

SABRINA SCHILLING

Precision work at Real Madrid – Lasercor manufactures the front of the Bernabéu Stadium

Real Madrid is one of the world's greatest soccer teams – and a visit to Santiago Bernabéu Stadium is a dream come true for many fans. The spectacular facade of the revamped Bernabéu contains thousands of stainless-steel louvers, over half of which were fabricated by the company Lasercor with millimeter precision using a TruLaser 5030 fiber. What made the task even more challenging is that every louver is different. The light displays on the new stadium shell are extraordinary – and so too is the story of how Lasercor got to where it is today.

Thirty years ago, Lasercor didn't even exist – not even as an idea. The family of company founder Julián Jiménez Candano earned their living in a completely unrelated sector: the food trade. "I started working when I was 15 or 16, selling chicken in our store," says Julián Jiménez Barroso, the current CEO and son of the founder. Lasercor's roots lay in a combination of hard work, a willingness to embrace risk and new ideas, and a certain amount of happenstance.

Some other members of the Jiménez family who worked in hospitality got chatting to a manufacturer of slot machines. At the time, this was a relatively new field of business in the Madrid region, so it was tricky getting hold of suitable spare parts for the machines. Julián Jiménez Candano had an affinity for technology, and his other family business ventures had familiarized him with how such machines were built, and what errors and malfunctions they were prone to. One day, the manufacturer asked him to take apart one of the gaming machines to pinpoint its electromechanical defects. This gave him some extra work on the side – at least until a supplier suddenly announced that they could no longer provide suitable sheet-metal parts for the machines.



A family business: Lasercor's founder Julián Jiménez Candano (center) has passed the reins to his sons Julián Jiménez Barroso (left) and Miguel Ángel Jiménez (right), but he continues to offer hands-on support.



Lasercor has grown continuously, from a 400-square-meter workshop to a 16,000-square-meter production site, and from one TRUMPF machine to 23.



Lasercor has used TRUMPF machines to cut, bend, engrave and weld parts of all kinds for around 8,000 customers.

A job for the whole family

The father and his two sons decided that the only way to solve this supply problem was by acquiring a laser-cutting machine and producing their own sheet-metal parts. Right from the start, they knew that quality was key – so they decided to make a major investment in a 2D laser-cutting machine from TRUMPF. This was shortly before the euro was introduced, and Jiménez Barroso quotes a high eight-figure sum in the old Spanish currency which, at the time, would have been enough to buy a car. Despite their enthusiasm to innovate and take risks, the family felt uncomfortable about investing such a large amount of money, especially since they knew relatively little about the machine and the wider industry. It was here that the sister and the wife of the current CEO stepped in to help. The two women carried out a market study to answer some key questions: Which companies in the Madrid region were able to cut sheet metal? Which companies needed precision-cut parts? What kind of order volume could they expect? What were the typical delivery times? What sectors were cut metal parts being used in? What niches could be exploited? After collecting, organizing and analyzing all the data, they could see that there was a market and enough demand for additional competitors

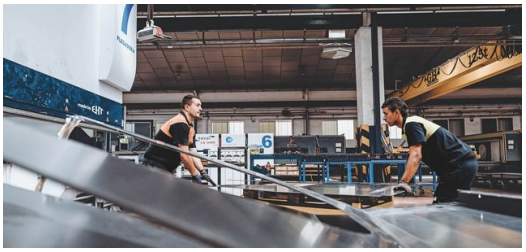
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> Julián Jiménez Barroso, CEO of Lasercor

From food retail to sheet metal

In 2000, Julián Jiménez Candano founded Lasercor together with his two sons. They had a TRUMPF machine, the slot-machine manufacturer as their first customer, and – initially, at least – lots of time where the machine was standing idle. It was clear they needed to bring in more orders. "I sometimes think our background in a totally different industry actually gave us an advantage," says the Lasercor CEO. "In the food trade, your focus is always on the customer, and that wasn't the way the Madrid sheet-metal sector worked at the time." The family launched a marketing campaign, emphasizing their customer focus and transparency, and they even ran some radio and TV commercials. The plan worked: "Orders flooded in, and suddenly our TRUMPF machine was running around the clock month after month," says Jiménez Barroso.

Lasercor has been on a growth path ever since. It replaced its 400-squaremeter workshop with a 16,000-squaremeter

production site, and the company now has a total of 23 TRUMPF machines, from the TruBend 5130 and TruLaser 5030 fiber to the TruLaser Weld 5000 and TruMark Station 7000. Today, the company employs 170 people and has an annual turnover of 30 million euros. Using TRUMPF machines, Lasercor has cut, bent, engraved and welded parts of all shapes and sizes for some 8,000 customers. Their work ranges from one-off jobs for small businesses to standing orders for major corporations, and their customers make everything from road signs and household appliances to machines, entire plants and large wind turbines. And now that list includes the world-famous Santiago Bernabéu Stadium.



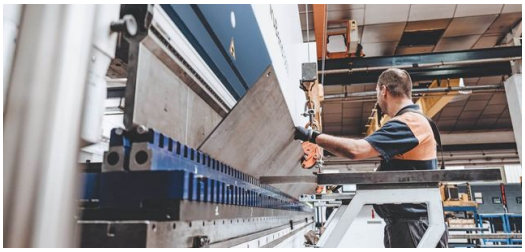
The father and sons decided that they needed a laser cutting machine to close the supply gap and to produce suitable sheet metal parts themselves.



All Lasercor machines from TRUMPF are already networked with each other.



Laser cutting, welding and engraving: Lasercor uses a wide range of TRUMPF solutions.



Smart factory: TRUMPF is advising and supporting the Spanish company on its journey toward digitally connected manufacturing.

Gently curved metal louvers

The Bernabéu's new wraparound shell has cemented its status as one of Madrid's most important landmarks. "As a sculptural envelope of subtly curved diagonal metal louvers, the perforated layer varies in its degrees of translucence *[the degree to which it lets through light – Ed.]*, offering a multitude of different views," says the website of German architects Gerkan, Marg and Partners, who, together with Spanish project partners, won the competition for the stadium revamp. But behind this description is a project that posed a huge challenge to Lasercor as a supplier. "It was very, very difficult," says Jiménez Barroso.

The new roof alone required 8,880 metal louvers, with a whole lot more needed for the facade. The initial specifications stated that all – or at least many – of the louvers would be identical. But during the cutting process, it emerged that each louver was slightly different, often by a matter of just a few millimeters. And each one had to slot into position perfectly. There were also six different surfaces that were designed to reflect light in different ways.

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> Julián Jiménez Barroso, CEO of Lasercor

Almost perfect

Lasercor used a TruLaser 5030 fiber with a 12-kilowatt laser to precision-cut 4,400 of the louvers, as well as parts for the north and east facades. The company responsible for constructing the facade provided Lasercor with the metal sheets and dimensions; Lasercor then input everything into the TruLaser machines and cut the parts with millimeter precision. The company spent 18 months working on the project, and only had to replace 60 of the 4,400 parts it produced, mostly due to damage during transport. "Casi perfecto," says Jiménez Barroso: "Almost perfect". Lasercor worked so fast that it was even able to lend its support to some of the other fabricators involved in the project.

"It was a complicated job," says Jiménez Barroso. Only after seven months of negotiations was the contract finally signed. "It was too much for a single company to manage. And awarding the contract to four companies was also a kind of precaution to ensure that the project would not be hampered by delivery problems," he adds. Almost every department in Lasercor was involved, from the sales team to the department specializing in precision cutting, which was constantly faced with new challenges due to the delicate nature of the material.



A gleaming stadium: Lasercor cut around half of the almost 9,000 lamellae for the spectacular outer shell of the Bernabéu Stadium in Madrid with millimeter precision.



Getting everyone involved: Every part of the Spanish company was involved in the stadium project.



One big family: Everyone at Lasercor plays their part – and they trust each other to come up with pragmatic solutions.

Quality is paramount

"We're a family business, just like TRUMPF," says Jiménez Barroso. Everyone plays their part, and they trust each other to come up with pragmatic solutions. Quality is the priority. "If one machine isn't up to the job, then we look for another one; if the material isn't good enough, we find a better option," he says. None of their machines are more than four years old. "We never stop investing. And if we make a mistake, we learn how to do it better next time," he adds. Lasercor is exploring the concept of the smart factory. All its TRUMPF machines are already connected in a network. Some, such as the TruLaser Weld 5000 and the TruBend Cell 7000, are largely automated anyway. The TRUMPF Smart Factory Consulting team has been supporting Lasercor ever since it embarked on its smart-factory journey. The company's next goal is to eliminate paper from the entire plant and achieve full digitalization. "We're already close to achieving that," says Jiménez Barroso.

The roof and facade of the Santiago Bernabéu Stadium were completed in early 2023. Jiménez Barroso is a big Real Madrid fan who attends every match; at home games, he never tires of seeing the contribution that Lasercor made to revamping this iconic stadium. "All the fans think it's fantastic, even Pep Guardiola *[the former head coach of Madrid's arch-rivals FC Barcelona – Ed.]* thinks it's great," he says proudly. "It feels good to be part of that."



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https://www.trumpf.com/en_IN/newsroom/stories/precision-work-at-real-madrid-lasercor-manufactures-the-front-of-the-bernabeu-stadium/