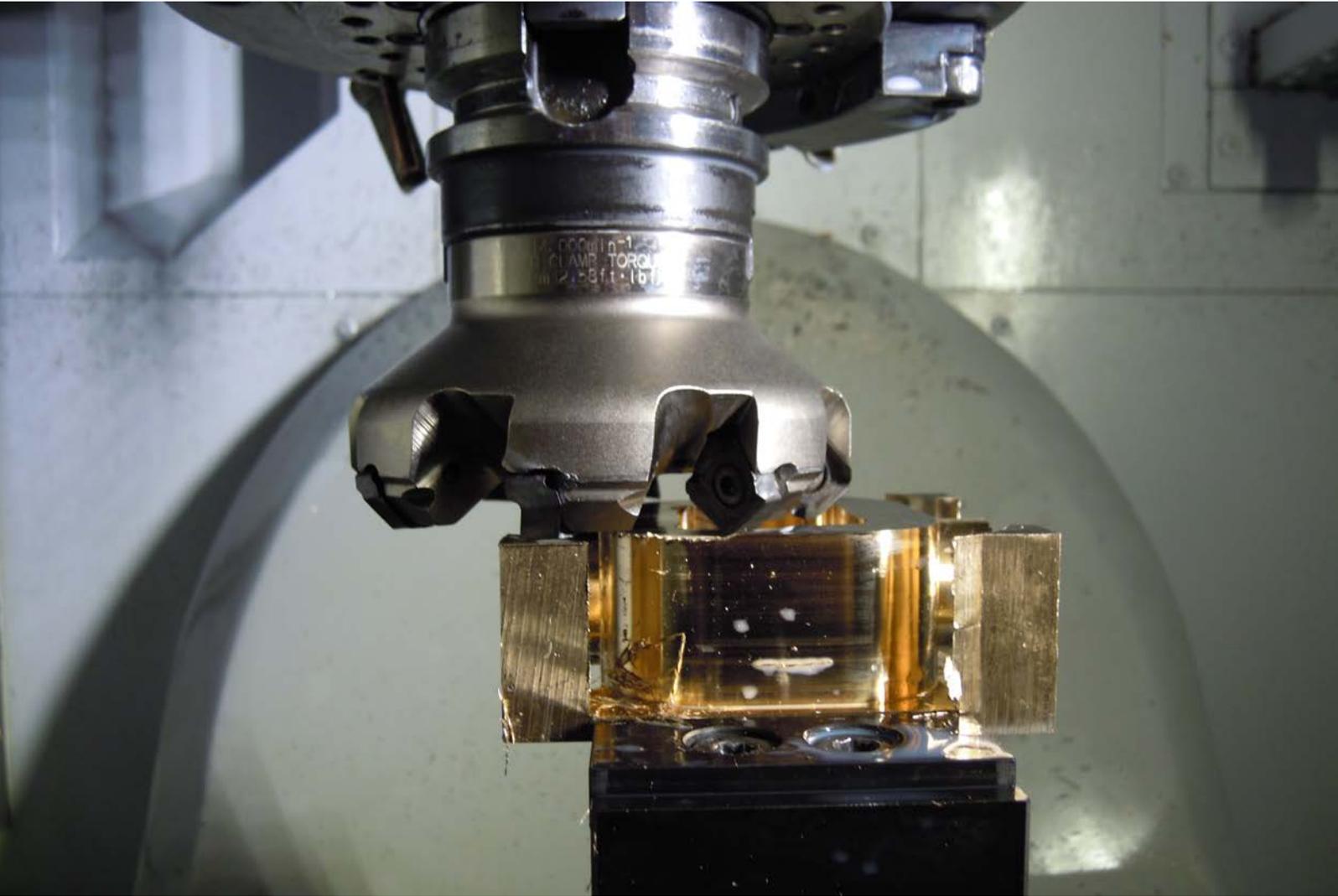

MITSUBISHI MATERIALS & REMY SARL

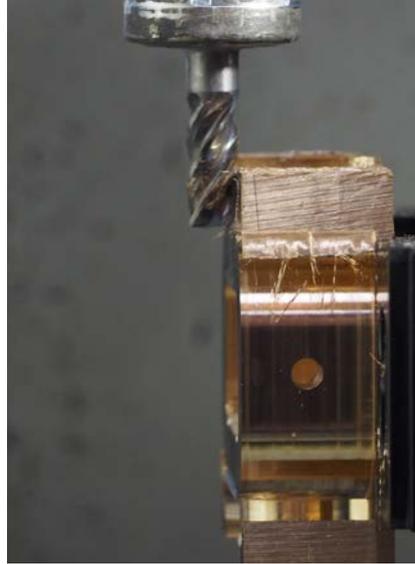
SUCCESS STORY



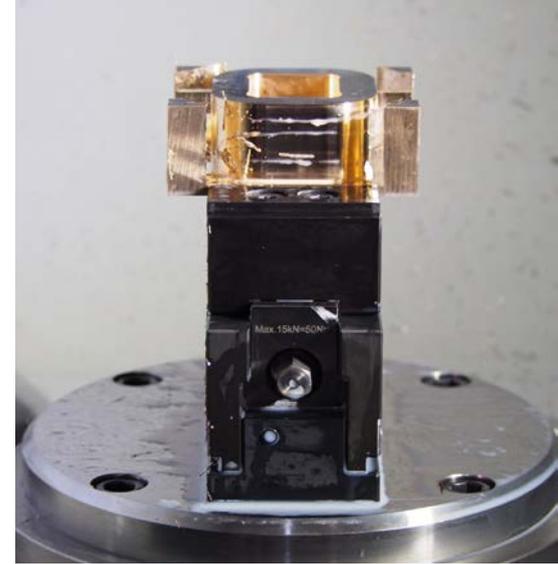
WHEN TECHNOLOGY, PEOPLE AND EXPERTISE ARE THE
KEYS TO SUCCESS...



REMY SARL site



Mitsubishi Materials VQ solid end mill



Part machined component

About the VQ range

Solid carbide end mill

- Irregular helix 37/40°
- Anti-vibration geometry
- Ultra micro grain carbide
- Smart Miracle coating
- Optimised flute profile
- Material versatility

About the WSX445 range

Face milling tool

- Double-sided inserts
- 8 cutting edges
- Wide range of insert grades including cermet
- Low cutting resistance type
- Ap max 5 mm

Specialising in precision machining, REMY SARL, located near Beaune, in the French region of Côte-d'Or, has overcome engineering challenges by maintaining a high level of expertise and investment. The company chose Mitsubishi Materials and uses VQ series solid end mills and WSX445 face mills. These Diaedge-branded, high quality tools, combined with the close collaboration of Mitsubishi Materials' French sales office, MMC Metal France, enabled the family business to open up to new markets.

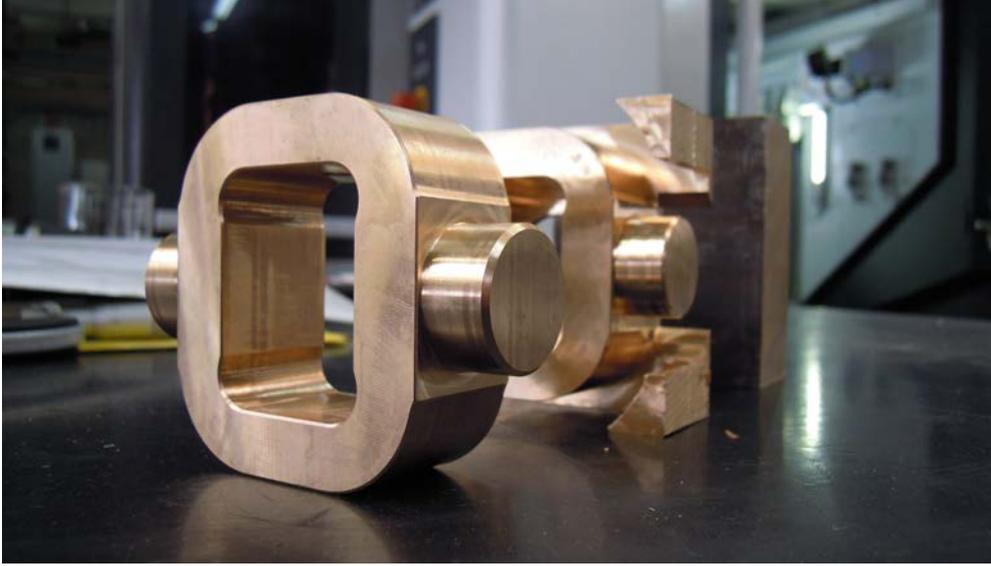
There are many thousands of small businesses across France, making a major contribution to the nation's growth. This is particularly true for the mechanical engineering industry. Beyond the specific parts they are capable of developing, it's their responsiveness and flexibility that set them apart from bigger organisations.

The industrial fabric of France mainly consists of micro-enterprises and SMEs, some of which, like REMY, are equipped with a state-of-the-art range of machinery. Investment is key, as evidenced by REMY. The company that has fifteen employees has understood that in order to survive, and to prosper, it is necessary to invest continuously in human skills and production equipment. Back in the beginning (in 1994), Roger Remy's workshop, barely measuring 150 m², and boasted just three just three lathes and a milling machine.

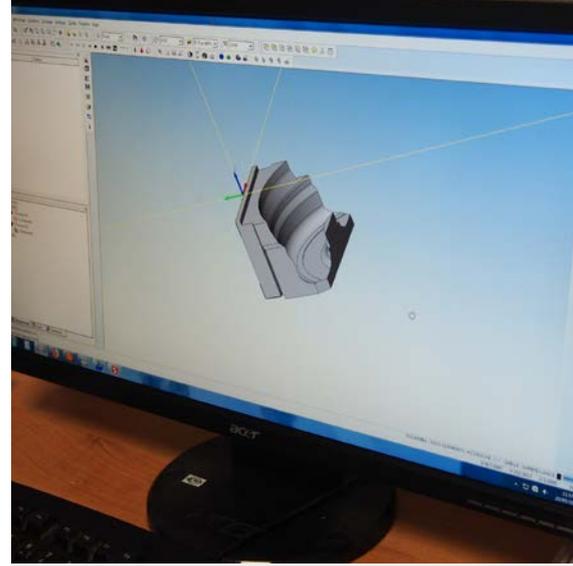
Nowadays, armed with extensive expertise, high speed responsiveness and a substantial fleet of machinery, the company enjoys an excellent reputation that has mostly spread through word-of-mouth. "We have been working from the beginning with the wine industry and agricultural manufacturing, machining parts for vehicles and attachments as well as all other general industries that required precision machining. In short, anywhere people need mechanical parts", says Roger Remy, CEO and founder of the eponymous company, and a former operator at a company designing machines dedicated to the mustard and winemaking industry. Today, REMY employs no less than six family members, including the founder's two sons; Thomas and Steve, who are in charge of milling and turning operations respectively. The current building, completed in 2000, was gradually extended during the first eight years to add a welding workshop, and a second extension was added in 2018 to expand the offices and the production area. The premises now cover a surface area of one thousand square metres.

RELYING ON A STRATEGY OF REGULAR INVESTMENT

In 2000 the company bought its first CNC machine to produce a larger batch of parts. Then in 2011 the first five-axis machining centre arrived in



Finish machined part



CAM office and five-axis programming

the workshop. "That acquisition was a turning point for us as we have since been able to open up new opportunities by increasing our machining capacity and also by becoming very responsive to orders that can suddenly appear from one day to the next", says Thomas Remy. Last year, the factory gained a second five-axis machining centre, however this was additionally equipped with a store for 114 automated pallets. This is another step forward for the company's machine shop, which is home to almost one machine tool per employee, as well as a control room equipped with a coordinate measuring machine and a CAM system. REMY SARL has the skills and equipment to effectively produce small and medium batches of complex parts.

Following a clear investment strategy, REMY naturally relies on high quality and reliable cutting tools. "Cutting tools have always been a big priority for us", says Roger Remy. "They are a key link in the production chain". "We are always thinking about choosing the tool best suited to our needs", says Steve Remy. At one time we used only budget end mills, but this ended up costing us more because of the poor quality of the products, especially in the very small diameters, and also taken into account was the time spent changing tools. Mitsubishi Materials cutting tools allow us to optimise our production by changing tools conveniently at night or at known intervals due to their reliability."

MORE PEACE OF MIND IN FIVE-AXIS MACHINING OPERATIONS

"The solid carbide end mills from the VQ range opens up new possibilities for us in terms of machining new parts, which are now becoming more and more common", says Thomas Remy. "The VQ end mill series from Mitsubishi Materials has become a benchmark for us. Its MIRACLE SIGMA ZERO- μ coating, irregular pitch and helix angles makes it very efficient and it is versatile too, because a huge range of steels, stainless steels and other materials can be machined." Thanks to the technology they employ, VQ end mills allow REMY to combine versatility and performance. This end mill originally developed for stainless steels also performs well on medium-hard steel applications.

Although the VQ mill is a leading Diaedge product with a strong reputation in the industry, its introduction to the REMY SARL workshop was not based solely on the promise of performance. "We replaced our tools on the machines step by step and took the time to conduct the necessary tests", recalls Thomas Remy. These tests revealed an overall increase in tool service life of at least 30%!"

The increase in tool service life and, more generally, the fundamental quality of the VQ mills, have brought the production team a great deal of peace of mind due to the reliability of the machining processes, "on the new palletised

"The 12 mm solid carbide end mill from the VQ range opens up new possibilities for us in machining for new parts, which are now becoming more and more common. "The VQ end mill series from Mitsubishi Materials has become a benchmark for us. Its MIRACLE SIGMA ZERO- μ coating, irregular pitch and helix angles makes it very efficient and it is versatile too, because a huge range of steels, stainless steels and other materials can be machined."

Thomas Remy
Head of Milling, REMY Sarl



Machined part



(From left to right): Alexandre Mathelin (MMC Metal France Sales Engineer), Thomas Remy (REMY Sarl Head of Milling), Roger Remy (REMY Sarl CEO and Founder), Pascal Chevalme (MMC Metal France Application Technician) and Steve Remy (REMY Sarl Head of Turning)

ABOUT REMY SARL

REMY SARL, based in Sainte Marie La Blanche, in the French region of Côte d'Or, specialises in industrial machining. The family business boasts an impressive fleet of machine tools and machining expertise, which makes it a reliable player in the outsourcing for machining small and medium-sized batches of components.

Tel. : +33.3.80.26.51.22

E-mail: remy.smg@wanadoo.fr

ABOUT MMC METAL FRANCE

MMC Metal France, based in Orsay (France), is one of the seven European branches of the Japanese company Mitsubishi Materials Corporation cutting tools division. MMC Metal France reports to the European headquarters in Germany and since its establishment in 1992, the company has been supplying precision cutting tools and providing integrated solutions for the automotive, aerospace and medical sectors as well as the mould and die industry.

MMC Metal France is in a position to offer French industry a varied range of precision tools for turning, milling and drilling. Mitsubishi Materials Corporation employs over 23,000 people in 77 countries, operating with various head offices in Europe, India, Brazil, China, the United States, Japan and Thailand, as well as having modern research and development centres in Japan and Spain and at different production sites across the world.

Tel. : +33.1.69.35.53.53

Email : mmfsales@mmc-metal-france.fr

Web : www.mmc-hardmetal.com

www.mitsubishicarbide.com

continuous process five-axis machining centre, tool replacement can now be done at night. This new step has allowed us to consider new research in order to determine the optimum cutting conditions together with the MMC Metal France team." The team includes Pascal Chevalme, Application Engineering Technician, and Alexandre Mathelin, Sales Engineer. Both have understood the priorities of REMY SARL's customers: top-quality parts, of course, but also fulfilling an inevitable increase in production efficiency, and all requiring a response within increasingly tight deadlines. To do this, REMY has moved from manufacturing single parts or very small batches to larger series production, sometimes up to 100 units. The company can work effectively across a large number of steels and materials for general mechanical engineering components and can supply parts to a large range of industrial sectors. These range from energy and rail through to parts for agricultural machinery. For example, REMY has machined tractor steering column components with another Mitsubishi Materials tool; the WSX445 face mill. With low cutting forces, 8 cutting edges and a wide range of grades, this 45° face mill with reversible inserts provided machining efficiency and a longer tool life on the steering rack component. The VQ and WSX445 tools have already enabled the family business

to tackle many machining challenges and now have a great reputation across various areas of general machining. However, that's not all: no matter how well the tool performs, it also needs to be integrated into a machining project and be able to meet demanding production requirements. The family were ultimately won over by the technical and financial advice supplied by MMC's consulting duo Pascal Chevalme and Alexandre Mathelin, plus the series of tests accompanying the initial research. Remy: "When we won an important energy industry order, we wanted to quickly confirm with our customer that our process was suited to the job", says Steve Remy. "Although turnaround times were very short, MMC Metal France responded to us immediately, allowing us to carry out the project and to undertake new ones, that also included drilling applications using Mitsubishi's drills." And Roger Remy confirms that "at Mitsubishi Materials, there's a real desire to stay engaged to the end of the project. This partnership has enabled us to create a relationship based on skills, technology and by listening to each other." A trio of crucial features for a family company where human connection takes top priority.