repayment of interest-bearing debt, including hybrid capital, and shareholder returns.



\*1 A JPY 15.1 bn loss from discontinued operations of the Russian factory was recognized.

### **Restructuring of Balance Sheet & Financing** for future M&As

For FY2030, the Company's target is to achieve a total asset turnover of approximately 1.0, a shareholders' equity ratio of 50%, and a net debt balance of JPY 100 bn. In comparison, in FY2024, total asset turnover was 0.68, shareholders' equity ratio was 39.4% and net debt including hybrid capital was JPY 172.8 bn. By allocating free cash flow to repaying interest-bearing debt, the Company should be able to reduce the net interestbearing debt balance to an adequate level (ratio of net interest-bearing debt balance to shareholders' equity at around 0.3).

The hybrid capital will become mature for optional redemption by the end of FY2027, and the Company intends to exercise its rights. The Company intends to finance the redemption with increase in profit to the possible extent to strengthen its shareholders' equity. To surpass the sales revenue target of JPY 800 bn. and achieve JPY 1 tn. based on organic growth in FY2030, the Company will need to consider further M&A opportunities. By reducing its net interest-bearing debt to an adequate level and strengthening its balance sheet with a shareholders' equity ratio of 50%, the Company plans to increase its capability to source financing. This will allow the Company to take agile management measures which will lead to medium-to long-term growth.

### **Improved Capital Efficiency & Policy of** Shareholder Return

The Company focuses on return on equity (ROE) as its

### Building a solid balance sheet to support sustainable business growth

Investments: Only within the range of depreciation, while making proactive use of growth opportunities

(FY2024 actual)

Shareholders' equity ratio : 39.4% Net interest-bearing debt : JPY 172.8 billion Shareholder returns (Dividend per share) : JPY 100

As of December 2024 (result)



primary metric for measuring capital efficiency. For FY2030, the Company targets at least 15% of ROE. The Company estimates cost of shareholders' equity at 10% and understands the need to maintain a level of profitability above this rate to generate corporate value. In FY2024, ROE declined because of one-off losses due to the Russian government's expropriation of DMG MORI's factory in Russia. Excluding this one-off factor, the Company's three-year weighted average ROE for FY2022 through FY2024 was 9.9%, almost at the same level with its assumed cost of capital. Now, the Company has set an even higher ROE target for FY2030 based on planned improvements in profitability.

The Company's basic policy for return to shareholders is to aim for a dividend payout ratio of 30-40% (previously 30%) and enhanced shareholder returns. The dividend per share was 70 yen in FY2022, 90 yen in FY2023, and 100 yen in FY2024. Since the optional redemption of hybrid capital is forthcoming through FY2027, free cash flow must be used as the source of repayment and allocation for shareholders must be increased accordingly. From FY2028 onward, the Company will be able to consider greater allocation of free cash flow to shareholders, based on the then-expected healthier financial structure. The target dividend per share is JPY 200 by 2030.

In summary, the Company considers the maximization of free cash flow as its top priority, focusing on reducing net interest-bearing debt and strengthening its balance sheet with enhanced shareholders' equity. At the same time, we target ROE of 15% or more moving forward.

### (FY2030 Plan) 50% or higher around JPY 100 bn. (Net Debt / Equity: around 0.3) JPY 200 (Dividend payout ratio 30 - 40%)



Intellectual Capital

Human Capital

# **Optimizing Cash Management to Enhance Corporate Value**

The current DMG MORI is the result of a Japanese-German business merger, combining distinct company histories. Therefore, employees working in the finance and accounting divisions across the DMG MORI group represent a variety of individuals with unique knowledge and experiences. While leveraging this diversity, it is crucial to establish a clear, shared direction to ensure all employees work together towards cohesive goals and objectives. Therefore, the Board of Directors of the Company has established a "DMG MORI Global Treasury Policy".

In this policy, the members from the accounting and finance divisions pledge to contribute to the enhancement of DMG MORI's corporate value, while the policy itself serves as a practical guideline for strong governance and compliance throughout the Group. Specifically, we have implemented the following initiatives.

### **Capital Efficiency**

We have taken measures to visualize cash balances across countries by implementing modern tools such as the Treasury Management System and Swift's MT940 for real-time information on international deposits and withdrawals. This allows the Company to track cash movements at all consolidated subsidiaries on a daily basis. The improved visibility of daily cash flows has enabled the Company to increase the utilization of pooling. In particular, improving the low utilization level of pooling in China resulted in the reduction of net interestbearing debt and improvement of the accuracy of cash flow management.

### **Cash Flow Allocation**

When preparing budgets, we now place greater emphasis on cash flows and aim to properly allocate them. Our goal is to increase operating cashflow and improve investment efficiency through disciplined investment to gain the financial flexibility needed for enhanced shareholder returns and reduction of net interest-bearing debt.

### **Financial Risk Management**

With more than half of DMG MORI's consolidated assets denominated in euros, we cannot avoid exchange rate exposure when converting financial statements into Japanese yen. Therefore, the Company visualized this exposure and used multilateral netting to mitigate financial risk. Specifically, we increased the offsetting of intra-group receivables and payables, particularly among euro-denominated transactions. Netting has also contributed to greater efficiency in settlement processes.

DMG MORI accounting and finance divisions will continue to proactively contribute to the Group's corporate value.



Key Financial Figures



### Capital expenditure, Depreciation & amortization



![](_page_28_Figure_21.jpeg)

\* In 2024, due to a one-off loss of EUR 91.8 mil. (JPY 15.1 bn.) from discontinued operations in the Russian manufacturing company, net profit for the year and EPS decreased respectively, hence ROE was lowered

![](_page_28_Picture_23.jpeg)

![](_page_28_Picture_24.jpeg)

![](_page_28_Figure_28.jpeg)

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