SPECIAL EDITION

Empresa XXI

SEP 2022

BASQUE COUNTRY

# MACHINE TOOL

AMB

International exhibition for metal working

**TRADE FAIR** | EUROPE'S BEATING HEART

# AMB: MECHANICAL INTERESTS

## THE GERMAN EVENT IS A REMARKABLE SHOWCASE FOR MT MANUFACTURERS IN THE METAL REMOVAL SECTOR

There are two figures that reflect the reality of Basque machine-tool manufacturing industries dedicated to metal-working and mechanical engineering: MT firms' exports amounted to 2.279 billion euros to Germany over the 2000-2021 period, which means a yearly average of 104 million euros, without adjusting its value; and the imports of German MT by the Basque manufacturing sector added a further 1.033 billion euros over the same period, with a yearly average of 47 million.

These two figures are an indication of intense trade flows, which furthermore do not include the operations of Basque importers of German MT, which act as agents for introducing this machinery into Spain's industrial fabric.

### A full-house in Stuttgart

The above data highlight the value of German trade fairs for the dissemination of Basque products. In the case of the AMB in Stuttgart, it is a particularly significant focal point for metal-cutting MT in Germany and its neighbouring countries in northern and central Europe.

### TO BE HELD FROM 13 TO 17 SEPTEMBER

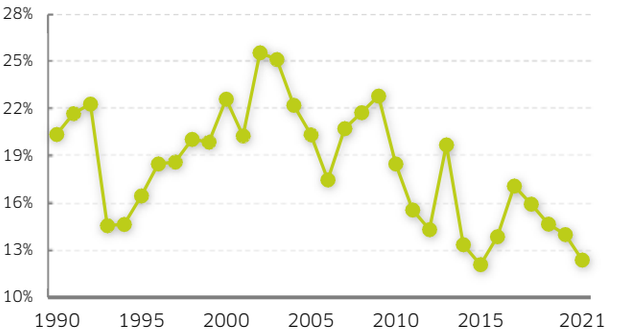
This year's edition, which will follow on from the one held in 2018, following its cancellation in 2020 due to the Covid-19 crisis, promises to be an outstanding event. According to its organisers "AMB will fully occupy its venue in Stuttgart with its current volume of registered exhibitors", while for the first time dedicating an entire day to the topic of "industrial security", which Messe Stuttgart is organising together with digital@bw and partners: "Ultimately, industry 4.0 and artificial intelligence cannot be achieved without safeguarding data and knowledge in production processes and in communications between companies".


For the first time, AMB is to dedicate an entire day to the topic of Industrial Security.

MESSE STUTTGART

### GERMANY, KEY MARKET FOR THE BASQUE COUNTRY

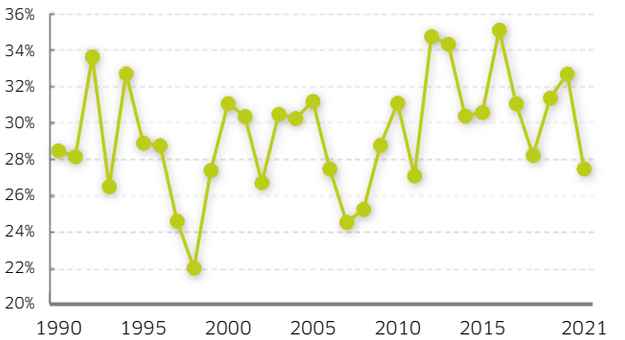
Basque exports to Germany of metal-working MT amounted to 81 million euros in 2021. Record figures were posted in 2008 (142 million) and 2013 (150 million).




Basque MT exports to Germany as a percentage of the Basque MT sector's total exports. Source: Eustat.

### A REFERENT OF BASQUE MACHINING FIRMS

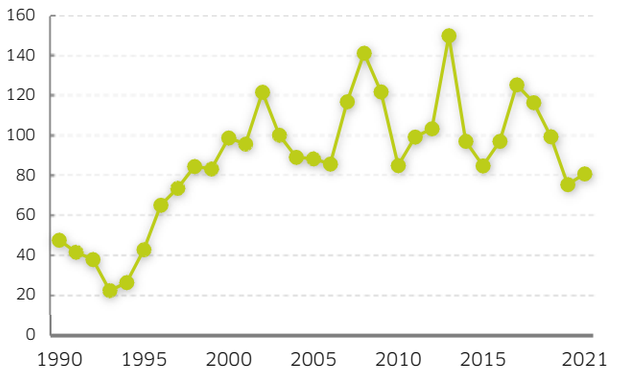
Basque MT imports for the German metal industry account on average for 30% of the purchases under this heading in the 21st century. The records were set in 2016 and 2019, with figures of over 60 million euros. The figure for 2021 was 40 million euros.




Purchases of German MTs as a percentage of total MT imports in the Basque Country. Source: Eustat.

### BASQUE MT EXPORTS TO GERMANY

Over the past 30 years, German purchases of Basque machine tools have recorded an annual average of 90.6 million euros at current prices.




Basque exports to Germany of machine tools for metal-working. (*) 2021, provisional data. Source Eustat.

INTERNATIONAL | EUROPE

# TRADE IS LOOKING GOOD

## CECIMO expects a 16% INCREASE in DEMAND

Although the war in Ukraine is not expected to have a major impact on the MT business in Europe, problems still persist regarding the delivery of components and materials, transport, and production costs that could trigger a supply crisis, with a further hike in prices. Nevertheless, the forecasts made by the European Association of the Machine Tool Industries and Related Manufacturing Technologies (CECIMO) indicate a 16% increase in trade in Europa in 2022, and a figure of 11% worldwide.

Following the downturn recorded in 2020, business returned to growth in 2021 on the back of the recovery in trade in the leading countries: Germany, Italy, Turkey, France and Austria. Thus, the MT trade in Europe amounted to 14.6 billion euros (+10.6%), increasing production by 11.6% to 22.6 billion. According to CECIMO estimates, the gradual growth in trade could reach 18.7 billion euros in 2025. In turn, global trade, which rose 14.1% in 2021 (63.1 billion), might reach a figure of 79.3 billion euros in 2025. Despite this good performance, European trade lost ground internationally, accounting for only 23.1% of the global total.

### MT MAKES UP LOST GROUND

The trade in machine tools both in Europe and worldwide is recovering and galvanising output.

**MT TREND IN EUROPE**

| | 2021 | %21/20 | %20/19 | 2020 | 2019 | 2018 |
|---|---|---|---|---|---|---|
| Consumption | 14,600 | +10.6% | -27.9% | 13,200 | 18,300 | 18,200 |
| Exports | 17,100 | +13.2% | -26.8% | 15,000 | 20,500 | 21,800 |
| Production | 22,600 | +11.6% | -26.3% | 20,200 | 27,400 | 27,844 |

**MT TREND WORLDWIDE**

| | 2021 | %21/20 | %20/19 | 2020 | 2019 | 2018 |
|---|---|---|---|---|---|---|
| Consumption | 63,100 | +14.1% | -19.3% | 55,300 | 68,500 | 72,800 |
| Production | n/a | n/a | -20.2% | 60,100 | 75,300 | 78,800 |

Data in millions of euros. Source: Cecimo.

### The EU exports 74% of its production

International trade operations also performed well in 2021. Exports of European MT rose by 13.2% to 17.1 billion euros, accounting for 74% of output. Sales outside Europe amounted to an overall figure of 9.867 billion euros, 57.7% of the total. In turn, imports increased by 19.3% to 9.629 billion euros, with the bulk of this figure provided by European countries.

The forecasts made in the latest CECIMO report point to a sustained placement of orders in the first quarter of 2022, as well as a 2% increase in the use of manufacturing capacity, which together with the positive outlook for demand bodes well for a certain continuity in the placement of orders over the year as a whole.

With a 43.8% share, Germany continues to be Europe's largest MT manufacturer, followed by Italy (23.2%) and Switzerland (9.7%). These three countries account for over three-quarters of Europe's manufacturing output.

INTERNATIONAL | ITALY

# A BUMP IN THE ROAD

## A CAUTIOUS APPROACH TO THE EFFECTS OF THE WAR IN UKRAINE MIGHT REIN IN INVESTMENTS

The performance of new orders in business 2021 had a key impact on the bottom-line in Italy's MT sector, which approached the results recorded in 2019. According to UCIMU, the official association representing the Italian machine tool, robots, automation systems and ancillary product sector, the tendency will be maintained in 2022, driven by the recovery of business abroad and lively domestic demand, underpinned by the incentives provided by government schemes.

EMPRESA XXI
New developments from CSF at EMO_Milan 2021.

Even so, the threat of a slowdown in supply chains might hinder the delivery of machines ordered in 2021 before 30 June 2022, deadline for being eligible for tax benefits.

Nevertheless, UCIMU's forecasts are ambitious regarding this year's outlook. Following 22% growth in output in 2021, it predicts that this figure will be exceeded by 11% this year, rising to 6.34 billion euros, improving the ratios recorded in 2018.

### March adjustment

The placement of orders in the first quarter of 2022, however, fell short of expectations, down 3%, affected by the domestic market (-16%), which eclipsed the growth in foreign trade (+5.3%). Although the figures are still very high, according to UCIMU manufacturers are worried about a weakening of the propensity to invest prompted by the invasion of Ukraine, and are focusing on more traditional markets such as Europe and the US.

## AMBITIOUS FORECASTS

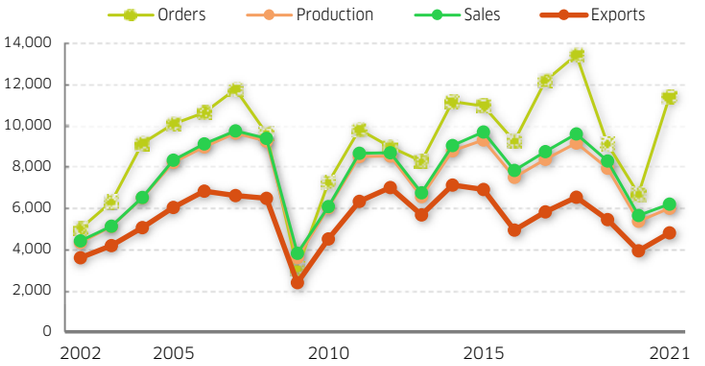
Italy's MT sector expects to surpass its 2018 output in 2022, after coming close to pre-pandemic figures in all its business parameters.

| | 2022 | %21/20 | 2021 | 2020 | 2019 | 2018 |
|---|---|---|---|---|---|---|
| Production | 6,340 | +22% | 5,710 | 4,677 | 5,890 | 6,125 |
| Exports | 3,340 | +18% | 3,100 | 2,625 | 3,364 | 3,423 |
| Domestic deliveries | 3,000 | +27% | 2,610 | 2,052 | 2,526 | 2,702 |
| Imports | 1,200 | +36% | 1,100 | 809 | 1,444 | 1,592 |
| Consumption | 4,200 | +30% | 3,710 | 2,861 | 3,970 | 4,294 |
| Trade balance | 2,140 | +10% | 2,000 | 1,816 | 1,920 | 1,831 |
| Imports/consumption | 29% | +2% | 30% | 28% | 36% | 37% |
| Exports/production | 53% | +2% | 54% | 56% | 57% | 56% |

Note: The data for 2022 are forecasts.

## JAPAN RECORDS STRONG GROWTH IN 2021

The MT industry in this Asian country has posted pre-pandemic figures in all its economic indicators, with the rate of orders received also outperforming both 2018 and 2019, rising to a figure of 11.407 billion (+71%).




Data in millions of euros. At 31 March 2022: 1 yen=0.0074 €. Source: JMTBA.

INTERNATIONAL | OTHER COUNTRIES

# ENCOURAGING FIGURES FOR ORDERS IN MARCH

## THE HOPES OF MT MANUFACTURERS IN JAPAN, CHINA, THE US, AND SWITZERLAND REMAIN HIGH FOR 2022, BASED ON THEIR ORDER-BOOKS

The demand for MT in Japan has remained strong in the first quarter of 2022. Orders increased by 39% on a year-on-year basis, recording figures that had not been seen since 2018, according to the Japan Machine Tool Builders' Association (JMTBA), with similar growth in production and sales.

In 2021, the sector invoiced close to 6.2 billion euros, 9.8% up on the preceding year, with 77.4% being exported. Through to March, no effect has been noticed of the shortage of parts, geopolitical risks, or the blockage in China.

### US: More orthers

Despite the war and inflation, the United States manufacturing sector continues to invest in increasing its capacity. According to sources at the Association for Manufacturing Technology (AMT), delivery issues conceal the true potential of demand for capital goods, given the backlog of orders caused by supply chain problems. Through to March 2022, the orders for manufacturing technology amounted to 1.47 billion dollars, 26.5% up on the previous year, making it the strongest performing quarter in the last two decades.

The China Machine Tool & Tool Builders Association (CMTBA) has reported a 2 - 3% rise in income in 2021, after setting a new record for exports of 19.29 billion dollars, with an annual increase of 37.2%. Trade increased by 14%, and the sector built 602,000 metal-cutting machines (+29% year-on-year) and 210,000 for metal forming (+0.7%). Nonetheless, it remains to be seen what impact the lockdown in major cities has had.

### Growth in the Swiss MEM sector

The Swiss mechanical, electrical and metal industry (MEM) performed as expected in 2021, according to the Purchasing Managers' Index (PMI) and business surveys.

Orders were up 26.5% in 2021, posting a figure of 117.8 billion Swiss francs (CHF); sales increased more than 10 percent to CHF 98.8 billion and exports rose 12.7% to 68.452 billion.

INTERNATIONAL | GERMANY

# OPTIMISM PERVADES THE GERMAN SECTOR

## THE VDW ASSOCIATION FORECASTS A 14% RISE IN PRODUCTION IN 2022 FOLLOWING A BIG INCREASE IN THE ORDER-BOOK IN 2021

"The excellent performance recorded by demand since the middle of 2021" has increased the optimism of German MT manufacturers for 2022. Sources at VDW have stated that the sector has "a good chance of recording a successful 2022 in terms of customer industries and markets", with Europe leading the way in the growth of investment in the world's foremost regions. Incoming orders were up 58% in 2021. The biggest boost came from abroad, with a 62% increase.

Exports drove the business in 2021 by growing twice as fast as production. The US was the most dynamic export market with an annual increase of 13%, followed by Asia (+11%) and Europe (+5%).

Based on these positive figures, the association predicts a 14% increase in production in 2022. Nonetheless, there continue to be a number of uncertainties, such as the zero-Covid strategy rolled out in China, which is holding back the normalisation of supply chains.

### Bottle-necks to be cleared

Regarding this issue, sources at VDW pointed to the shortage of chips for controls, one of the main MT components, amongst others, which is delaying the delivery of machinery.

Overall, manufacturers expect an improvement in supply chain issues in the second quarter, with the bottlenecks in logistics chains set to resolve themselves.

## GERMANY RECOVERS POSITIONS

The German MT sector has dynamised its operations in 2021 with a significant year-on-year increase in orders, outperforming the pre-pandemic figure

| | 2021 | %21/20 | 2020 | 2019 | 2018 | 2017 |
|---|---|---|---|---|---|---|
| Total production | 12,735 | +4% | 12,203 | 17,040 | 17,125 | 16,006 |
| Exports | 7,944 | +8% | 7,385 | 10,010 | 10,757 | 10,292 |
| Domestic sales | 3,940 | +51% | 2,615 | 4,110 | 5,600 | 5,340 |
| Orders | 13,580 | +59% | 8,565 | 12,280 | 17,460 | 17,220 |
| Domestic consumption | 6,388 | +4% | 6,163 | 9,287 | 8,942 | 7,864 |

Data in millions of euros. Source: VDW.


EMPRESA XXI

Machine built by Hermle onsite at the facilities of its agent ibérico Delteco.

## METAL-CUTTING OUTPERFORMS METAL-SHAPING

The turnover in the metal-cutting subsector rose by a year-on-year figure of 21.9% in 2021 to 682 million euros, while metal-forming fell 4.8%, to 295.9 million euros.

| MACHINE TYPE | 2021 | 2020 | 2019 | 2018 | 2017 |
|---|---|---|---|---|---|
| **METAL-CUTTING** | **682.0** | **559.4** | **676.3** | **741.4** | **640.8** |
| Lathes | | 126.4 | 164.1 | 149.2 | 139.9 |
| Mills and boring machines | | 176.9 | 202.2 | 222.9 | 167.1 |
| Grinders | | 68.6 | 78.1 | 74.1 | 68.6 |
| Special and transfer machinery | | 66.6 | 77.2 | 81.1 | 111.3 |
| Machining centres | | 36.8 | 75.9 | 63.9 | 62.4 |
| Physio-chemical process machinery | | 15.9 | 23.2 | 31.2 | 26.0 |
| Others | | 69.3 | 55.7 | 118.9 | 65.4 |
| **METAL-SHAPING** | **295.9** | **311.1** | **373.5** | **450.9** | **486.8** |
| Mechanical presses | | 113.6 | 170.9 | 166.3 | 227.1 |
| Hydraulic presses | | 69.6 | 71.4 | 82.4 | 118.5 |
| For shearing and punching | | 35.6 | 60.3 | 66.3 | 28.4 |
| For bending, folding, flattening and straightening | | 20.9 | 27.8 | 55.3 | 43.4 |
| Others | | 71.5 | 43.2 | 80.6 | 69.3 |
| **TOTAL** | **977.9** | **870.5** | **1049.8** | **1192.3** | **1127.6** |

Data in millions of euros. Source: AFM.

SPAIN | SITUATION

# FOCUSING ON THE MARGINS

### THIS YEAR WILL EXCEED PRE-COVID SALES FIGURES

Spain's machine-tool sector ended 2021 with a major recovery and a significant influx of orders, although as from the second quarter problems began to emerge, such as the lack of components and their high cost, shipment prices, the difficulties in accessing certain markets, the increase in energy bills, and soaring inflation. According to the Spanish manufacturing association AFM, all these issues are having a "major" impact on company costs, forcing them to focus on protecting their margins and delivery times in order to uphold the "appeal" of their product portfolios.

In spite of this worrying scenario, which has deteriorated at the beginning of this year as a result of the Russian invasion of Ukraine, the "positive" order-books of member companies and the ongoing and "positive" placement of orders in the first four-month period herald an increase in invoicing over the year, which "will probably improve on the figures for 2019".

Last year, the sector as a whole recorded a turnover of 1,571.2 million euros, which meant a year-on-year increase of 18.6%, according to data provided by AFM.

The machine-tool subsector improved its production performance (+12.3%) last year, posting a figure of 977.9 million euros. Nonetheless, the performance of its two main components was quite different; while metal-cutting machinery grew by 21.9%, amounting to 682 million euros, metal-forming recorded a 4.8% drop, falling to 295.9 million euros.

### Trend in orders

Machine-tool orders in 2021 grew 30% over 2019 (+69.2% over 2020). In the case of metal-cutting, the figure for new orders was the highest since 2007 (+40.8% over 2019 and +70.9% over 2020), with new records being set in milling machinery (+88.7% and +82%, respectively).

Metal-forming also recovered by 7.3% over 2019 (+64.4% over 2020), although there is still plenty of room for improvement following a challenging five-year cycle.

SPAIN | FOREIGN TRADE

# THE US TAKES THE LEAD

### IT REPLACES GERMANY AS THE LEADING FOREIGN CUSTOMER

After several years following in Germany's wake, in 2021 the US took over as the main destination market for Spanish exports of metal-working machine tools (CNAE 2841), according to the latest figures published by Spain's Foreign Trade Institute (ICEX).

In total, the value of the machinery exported to the US amounted to 121.5 million euros, which meant a year-on-year increase of 35.8%. In contrast, sales to Germany fell 2%, recording a figure of 107.1 million euros.

Last year posted a positive trade balance. Spanish manufacturers exported machinery valued at 1.095 billion euros, 25.3 up on 2020. Nevertheless, this increase still falls short of pre-Covid levels.

This did not detract from the good performance recorded in 2021 in China (+58%), Italy (+65%) and France (+12%), which completed the 'Top 5' of Spain's foreign sales. Nevertheless, a highlight among the leading customers was the 157% increase in exports to Turkey, the sixth main market, amounting to 53.7 million euros in 2021.

### Italy and China, growth in 2022

The first figures for 2022 indicate further changes in the international leaderboard. In the first two months, Italy jumped into first place with 17.9 million euros and year-on-year growth of 164.9%.

Relative growth in China, the second leading market through to February, was much more modest (+33.6%), although in absolute terms (16.3 million euros) it came fairly close to the figure recorded by Italy.

## TÜRKIYE GAINS POSITIONS

Türkiye became Spain's fifth largest MT market in 2021 after increasing the value of its imports 2.6 times over the past year.

| | 2021 | %21/20 | 2020 | 2019 | 2018 |
|---|---|---|---|---|---|
| USA | 121.5 | +36% | 89.4 | 119.0 | 103.4 |
| Germany | 107.1 | -2% | 109.3 | 139.7 | 160.5 |
| China | 96.9 | +58% | 61.3 | 92.3 | 114.1 |
| Italy | 95.6 | +65% | 58.0 | 83.4 | 69.9 |
| France | 67.0 | -12% | 75.9 | 87.4 | 86.8 |
| Türkiye | 53.7 | +157% | 20.9 | 28.4 | 19.5 |
| Mexico | 48.7 | -8% | 52.7 | 72.7 | 108.4 |
| India | 48.6 | +33% | 36.5 | 43.0 | 17.3 |
| Portugal | 44.1 | -6% | 46.8 | 78.0 | 78.2 |
| United Kingdom | 32.7 | +8% | 30.4 | 21.9 | 41.4 |
| Russia | 30.1 | +3% | 29.1 | 17.3 | 16.5 |
| Poland | 29.1 | +23% | 23.7 | 32.8 | 43.8 |
| Brazil | 25.7 | +250% | 7.3 | 20.9 | 14.4 |
| Canada | 25.2 | +109% | 12.1 | 12.3 | 16.3 |
| **TOTAL** | **1095.2** | **+25%** | **873.9** | **1150.1** | **1206.8** |

CNAE 2841. Data in millions of euros. Source: ICEX.

BASQUE COUNTRY | TRANSFORMATION

# POST-COVID RECOVERY

## BASQUE MT FIRMS SURGE AHEAD IN 2021 AND 2022

The firms building machine tools for metal-working have continued the trend linked to the economic and investment cycle. In recent years, with the financial and health crises in 2008 and 2020, respectively, they have reflected this concatenation, which in the Basque case has led to major volatility in sales and a more solid background in maintaining profitability.

According to the Basque Statistics Office (Eustat), these firms ended 2019 (2020 is included, but Covid renders it meaningless for reference purposes) with a turnover of 982 million euros, 5.8% down on 2018 and 14.7% less than in 2008, in which they invoiced 1.152 billion. It is worth noting that the sector surpassed the threshold of one billion euros in both 2017 (1.027) and 2018 (1.043), but already recorded a certain sluggishness in 2019, prior to the 17% drop in 2020.

As a yardstick for the performance recorded over the past two years, it should be stressed that machinery and equipment manufacturers, which included this group, recorded a fall in their Industrial Production Index (IPI) of 7.3% in 2020. Nevertheless, the recovery of positions was almost automatic in 2021, a year in which the IPI rose sharply by 14.9%. This performance has been confirmed in the first two months of 2022 with an 18.7% increase, which augers well for the continuity of the growth cycle.

**THE BASQUE IPI GROWS 14.9% IN 2021**

### Higher profitability

This greater business resilience is based on increased concentration and profitability. The return on income in 2008 -a record year for sales- was 3.6%, although bettered by the 6% over the three years from 2016 to 2018, due to the adjustment. The number of businesses therefore fell from 169 in 2008 to 121 in 2019 and 109 in 2021; and the average headcount increased from 31.4 in 2008 to 34.8 in 2019, with this growth expected to continue over the coming years.

## BASQUE MACHINE TOOL LOSES POSITIONS

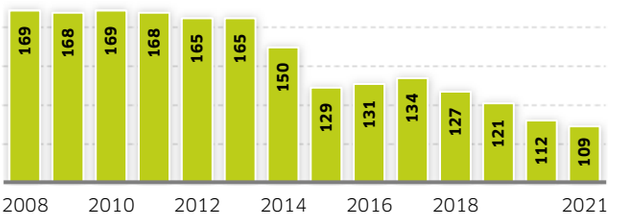
Eustat statistics already reveal a clear slowdown in profitability and performance per employee in the year prior to the Covid crisis.

| | 2020 | %20/19 | 2019 | 2018 | 2017 | 2008 |
|---|---|---|---|---|---|---|
| Headcount | 4,099 | -3% | 4,214 | 4,231 | 4,208 | 5,306 |
| Hours worked (thousands) | 6,176 | -11% | 6,971 | 7,003 | 6,983 | 8,878 |
| GVA at factor cost | 236 | -15% | 276 | 299 | 298 | 324 |
| Gross Operating Surplus | 44 | -34% | 67 | 93 | 95 | 93 |
| Net Operating Surplus | 23 | -52% | 48 | 75 | 77 | 72 |
| Investment | 21 | -28% | 29 | 25 | 34 | 132 |
| Net sales | 813 | -17% | 982 | 1,043 | 1,027 | 1,152 |
| Other Operating Income | 20 | +6% | 18 | 22 | 18 | 39 |
| Personnel Costs | 192 | -8% | 209 | 206 | 203 | 230 |
| Oher Operating Expenditure | 117 | -26% | 158 | 159 | 155 | 189 |
| Write-downs and Amortisation | 21 | +9% | 19 | 18 | 18 | 21 |
| Other Op. Income and Expenditure | -3 | -141% | 8 | 2 | 6 | -18 |
| Operating Profit (loss) | 17 | -67% | 51 | 69 | 72 | 42 |
| Pre-Tax Profit (loss) | 0 | - | 52 | 70 | 73 | 42 |
| Profit (loss) for the Year | 8 | -82% | 47 | 62 | 70 | 41 |

Figures in millions of euros. Source: Eustat.

## THE BASQUE MT SECTOR IS COMING TOGETHER

The number of businesses in the sector has fallen 35% over the past decade.




Data at 1 January each year. Including MT businesses for metal-working and the manufacture of other MT.

BASQUE COUNTRY | DIVERSIFICATION

# GLOBALISED TRADE

## MACHINE-TOOL MANUFACTURERS BREAK INTO NEW MARKETS DUE TO THE CRISIS AND THE LOWER DEMAND IN EUROPE

Basque manufacturers of machine tools for metal-working have a long history of exporting, which has intensified in this century. This group's exports have risen from 55% of turnover in 2008 to 70% in 2019, although for many companies this figure exceeds 90%. This greater trade effort was expedited by the globalisation of competition, which required businesses to increase their positioning in new countries because of the reduced dynamism in western Europe.

### A France-Germany duet

As an example of this change, the figures for foreign trade provided by the Basque Statistics Office (Eustat) reveal that France and Germany accounted for 36.9% of MT exports in 1990, with this figure remaining at 35% in 2000 and above 30% in 2008 and 2009. However, the financial crisis and the advent of new countries reduced the share of this duo to 22% in 2019 and 2020, and to 18.4% in 2021.

The extent of the change was confirmed in 2021. For the second time in its history -the first was in 2015- the US became the leading importer of Basque MT with 87.6 million at an annual increase of 54.4%, which meant pushing Germany into second place with a figure of 81 million and an increase of 7.1%.

This change should not be considered a one-off, but instead proof of the industrial upheaval recorded over the past two decades. A look back at 2000 and 2021 shows that Basque MT exports to the US increased twofold; those to China grew from 8.4 to 54 million; those to Turkey from 6.7 to 38.4 million; those to India from 1.7 to 34.6 million; and those to Russia, from 1.1 to 25 million euros.

### Italy galvanises the sector

Italy is the one major exception in Europe. The fiscal policy involving the hyper-depreciation of investments in the country has meant that Basque exports rose to 73.3 million euros in 2019, 42.5 in 2020, and 69.1 in 2021, 63% up on 2000.

As regards trade with the rest of the world, a highlight has been the emergence of new customers in Eastern Europe: Poland and Czechia, which made up for the less dynamic performance by such traditional markets as Portugal, Brazil or Mexico.

This new commercial scenario is appreciated more clearly by comparing exports in 2021 and 2008. Total MT sales grew 0.7%, from 650.4 to 655 million euros; nevertheless, exports to Germany fell 42.7%; to France, by 29%; and to Italy by 1.2%. In contrast, purchases made from the US increased 335%, thanks to its government's greater commitment to industrialisation; from Turkey, they were up 196%, from China, 45%; and from the UK and Poland, by 35%.

The origin of foreign supplies delivered to Basque industry did not record any such sharp changes, although it is true that both Germany and Italy, the top two in the ranking, saw their market share reduced. Their companies accounted for 52% of Basque imports in 2000, with this figure falling by 49.3% in 2008 and 40.5% in 2021.

Note should also be taken of the presence of more machine tools originating in China, which became the largest supplier in 2021 with 11.1 million euros. This jump may be linked to plain machines, on the one hand, and to the delivery of parts and equipment of multinationals operating in this Asian country, on the other. In turn, Taiwan has remained in leading positions over the past twenty years, while Korea stormed into fourth place.

The figures for imports and exports provide a snapshot of the global industrial trend in recent years. We expect regionalisation to strengthen MT supply and demand in Europe, which will always provide a boost for Basque companies.


EMPRESA XXI

**THE US, ITALY AND ASIA INCREASE THEIR SHARE OF BASQUE EXPORTS THIS CENTURY**

## THE US, THE LARGEST EXPORT DESTINATION

For the second time, sales of machinery to the US in 2021 topped the ranking of destinations for Basque MT, with the first time being in 2015.

| | 2021 | %21/20 | 2020 | 2019 | 2018 | 2013 | 2008 |
|---|---|---|---|---|---|---|---|
| USA | 87.6 | +54% | 56.7 | 72.7 | 61.3 | 49.7 | 20.1 |
| Germany | 81.0 | +7% | 75.7 | 99.6 | 116.8 | 150.2 | 141.5 |
| Italy | 69.1 | +63% | 42.5 | 73.3 | 55.3 | 21.0 | 69.9 |
| China | 54.0 | +66% | 32.6 | 66.2 | 92.4 | 122.8 | 37.1 |
| France | 39.5 | -16% | 47.2 | 54.7 | 62.4 | 59.6 | 55.6 |
| Türkiye | 38.4 | +115% | 17.9 | 19.4 | 10.9 | 30.4 | 13.0 |
| India | 34.6 | +27% | 27.2 | 29.9 | 11.9 | 40.2 | 33.3 |
| Russia | 25.2 | +3% | 24.4 | 8.3 | 9.7 | 32.0 | 45.0 |
| Mexico | 25.1 | -32% | 36.9 | 38.9 | 64.2 | 39.6 | 22.9 |
| United Kingdom | 20.8 | -2% | 21.1 | 17.8 | 32.3 | 31.5 | 15.4 |
| Poland | 19.7 | +54% | 12.8 | 18.3 | 28.5 | 10.0 | 14.5 |
| Canada | 16.1 | +80% | 9.0 | 8.3 | 11.8 | 2.4 | 1.3 |
| Brazil | 13.7 | +373% | 2.9 | 8.1 | 6.7 | 34.6 | 24.6 |
| Portugal | 12.6 | +19% | 10.6 | 24.7 | 25.9 | 10.2 | 13.9 |
| Netherlands | 11.6 | +45% | 8.0 | 7.8 | 9.4 | 6.5 | 6.7 |
| **TOTAL** | **655.0** | **+21%** | **540.5** | **679.6** | **732.5** | **761.9** | **650.4** |

Data in millions of euros. Source: Eustat. 2021 data is provisional.
The total includes all the countries receiving exports.
MT for metal-working and other uses.


EDM machine made by the Japanese manufacturer Sodick, represented by Delteco.

## GERMANY, LEADER IN THE DELIVERY OF MT

German companies top the table of countries exporting to the Basque Country in every year from 2000 to 2021.

| | 2021 | %21/20 | 2020 | 2019 | 2018 | 2013 | 2008 |
|---|---|---|---|---|---|---|---|
| Germany | 39.9 | -6% | 42.4 | 60.1 | 58.1 | 44.2 | 46.2 |
| Italy | 18.9 | +2% | 18.6 | 24.8 | 30.0 | 19.4 | 44.0 |
| China | 11.1 | +14% | 9.7 | 12.0 | 12.3 | 6.5 | 6.2 |
| South Korea | 9.5 | +20% | 7.9 | 9.0 | 11.0 | 5.1 | 3.6 |
| Taiwan | 9.4 | +42% | 6.6 | 14.5 | 13.0 | 11.4 | 13.2 |
| Belgium | 7.5 | +363% | 1.6 | 1.6 | 1.3 | 0.2 | 2.2 |
| Netherlands | 7.0 | >999% | 0.6 | 0.5 | 0.9 | 1.1 | 0.9 |
| France | 6.7 | +37% | 4.9 | 5.7 | 7.8 | 6.9 | 11.1 |
| Japan | 5.7 | -34% | 8.5 | 13.8 | 13.7 | 4.2 | 9.8 |
| United Kingdom | 5.6 | -31% | 8.0 | 12.8 | 14.4 | 7.4 | 7.3 |
| Switzerland | 4.3 | +33% | 3.2 | 12.0 | 14.5 | 4.0 | 14.6 |
| Romania | 4.2 | +48% | 2.8 | 5.3 | 6.4 | 6.0 | 5.4 |
| USA | 3.4 | -39% | 5.5 | 5.1 | 7.1 | 2.7 | 5.5 |
| Portugal | 2.0 | +42% | 1.4 | 1.7 | 2.7 | 1.5 | 0.8 |
| Austria | 1.8 | +78% | 1.0 | 1.1 | 0.9 | 2.2 | 2.5 |
| Russia | 0.0 | -99% | 2.9 | 2.3 | 0.0 | 0.0 | 2.3 |
| **TOTAL** | **145.0** | **+12%** | **129.6** | **191.4** | **205.7** | **128.6** | **183.0** |

Data in millions of euros. Source: Eustat. 2021 data is provisional.
The total includes all the countries receiving exports.
MT for metal-working and other uses.


EMPRESA XXI

Workshop of the cutting tool manufacturer Izar in Biscay.

SPAIN | COMPONENTS AND SUBSECTORS

# ABOVE PRE-PANDEMIC LEVELS

THE FIGURE FOR AGGREGATE TURNOVER AMOUNTED TO 609.2 MILLION EUROS LAST YEAR, 5.4% UP ON 2019

**COMPONENT SALES REACHED 250 MILLION LAST YEAR, AN INCREASE OF 27.2%**

The combined output of machine tool manufacturers in terms of components, other machinery, tooling and sundry services reached a figure of 609.2 million euros last year, which meant a year-on-year increase of 30.5%, and more importantly, 5.4 points up on 2019, the last full year before the outbreak of the pandemic (577.6 million euros).

According to the statistics provided by the AFM business association, this trend of yearly improvements was repeated in all the aforementioned subsectors, although the highest growth was recorded in sundry services. The figure of 99.3 million euros invoiced in 2021 reflected a 49.4% improvement over the previous year, and of 35.4% over 2019.

In the case of components, the main subsector amongst those analysed in terms of turnover (250 million euros in 2021), it recorded increases of 27.2% over the previous year and 28.4% over the pre-Covid period.

The heading of other machinery (129.2 million euros) improved its figures by 35.1% over the past year and by 11.2% over the past two, while tooling (130.8 million) did so by 20.7% and 2.5%, respectively.

## TWO-DIGIT GROWTH IN 2021

Other machinery (+35%) and sundry services (+49%) were the most dynamic subsectors in 2021, comfortably recording two-digit growth.

### PRODUCTION OF COMPONENTS

| | 2021 | %21/20 | 2020 | 2019 | 2018 | 2017 |
|---|---|---|---|---|---|---|
| Components | 250.0 | +27% | 196.4 | 194.7 | 210.0 | 196.4 |
| Other machinery | 129.2 | +35% | 95.6 | 116.2 | 123.5 | 130.4 |
| Tooling | 130.8 | +21% | 108.4 | 127.6 | 135.1 | 129.1 |
| Other services | 93.3 | +49% | 66.4 | 73.3 | 81.0 | 65.2 |
| Accesories | - | - | - | 65.9 | 71.1 | 70.6 |
| **TOTAL** | **609.2** | **+30%** | **466.9** | **577.6** | **620.7** | **591.7** |

### EXPORTS OF COMPONENTS

| | 2021 | %21/20 | 2020 | 2019 | 2018 | 2017 |
|---|---|---|---|---|---|---|
| Components | 170.0 | +39% | 122.2 | 125.5 | 121.9 | 121.4 |
| Other machinery | 105.8 | +45% | 72.7 | 79.5 | 65.0 | 64.0 |
| Tooling | 70.1 | +22% | 57.3 | 69.7 | 72.8 | 69.9 |
| Other services | 64.0 | +64% | 39.1 | 49.0 | 50.4 | 39.4 |
| Accesories | - | - | - | 47.7 | 48.7 | 42.9 |
| **TOTAL** | **409.9** | **+41%** | **291.3** | **371.4** | **358.8** | **337.6** |

Data in millions of euros. Source: AFM.

### Growth in exports

The exports recorded by these machine-tool subsectors also posted major increases over the two periods in question. Their aggregate value amounted to 409.9 million euros (+40.7% and +10.3%, respectively).

Components recorded a figure for exports of 170 million euros, with increases of 39.2% over 2020 and of 35.4% over 2019. The invoicing for other machinery (105.8 m) reflected improvements of 45.4% and 33%. Tooling (70.1 m) was up 22.4% and 0.5%, and sundry services (64 m) recorded increases in turnover abroad of 63.8% and 30.6%, respectively.

ROBOTICS | INDUSTRIAL DENSITY

# ROBOTICS: IMMUNITY TO COVID

SPAIN EXCEEDS THE GLOBAL AVERAGE FOR THE DEPLOYMENT OF ROBOTS, WITH SALES SET TO GROW BY 6% THROUGH TO 2024

## GLOBAL COLONISATION

The sales of industrial robots grew in the year of the pandemic, with an estimate at the end of 2021 of 435,000 units, 13% up on 2020.


In thousands of units. Source: IFR and AER

The use of robots in industrial facilities all over the world had speeded up considerably over the past few years, according to the International Federation of Robotics (IFR). In its latest report, the IFR has noted that the average density of robots in the manufacturing industry is 126 units for every 10,000 employees, a figure that almost doubles the one recorded five years ago (66 in 2015).

Spain recorded an above-average figure with more than 200 robots, remaining in fourth place in the European market for industrial robotics, behind Germany, Italy and France, while returning to tenth position in the global ranking. In 2020, installations fell 15% to 3,387 units, after peaking two years earlier (5,266 units in 2018).

According to the CEO at AER Automation, Alex Salvador, this drop was caused in part by the downturn in business in the automotive sector, which for the first time accounted for fewer than half the installations in Spain (39%). This trend uncovered other future vertical markets for robotics, such as metal (19%) and food and beverages (18%).

**THE DENSITY OF ROBOTS DOUBLES THE FIGURE FOR 2015**

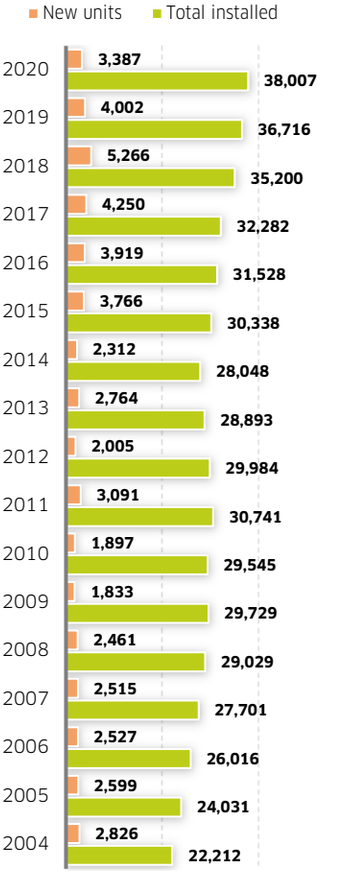
### The global pool grows 10%

The global pool of industrial robots grew 10% to more than three million units in 2020, thanks to the market deployment of a total of 384,000 'individuals', 0.5% more than the figure for the previous year, basically due to the 20% increase in installations in China, followed by Japan and the US.

Following the halt in business in 2019 and 2020, the IFR expects steady growth in sales over the next four years, which will mean the deployment of 518,000 new units in 2024, of which 370,000 will be installed in Asia. The forecast at the close of 2021 is for the sale of 435,000 units (+13% over 2020) with annual growth of 6% through to 2024.

## SPAIN'S POOL OF ROBOTS SHRINKS IN 2020

The volume of the pool has ebbed and flowed over the past four years, suffering from the pandemic's impact in 2020.




Source: IFR y AER.

SURVEY | COMPANIES

# THE MARKET IS ALL-IN

TOP EXECUTIVES AT MTE, TDG, DANOBAT, GEMINIS AND MHG DISCUSS THE SUPPORT FOR LOCAL INVESTMENT

### > IS DEMAND KEEPING TO THE SAME LEVEL AS IN 2021?

**Jacobo Charola** / MTE

There has been a spectacular volume of orders placed in 2021. Specifically, in the milling sector, the increase in the order-book is around 80% higher than in 2019 and 2020 (very similar years). The first quarter of 2022 has also been very good, with similar figures to 2021. The markets have been very busy in 2021, but they are showing signs of a certain slowdown, albeit maintaining a healthy performance. On the other hand, markets that were very weak in 2021 are beginning to show signs of increased activity.

**Fernando Santamaría** / TDG

Business is good for TDG, even better than 2021, and very interesting in that we are dealing with different markets and sectors, which is an assurance of stability over the medium and long terms.

**Xabier Alzaga** / Danobat

The year is getting off to a very positive start throughout the entire Danobat-group and, in general, we are continuing at the same pace as in 2021. In spite of the uncertainty in certain markets prompted by the global situation caused by the conflict between Russia and Ukraine, and the weakness of supply chains, orders are still being received, and most industrial sectors are continuing to invest.

**Josu Unzueta** / Geminis Lathes

The demand for our equipment at Geminis is upholding the excellent trend recorded at the end of 2021. Although we predicted something of a slowdown this year, in keeping with the usual cycle in our industry, the reactivation of markets, which had still not fully recovered from the stoppage brought about by the pandemic, means that the demand for our lathes is recording unprecedented highs.

**Arturo Antón** / MHG

Demand, in the specific case of MHG, and unfortunately for us, is repeating last year's performance. When it seemed that business was beginning to pick up again, we are having to deal with events such as the war in Ukraine, which have prompted a climate of uncertainty and, therefore, nervousness in the markets, once again leading to the freezing of investments that had already been approved.

In our particular area of interest, hydraulic presses, we can see that a certain type of customer is seeking to opt for the alternative of acquiring second-hand machines so as not to risk a major outlay of capital without having the assurance such an investment requires, as they cannot predict how the market will perform over the medium term.

### > HOW WOULD YOU RATE THE MINISTRY'S FIRST PLAN FOR THE PURCHASE OF MT IN 2021? SHOULD IT BE EXTENDED?

**Jacobo Charola** / MTE

It is clearly very positive and should be extended. The response to the plan has not lived up to expectations, as the Spanish milling market has only grown 12% (compared to the global figure of 80%). To be honest, I don't know whether this is due to the way the plan has been approached or whether the Spanish market is still not ripe for investments, although it is probably a combination of both. It would be highly expedient to have a plan for 2022 to help the Spanish market take off, like all the other markets. You only need to look at the Italian example, where thanks to government incentives orders in the milling sector in 2022 have quadrupled the figure for 2021.

**Fernando Santamaría** / TDG

We get the feeling that the funds in Spain have not had the same impact as they have indeed had in other countries, such as Italy. Our domestic/international ratio continues to increase in exports, to which we should add that most of the product we sell domestically ends up abroad due to our machine-making customers. We do not think it is a matter of extending deadlines, but instead of simplifying the process and subsidising effective investments.

**Xabier Alzaga** / Danobat

These are very important plans for the sector and for the industrial fabric. There is a need to upgrade the machinery pool to improve the country's competitiveness and develop better solutions. All support is welcome.

**JACOBO CHAROLA**
CEO
MTE Milling Machine

**"A SPECTACULAR NUMBER OF ORDERS HAVE BEEN PLACED**

**Josu Unzueta** / Geminis Lathes

We have a very positive opinion about the Ministry's plan. On the one hand, it has enabled us to secure projects that would otherwise have not materialised; and on the other, at national level, I think that the increase in productivity, environmental performance and the digitisation promoted by enhanced means of production are some of the conditions required for rebuilding an industrial fabric that will lead to the creation of more value added that generates greater wealth for society at large.

I think incentives should continue to be provided because of the multiplying effect they have over the long run, the improvements in environmental performance, health and safety, and the attraction and retention of talent provided by deploying the latest generation equipment.

**Arturo Antón** / MHG

My perspective from MHG, as a maker of hydraulic presses since 1973, is that the institutions should protect local manufacturers against large foreign competitors, because our different circumstances mean there is a significant divergence in our costs, which is then reflected in the differences in the end values of equipment. I think we should welcome any incentive provided by the various government agencies and which help our customers to decide to acquire locally manufactured machinery for their production lines rather than import it.

### > IS THE SUPPLY OF MT SIGNIFICANTLY AFFECTED BY THE DEMAND FOR GREATER DIGITISATION, OR IS THIS NOW A FACTOR THAT DIFFERENTIATES BETWEEN LARGE ENTERPRISES AND SMES?

**Jacobo Charola** / MTE

Both the digitisation and the automation of machinery constitute an ever-growing requirement. The larger the companies, the higher the level of digitisation and automation, with greater digitisation also depending on the destination country. A consequence of the increase in digitisation and automation for MTE is that the average value of each machine has increased 70% over the past four years.

**Fernando Santamaría** / TDG

We do not believe that digitisation is the sole reason for purchasing MT, although it is undoubtedly a factor that is here to stay and becoming crucial in decision-making when acquiring one brand or another. The part involving data-gathering and remote management provides a series of key advantages in many businesses, although there is still a traditional industry that is governed by other needs. At TDG, we are noting that a differential factor involves the size and capacity of lathes.

**Xabier Alzaga** / Danobat

Basic requirements still remain pertinent in the process of purchasing machinery. The long-term solution is linked to a machine's availability and quality with a set delivery time and cost, regardless of the type of customer. From a manufacturer's standpoint, the digital offer is no longer a differential, as we can all provide packages of solutions accordingly. As for companies, I do not think size is a decisive factor for digitisation, as we are encountering all kinds of cases. In general, certain factors have been hugely important and are on the increase, such as machine autonomy or the demand for a rapid changeover of tooling for increasingly shorter batches.

**FERNANDO SANTAMARÍA**

Sales and Mkt Manager TDG Clamping Solutions

**"THE SUBSIDIES SHOULD INVOLVE REAL INVESTMENTS"**

**Josu Unzueta** / Geminis Lathes

The digitisation of machine tools is still in its infancy in terms of market development, in which there is a flood of technologies and products based on speed and the capacity for data transmission and processing, but which industry has yet to fully embrace. We believe there are several reasons for this: generational resistance, the need for analysis has not yet been included in all industrial processes, and the insufficient value provided by digitisation thus far… In view of this situation, there will be technologies that initially seem very interesting, but which will end up disappearing before they are deployed, while others will survive and evolve.

It seems clear that digitisation will undergo sharp growth over the coming years, enabling industry to take a technological leap forward. This stage calls for us to remain vigilant regarding changes in the market so as not to go down blind alleys or be left behind.

**Arturo Antón** / MHG

At MHG, we exclusively manufacture hydraulic presses that are customised to each customer's specific requirements. Our customers respond to very different profiles. There are some with small businesses that manufacture a product according to strict quality controls, and then there are large multinational corporations that make kitchen equipment, and their product does not involve major pressures or demands.

Thirdly, there is another customer profile that although its production as such does not call for detailed data on consumptions, nor on the performance of press components, needs to comply with its policy on environmental pledges, its efforts to pre-empt possible downtimes in production due to entirely foreseeable faults, its interest in having a detailed breakdown of all the data on production times and costs, consumption, wear and tear on components, areas of improvement in performance…, this type of customer shows more interest in equipment with greater digitisation.

Last but not least, there are customers that own a small business, and their sole interest when purchasing a hydraulic press is that it goes up and down, and they are not bothered whether it travels at 10 mm/sec. or at 500 mm/sec. or whether it consumes 5 or 50 kw.

In short, what we mean by this is that company size does not condition the demand for more or less digitised equipment.

**(continued on page 14)**

(from page 13)

### > DOES SPAIN'S MT MARKET REQUIRE A STRONGER DOMESTIC DEMAND?

**Jacobo Charola** / MTE

As Spanish manufacturers, we have accepted that we are a markedly export sector. In MTE's case, exports account for 85% of our sales. We would indeed welcome a domestic market with a greater demand, which is why we believe that the incentives for investing in machinery should be increased.

**Fernando Santamaría** / TDG

It is an undeniable fact that MT in Spain at the present time is focused on exporting. This will undoubtedly become an issue over the long term, insofar as it may affect the actual supply chain and subcontracting, although we are still a long way away from that. Industry, at least in the north of the country, where TDG is headquartered, is very strong and advanced.

**Xabier Alzaga** / Danobat

As market demand increases, so does performance in order to remain competitive. For some time now, our playing-field has extended across national boundaries, seeking solutions to complex solutions both at home and abroad, wherever they are called for. Doing so in the domestic market is a luxury that also arises, although not as often as we would like.

**Josu Unzueta** / Geminis Lathes

A demanding domestic market is a competitive advantage for manufacturers compared to less developed ones, as it encourages innovation. Most machine-tool makers have been competing throughout the world for many years now, and one might say that Europe is now our domestic market, as a global technology hub. This enables us to access advanced markets such as the US and China, with a differential positioning in terms of quality.

**Arturo Antón** / MHG

Although our machinery is used in a wide range of sectors, such as vulcanisation, forming, pressing, waste treatment, casting… with very different customer profiles, ranging from a small non-technological family workshop through to a cutting-edge multinational in the aerospace sector, the demand in equipment in the domestic market is not, and will not be, enough to reach an optimum state in terms of workload and meet sales and invoicing targets. As noted earlier, the strong competition from abroad means it is impossible to survive on the domestic market alone. At MHG, it would give us considerable peace of mind to have complete stability with the domestic demand for equipment, but the reality is very different, and although 60-70% of our output is destined for domestic customers, this demand falls short of the minimum threshold we need to stay in business. On the other hand, I also think that it is not a good idea to focus only on one market, when a country's economy is growing at a lively pace everything is fine, but when the economy goes into recession you find you go down with it.

**XABIER ALZAGA**
CEO
Danobat

**"THE DIGITAL OFFER IS NO LONGER A DIFFERENTIAL FACTOR"**

**JOSU UNZUETA**
Managing Director
Geminis Lathes

**"THE DIGITISATION IN MT IS STILL IN DEVELOPMENT"**

### > DOES THE BASQUE COUNTRY GENERATE ENOUGH PROFESSIONALS FOR THE NEEDS OF MT?

**Jacobo Charola** / MTE

There is no question about it, skilled labour is now the scarcest asset in all the industrialised economies. Euskadi-The Basque Country is no exception. The wellbeing of employees is now crucial, and safeguarding it has become one of companies' main objectives. This shortage of qualified staff means that machines need to be equipped with a higher level of digitisation and automation, reducing the need for human supervision.

**Fernando Santamaría** / TDG

At TDG, we are proud of the way we attract and retain local talent. At certain specific moments, it may be complicated to find a specific profile, but we have a series of agreements with training colleges within our community, and we employ young people that are highly qualified and with a great work ethic. All these young people are trained thanks to the wealth of experience we have at TDG.

**Xabier Alzaga** / Danobat

We have agreements in place with universities and leading players such as the Machine-Tool Institute (IMH) that enable us to meet our current needs with full assurances. Nevertheless, it is a more complex process, above all, regarding certain technical profiles, as the transformation brought about by the introduction of ICTs is increasing the demand for professionals in the fields of science, technology, engineering, arts and mathematics (STEAM). In the medium-to-long term, the demographic situation will not be favourable, making it a vitally important issue for guaranteeing business sustainability in the future.

We therefore need to work hard to promote a closer alignment between the reality of companies and the academic world, as a decisive factor for attracting new professional profiles. This is, in fact, the reason for our presence in the WORKinn Talent Hub, an industrial employment forum that is held in March at the BIEMH machine-tool trade fair.

**Josu Unzueta** / Geminis Lathes

The scarcity of qualified staff is clearly one of the problems the industry is facing. Professional instruction in recent decades has not enjoyed sufficient prestige to become the first choice for young people completing their compulsory education at the age of 16, even though the professional openings and pay are better than for many university courses.

Nonetheless, I should like to highlight the effort the Basque Government has made by fostering vocational training (FP) and dual instruction, as well as the excellent performance of training centres such as IMH.

MTE Showroom in Germany

Our approach at Geminis has always been to prioritise the attraction and retention of talent, either by complementing vocational training through placements or through dual instruction in higher technical cycles, or else by building machines with people as the main focus, designing equipment for improving the conditions for operating Geminis lathes, creating a working environment that is ergonomic, comfortable, safe, digital and attractive for users.

**Arturo Antón** / MHG

Skilled professionals? In the midst of the pandemic, I took the risky decision of parting company with the technical manager at MHG. I launched a recruitment process that had a magnificent response from prospective candidates: 150 in the first two weeks after the advertisement was published. However, candidates with knowledge and expertise in the field of hydraulic presses? They were few and far between, only 1.5%. This is such a specific sector that there is no training that focuses on their design.

There are indeed professionals with the necessary knowledge because they have learnt their trade within companies in the sector, and in the specific case of MHG, where we do not manufacture the same press twice, there is a ne-

ed for continuous training and learning.

**> WILL YOU BE PARTICIPATING IN THE BIEMH 2022 MACHINE-TOOL TRADE FAIR? WHAT NEW DEVELOPMENTS WILL YOUR COMPANY BE SHOWCASING THIS YEAR?**

**Jacobo Charola** / MTE

Our stand at the BIEMH will be in Hall 2, together with our dealers in Spain, Greco Maquinaria. We will be exhibiting a Model BT-4200 milling machine with our new BFK 0.01 x 0.01-6,000 rpm precision head.

MTE

**Fernando Santamaría** / TDG

As always, TDG will be participating in the next BIEMH. It provides a chance to meet all the customers and suppliers in the area. Our aim is to display our latest developments, which, because of the pandemic, we have not been able to showcase at their allotted time, so we will be attending with our new portfolio of pallet interchangers and the TDG Smartchuck, ready for their marketing.

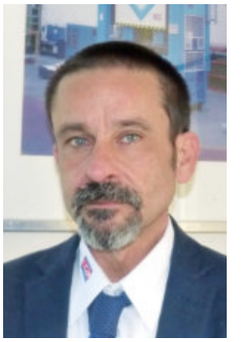
**Xabier Alzaga** / Danobat

Danobatgroup will be participating with a stand measuring over 300 m2 (Hall 1, stand C09) on which Danobat and Soraluce will be displaying their latest developments. Among other new equipment, Danobat will be showcasing the Mikroturn® lathe, a solution for high-precision hard turning made by our Dutch subsidiary Hembrug, designed for undertaking a wide range of different functions.

In turn, Soraluce, which this year celebrates its 60th anniversary, will be showcasing some of its latest developments, such as the Soraluce FLP milling centre, which takes its output to an even higher level. We will also be conducting live demonstrations with the DAS® active damping smart system, which selects the best option for eliminating vibration. In addition, we will be deploying a work area with an original autonomous system for non-destructive testing (NDT) developed by Endity, a company incorporated in 2020 by Danobatgroup and Ideko, specialising in the NDT of high-value parts.

**ARTURO ANTÓN**

Managing Director MHG



**"IT IS IMPOSSIBLE TO SURVIVE OFF THE DOMESTIC MARKET ALONE"**

**Josu Unzueta** / Geminis Lathes

After two years of pandemic, Geminis will be sharing a stand with other companies in the Maher Holding group, exhibiting one of its GT5i model lathes.

This is a very special edition for Geminis, as it will be the first time we are going to be displaying on home soil all our design developments focusing on people and the technical improvements we have made to our entire product range: better ergonomics, waste management, ecodesign and multiprocessing. This will also provide us with an opportunity to meet up again with our customers and partners after these two years of uncertainty.

**Arturo Antón** / MHG

We'll be in Hall 5, Stand A-20, where we will be attending to our loyal customers that never pass up the chance to come and greet us, and we will also be welcoming any visitor that wishes to know a little bit more about hydraulic presses or who want to share their needs with us. We will not be physically deploying any presses because our machines are made to order for each customer, and their own specific wish is to have the presses up and running as soon as possible.

SURVEY | TECHNOLOGY CENTRES

# MAKING THE MOST OF DIGITISATION

## TEKNIKER, IDEKO AND TECNALIA ADVOCATE AN INCREASE IN SERVITIZATION

**> WHAT ARE THE MAIN TECHNOLOGICAL CHALLENGES FACING MT MANUFACTURERS IN THE MEDIUM TERM?**

**Javier Arzamendi** / Tekniker

There is a tendency in the machine-tool sector to include new functions to ensure the equipment can be integrated within the new paradigms of zero-defect manufacturing and sustainability. These technologies, which have already been partially incorporated, will cater for the digitisation of machinery and production processes, heightened precision, and the concept of autonomous machines.

In addition, MT manufacturers will need to carry on analysing the possibility of adopting new business models focusing on servitization, based on digitisation and on a profound understanding of their equipment.

Within this context, Tekniker includes precision engineering as one of its specialist lines and has put it in place in the development of sundry equipment and systems, such as special measuring machinery, scientific instrumentation, testing devices, optoelectronic components, and measurement templates, for example.

Besides the design of systems according to these concepts, a key aspect in precision engineering involves the actual manufacturing process, which in turn calls for means of production designed and used as precision elements.

Market demands require the manufacture of larger items while upholding precision standards or even improving them. Hence the reason that machine tools are increasingly being expected to perform tasks with greater levels of precision. These expectations are becoming ever more demanding for the machine-tool sector, which has to respond with new developments, which from the drawing-board on need to comply with the precepts of precision engineering, seeking a high level of repeatability, avoiding or restricting to the utmost thermal deformations, friction, gaps, and introducing precise operations with systems that permit closing the duly aligned position loop, for example.

**Rafael Lizarralde** / Ideko

The challenge for machine-tool manufacturers in western countries, including the Basque Country therefore, involves upholding their commitment to competitiveness based on high valued added and high-performance solutions, which besides the already required specifications of precision, quality, productivity and reliability, respond to today's industrial and social challenges: digitisation, sustainability, and the pre-eminence of the circular economy.

It is therefore expedient to make the most of the commitment to digitisation by giving value added to a product such as machinery and holistic solutions, together with the generation of new associated businesses not directly included in the product sold but instead related to servitization, maintenance and engineering design optimisation. Through the incorporation of technologies such as Artificial Intelligence, value creation informed by digitisation has become one of the main technological challenges in this regard.

As regards sustainability and the circular economy, although discrete manufacturing and machining are not especially critical processes in terms of their environmental impact, their widespread presence in the productive scenario, as well as their role as drivers and boosters of other technologies, imbues them with a responsibility that companies need to respond to.

The development of technologies that help to reduce the use of both material and energy resources, zero-defect strategies (zero rejects) and the upgrading and reuse of solutions, often linked to technological and digital advancement, constitute challenges that companies are addressing within their strategies of zero-carbon footprints.

**David Sánchez Fuentes** / Tecnalia

After several years developing innovative product-related solutions thanks to digitisation and the incorporation of intelligence, the main technological challenge does not so much involve continuing to be exceptionally disruptive but instead the due adoption, integration and implementation of those solutions as soon as possible.

**JAVIER ARZAMENDI**
Assistant Director and Machine Tool Coordinator Tekniker

**"NEW BUSINESS MODELS WILL NEED TO BE STUDIED"**

Thanks to servitization, the development and transformation of business models among members of the value chain, and especially among end users, will be the differentiating competitive aspect. Today's option regarding the safeguarding of data and the use of decentralisation in computational terms will facilitate its short-term adoption.

Manufacturers' competitiveness will therefore be based on, among other aspects, integrating and facilitating the following: human-machine interfaces (HMIs) that guarantee a clear benefit in the use and exploitation of machinery, and which can be explained according to the complexity that these smart solutions often have; the integration and adoption of more advanced and cognitive digital twin solutions, which can effectively optimise machines; and also the rapid, reliable and affordable development and deployment of improvements and more versatile systems for status monitoring.

TECNALIA

Achieving this in a feasible manner for customers, considering employees' current capabilities, will inform leading manufacturers' successful performance over the coming years. The Basque Country has all the necessary players, both public and private, for reducing to a minimum not only technical risks, but also integration and marketing ones in this adoption, if undertaken in a coordinated manner. All this on the cusp of the next disruption, which will the change of paradigm towards quantum computation.

**> ARE TECHNOLOGY CENTRES AND BUSINESSES WELL POSITIONED IN TODAY'S PREVAILING TENDENCIES?**

**Javier Arzamendi** / Tekniker

The science-technology fabric in Euskadi-The Basque Country enables us to take up a competitive position on the international stage. Liaising with companies and the authorities is essential for upholding this competitiveness as a differential aspect to permit us to maintain our position as benchmarks, as revealed by our export figures to top tier countries in terms of destinations, for example.

Although this is the right approach, there are other differential aspects regarding international leaders, such as, for example, size, which carries a certain weight.


Digitisation is speeding up in all industrial fields.

**Rafael Lizarralde** / Ideko

For many years now, Basque companies and technology centres have been co-existing, collaborating and competing at the highest level with the world's leaders in industry and technology. Accordingly, the Basque sector is an international pacesetter, in terms of both markets, with an extremely high level of exports, and its commitment to technology and R&D, together with its presence and success in public tenders.

**David Sánchez Fuentes** / Tecnalia

They are indeed, not only because they have the necessary technological and manufacturing tools, but also because they have a solid starting point, with a very high volume of exports together with a significant recovery in business and sales in 2021, following the crisis caused by the Covid pandemic.

A top-tier grouping of universities and research centres in the Basque Science and Technology Network [Red Vasca de Ciencia y Tecnología], which is closely aligned with the demands of manufacturing companies and their value chain, underpin this initial positioning. As regards the deployment of this strategy, good public-private cooperation is vital. A particular focus needs to be placed on SMEs, above all the smaller ones, which constitute the value chain for the manufacture of machinery, as well as being end users, and therefore consumers, of these products and services. A key factor in the Basque Country's competitiveness will involve the rolling out, in one way or another, of business models based on servitization.

### > DO YOU THINK ADDITIVE MANUFACTURING WILL HAVE A DISRUPTIVE IMPACT ON MT FOR METAL REMOVAL OVER THE COMING YEARS?

**Javier Arzamendi** / Tekniker

Additive manufacturing complements metal-removing processes, and each one has its advantages. Nevertheless, the use of one or other technology is largely determined by the type of materials and the specification of the part to be made.

Current manufacturing processes, based mainly on subtractive manufac-

(continued on page 18)

(from page 17)
turing technologies (material removal processes) and machining involve large losses of raw material, especially in the case of the shapes involved in structural titanium components for aeronautics, for example.

Moreover, considering that the alloys used to make these parts are costly, high-performance materials, such losses of material in the manufacturing process incur an added costs for manufacturers. This means that additive manufacturing technologies present a great opportunity for the industry's front-runners given their high potential for reducing the amount of material needed to produce any type of part or component.

Additive manufacturing has not peaked yet, and new processes/applications are set to appear, yet metal removal will continue to be an essential process. Nonetheless, it is an interesting technology for manufacturers to adopt and integrate in their equipment, although there is still a long way to go until hybrid machines based on additive and subtractive manufacturing are used.

As an overall conclusion, the current state of laser technology means that it should be considered a key vector in the development of the advanced manufacturing processes required by Industry 4.0, and clearly supplements traditional machining processes.

**Rafael Lizarralde** / Ideko

In the medium run, I don't think it will constitute a real disruption or a drastic change for manufacturers of metal-removal machine tools, but instead it will have a medium-to-low impact, both from the perspective of the threat posed by producing parts that require less machining, closer to the concept of near net shape, as from the viewpoint of presenting an opportunity to create new types of machinery such as hybrid additive-machining units.

**David Sánchez Fuentes** / Tecnalia

Although there are future business alternatives besides additive manufacturing for machine-tool makers, additive technologies may find short-term catalysts for becoming a structural business line. Additive manufacturing as a general process has specific inherent properties and characteristics that inform this opinion.

On the one hand, they are barely deterministic processes that are not easily repeated and which are highly dependent on variables and conditions outside the process itself, but which thanks to digitisation and the current state-of-the-art can be industrialised with a certain degree of assurance. Nevertheless, its possibilities in terms of the streamlined use of material and process energy conditions are closely aligned with current requirements in terms of circularity, decarbonisation and mandatory energy efficiency. We are therefore at exactly the right moment to ensure the success of strategic approaches in additive manufacturing businesses over the coming years.

**RAFAEL LIZARRALDE**
Research and Development Director
Ideko

**"PRODUCTS NEED TO INCORPORATE VALUE"**

**DAVID SÁNCHEZ FUENTES**
Industry and Mobility Director
Tecnalia

**"SERVITISATION WILL BE A KEY FACTOR"**

**> ARE THERE DIFFICULTIES IN ATTRACTING EUROPEAN FUNDS FOR R&D IN SUCH FIELDS AS MT?**

**Javier Arzamendi** / Tekniker

Attracting European Union funds is complicated because of the stiff competition.

Besides, the European Commission's approach as described in its white paper focuses on high-level goals (sustainability, value chain, etc.), making it difficult to apply them to the current objectives of MT manufacturers, although they have a major role to play in achieving these goals.

**Rafael Lizarralde** / Ideko

This is something we have been noting in recent years. As businesses and technology centres related to MT and manufacturing in general, with a view to minimising the risk we are, on the one hand, endeavouring to tailor and adapt our challenges to the major trends set out in funding programmes. On the other, within our possibilities for influence, we are lobbying the different administrations regarding the importance of safeguarding the competitiveness of European manufacturing; a need that has been rendered apparent by both the 2008 crisis and the current one involving the provisioning of key products and materials.

**David Sánchez Fuentes** / Tecnalia

Those countries that are committed to a strong domestic industrial sector, with high levels of innovation, are the ones that prevail over the long term, guaranteeing wellbeing and prosperity for their inhabitants. This issue, which has been clear for a long time and continues to be seen as a pillar of transformation, may have lost some of its significance as a major criterion in the main instruments for R&D funding in certain fields both domestically in Spain and within the EU.

Over the past two years, although there continue to be lines of institutional funding for industry, their arrangement and award procedure are sometimes perceived to be something of a mixed bag. This is where we need to join forces in the Basque Country, upholding clear commitments, and thereby optimising the outcomes of public-private cooperation, which has been so beneficial in the past.

**> FINALLY, IS THERE A NEED FOR A GREATER BASQUE EFFORT IN R&D IN THE INDUSTRY RELATED TO MT OR DO YOU ADVOCATE A SPECIFIC R&D&i PROGRAMME FOR MANUFACTURING INDUSTRIES?**

**Javier Arzamendi** / Tekniker

The sector in the Basque Country is making a considerable effort in R&D&i.

Nevertheless, the introduction of a specific programme would benefit the sector.

**Rafael Lizarralde** / Ideko

Basque Government schemes give massive importance to the industrial and manufacturing sectors. Both the RIS3 strategy and PCTI Euskadi 2030 are the explicit manifestation of this strategy. A further highlight, what's more, is its concern for including technology agents and businesses in drafting this strategy and its associated plans. Based on these strategies, R&D&i programmes provide a robust backing for both the industrial sector and manufacturing and machine tools, through different instruments such as Elkartek, Hazitek, Basque Industry 4.0, and BDIH-Konexio, among others.

**David Sánchez Fuentes** / Tecnalia

Any effort made along these lines will be rewarded in terms of the sector's competitiveness in the medium and long-term. Earlier I mentioned positive catalysts, and although 2021 has been a year of recovery, the uncertainties involving inflation, the energy crisis, doubts over provisioning, the conflict in Ukraine, and even the potential debt crisis due to the change in monetary policy, may act against this competitiveness.

Within this scenario of uncertainty, the alignment of all the factors is once again a fundamental and critical factor. This means that standing apart in terms of private investment within the business sphere, together with an institutional commitment to specific measures and programmes that drive innovation in the manufacturing sector, will be key to the competitiveness of Basque manufacturers over the next two or three years and, once again, regarding SMEs, both producers and consumers of manufactured goods integrated as from the innovation stage.

TECHNOLOGY| ARTIFICIAL INTELLIGENCE

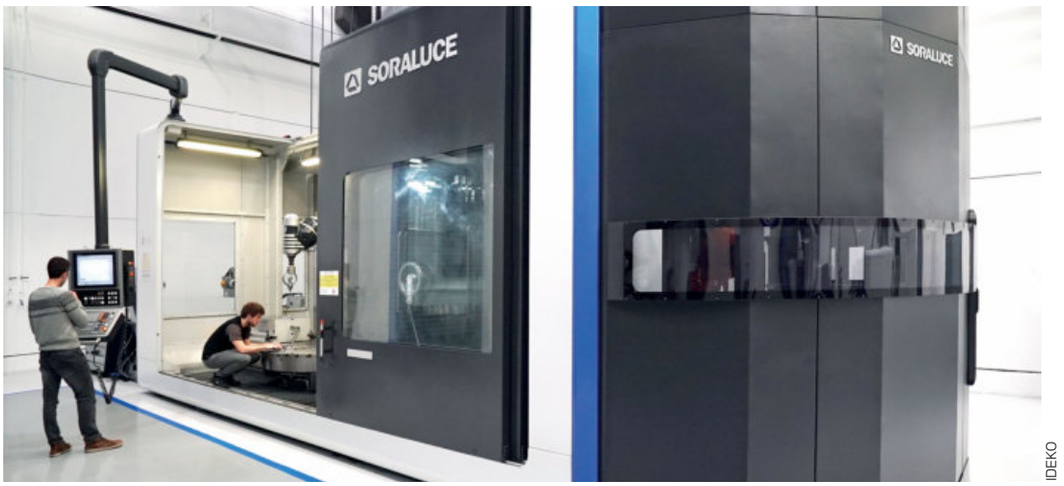
# IDEKO EXTRACTS VALUE FROM 'AI'

## IT SUPPORTS SORALUCE AND GOIMEK IN THE PROCESS OF DEPLOYING AND INTEGRATING THESE MODELS

With a view to increasing the use of artificial intelligence (AI) in the Basque industrial fabric, Ideko is taking part in the Hazitek 'ArgituML' project alongside the Tecnalia and i3B technology centres, as well as the companies Eurohelp and Ibermática. The aim is to boost this technology's use in industrial companies such as Soraluce, Goimek, Vidrala, and Biele.

The project's ultimate aim is to increase the deployment of these AI models by applying the automatic learning paradigm called Machine Learning Operations (MLOps) and the development of tools based on the architecture of microservices integrated into sundry corporate solutions catering for all stages in the life-cycle. The application of these will be expediting the accrual of value by streamlining the life-cycle of the analytical process and reducing the time between development and implementation.

Ideko's role within ArgituML is to further support through different procedures for the user cases provided by the firms Soraluce and Goimek. As its sources explain, the technology centre will be responsible for helping in the diverse tasks planned in the project, as well as for contributing to the definition of the user cases involved in both companies and working on the deployment of the models they have designed, together with their integration.




IDEKO

Researchers working with a team at the Soraluce cooperative.

### INVOLVEMENT IN THE HAZITEK ARGITUML PROJECT

#### A collaborative digital platform

Ideko is also involved in the 'Teaming AI' European project for the development of a collaborative digital platform that combines human and artificial intelligence to ensure personal interaction in the smart factory of the future.

Within this framework, the TC is working alongside Goimek on a user case for the prevention of industrial hazards in complex scenarios involving human-machine interaction.

The model requires a multidisciplinary capability that encompasses human factors, engineering within the context of process control, AI, and data analysis, as well as an understanding of the legal implication according to European policies.

TECHNOLOGY | ADDITIVE MANUFACTURING

# LORTEK MAKES 'LMD' MORE FLEXIBLE'

## THE CENTRE HAS CREATED AN LMD MANUFACTURING CELL TOGETHER WITH FAGOR AUTOMATION AND ITS R&D UNIT AOTEK

Lortek is a technology centre that specialises in merging metal additive manufacturing processes and digitisation technologies. It has developed a Laser Metal Deposition (LMD) manufacturing cell together with Fagor Automation and its R&D unit Aotek for equipping Fagor's new generation of computer numerical control (CNC) units and incorporating the state-of-the-art in sensors and ancillary automatic systems.


LORTEK

Smart LMD cell designed by Lortek and Fagor Automation.

### THE NEW LMD MANUFACTURING SYSTEM INCLUDES STATE-OF-THE-ART SENSOR TECH

The cell is designed for such industrial applications as the repair and retooling of dies, moulds, tooling, shafts, gearing, casings and sundry components, as well as the additive manufacture of pre-forms and parts with near-net-shape.

Another potential use for the cell involves hybrid manufacturing, combining traditional processes such as casting, forming, and machining to produce shapes, overlays and a combination of materials that would only be possible with additive metal manufacturing with direct deposition.

One of the first joint projects between Lortek and Fagor involved the development of a closed-loop laser power control system based on monitoring the size of the molten bath during the deposition process, using a CCD camera in an axial laser beam configuration and its own control algorithms that run in the same CNC Fagor 8070 processor. This control means the dimensions of the molten bath can be maintained, avoiding the accumulation of heat, and therefore ensuring the consistency of the layer's thickness and depth and its greater definition.

### Customised algorithms

Another major development involved the design of customised algorithms integrated in the CNC system for controlling the acceleration and speed of the motors on each drive shaft, rendering it possible to finely adjust the movements to avoid any problems related to the build-up of materials on the corners or sudden changes in direction, and thereby effectively produce precise shapes.

Fagor's new versions of CNC include several customised subroutines for the LMD procedure, whereby the process expert, as well as end users, can set up the machine's movement in a dynamic manner.

Lortek's team working on digitisation technologies has subsequently integrated a high-capacity twin-hopper heated dust feeder and its operation by M codes in the CNC, thereby automating the process and avoiding errors, as well as introducing a rapid adjustment system for the dust flow.

TECHNOLOGY | ROBOTICS

# MACHINES AND ROBOTS, HAND-IN-HAND

## TEKNIKER IS SET TO CREATE FLEXIBLE AND RE-ADJUSTABLE SOLUTIONS THROUGH HAZITEK R2M

Robotics has become a key ambit for nations' technological development and advancement, and more so still within a context that requires manufacturing systems that can be reconfigured.

With a view to achieving this flexibility, Tekniker is taking part in the Hazitek R2M project, whose remit is to find the best integration of both automation technologies and smart robotics and advanced manufacturing technologies in order to provide flexible and re-adjustable solutions, with the value proposal for the customer being the availability of manufacturing systems that are multifunctional, resilient and open to future development without incurring costly re-engineering investments.

Tekniker is working with different companies to develop flexible soluitions.

### APPLICATION OF 'UNITY' TECHNOLOGY FOR SIMULATING MANUFACTURING CELLS

### The robot-machine partnership

In this project, Tekniker is working with different companies in the MT sector on the development of solutions that improve the flexibility and reconfiguration of manufacturing systems based on the collaboration between robots and machines. More specifically, it will provide an overall perspective of the project and will work with different partners to develop technologies for the advanced control of industrial robots, improve the precision of machining applications, implement a flexible work environment for the development of manufacturing cells, and use 'Unity' as a technology in terms of modelling and simulation for virtual cell configuration in early design stages.

TECHNOLOGY | ADDITIVE MANUFACTURING

# CEIT: ENSURING PROCESSES

## BOOSTING ADDITIVE TECHNOLOGIES IN AEROSPACE TOOLING

CEIT

Ceit is contributing to the ADDITOOL project in three areas of the additive manufacturing value chain.

The Ceit technology centre has joined the European ADDITOOL project designed to boost the development and dissemination of metal additive manufacturing technologies for the tooling sector within the field of aerospace, as the continuation of the ADDISPACE project.

### FOUR PILOT PROJECTS PROPOSED BY SMES COMPANY WILL BE DEVELOPED

This project's remit is to make metal additive manufacturing processes more flexible through the undertaking of four pilot projects proposed by the SMEs that make up the consortium, which contains both demonstrators and specific cases of use. They will be trialled under real operating conditions, including a technical and economic study of each one, as well as creating and characterising specific materials according to each company's requirements.

### Ceit's contribution

Within ADDITOOL, Ceit is to focus on three points in the additive manufacturing value chain: design and atomisation involving additive manufacturing processes; characterisation of components made by other partners through different additive manufacturing methods, such as Laser Metal Deposition (LMD), Laser Power Bed Fusion (LPBF), and Fusion Filament Fabrication (FFF); and the finetuning of the thermal post-treatment processes required in additive manufacturing.

Thanks to Ceit's expertise in this last field, the centre is managing to streamline these post-treatments through a combination of traditional thermal processes and hot isostatic pressing (HIP) for their use on the diverse materials used in the project, such as steels, alumina, and superalloys.

ADDITOOL's members are as follows: Ceit, ESTIA, AFM Cluster, Cefamol, Enit, Fada-Cated, Instituto Politécnico de Leiria, Lortek, the University of the Basque Country (UPV-EHU), Meupe, AEAA, Agencia Idea, CAF, Gestamp, Mecanic Vallée, Lakuak, Somocap, and Pombalprof.

# VICOMTECH IS TO DESIGN A 5G PLATFORM TO HELP SMES FACE THE CHALLENGES OF INDUSTRY 4.0

As a result of the technologies driving the future deployment of 5G networks, Vicomtech is heading Elkartek Basque Industry 5G (B-Industry5G), in which it is working with Tecnalia, Ikerlan, Ceit, BCAM, telematic engineering research groups and Networking, Quality and Security at the University of the Basque Country (UPV/ EHU), and Ikergune. The project's brief is to focus the use of 5G on the challenges of advanced manufacturing and Industry 4.0.

According to sources at Vicomtech, the aim is to deploy a cutting-edge 5G technology platform for coordinating a series of advanced 5G laboratories, under the auspices of technology centres and universities within the Basque Network of Science, Technology and Innovation (Red Vasca de Ciencia, Tecnología e Innovación - RVCTI). This will provide the various agents within the R&D&i and industrial ecosystem with the necessary 5G capabilities for addressing the changes posed by Industry 4.0 over the next decade.

### THREE USER CASES ARE TO BE CONSIDERED WITHIN THE FRAMEWORK OF THE IOT

The plan contemplates the development of different technologies based on 5G, like positioning systems, solutions for monitoring and storing data and networks, and systems for orchestrating and automating virtual networks and synchronising network components.

### Federal infrastructure

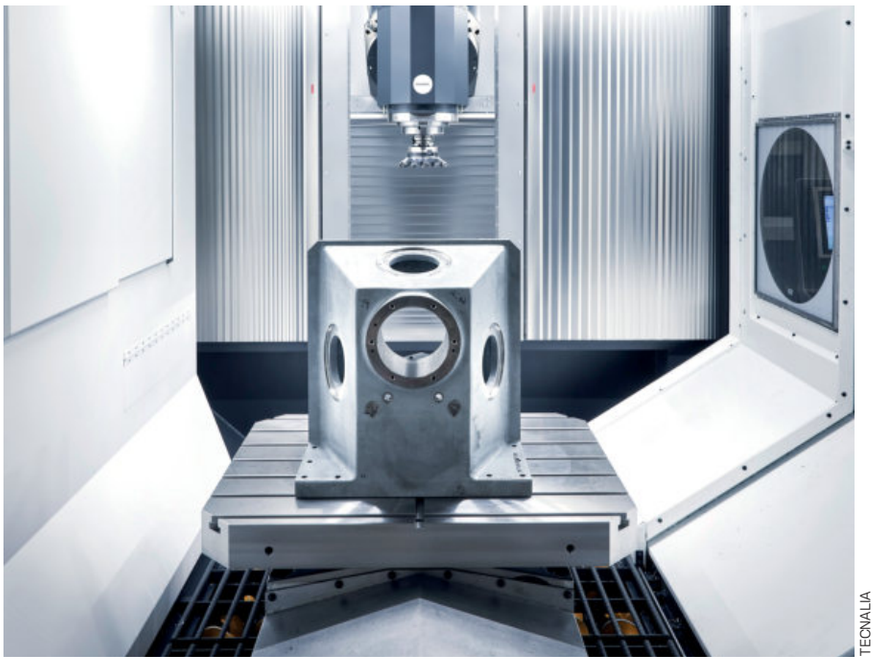
B-Industry5G will also develop a federated infrastructure of 5G laboratories that will enable the members of the RVCTI, universities, engineering firms and providers of manufacturing systems to conduct performance trials on systems for 4 on a small and medium scale.

The plan includes three user cases: cognitive IoT for finding solutions in 4.0 environments; IoT and 5G networks for massive data processing; and IoT robotics for boosting collaborative and automatic robotics.

TECHNOLOGY | ADVANCED MANUFACTURING

# TECNALIA EQUIPS MACHINES WITH NEURONS

## TOGETHER WITH IBARMIA IT IS DEVELOPING SMART EQUIPMENT FOR IMPROVING ITS MACHINERY'S GEOMETRIC PRECISION



TECNALIA

Tecnalia is finetuning the geometric precision of Ibarmia's machines through shaping sensors.

The Tecnalia technology centre has partnered Ibarmia on the development of smart equipment for improving its machinery's geometric precision through forming sensors. This has involved the Smart Temp initiative, in which sensor-bearing bars have been used that are mounted on its machines, and directly measure the deformations recorded. The compensations are not informed by deformation calculations, but instead by deformation measurements. This will permit the use of much more accurate and effective error compensation strategies.

Ibarmia has initially implemented this innovative technology in a THR16 model machine located at its Advanced Aeronautics Manufacturing Centre (Centro de Fabricación Avanzada Aeronáutica-CFAA) in Zamudio (Bizkaia - Spain).

**IBARMIA IS TO MOUNT THE SYSTEM ON A MACHINE**

Tecnalia, in turn, has developed sundry software tools for monitoring the deformations the bars have measured, as well as the compensation strategies designed to cancel the errors detected.

### Press modelling

Tecnalia has also undertaken a project for modelling and finetuning presses at the firm Arisa, a manufacturer of metal-forming mechanical and servo presses for the automotive sector.

As part of the project, the technology centre has studied the dynamic performance of presses in terms of different kinds of impact: a hard hammer blow, a forming hammer blow, and a combined hammer blow. This has enabled the company to guarantee its new press's optimum performance in highly demanding processes and with special materials.

This theoretical performance study will be complemented by a series of trials for correlating the models with experimental results and a study of the impacts to finetune the processes according to machinery specifications.


IKERLAN

Ikerlan is working on the customisation of industrial robots, such as the one being developed for Mercedes-Benz.

TECNOLOGY | ROBOTICS

# IKERLAN CUSTOMISES ROBOTICS

## DEVELOPMENT FOR MERCEDES-BENZ OF A SELF-REFERENCED MOBILE ROBOTIC MANIPULATOR FOR JOINT OPERATIONS

Ikerlan is currently involved in the development of a self-referenced mobile robotic manipulator for joint operations that cooperates on assembly processes with workshop personnel both safely and efficiently. This is thanks to its laser technology and optics systems that, together with the latest collaborative and synchronisation algorithms, allow for monitoring vehicles on the assembly line, while absorbing the tolerances present in the actual assembly process.

**THE SOLUTION IS DESTINED FOR THE VITORIA PLANT**

According to sources at the technology centre, the project's remit is to develop the synchronised and simultaneous operations of a mobile platform with an incorporated collaborative robotic arm for performing joint tasks with operating personnel, both in fixed assembly positions and in travelling assembly lines.

This robot will allow automating a very specific stage of the production process at the multinational's Vitoria-Gasteiz plant in Spain, bolting a series of parts located on the underneath of vehicles within the final assembly process. This task, which poses a postural industrial health risk for personnel, will be significantly eased thanks to the incorporation of the mobile manipulator designed by Ikerlan, which will take part in the assembly process by performing certain specific tasks.

**THE CENTRE IS SET TO DEPLOY A WORKING PROTYPE IN 2022**

### Technology contributions

Ikerlan basically makes three technology contributions in this project: the development of an open-code control platform; the synchronisation between the mobile platform and the robotic arm responsible for, in this case, the bolting process; and the management of the joint operations between the personnel and the collaborative mobile manipulator, combining performance and safety.

Following the product's launch in 2021, by the end of this year the centre will deploy its working prototype. From then on, Mercedes-Benz will undertake the solution's industrialisation stage, given that this vehicle manufacturer plans to incorporate it into its production line at the Vitoria-Gasteiz plant.

IKERLAN

Ikerlan's stand at the BIEMH machine-tool trade fair in Bilbao for smart and sustainable manufacturing.


GEMINIS

Image of a Geminis lathe with additive technology.

MACHINE TOOL | LATHES

# GEMINIS CREATES A HYBRID LATHE WITH ADDITIVE CAPACITY

## THE PROJECT, BACKED BY THE CDTI WITH 2.1 MILLION EUROS, WILL BE MARKETED AS FROM 2024

Geminis Lathes, a company that specialises in the design and manufacture of horizontal and multiprocess lathes, is currently involved in developing a three-year innovation project for the manufacture of a new hybrid lathe.

The project, whose remit is to investigate the conflation of complementary technologies, has received the backing of the Centre for Industrial Technological Development (CDTI) through a cash injection amounting to 2.158 million euros. The plan involves combining the traditional lathe technology in which Geminis specialises, the metal-removal machining of cylindrical pieces, and additive technology, in which material is added to the piece.

### Working with Tekniker

This R&D project is one of the focal points for the R&D&i department at Geminis and is part of the partnership framework with the Tekniker technology centre. The research line is part of CDTI's Cervera R&D transfer projects. According to Iosu Unzueta, CEO at Geminis Lathes, "the plan is designed to deliver a product that will enable our customers to adopt new approaches in their manufacturing systems and produce pieces with improved specifications and functions, as well as recover previously worn parts. It will significantly enhance production processes, and we believe it will provide a differential technological aspect over existing technologies".

**IT WILL LEAD TO A REDUCTION IN COSTLY RAW MATERIALS**

This development is rooted in a project subsidised by the Basque Government's Hazitek business programme. In the words of Iñaki Irure, Director of Engineering, "we have shown that the additive technology we wanted to incorporate complies with the appropriate levels of productivity, and following a study of the market we have decided to implement it on our lathes". They are currently working on the manufacture of machinery and the necessary devices to ensure this hybrid lathe "becomes a product with the best specification for adding material without compromising its machining capabilities". This explains why they are also working to improve the precision of the lathe itself. According to sources at the company, the machine will not be marketed until 2024.

The combination of the two technologies has numerous financial and environmental advantages, as it leads to a reduction in the use of costly raw materials through the surface addition of different materials, improving the pieces' mechanical properties, the reuse and consequent prolonging of the machined pieces' useful lives, and the elimination of the highly toxic chroming procedure in coating processes.

CMZ

Delivery of 233 machines in Italy in 2021, its main market.

MACHINE TOOL | LATHES

# CMZ: FULL SPEED AHEAD

WITH 515 MACHINES DELIVERED LAST YEAR, THE FIRM RECORDED A RECORD TURNOVER OF 85 MILLION EUROS AND FULFILLED ITS MILESTONES ON ITS WAY TO INVOICING OVER 100 MILLION EUROS IN 2025

CMZ is continuing to cruise toward achieving its goal of invoicing over 100 million euros in 2025. Last year, it posted a new record of 85 million euros, 6% up on the pre-pandemic figure (2019).

The bulk of this turnover, 77.8 million euros, was recorded under the heading of lathes, with an overall figure of 515 machines delivered. In turn, the income from services and spare parts added a further 6.5 million euros, while the remaining 0.7 million was collected through its new online store for tool holders: CMZ Store.

CMZ Store has been the group's first experience in e-commerce, and although it has only been launched recently sources in the firm's management consider it to have been a positive step forward. So much so, in fact, that they have told Empresa XXI that they are planning to increase the range of products marketed via this channel.

The group is headquartered in Zaldibar (Bizkaia) and it continues to focus mainly on exporting. Indeed, approximately 80% of its revenue is generated outside the Basque Country, mainly in Italy, which accounted for 37% of the income, with the sale of 233 machines. It was followed by the rest of Spain, with a fifth of the income and an increase of 20%, largely thanks to the positive reception of its CNC lathes within the 'Renove Plans' for subsidies organised by the Ministry and the Provincial Council of Bizkaia. France accounted for another 19%, with Germany and the UK further back.

### Growth plans

CMZ's goals is to consolidate its positioning in all these markets and, at the same time, reinforce it in others with major potential, such as the US and Turkey, in which it has recently deployed through local dealers. This consolidation will involve stepping up production. This explains the transfer and enlargement of its boilermaking subsidiary Cafisur, the commissioning a few months back of the Neoprec machining plant, and the expansion of the Nuevo Precitor one.

This record turnover last year was accompanied by a considerable increase in the workforce, which for the first time crossed the threshold of 400 people.

MACHINE TOOL | ELECTRICAL DISCHARGE

# ONA STRENGTHENS AERONAUTICS

IT HAS ASSIGNED ONE MILLION EUROS TO A NEW RANGE OF MACHINES THAT PROVIDE DIFFERENTIAL TECHNOLOGY FOR THE TURBINE SEGMENT

ONA Electroerosión is involved in a project for the design, manufacture and marketing of a range of machines for the production of aeronautical turbines, which according to sources at the company will have a major impact in the medium term on its differential positioning.

The project includes an experimental development for designing and building at least two prototypes/demonstration units of two models in the FH4/6 series, as well as undertaking the testing and validation process in partnership with leading customers that have already expressed their interest. There is a two-year implementation period that is scheduled to end in June 2023. The investment will exceed one million euros.

**THE PLAN IS ENDORSED BY THE '3I' PROGRAMME IN BIZKAIA**

The project, endorsed by the Provincial Council of Bizkaia's 3i programme, responds to an opportunity detected in the (Aero Energy Gas Turbine (AEGT) sector, within this MT builder's diversification process. The sector's demands for reducing fuel consumption, noise, and NOx emissions, amongst others, prompt the need for new requirements in design, materials and manufacturing processes. The new components (blades, bays) feature improved cooling conditions thanks to a complex arrangement of orifices. Through its Fast Hole EDM Drill (FH), ONA will seek to respond to the needs of the manufacturers of these components with specific and competitive machinery.

ONA's solutions are innovative for almost all the product's critical components: immersion process, breakthrough detection, electrode changeover system, and Smart CNC, E.g. Furthermore, the FH range will be part of its digital product strategy and smart services.

The project's marketing strategy is designed to innovate in a differential treatment of customers in the turbine sector.

ONA EDM

The new FH range will be integrated within the ONA Smart Connect platform.

EMPRESA XXI

Facilities at Fagor Automation for the assembly of components on hobs in the town of Arrasate-Mondragón.

MACHINE TOOL | CONTROL

# FAGOR AUTOMATION TURNS 'NANO' INTO A 'MEGA' PROJECT

## IT IS TO BUILD A PLANT THAT WILL REINFORCE ITS DIVERSIFICATION WITH CAPTURE AND MINIATURISATION TECH

Fagor Automation has extended its list of industrial and market challenges for the coming years. It will draw up the roadmap for their achievement based on the strategy applied in recent years, which includes technological innovation and the launch of specialised units that reinforce its equipment's autonomy and reliability. On this occasion, as explained by the cooperative's CEO, José Pérez, "we have committed ourselves to boosting the diversification of the 'capture' of business over the 2022-2024 period".

### Prompting synergies

This evolution "should be understood in context. We continue focusing the bulk of our efforts on developing our MT range, while the aim with diversification is to level off the traditional cyclic curve in the demand for capital goods and further explore technologies to create differentiating industrial synergies".

Hence the reason, adds José Pérez, "that the progress made in the past two years involves the complete overhaul of our product catalogue in 2021 and the creation of the 'Service' division. The developments now will be based on diversifying the 'capture' of manufacturers of IT, medical, aerospace and scientific equipment and semiconductors. This involves the miniaturisation of solutions, a strategic scaling because of what it provides all machine makers in terms of design and sustainability due to the lower consumption of materials".

**THE PROJECT HAS A SIX MILLION EUROS BUDGET**

This decision will involve the commissioning of a new plant in Gipuzkoa at a cost of six million euros: "We are taking the first steps to establish this new business unit and choose the best site. The aim is to have it up and running in 2023 and fully operational in 2024".

### Circular encoders

The product is based on solid pillars put in place over the preceding quarters. José Pérez sums them up by stating that "the sales from the diversification of 'capture' already amounted to three million euros in 2021. Furthermore, we have innovated through a new product involving circular encoders, which are to be showcased at the BIEMH trade fair in Bilbao in June, and which we have already reported to the market". Above all, the CEO highlights the agreement reached with "an Asian company that is a leader in the manufacture of semiconductors, which are to be installed on its production lines".

## THE COOPERATIVE LAUNCHES ITS 'SERVICE' DIVISION AND ITS ADVANCEMENT SOFTWARE

Over the 2020-2021 period, Fagor Automation made a strategic leap forward through the design and expansion of its product offer in services. As reported to Empresa XXI by the head of the 'Service' department, Igor Murgiondo: "We realised we had no choice but to advance in this field and create a product offer that went beyond our technical assistance and after-sales services". With a view to dynamising the project, they created "a business with its specific character and offer, coordinating with all the other divisions, but with its own objectives and strategies".

Igor Murgiondo stresses that the aim is "to reach a turnover of 15 million euros in 2024, almost double the 2020 figure". In pursuit of this target, the organisation has a workforce of 80 people, with half employed in Gipuzkoa and the other half abroad. It will also need a frontline product: "A key aspect of this operation has been the agreement with Savvy Data Systems, which has added its experience in the digitisation of plants, products and processes to our know-how in machine tools".

Both groups' innovative work was encapsulated in the 2021 launch of 'Fagor Digital Suite': "It´s a modular digitisation platform with several layers, ranging from a basic package through to a bespoke solution, and it caters for the needs of the end users of machinery as well as MT makers".

**IT WILL ACCOUNT FOR 15-20% OF INCOME**

Murgiondo stresses that they managed to create a product that is "modular, scalable, little intrusive and multibrand, which in the case of machine manufacturers enables them to customise the solution in the cloud through teleservice, API, and maintenance, as well as generating its own services".

The growth of 'Service' will also require extending the commercial offer to the group's subsidiaries: "The aim is to record a 15-20% share of our turnover by 2024", a figure already exceeded in Spain and in the main EU markets.

MACHINE TOOL | COMPONENTS

# TDG SETS ITSELF MORE HOMEWORK

ITS PLANS INVOLVE A FAR-REACHING IMPROVEMENT IN ITS OUTPUT CAPACITY AND TECHNICAL COMPLEXITY

TDG Clamping Solutions, a specialist in the design and manufacture of large-diameter manual and automatic lathe plates, is embarking upon an ambitious 2022-2024 plan that targets 20% growth over three years, based on the development of three pillars: internationalisation into as-yet unexplored countries; the marketing of the pallet interchanger solution and the TDG Smartchuck; and investment in production processes, as required for the development of bespoke solutions with a high value added. This new strategic approach, the first under its CEO, Michel Clavier, will focus its efforts on the capture of orders of greater value and technical difficulty, with the aim of becoming an international benchmark partner in customised clamping solutions.

### This year's investments

This manufacture headquartered in the Basque province of Bizkaia therefore contemplates undertaking a programme of investments that will enable it to increase its capabilities and modernise its means of production to address projects of this calibre in a timely and affordable manner. According to sources at the company, the strategy involves making the bulk of the production investments over the course of the first year, for which they have budgeted a sum of over one million euros. Some of these investments are already being negotiated with the main prospective suppliers, and the same sources affirm that once the machinery has been installed it will mean a major improvement in the output capacity of this one-hundred-year-old plant located in Gernika (Bizkaia).

### Positive start to the year

"2022 has got off to a very strong start right from January", according to sources at the company, and is even "looking like it will improve on the budget". During the first quarter, they expect to deliver highly specialised customised products, mainly to domestic lathe manufacturers such as Geminis, Ibarmia and Gurutzpe, as well as a number of major projects in the rest of Europe.

More specifically, under the heading of exports, the new strategy's internationalisation drive involves expanding into markets such as Turkey, Canada, and countries in Eastern Europe, the former Soviet Union and North Africa. This will also prolong the sharp growth recorded in the Baltic countries during the preceding plan.

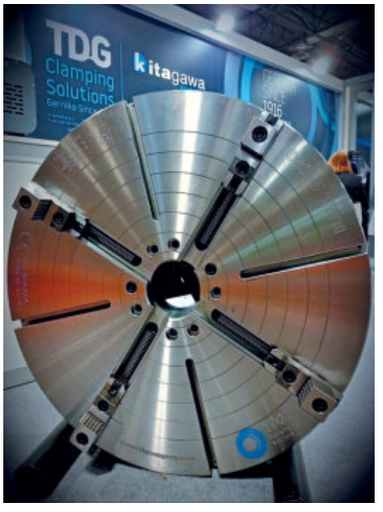


Image of a plate with independent jaws by TDG.

The CEO at TDG, Michel Clavier, has also explained to Empresa XXI that the new plan is a natural follow-up to the 2019-2021 plan, which ended with a very high completion rate. During it, he stresses, the company made a significant effort to convert its production to the Lean Manufacturing model and improve its branding, in partnership with the consulting firm Improven and in collaboration with Sisteplant. This effort enabled it to continue growing during the Covid pandemic, and significantly improve the indicators related to quality and delivery times.


HEROSLAM
Heroslam plans to invest in machinery.

MACHINE TOOL | TOOLING

# HEROSLAM APPLIES ITSELF IN R&D

IN ITS 80TH ANNIVERSARY, THE TOOLING MANUFACTURER HAS DRAWN UP A THREE-YEAR PLAN FOR INTRODUCING NEW THREADING SOLUTIONS

Heroslam specialises in the design and manufacture of laminate threading tools for the production of clamping fixtures. It has been trading for 80 years and aims to continue in the sector's vanguard. As the head of marketing at Heroslam, Alberto Gabikagoxeaskoa, explained to Empresa XXI, "the protracted international record and the high level of specialisation have enabled us to provide customised solutions; and we are now going to launch an interactive catalogue that will include a wide range of threading tools, such as combs, rollers and rollers-sectors".

The celebration of the anniversary coincides with the drafting of the 2022-2024 plan, whose roll-out will be informed by the modernisation of the machinery pool, an increase in R&D, an improvement in workshop digitisation, and the application of lean manufacturing for process optimisation.

The Heroslam plant caters for the entire process of manufacturing tooling, including thermal treatment and coatings, which means that the ongoing renewal of machinery will continue to be one of its strategy's core aspects.

### Investment in machinery

Over the coming three years, therefore, the firm will make a major investment effort supported by the Bilakatu Programme of the Basque Government's Business Development Agency (SPRI), which will help to fund the purchase of latest generation grinding machines, with a budget of two million euros and a target of increasing out-put by 20-25%.

It will also expand its R&D through the Hazitek and Konexio programmes, which will ensure the continuity of its involvement in the Hibrydie project for the development of hybrid tooling, combining additive and traditional manufacturing for providing a greater threading capability. The firm is currently at the application stage for another two Hazitek programmes.

MACHINE TOOL | MECHANICAL ENGINEERING

# ARATZ IMPROVES ITS OUTPUT CAPACITY

## AFTER FIFTY YEARS IN BUSINESS, IT IS NOW PURSUING A PLAN FOR A FASTER, HIGHER AND STRONGER PERFORMANCE

This step seeks only to reflect the internal transformation of a company that "for remaining competitive, needs to constantly update its technologies and processes that differentiate our product range and service capability".

As an example of its innovative stance, in March Aratz completed its three-year membership of Hazitek Adit4All, which will enable it to deploy additive technology in its workshop. The introduction of this section will streamline our work on single pieces or on parts with extremely complex shapes".

In addition, Aratz is involved in Hazitek DigiVach, where it is working alongside Zubiola, Izadi, Aingura IIoT, Savvy, Mail, AFM, Fagor Automation and Fagor Ederlan. "The aim is to optimise the finish and prolong the life of the tools". Aratz's tasks involve cooperating directly with the university Mondragon Unibertsitatea and with Aotek.

The increase in operating speed will also be based on a plan for the renewal of equipment. Within this strategy, in March Aratz will incorporate a Zayer 'Altea' milling machine measuring 6000 x 3500 x 1500 mm, with a 30º continuous head, which will give it a greater capacity and functions by replacing a small machine with outdated features of both a mechanical and electronic nature.

Balsategui notes that they have earmarked another investment for reinforcing their metal removal capacity: "We have started looking for a high-speed centre, with an approximately 4000 x 3000 x 1500 mm bucket". The plan for improving the company's means of production has been reflected in the reception of unique and complex orders, such as the one placed by EDF: "They have commissioned us to build a complete 'Kaplan' turbine measuring 4.2 metres in diameter and weighing 50 tonnes, which is to be used in the refurbishment of the Beaumont hydroelectric plant. as the plant has been operating for a long time, we are using the original design plans to carry out the reverse and detail engineering, as well as design and manufacture all the tooling required for its assembly, pressure tests, and operation. The delivery will be made around the middle of 2023".

**50**
**TONNES**
THE WEIGHT OF THE 'KAPLAN' TURBINE UNDER CONSTR'UCTION FOR EDF

Zayer 'Altea' milling machine installed by Aratz this very year.


ARATZ

FAGOR ARRASATE

Fagor Arrasate coil laser-cutting line.

MACHINE TOOL | CUTTING

# FAGOR INTEGRATES LASER CUTTING

## BOOSTING ITS OFFER WITH DANOBATGROUP PERSONNEL, TECHNOLOGY AND KNOW-HOW IN THIS FIELD

Fagor Arrasate has announced the integration of Danobatgroup laser-cutting technology for processing metal coils. According to sources at the cooperative, this step is designed to complement its technical capabilities and attend the market with a more complete and innovative product range. Among the business segments that will become more accessible, the highlights are new components for electric vehicles, air-conditioning, steel tanks, and kitchenware.

The integration of the technology, know-how and expert technicians in this field from Danobatgroup will enable Fagor to reinforce its operations in the design and manufacture of metal coil cutting and processing lines, and provide a firm boost for its technical capabilities in the development of laser-cutting solutions and simulation software. The cooperative expects these new laser lines to provide additional annual sales of between 10 and 15 million euros in 2024.

This operation is part of the inter-cooperation between Mondragon's divisions of Industrial Automation and Machine Tools, launched a few years back with the remit to identify areas of common interest that will enable them to gain in competitiveness.

Sources at Fagor Arrasate have stressed that the laser-cutting lines for coils are an alternative to traditional cutting lines using presses in certain market segments that do not requires high production speeds. By removing the need for dies for format cutting, the change of tools is almost immediate. There is also greater flexibility for producing parts with complex geometries.

### Supplying the US

In March 2022, a month after announcing the operation, Fagor Arrasate reported the delivery of a fully automated line for the production of a clean laser-cut piece from a coil at a service centre in the US. The turnkey equipment caters for the entire process in a single system, from the coil through to the stockpiling of the end piece, as it is equipped with a robot and artificial vision for automatic stacking, with no need for prior programming. The cutting is performed by a 6-kW fibre laser that can process steel of up 4 mm. It also includes a Fagor X-GAP system, which provides a gap that adapts to each part's size for its suitable removal, thereby increasing both flexibility and performance.

MACHINE TOOL | TOOLING

# IZAR WILL FORGE AHEAD WITH HARD METAL

## AFTER POSTING A RECORD TURNOVER IN 2021, IT WILL BE FACING THE COMING YEARS WITH THE CHALLENGE OF CONSOLIDATING ITS DIVERSIFICATION STRATEGY AND STRENGTHENING ITS CATALOGUES

Izar Cutting Tools has begun to prepare its new strategic approach for the next three years, with the focus on its dimensioning, product and market diversification, and the strengthening of its tooling catalogues. The next steps are set to culminate the plan for boosting hard metal. Endorsed by the Provincial Council of Bizkaia's 3i plan, the target is to double the output of hard metal tools in order to enter the vast and growing machining industry and position itself within it.

Accordingly, since 2020 the company has invested 2.5 million euros in the purchase of six machines, with 1.7 million of this sum being assigned to the incorporation of two more cells, foreseeably after the summer, and an oil filtering system for recovering grinding dust, which will constitute the final stage of the project.

### Further deployment in customer countries

According to the COO at Izar, Oscar de Manuel, the aim is to meet the demand in a new world of materials (polymers, alumina and castings) used in sectors such aeronautics. Within


EMPRESA XXI

two or three years, therefore, they expect a 10-20% increase in their turnover corresponding to hard metal tooling.

This strategy will likewise enable the company to increase its presence in France, where thanks to hard metal it will exceed its turnover in Spain in the medium term. The internationalisation plan also caters for the launch of a professional channel in Italy and strengthening the North American market via Mexico, where it is looking for alternative markets to the Unites States, where it will deploy with two tooling catalogues.

The ongoing improvement in its business will now focus on providing a quality area and significant enhancement of the service in logistics, where it has increased the number of vertical warehouses from four to six, two of which are double-capacity. In this division, the streamlining of the order preparation area has speeded up the distribution stage, increasing from 3,500 to 5,000 drill-bit order lines in two shifts in a process that will continue to improve with the forthcoming reinforcement of the order consolidation centre and a better packaging and shipment arrangement.

Planned installation this year of a further two cells in its workshop


Alberto López de Biñaspre in front of Lantek's premises in Miñano (Alava).

LANTEK

MACHINE TOOL | SOFTWARE

# LANTEK LAUNCHES ITS EXPANSION WITH ITS LARGEST EVER INVESTMENT

## PLANS AFOOT FOR FUTURE DEPLOYMENTS IN NORTH AMERICA AND ASIA

Lantek is embarking upon a new stage after setting itself up as a standalone business unit within the Trumpf industrial group, which has provided the necessary backing for addressing new investment and expansion plans. As explained by its CEO, Alberto López de Biñaspre, they have included an expansion plan involving their highest ever investment with a view to keep increasing their global market share and double their turnover over the long term. They are on their way to meeting this challenge through a 30% increase in sales over the first nine months of 2021 compared to the same period in 2020.

### Attracting talent

With a view to continuing along the path of growth, the company is going to increase its workforce by 50% over the next twelve months, in keeping with its plan to augment its teams of experts through to 2025. At the same time, the aim is to continue its geographical deployment towards North America and Asia, with new operations planned in the US, Canada, Thailand and Japan. These new locations will extend its network abroad, consisting of 20 offices in 14 countries.

**A 70% INCREASE IN ITS INVESTMENT IN R&D&I UP TO 4.1 MILLION EUROS**

### New product families

This commitment to innovation, as part of its DNA, is also set to continue. Whereas in 2020 they assigned 2.4 million euros to R&D&i, they plan to increase this item by 70% to a sum of 4.1 million euros to continue developing solutions within the field of advanced manufacturing through the incorporation of new product families and technologies for the metal-working sector.

As López de Biñaspre affirms, they are advancing towards a new generation of products that will contribute to better management, dynamic quotation models, and operating control.

MACHINE TOOL | MECHANICAL ENGINEERING

# GOIALDE EXTENDS ITS PRODUCT RANGE

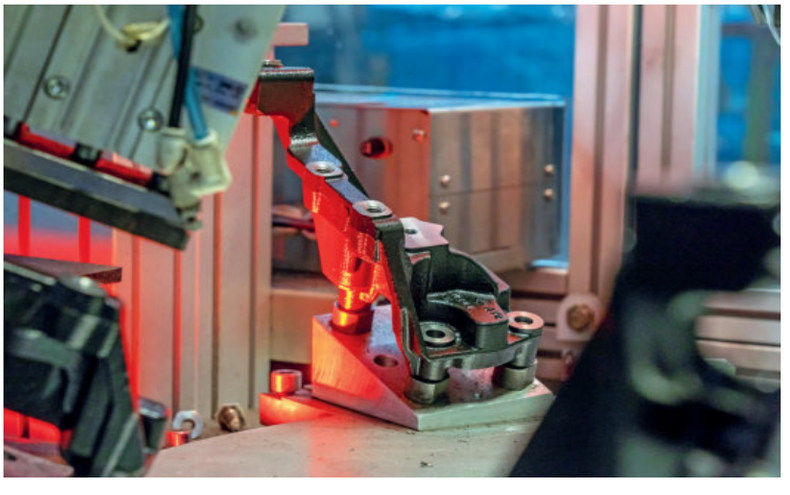
## NEW ORDERS IN HYBRID AND HYDRAULIC AUTOMOTION WILL GENERATE MORE BUSINESS

The Goialde group, which specialises in co-engineering and the manufacture and delivery of turnkey machining solutions, has culminated its 2018-2021 strategic plan by making significant progress in its goals of diversifying its customer sectors. As highlighted by its marketing director, Bitor Elgezabal, "over this period we have upheld our performance in machine tools, increasing the number of customers among major manufacturers of hydraulic equipment, and entering the sector of vehicles with hybrid drive systems".

Its new products will underpin the development of its investment plans in Zestoa, as well as the strategic lines of its 2022-2025 plan: "We have already launched the first stage for the acquisition of new manufacturing cells. We will also be maintaining our commitment to growth and diversification, as well as to process automation and robotisation". The measures to be studied include expanding its industrial base in the area, given that "our plant is close to saturation point".

### Orders from Danfoss and Audi

The increase in its deliveries in the field of hydraulics includes orders placed by Danfoss, Roquet, Husco International and another two major German companies. A highlight in automotion is the project arranged directly with Audi. With a view to staggering the launch of its production in these projects and reinforcing the means of its Components and Precision divisions, Goialde has drawn up an investments plan in several stages. The first steps have involved the acquisition and forthcoming incorporation of two Dixys and the deployment of new cells.



GOIALDE

Goialde has completed the purchase of five new machines for its plant.


Multiprocess machine, developed by Berkoa as part of the Ikasmak 5.1 project

MACHINE TOOL | TRAINING

# BERKOA DOMINATES WITH IKASMAK 5.1

## IT HAS BEEN AWARDED FOR THE MANUFACTURE AND DELIVERY OF THIRTEEN MULTIPROCESS MACHINES IN CONJUNCTION WITH IMH TEACHING STAFF IN ELGOIBAR

Berkoa Machine Tools has seen how its dedication to education has been rewarded following the Basque Government's recent award of the manufacture of thirteen multiprocess machines for equipping occupational training centres in the Basque Country. The deadline for delivery is ten months. As sources at this machine-tool maker explain, this tender was part of the Ikasmak 5.1 project, whose remit involved the design and development of customised multiprocess machines for occupational training centres, designed in conjunction with teaching staff at the machine-tool institute's advanced and digital manufacturing campus (Instituto de Máquina Herramienta IMH), as they are fully aware of the true requirement for teaching their students.

### Motor for growth

Its specialisation in advanced manufacturing and multiprocess technology has made it a motor of growth in Berkoa, where it has in turn embarked upon other strategic projects involving rotary friction welding. In this line of work, they are shortly to introduce their SoldAvanza solution, a welder and testbench using this technology, as well as manufacturing another rotary friction welder for Izar Cutting Tools, a producer of cutting tools located in Amorebieta.

### MANUFACTURE OF A ROTARY FRICTION WELDER FOR IZAR CUTTING TOOLS

Besides these projects, there are other contracts abroad, such as the delivery of a special vertical lathe for Bellota Agrisolutions in the US, and other projects in India for the Delphi-TV plant in the city of Chennai, following the delivery to them of a special turnkey grinder.

MACHINE TOOL | MILLING

# SORALUCE LAUNCHES ITS NEW PLANS FOR THE FUTURE

## INVESTMENT OF 20 MILLION EUROS UNTIL 2024

Soraluce, part of Danobatgroup, is celebrating its 60th anniversary this year by confirming its technological positioning in milling, boring and turning by receiving a record number of orders in 2021, and with a forecast for 2022 of a consolidated turnover amounting to 130 million euros, which will be its highest figure ever.

As the company's CEO, Rafael Idígoras, explains, this outcome is the result of the sustained growth maintained since 1991. This trend is set to continue over the coming years with the enlargement of its product range and the internationalisation and relocation of certain operations for generating greater value added. These steps will entail an investment of 20 million euros and the creation of almost 50 jobs, according to its 2021-2024 strategic plan.

Recent years have seen the completion of its range of multipurpose solutions, gantry machines and automated systems, and the company is now working on a new range of smaller machines.

**130**
**MILLION**
IN EXPECTED TURNOVER IN 2022

### Extensions in Osintxu

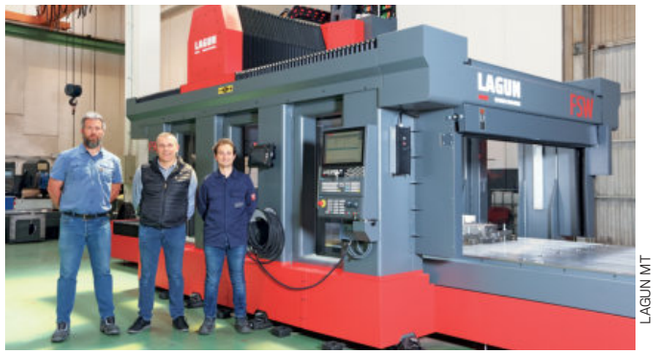
With a view to developing and launching this range, scheduled for the end of the year, a 2,000 m2 plant is to be built beside its main site in Bergara, which is to be completed in March 2023. With an investment of seven million euros, the plant is to be certified to Leadership in Energy and Environmental Design (LEED), which confirms it has been built according to standards of ecoefficiency and sustainability.

The cooperative will, in turn, undertake a second investment of eight million euros in another facility measuring 2,000 m2, also in Bergara. The project responds to the strategy of growth and assumption of new industrial operations related to manufactured parts made to be mounted on its machines.

With a markedly export-focused approach, Soraluce will also continue to look abroad by focusing on new strategic markets outside Europe, specifically the US and China. It has realigned its strategy in the Asian giant, where its plan involves concentrating and strengthening its business in Shanghai. This will mean commissioning premises for hosting a showroom with Danobat and Soraluce machinery and its respective repair areas and spare-part storage facilities. It is now expected to be up and running in 2023.

SORALUCE

Soraluce is exploring a system for reducing the use of electricity.




LAGUN MT

Lagun MT displayed the prototype at the BIEMH trade fair in Bilbao, in June.

MACHINE TOOL | NEW PRODUCTS

# LAGUN MT: A BOOST FOR DIVERSIFICATION

## IT IS OPENING UP A GAP IN THE MARKET WITH SUCH TECHNOLOGIES AS 'FSW' AND PORTABLE MACHINING CENTRES

Lagun Machine Tools has decided to focus on diversification as a growth strategy over the coming years. It has therefore created a business line involving new products that provides the framework for the development of plans based on its know-how and experience in the manufacture of machinery. As part of this commitment, Lagun MT is undertaking two projects: the building of portable centres for performing sundry machining operations for the shipbuilding and energy sectors; and the development of the machinery required for friction stir welding (FSW) the trays for the batteries on electric vehicles.

**PARTICIPATION IN FOUR PROJECTS FOR NAVANTIA**

As explained to Empresa XXI by the CEO at Lagun, Aitor Agirre, "FSW technology has a major potential for responding to the innovations required in electric vehicles , railways and aeronautics". This provides the context for the Lightbee plan, undertaken in a consortium with Ekide and Lortek, for developing a range of a high value-added battery components for the transport industry, using innovative joining technologies.

### Presentation at BIEMH 22

The Lightbee plan, also involving Turkish and Belgian organisations, is being led by Smart Eureka and financed by CDTI. Lagun's contribution has involved the concept, design, manufacture and assembly of FSW machines.

Regarding the project for manufacturing portable machining centres, Aitor Aguirre highlights the objective of adapting it to the technical specifications of customers in the ship-building sector, which in turn has prompted its new investments in solutions.

Special note should be taken of its involvement in four portable centres for Navantia in the programmes for building a submarine and a frigate. "Our aim is to implement all the technologies related to numerical control, digitisation and connectivity that are now applied in the MT field to this market niche".

**STATE AID** | RENOVE PLAN

# BASQUE INDUSTRY DOMINATES

THE BASQUE COUNTRY'S 90 FIRMS RECEIVE 34% OF THE FUNDS AWARDED BY THE MINISTRY OF INDUSTRY IN THE FIRST CALL OF THE RENOVE PLAN FOR MODERNISING THE MT OF SMES

## THE FIRST 'RENOVE' PLAN FOR MACHINERY HAS LEFT ITS MARK

327 SMEs received backing from the Ministry of Industry for their investments involving the acquisition of machine tools for their workshops.

| COMPANY | PROVINCE | SUBSIDY |
|---|---|---|
| Diviprec SA | Bizkaia | 300,000 |
| Mecánica Brañosera SL | Cantabria | 300,000 |
| Izadi Mecanizados SL | Gipuzkoa | 300,000 |
| Newtesol SL | Cantabria | 292,956 |
| Fercoa SA | Madrid | 289,580 |
| Maquinaria y Utiles SL | Gipuzkoa | 277,085 |
| Laser Manufacturing SL | Valencia | 247,350 |
| Microrelleus SL | Barcelona | 230,587 |
| Mecanizado Cremalleras de Direccion SL | Alava | 216,881 |
| Bralo SA | Madrid | 214,600 |
| Comercial Trabajos en Tubo SL | Bizkaia | 194,940 |
| Hermanos Jiménez Gómez SL | Madrid | 188,614 |
| Mecabosch SL | Gerona | 182,872 |
| Promociones y Construc. Mec. Mugarra SA | Bizkaia | 175,000 |
| Laser Cutting Partners SL | Bizkaia | 175,000 |
| Laser Norte SA | Bizkaia | 175,000 |
| Mecanizados Novak SL | Gipuzkoa | 175,000 |
| Goilaser SA | Gipuzkoa | 175,000 |
| Brau SA | Lleida | 175,000 |
| Aceros Morales SL | Murcia | 175,000 |
| Mr Fabricación SAU | Valencia | 175,000 |
| Prada Nargesa SL | Gerona | 174,747 |
| Elementos Mecánicos de Alta Precisión SA | Bizkaia | 172,613 |
| Elay Industrial SL | Gipuzkoa | 167,868 |
| Hijos de Jorge López SL | Murcia | 160,400 |
| Amador Varas SA | Barcelona | 159,419 |
| Carpintería Quero Rosales SL | Málaga | 149,822 |
| Especialid. Ind. Suministros Automoción SL | Tarragona | 144,756 |
| Punteados de Precisión Goialde SL | Gipuzkoa | 137,151 |
| Talleres Sagareche SL | Bizkaia | 132,000 |
| Maquin. Electrónica Esmerilado y Pulido SA | Barcelona | 130,190 |
| Engranajes Especiales SA | Barcelona | 129,759 |
| Estampaciones Metálicas Jom SL | Barcelona | 127,349 |
| Iraundi SA | Gipuzkoa | 124,925 |
| Izar Cutting Tools SAL | Bizkaia | 123,435 |
| Tecnipleg SA | Barcelona | 122,742 |
| Talleres Unamunzaga SA | Bizkaia | 122,000 |
| Talleres Mendizabal SA | Gipuzkoa | 107,530 |
| Gorlan Mekanizatuak SL | Gipuzkoa | 104,616 |
| Industrias Garita SA | Bizkaia | 103,697 |
| Deluq Numerics SL | Barcelona | 121,773 |
| Talleres Launa SL | Gipuzkoa | 120,814 |
| Jorcar2009 SL | Barcelona | 119,900 |
| Soraluce Hermanos SA | Gipuzkoa | 116,259 |
| Repuestos y Aceros Especiales SL | Burgos | 113,500 |
| Nuter SA | Alava | 112,740 |
| Premonser Servicios Industriales SL | Seville | 109,000 |
| Talleres Mendizabal SA | Gipuzkoa | 107,530 |
| Gorlan Mekanizatuak SL | Gipuzkoa | 104,616 |
| Industrias Garita SA | Bizkaia | 103,697 |
| Cerramientos Orell SL | Balearic Islands | 103,000 |
| Carrocerías Insonorizadas Sureste SL | Murcia | 102,464 |
| Ruimoldes 2012 SL | Bizkaia | 100,440 |
| Agorrosin SL | Gipuzkoa | 100,000 |
| Alecar Ventanas SL | Coruña | 98,150 |
| Matriceria Lam SL | La Rioja | 98,000 |
| Industrias Mecanicas Forpal SL | Barcelona | 96,795 |
| Osca Sistemas SL | Huesca | 96,000 |
| Oleohidraulica Española SA | Zaragoza | 96,000 |
| Troqueleria Cigor SL | Bizkaia | 94,400 |
| Mecánica de Precisión Tejedor SA | Madrid | 94,200 |
| Mecanizados Vitoria SA | Alava | 92,000 |
| Industrias Mail SA | Gipuzkoa | 91,295 |
| Renogear SL | Gipuzkoa | 89,500 |
| Mecanizados y Transformaciones López SL | Seville | 88,000 |
| Taller Mecanizados Especiales SA | Burgos | 87,000 |
| Favram SL | Madrid | 85,500 |
| Laef SL | Zaragoza | 85,298 |
| Atfe SL | Barcelona | 85,000 |
| Tallers Fiestas SL | Barcelona | 84,600 |
| Eckermann Implant SL | Alicante | 84,000 |
| Carbotainer SL | Zaragoza | 83,780 |
| Mecaniques Ricol Prada Nargesa SL | Gerona | 81,300 |
| Matriceria Gaor SL | Madrid | 79,400 |
| Taller Aux. para Estampado de Metales SL | Gipuzkoa | 79,150 |
| Herramientas de Galicia SA | Coruña | 79,071 |
| Mecanizados Cace SL | Barcelona | 77,316 |
| Técnicas Ambientales del Centro SL | Madrid | 76,400 |
| Cortes Metalurgicos Oviedo | Valladolid | 76,000 |
| Maximino Seoane SL | Coruña | 75,991 |
| Talleres Industriales Rofer SA | Bizkaia | 74,600 |
| Subcontrataciones Industriales SA | Barcelona | 72,140 |
| Metalls Moreno Ortiz SL | Gerona | 72,000 |
| Eines Canela SA | Barcelona | 71,875 |
| Talleres Bidegain SA | Gipuzkoa | 71,469 |
| Gehiber Machined Components SAL | Gipuzkoa | 71,104 |
| Mecanizados Cop SL | Barcelona | 70,000 |
| Manufacturas Emabi SA | Alava | 69,988 |

Data in euros. Detail of companies with the highest subsidies approved. Source: Spanish Government.

The Ministry of Industry approved the applications submitted by 327 firms, of which 90 were Basque, within the Renove Plan for Modernising Machine Tools in SMEs. The aggregate total for the non-repayable subsidy awarded to these Basque firms amounted to 6.545 million euros, which represents 34.4% of the 19.027 million earmarked by the central government in this first call.

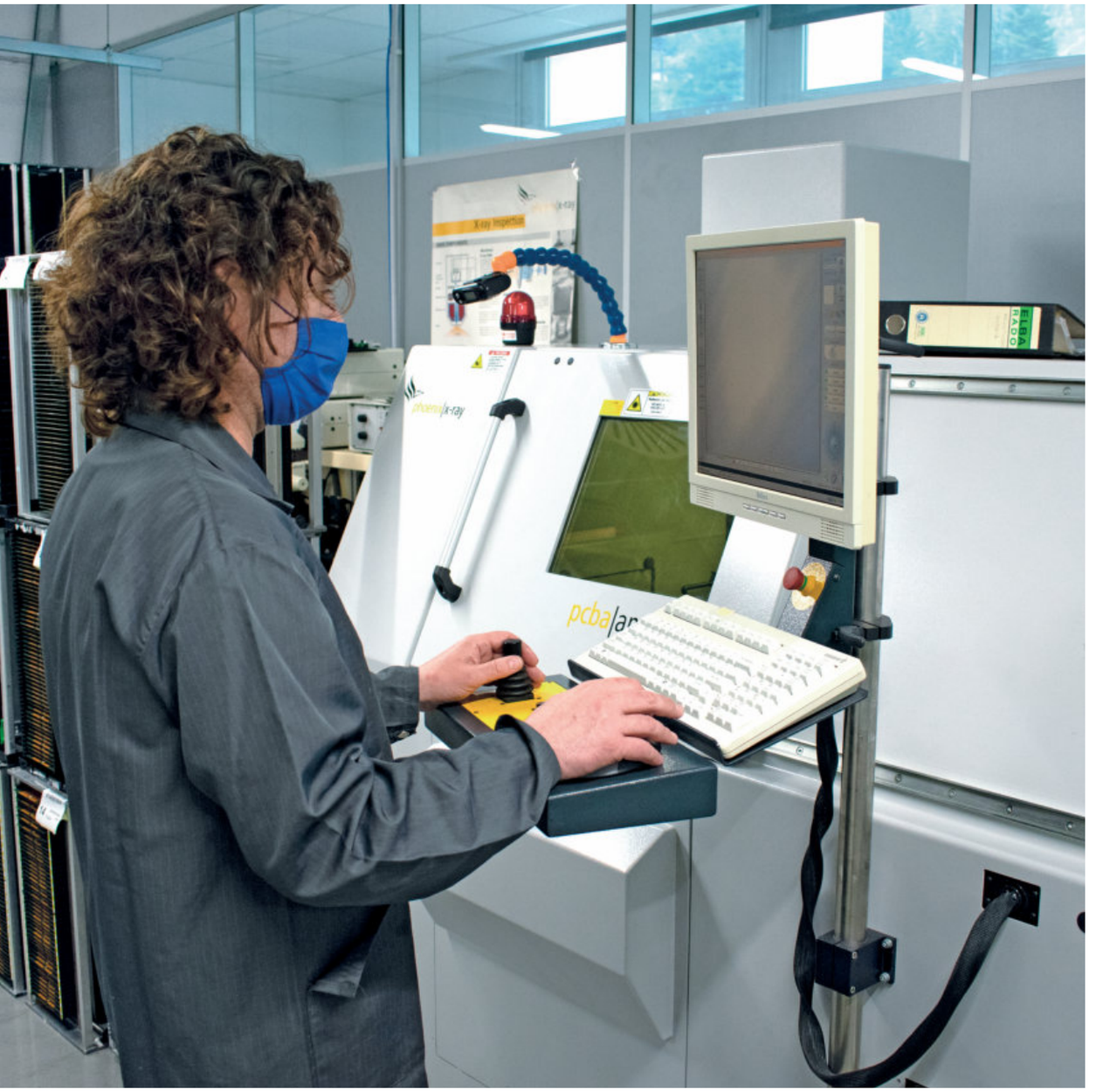
These figures confirm that Basque mechanical SMEs are a major force in Spain. The figure of 34.4% tops the table of the country's autonomous communities or regions, ahead of Catalonia (28.24% and 5.373 million) and Madrid (9.1% and 1.729 million). Further down the table are the Community of Valencia (860,197 euros), Galicia (734,789), Aragon (729,328), Andalusia (695,386), and Castilla y Leon (640,198 euros).

## BARCELONA, WITH 90 SMES, IS THE PROVINCE ATTRACTING THE MOST FUNDS

The analysis by provinces reveals that first place goes to Barcelona, followed by Gipuzkoa, Bizkaia and Madrid. Barcelona featured 90 firms - the same as the Basque Country- with an overall subsidy of 3.992 million euros. Gipuzkoa, in turn, recorded a figure of 3.534 million euros for 54 SMEs, while Bizkaia submitted 37 proposals amounting to 2.235 million euros. In Madrid's case, the figure of 1.729 million was shared by 28 firms.

A further highlight was the part played by Alava, with eleven proposals amounting to a total of 775,785 euros, which placed it ahead of 13 other au-

EMPRESA XXI



Fagor Automation premises in Gipuzkoa.

tonomous communities.

Particular mention should be made of Navarre because of its scarce involvement. This autonomous community is one of the most industrialised regions in Spain, yet it only submitted four applications for an aggregate subsidy of 96,800 euros. No less remarkable is the case of Cantabria, with only three firms, yet an overall subsidy of 661,556 euros, or that of La Rioja, with two proposals amounting to 135,000 euros, ahead of Navarre.

The other provinces subsidised with more than half a million euros were as follows: Gerona (nine firms and 719,274 euros), Zaragoza (16 firms and 633,328 euros), and Coruña (nine firms and 518,854 euros).

As for the individual ranking, three firms were awarded the plan's maximum sum of 300,000 euros: Diviprec in Bizkaia, Izadi Mecanizados in Gipuzkoa, and Mecánica Brañosera in Cantabria. The next three places were taken up by Newtesol, also in Cantabria, Fercoa in Madrid, and Maquinaria y Útiles (Mausa) in Gipuzkoa.

Although the data available are incomplete, Basque machine-tool makers played a major role. CMZ accounts for at least seven business projects; while Soraluce has four. In turn, Delteco submitted several applications through its affiliates Hermle and Doosan. Other firms involved were Ona, Zayer, GER, Berkoa, Geminis, Ibarmia and Lagun, as well as Fagor Automation with several projects. In this case, it should be noted that the SMEs had to submit up to three competitive proposals, which reflects the competitiveness of the Basque MT sector.

The disappointing news is that there is not going to be a second call. Sources in the sector have told Empresa XXI that the national budgets for 2022 do not include the 'Renove' subsidy programme for industrial machine tools.

## CHARACTERISTICS OF THE 'RENOVE' SUBSIDY PROGRAMME

### BUDGET

The first call within the Plan for Modernising Machine Tools in Small and Medium-Size Enterprises was completed in 2021. The Ministry of Industry budgeted it with 50 million euros, with the decisions reached in November 2021 accounting for 19. Initially, this suggested that the subsidises would continue; however, the plan was not included in the national budgets for 2022.

### SUBSIDIES

The government plan subsidises up to 20% of the eligible costs incurred by small enterprises, and up to 10% in the case of medium-sized ones. The subsidies are capped at 175,000 euros per machine and 300,000 euros per enterprise. These funds are incompatible with other subsidies for the same purpose awarded by any other administration or body.

### REQUIREMENTS

The minimum amount subsidised for each eligible MT is to be equal to or higher than 70,000 euros before VAT. The award of the subsidy will require the submission of a guarantee to the Caja General de Depósitos (Spanish Government Depositary or General Public Depository) for a sum equal to the subsidy.

## 2020 HAD A BIGGER IMPACT ON THE TURNOVER OF LARGE ENTERPRISES

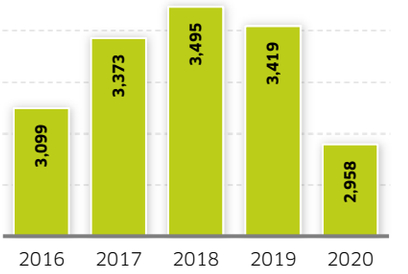
Large enterprises recorded a bigger drop in their operating income than SMEs: 27% compared to 7%.

| | 2020 | | | 2019 | | | 20/19 | |
|---|---|---|---|---|---|---|---|---|
| | NO. | SALES | SHARE | NO. | SALES | SHARE | ABSOLUTE | %20/19 |
| Large (> 50 mill.) | 10 | 854.20 | 28.9% | 14 | 1,169.26 | 34.2% | -315.05 | -26.9% |
| **SME (< 50 mill.)** | **1,031** | **2,103.41** | **71.1%** | **1,048** | **2,250.09** | **65.8%** | **-146.68** | **-6.5%** |
| Medium (50 - 10 mill.) | 48 | 1,043.95 | 35.3% | 57 | 1,145.03 | 33.5% | -101.08 | -8.8% |
| Small and micro (< 10 mill.) | 983 | 1,059.47 | 35.8% | 991 | 1,105.07 | 32.3% | -45.60 | -4.1% |
| Without activity | 77 | 0.00 | 0.0% | 56 | 0.00 | 0.0% | - | - |
| **TOTAL** | **1,118** | **2,957.62** | **100.0%** | **1,118** | **3,419.35** | **100.0%** | **-461.73** | **-13.5%** |

Economic data in millions of euros. Source: Business Registers Elaboration: Sectoral report Empresa XXI.

## COVID DEFINES THE YEAR

The health crisis slowed MT operations, which recorded a 14% year-on-year drop in sales.




Economic data in millions of euros. Source: Business Registers Elaboration: Sectoral report Empresa XXI.

EMPRESA XXI REPORTS | SECTOR RANKING IN SPAIN

# COMPANIES WILL HAVE TO DIG DEEP

### THE SECTOR IS RECORDING A NEGLIGIBLE DROP IN SALES DUE TO COVID

The bottom-lines of companies involved in machine tools for metal work posted an acceptable performance against the backdrop of a demanding year in 2020. The figure of over 1,100 companies included in the study conducted by Empresa XXI recorded an estimated turnover of almost 3 billion euros, which was 14% down on 2019.

The 2020 study, nevertheless, highlighted an increase in the number of companies that did not file their accounts at the Company Register -some are not required to do so-, which meant the average drop in sales was higher in the group of large enterprises (-27%) than among SMEs (-7%).

It should be noted that the study by Empresa XXI only includes the results of individual companies with registered address in Spain, and it is a selection with the following NACE codes: 2841, 2848, 2891 and 2899. These basically refer to machinery makers, process automation, tooling and components, and members of the AFM association.

Smart shearing machine made by Fagor Arrasate, one of the leading MT companies in Spain.


FAGOR ARRASATE

### The year's front-runners

The most noteworthy results are the fact that the Basque companies featuring in the report accounted for 50% of sales nationwide, followed by their Catalan counterparts (20.4%), while those from the regions, or autonomous communities, of Castilla y Leon, Navarre and Valencia accounted for 5% each.

According to the data available, Danobat SC headed the sector in Spain with an annual income of 95 million euros, which meant a year-on-year drop of 13%. The other two places on the podium were taken up by Germans Boada S-A. (Herramientas Rubi), with 82 million and a year-on-year increase of 10%; and M. Torres, which fell 28% to invoice 76 million euros.

Only a handful of companies managed to end 2020 with a better year-on-year performance in sales. These included the aforementioned Herramientas Rubi (+10%), Etxe Tar (+8%), Goizper (+18%), with part of its output being attributed to machine tools although it undoubtedly received a boost from its 'Matabi' sprayer division, and Loire SAFE (+22%).

Other machinery manufacturers featuring in this select group were Tecoi Corte (+9%); and Geminis Lathes, which grew 20% and crossed the threshold of 20 million in turnover, its highest figure in the period analysed, 2016-2020. The list of good performers also includes two companies headquartered in the Basque province of Gipuzkoa, namely, Athader (+16%) and Gurutzpe (+18%), which also posted sales that surpassed their annual averages.

## WITH BASQUE INFLUENCE

The sales posted by Basque companies accounted for over 50% of the sector in Spain in 2020.

| | SALES | %SPAIN | %BAC |
|---|---|---|---|
| **Basque Country** | **1,506.39** | **50.9%** | **100.0%** |
| Arava | 181.91 | 6.2% | 12.1% |
| Bizkaia | 235.05 | 7.9% | 15.6% |
| Gipuzkoa | 1,089.43 | 36.8% | 72.3% |
| Catalonia | 602.09 | 20.4% | |
| Castilla y León | 164.79 | 5.6% | |
| Navarre | 157.28 | 5.3% | |
| Valencian com. | 146.80 | 5.0% | |
| Madrid | 118.35 | 4.0% | |
| La Rioja | 55.63 | 1.9% | |
| Asturias | 39.73 | 1.3% | |
| Aragon | 39.47 | 1.3% | |
| Andalusia | 36.86 | 1.2% | |
| Castilla - La Mancha | 26.70 | 0.9% | |
| Murcia | 25.83 | 0.9% | |
| Galicia | 24.00 | 0.8% | |
| Cantabria | 7.45 | 0.3% | |
| Extremadura | 4.34 | 0.1% | |
| Canary islands | 1.61 | 0.1% | |
| Balearic islands | 0.29 | 0.0% | |
| **TOTAL** | **2,957.62** | **100.0%** | |

Economic data in millions of euros. Source: Business Registers Elaboration: Sectoral report Empresa XXI.

### Annual earnings

Among the companies that had filed their annual accounts with the Company Register by the date of closure of this report, the front-runners in the generation of earnings were Etxe Tar, from Gipuzkoa, with seven million euros; followed by Goizper (7.04 million) and Nicolás Correa (6.3 million). Danobat SC, for its part, posted earnings of 5.1 million euros in 2021.

# BASQUE COUNTRY MACHINE TOOL



**EMPRESA XXI REPORTS** | SECTOR RANKING IN SPAIN

THE RANKING OF COMPANIES INVOLVED IN MACHINE TOOLS FOR METAL WORK INCLUDES A SELECTION WITH THE FOLLOWING NACE CODES: 2841, 2848, 2891 AND 2899. THESE BASICALLY REFER TO MACHINERY MAKERS, PROCESS AUTOMATION, TOOLING AND COMPONENTS, AND MEMBERS OF THE AFM ASSOCIATION.

## MANUFACTURERS OF MT FOR METAL WORK, TOOLING AND COMPONENTS IN SPAIN 2020

| | | | YEAR | SALES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RK | COMPANY | PROVINCE | OF BUILD | 2020 | %20/19 | 2019 | 2018 | 2017 | 2016 | %20/16 | Results | Workforce | Web |
| 1 | FAGOR ARRASATE SCL | Gipuzkoa | 1957 | n.a. | - | 202.87 | 205.60 | 218.52 | 202.49 | - | 2.63 | 708 | www.fagorarrasate.com |
| 2 | DANOBAT SC | Gipuzkoa | 1966 | 94,75 | -13% | 108.55 | 112.56 | 106.72 | 139.19 | -32% | 5.09 | 403 | www.danobat.com |
| 3 | SMC ESPAÑA SA | Alava | 1981 | n.a. | - | 92.34 | 103.95 | 96.11 | 85.98 | - | 11.07 | 338 | www.smc.eu |
| 4 | GERMANS BOADA SA | Barcelona | 1969 | 81,61 | +10% | 74.21 | 68.20 | 62.23 | 53.54 | +52% | 6.12 | 296 | www.germansboada.cat |
| 5 | M TORRES DISEÑOS INDUSTRIALES SA | Navarre | 1975 | 76,10 | -28% | 105.23 | 116.93 | 121.84 | 134.17 | -43% | -9.66 | 533 | www.mtorres.es |
| 6 | SORALUCE SCL | Gipuzkoa | 1962 | n.a. | - | 71.46 | 77.20 | 67.58 | 57.21 | - | 3.50 | 243 | www.soraluce.com |
| 7 | BOSCH REXROTH SL | Madrid | 2003 | 66,26 | -17% | 79.66 | 78.87 | 79.37 | 75.58 | -12% | 3.14 | 217 | www.boschrexroth.es |
| 8 | FESTO AUTOMATION SA | Barcelona | 1971 | 57,79 | -3% | 59.41 | 61.65 | 58.81 | 52.20 | +11% | 1.45 | 139 | www.festo.com |
| 9 | ETXE TAR SA | Gipuzkoa | 1966 | 57,20 | +8% | 52.80 | 61.83 | 88.49 | n.a. | - | 7.07 | 134 | www.etxe-tar.com |
| 10 | NICOLAS CORREA SA | Burgos | 1948 | 53,82 | -2% | 54.81 | 55.02 | 43.53 | 43.99 | +22% | 6.32 | 196 | www.nicolascorrea.com/es |
| 11 | GOIZPER SC | Gipuzkoa | 1961 | 49,02 | +18% | 41.58 | 39.02 | 39.96 | 36.96 | +33% | 7.04 | 172 | www.goizper.com |
| 12 | LOIRE SA FRANCO ESPAÑOLA | Gipuzkoa | 1962 | 46,92 | +22% | 38.35 | 77.77 | 97.55 | 83.30 | -44% | -4.38 | 157 | www.loire.gestamp.com |
| 13 | FAGOR AUTOMATION SC | Gipuzkoa | 1981 | 44,62 | -5% | 47.21 | 51.25 | 53.49 | 48.40 | -8% | 0.42 | 342 | www.fagorautomation.com |
| 14 | SERRA SOLDADURA SA | Barcelona | 1972 | 43,07 | -37% | 68.44 | 64.66 | 61.18 | 51.27 | -16% | -4.50 | 195 | www.serrasold.com |
| 15 | NIDEC ARISA SL | La Rioja | 2015 | 42,62 | -50% | 84.73 | 75.28 | 82.86 | 55.47 | -23% | -0.66 | 164 | www.arisa.es |
| 16 | CMZ MACHINE TOOL MANUFACT. SL | Bizkaia | 2014 | 39,91 | -38% | 64.27 | 55.71 | 46.63 | 39.91 | -0% | 0.35 | 57 | www.cmz.com |
| 17 | SAMOA INDUSTRIAL SA | Asturias | 1962 | 38,43 | -18% | 46.70 | 48.26 | 46.12 | 39.56 | -3% | 5.78 | 233 | www.samoaindustrial.com |
| 18 | AIRTIFICIAL INTELLIGENT ROBOTS SA | Barcelona | 1998 | n.a. | - | 37.59 | 32.00 | 32.69 | 21.26 | - | 0.52 | 100 | www.airtificial.com |
| 19 | BIELE SA | Gipuzkoa | 1982 | 35,47 | -30% | 50.47 | 54.05 | 46.40 | 45.48 | -22% | 0.86 | 196 | www.biele.com |
| 20 | IZAR CUTTING TOOLS SAL | Bizkaia | 1997 | 28,61 | -4% | 29.88 | 29.23 | 28.29 | 25.72 | +11% | 2.71 | 198 | www.izartool.com |
| 21 | XUBI ENGRANAJES SL | Gipuzkoa | 2003 | 27,87 | -2% | 28.54 | 25.89 | 21.44 | 21.36 | +30% | 1.09 | 102 | www.xubi.com |
| 22 | IBARMIA INNOVATEK SL | Gipuzkoa | 2006 | 27,54 | -33% | 41.40 | 31.40 | 30.13 | 30.95 | -11% | 0.72 | 99 | www.ibarmia.com |
| 23 | TECOI CORTE SL | León | 2003 | 26,63 | +9% | 24.53 | 16.23 | 19.40 | 15.81 | +68% | 0.98 | 62 | www.tecoi.com |
| 24 | BOST MACHINE TOOLS COMPANY SL | Gipuzkoa | 2012 | n.a. | - | 26.45 | 20.65 | n.a. | 23.55 | - | 0.21 | 68 | www.bost.es |
| 25 | JUARISTI BORING & MILLING MCH. SL | Gipuzkoa | 1994 | 23,76 | -11% | 26.74 | 22.33 | 16.04 | 18.29 | +30% | 0.22 | 93 | www.juaristi.com |
| 26 | SIDASA ENGINEERING SL | Barcelona | 2013 | n.a. | - | 23.13 | 38.64 | 34.92 | 23.39 | - | -1.10 | 27 | www.sidasa.com |
| 27 | MONDRAGON ASSEMBLY SC | Gipuzkoa | 1988 | 23,12 | -35% | 35.65 | 39.36 | 38.24 | 18.86 | +23% | 2.19 | 152 | www.mondragon-assembly.com |
| 28 | TECNOLOGIA DE CORTE E INGENIERIA SL | Valencia | 2001 | 22,61 | -33% | 33.77 | 24.84 | 19.32 | 16.75 | +35% | 1.27 | 149 | www.tcicutting.com |
| 29 | GEMINIS LATHES SA | Gipuzkoa | 1994 | 21,72 | +20% | 18.13 | 19.77 | 16.91 | 19.55 | +11% | 0.27 | 64 | www.geminislathes.com |
| 30 | EKIN SC | Bizkaia | 1962 | 21,10 | -20% | 26.44 | 28.30 | 25.54 | 22.45 | -6% | 0.25 | 307 | www.ekin.es |
| 31 | INDUSTRIAL MATRICERA PALENTINA SL | Palencia | 1989 | 20,91 | -42% | 36.02 | 25.66 | 32.48 | 37.72 | -45% | 0.15 | 123 | www.inmapa.com |
| 32 | ZAYER SA | Alava | 1957 | 20,05 | -49% | 39.04 | 35.87 | 32.03 | 34.26 | -41% | 0.15 | 134 | www.zayer.com |
| 33 | ONA ELECTROEROSION SA | Bizkaia | 1980 | 18,72 | -30% | 26.60 | 32.70 | 29.52 | 27.78 | -33% | -1.85 | 100 | www.onaedm.com |
| 34 | GH ELECTROTERMIA SA | Valencia | 1999 | 18,52 | -37% | 29.36 | 28.83 | 32.33 | 25.30 | -27% | -1.02 | 125 | www.ghinduction.com |
| 35 | KAUTEC SOLUTIONS SL | Girona | 2009 | 18,36 | +59% | 11.52 | 11.06 | 9.08 | 11.86 | +55% | 0.57 | 45 | www.kautec.net |
| 36 | ATHADER SL | Gipuzkoa | 1992 | 17,71 | +17% | 15.17 | 15.42 | 15.32 | 10.37 | +71% | 0.68 | 30 | www.athader.com |
| 37 | HOMAG MACHINERY BARCELONA SA | Barcelona | 1974 | n.a. | - | 17.59 | 15.96 | 17.51 | 15.42 | - | 2.44 | 45 | www.homag.es |
| 38 | MTE-MACHINE TOOL ENGENEERING SA | Gipuzkoa | 1994 | 17,26 | -5% | 18.16 | 16.67 | 17.33 | 13.34 | +29% | 0.67 | 37 | www.mtemachine.com |
| 39 | FLUITECNIK SA | Navarre | 1990 | 16,33 | -6% | 17.39 | 19.28 | 19.60 | 16.35 | -0% | 0.15 | 124 | www.fluitecnik.com |
| 40 | GIA SL | Albacete | 1990 | 15,32 | +7% | 14.29 | 23.93 | 19.67 | 17.36 | -12% | 1.63 | 69 | www.giaet.com |
| 41 | HYPATIA GNC ACCESORIOS SA | Burgos | 1997 | 14,26 | -24% | 18.85 | 15.93 | 11.45 | 9.87 | +44% | 1.24 | 44 | www.gnchypatia.com |
| 42 | PRODEC EQUIPOS DE ENVASADO SA | Barcelona | 1981 | 13,88 | +45% | 9.59 | 15.36 | 13.54 | 13.35 | +4% | 0.19 | 120 | www.prodec.es |
| 43 | CONSTRUCC. MECANICAS J. LAZPIUR SL | Gipuzkoa | 1965 | 13,84 | - | s.d. | 19.75 | 17.71 | 15.50 | -11% | -0.93 | 99 | www.lazpiur.com |
| 44 | GURUTZPE TURNING SOLUTIONS SL | Gipuzkoa | 2012 | 13,03 | +18% | 11.05 | 17.65 | 8.65 | 10.05 | +30% | 0.61 | 52 | www.gurutzpe.com |
| 45 | KOENIG & BAUER IBERICA SA | Barcelona | 1989 | 12,75 | -25% | 17.11 | 18.79 | 17.49 | 12.34 | +3% | -0.30 | 80 | www.ibericaag.com |
| 46 | SISTEMAS EN MARCHA SL | Castellón | 1993 | 12,72 | +55% | 8.19 | 11.11 | 9.70 | 6.79 | +87% | 0.56 | 61 | www.semsl.es |
| 47 | SHUTON SA | Alava | 1975 | n.a. | - | 12.48 | 13.45 | 10.49 | 8.66 | - | 1.42 | 66 | www.shuton.com |
| 48 | SALICO HISPANIA SA | Madrid | 2007 | 12,28 | -40% | 20.44 | 19.63 | 12.43 | 13.24 | -7% | 0.23 | 24 | www.salico.net |
| 49 | TROKEL SA | Navarre | 1982 | 12,14 | -11% | 13.65 | 15.96 | 15.59 | 17.61 | -31% | 1.29 | 31 | www.trokelsa.com |
| 50 | GAINDU SL | Gipuzkoa | 2009 | 11,57 | -41% | 19.67 | 26.65 | 22.56 | 22.36 | -48% | 1.53 | 47 | www.gaindu.com |
| 51 | LOGITEK SA | Barcelona | 1979 | 11,32 | -2% | 11.56 | 10.17 | 9.76 | 8.84 | +28% | 1.26 | 54 | www.logitek.es |
| 52 | LANTEK SHEET METAL SOLUTIONS SL | Alava | 2006 | 10,97 | +8% | 10.18 | 9.63 | 9.21 | 8.15 | +34% | 3.14 | 98 | www.lanteksms.com |

## MANUFACTURERS OF MT FOR METAL WORK, TOOLING AND COMPONENTS IN SPAIN 2020

| RK | COMPANY | PROVINCE | YEAR OF BUILD | SALES 2020 | %20/19 | 2019 | 2018 | 2017 | 2016 | %20/16 | Results | Workforce | Web |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 53 | METROLEC SL | Valladolid | 2006 | 10.50 | -19% | 12.92 | 12.88 | 11.22 | 10.67 | -2% | 0.71 | 48 | www.metrolec.es |
| 54 | ELECTRO ILUNBE SA | Bizkaia | 1988 | 10.45 | -16% | 12.46 | 10.26 | 8.33 | 8.85 | +18% | 0.78 | 115 | www.ilunbe.com |
| 55 | VIRUTEX SA | Barcelona | 1975 | n.a. | - | 10.25 | 10.45 | 10.31 | 10.28 | - | -0.08 | 102 | www.virutex.es |
| 56 | HIDROEUROPA SL | Murcia | 1993 | 10.21 | -11% | 11.51 | 8.95 | 7.75 | 5.94 | +72% | 2.08 | 28 | www.hidroeuropa.com |
| 57 | PUNTEADOS DE PRECISION GOI ALDE SL | Gipuzkoa | 1982 | 10.19 | -26% | 13.69 | 14.01 | 12.78 | 11.14 | -8% | -0.27 | 91 | www.goialde.com |
| 58 | MECANICA VILARO SL | Barcelona | 1991 | 10.16 | -9% | 11.20 | 15.04 | 11.91 | 9.72 | +5% | 0.28 | 76 | www.mecvil.com |
| 59 | AITEKAUTOMATION SL | Gipuzkoa | 1997 | 9.85 | -12% | 11.13 | 9.34 | n.a. | n.a. | - | 0.10 | 89 | www.aitek.es |
| 60 | INREMA SL | Valencia | 1993 | 9.75 | +150% | 3.90 | 2.11 | 2.29 | 1.94 | +402% | 0.86 | 46 | www.inrema.es |
| 61 | MECANIZACION Y AUTOLUBRICADOS SA | Gipuzkoa | 1989 | n.a. | - | 9.72 | 10.30 | 8.94 | 7.01 | - | 0.75 | 27 | www.mecauto.es |
| 62 | KORTA SA | Gipuzkoa | 1985 | n.a. | - | 9.51 | 8.64 | 7.87 | 7.70 | - | 0.55 | 63 | www.korta.com |
| 63 | MARRODAN Y REZOLA SA | La Rioja | 1929 | 9.29 | -26% | 12.55 | 17.41 | 13.80 | 12.14 | -24% | -0.10 | 60 | www.marzola.es |
| 64 | GMTK MULTI-PROCESS MACHINING SA | Gipuzkoa | 2007 | 8.98 | +36% | 6.60 | s.d. | 5.80 | 3.63 | +147% | 0.03 | 38 | www.gmtk.es |
| 65 | INDUSTRIAS PUIGJANER SA | Barcelona | 1972 | 8.89 | - | s.d. | 10.00 | 10.25 | 10.54 | -16% | 0.13 | 57 | www.denn.es |
| 66 | LAGUN MACHINE TOOLS SL | Gipuzkoa | 2016 | 8.81 | -15% | 10.36 | 10.95 | 9.09 | 9.07 | -3% | 0.24 | 37 | www.lagunmt.com |
| 67 | GOITI SCL | Gipuzkoa | 1961 | n.a. | - | 8.74 | 12.75 | 10.31 | 11.67 | - | -0.11 | 59 | www.danobatsheetmetal.com |
| 68 | DESARROLLO DE SIST. AVANZADOS SL | Cádiz | 1994 | 8.63 | -22% | 11.11 | 13.24 | 10.37 | 8.58 | +1% | 0.23 | 40 | www.dsasl.com |
| 69 | COMERCIAL MAQUINARIA ALCIRA SL | Valencia | 1991 | 8.60 | -20% | 10.74 | 8.88 | 6.14 | 4.94 | +74% | 1.26 | 34 | www.cmamachines.com |
| 70 | MAQUINARIA GEKA SL | Gipuzkoa | 2019 | 8.39 | -21% | 10.56 | 0 | 0 | 0 | - | -0.60 | 64 | www.geka-group.com |
| 71 | TUROMAS SL | Teruel | 2010 | 8.35 | -18% | 10.24 | 8.66 | 0.11 | 0 | - | 0.16 | 40 | www.turomas.com |
| 72 | COUTH INDUSTRIAL MARKING SYS. SL | Gipuzkoa | 1963 | 8.33 | -27% | 11.45 | 10.96 | 11.20 | 9.92 | -16% | 1.40 | 50 | www.couth.com |
| 73 | AVS ADDED VALUE IND. ENGIN. SOL. SL | Gipuzkoa | 2006 | 8.26 | +33% | 6.19 | 7.74 | 6.89 | 4.63 | +78% | 1.34 | 50 | www.a-v-s.es |
| 74 | ALBA-MACREL GROUP SL | Bizkaia | 1998 | 8.03 | -30% | 11.43 | 14.76 | 8.25 | 7.40 | +8% | -1.19 | 70 | www.alba.es |
| 75 | MASTER NAVARRA AUTOMATISMOS SL | Navarre | 1986 | 7.93 | -30% | 11.40 | 12.85 | 9.58 | 9.14 | -13% | 0.91 | 40 | www.masterautomatism.com |
| 76 | NUEVA HERRAMIENTA DE CORTE SA | Bizkaia | 1994 | 7.80 | -20% | 9.70 | 10.41 | 10.30 | 9.53 | -18% | -2.24 | 85 | www.neco.es |
| 77 | TALENS SYSTEMS SL | Gipuzkoa | 2015 | 7.71 | +42% | 5.44 | 2.84 | 3.43 | 6.00 | +28% | 0.55 | 24 | www.talenssys.com |
| 78 | INDUSTRIAS LAN BI SA | Gipuzkoa | 1977 | 7.64 | - | s.d. | s.d. | 9.83 | 5.60 | +36% | 0.10 | 42 | www.lanbi.com |
| 79 | ENGRANAJES GRINDEL SAL | Gipuzkoa | 1993 | 7.61 | -16% | 9.05 | 9.49 | 7.55 | 7.43 | +2% | -0.03 | 76 | www.grindelgears.com |
| 80 | LAU NIK MAQUINAS ESPECIALES SL | Bizkaia | 2004 | 7.41 | -10% | 8.22 | 6.22 | 7.37 | n.a. | - | 0.11 | 41 | www.launik.com |
| 81 | DISTEVI SL | Pontevedra | 2004 | 7.25 | +6% | 6.87 | 6.12 | 7.40 | 5.44 | +33% | 0.87 | 61 | www.distevi.com |
| 82 | INDUSTRIAS HIDRAULICAS SA | Zaragoza | 2011 | 7.18 | +16% | 6.19 | 7.65 | 5.53 | 2.55 | +182% | 0.48 | 45 | www.moros.com |
| 83 | AMES CMA SA | Barcelona | 2010 | 6.85 | -32% | 10.06 | 11.04 | 10.17 | 6.68 | +3% | 0.23 | 38 | www.ames.es |
| 84 | AGUIRREGOMEZCORTA Y MENDICUTE SA | Gipuzkoa | 1948 | n.a. | - | 6.78 | 6.74 | 8.30 | 7.30 | - | 0.32 | 56 | www.agme.net |
| 85 | WIP PROYECTOS INDUSTRIALES SL | Valladolid | 1999 | 6.69 | -6% | 7.08 | 5.52 | 4.26 | 4.47 | +50% | 0.50 | 31 | www.wip.es |
| 86 | ENGRANAJES ESPECIALES SA | Barcelona | 1983 | 6.68 | -8% | 7.22 | 6.60 | 5.02 | 5.41 | +23% | 0.00 | 43 | www.spiroide.com |
| 87 | DISEÑO MECANICA Y CONSTRUCCION SA | Gipuzkoa | 1987 | 6.41 | -52% | 13.32 | 8.72 | 11.10 | 8.97 | -29% | -0.79 | 28 | www.dimeco.com |
| 88 | CONSTRUCC. MECANICAS TINTORE SA | Barcelona | 1977 | 6.40 | -32% | 9.46 | 9.06 | 8.26 | 7.93 | -19% | 0.31 | 62 | www.cmtintore.com |
| 89 | MAQ. ELECTRON. ESMERILADO Y PULIDO | Barcelona | 1984 | 6.16 | -30% | 8.83 | 5.60 | 5.74 | 7.54 | -18% | 0.34 | 44 | www.mepsa.es |
| 90 | FABRICACION METALES DUROS SAL | Bizkaia | 1993 | 6.15 | -22% | 7.86 | 8.46 | 7.01 | 6.43 | -4% | 0.54 | 60 | www.fmd-hm.com |
| 91 | HERRAMIENTAS PREZISS SL | Barcelona | 1984 | 6.12 | -10% | 6.83 | 7.34 | 7.95 | 6.59 | -7% | -0.07 | 62 | www.preziss.com |
| 92 | JESUS HERNANDO SL | Madrid | 1993 | 6.04 | -21% | 7.66 | 7.03 | 5.39 | 5.47 | +10% | -0.06 | 36 | www.jhernando.com |
| 93 | MURRELEKTRONIK SPAIN SL | Barcelona | 2004 | 6.01 | -22% | 7.75 | 6.89 | 6.58 | 6.54 | -8% | 0.16 | 17 | www.murrelektronik.es |
| 94 | LARGOIKO SLL | Navarre | 1998 | 6.00 | +42% | 4.23 | 5.56 | 3.84 | 3.77 | +59% | 1.07 | 34 | www.largoiko.es |
| 95 | TALLERES ALJU SL | Bizkaia | 1959 | 5.90 | +12% | 5.26 | 7.07 | 5.59 | 5.91 | -0% | 0.01 | 51 | www.alju.es |
| 96 | INGENIERIA MAQ. Y PROD. CLONER SL | Granada | 2002 | 5.87 | +17% | 5.01 | 5.32 | 5.63 | 4.66 | +26% | 0.30 | 43 | www.cloner.es |
| 97 | PRADA NARGESA SL | Girona | 2004 | 5.85 | +36% | 4.30 | 4.49 | 4.41 | 3.73 | +57% | 0.73 | 27 | www.nargesa.com |
| 98 | AXIAL MAQUINARIA SL | Barcelona | 1997 | n.a. | - | 5.83 | 6.67 | 5.72 | n.a. | - | 0.00 | 36 | www.aximaq.com |
| 99 | LEMAR-LEBEN GROUP SL | Valencia | 1975 | 5.81 | -22% | 7.49 | 6.60 | 5.51 | 3.86 | +51% | 0.33 | 61 | www.tallereslemar.com |
| 100 | TALLERES MYL SA | Gipuzkoa | 1969 | n.a. | - | 5.74 | 5.11 | 5.02 | 4.86 | - | 0.35 | 37 | www.myl.es |
| 101 | LOXIN 2002 SL | Navarre | 2000 | 5.73 | -9% | 6.30 | 4.09 | 7.62 | 9.89 | -42% | -0.73 | 35 | www.loxin2002.com |
| 102 | INGENIERIA DE APLICACIONES SA | Barcelona | 1986 | 5.68 | +3% | 5.52 | 7.14 | 7.21 | 7.33 | -23% | 0.04 | 22 | www.idasa.com |
| 103 | BILDU LAN MAQ. ESPECIAL AUTOMATIZ. | Navarre | 1973 | n.a. | - | 5.61 | 6.71 | 5.63 | 6.86 | - | 0.09 | 52 | www.bildulan.com |
| 104 | GER MAQUINAS-HERRAMIENTA SL | Gipuzkoa | 1995 | 5.57 | -46% | 10.24 | 8.60 | 8.83 | 9.01 | -38% | -0.56 | 43 | www.germh.com |
| 105 | CONSTRUCC. ESP. HERR. INDUSTRIALES | Barcelona | 1977 | 5.51 | -21% | 7.01 | 8.48 | 8.44 | 10.37 | -47% | -1.93 | 52 | www.cehisa.es |
| 106 | MANUFACTURAS HEPYC SA | Gipuzkoa | 1963 | 5.46 | -8% | 5.91 | 6.21 | 5.87 | 5.72 | -5% | 0.19 | 26 | www.hepyc.com |
| 107 | INDUSTRIAS PEÑALVER SL | Murcia | 1988 | 5.44 | -0% | 5.44 | 5.43 | 3.84 | 2.44 | +123% | 0.67 | 24 | www.penalver.com |
| 108 | ALBERDI INGEN. DE AUTOMATISMOS SA | Bizkaia | 2010 | 5.43 | -39% | 8.89 | 7.56 | 7.07 | 5.87 | -7% | -0.13 | 23 | www.sidepalsa.com |
| 109 | ZORROTZ LEGAZPI SLL | Gipuzkoa | 2011 | 5.36 | -21% | 6.83 | 6.74 | 6.21 | 5.15 | +4% | 0.01 | 43 | www.zorrotz.com |
| 110 | METALURGICA TORRENT SA | Huesca | 1962 | 5.30 | -42% | 9.17 | 9.77 | 11.08 | 10.80 | -51% | -1.07 | 48 | www.metosa-pinacho.com |
| 111 | TALLERES RIBES CASTILLO SL | Valencia | 1997 | 5.19 | +30% | 3.99 | 4.05 | 4.94 | 3.34 | +55% | 0.20 | 39 | www.ribescastillosl.com |
| 112 | ZUAZO SA | Alava | 1980 | 5.13 | -5% | 5.41 | 5.69 | 4.96 | 4.75 | +8% | 0.11 | 39 | www.zuazo.net |

## MANUFACTURERS OF MT FOR METAL WORK, TOOLING AND COMPONENTS IN SPAIN 2020

| | | | YEAR | SALES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RK | COMPANY | PROVINCE | OF BUILD | 2020 | %20/19 | 2019 | 2018 | 2017 | 2016 | %20/16 | Results | Workforce | Web |
| 113 | ALTEYCO SYSTEM SL | Gipuzkoa | 2010 | n.a. | - | 5.01 | 7.38 | 5.06 | 5.23 | - | 0.05 | 35 | www.alteyco.com |
| 114 | VIBRANT SA | Barcelona | 1971 | 4.97 | -6% | 5.32 | 5.33 | 5.20 | 4.67 | +7% | 0.31 | 32 | www.vibrant-rna.com |
| 115 | HEROSLAM SAL | Bizkaia | 1993 | 4.96 | -10% | 5.52 | 5.74 | 4.96 | 4.37 | +14% | 0.02 | 51 | www.heroslam.com |
| 116 | TDG CLAMPING SOLUTIONS SL | Bizkaia | 1916 | 4.96 | +21% | 4.11 | 4.65 | 4.56 | 4.10 | +21% | 0.00 | 49 | www.tdgcompany.com |
| 117 | VALLE PERFILADORAS Y LINEAS ESPEC. | Cantabria | 2008 | 4.95 | +187% | 1.72 | 3.48 | 1.35 | 2.56 | +93% | 0.66 | 13 | www.stam.it/es |
| 118 | GARABI INDUSTRIAL TECHNOLOGIES SL | Gipuzkoa | 1993 | 4.90 | -41% | 8.31 | 7.65 | 5.91 | 4.69 | +5% | -0.50 | 41 | www.garabi.com |
| 119 | IT INFOTEC ROBOTICS SL | Alicante | 2001 | 4.86 | -28% | 6.72 | 7.02 | 7.91 | 5.15 | -6% | 0.04 | 30 | www.it-robotics.com |
| 120 | DIPER MAQUINARIA SL | Navarre | 1994 | 4.79 | -5% | 5.02 | 6.12 | 4.97 | 3.66 | +31% | -0.07 | 33 | www.diper.net |
| 121 | ENGRANAJES JUARISTI SL | Gipuzkoa | 1978 | 4.79 | -23% | 6.22 | 5.59 | 4.95 | 5.23 | -8% | 0.21 | 35 | www.engranajesjuaristi.com |
| 122 | AUTOMATIZACIONES LAMUCE SL | Navarre | 1987 | 4.77 | -15% | 5.59 | 5.43 | 5.22 | 5.50 | -13% | 0.19 | 42 | www.lamuce.com |
| 123 | SOL. MECANICAS INTEGRALES 2000 SL | Barcelona | 2007 | 4.66 | -60% | 11.58 | 12.65 | 21.02 | 15.56 | -70% | 0.63 | 26 | www.smi2000.net |
| 124 | LAGUN MACHINERY SRL | Alava | 2004 | 4.65 | -34% | 7.02 | 9.73 | 8.36 | 7.28 | -36% | -0.13 | 20 | www.lagunmachinery.com |
| 125 | ELEMENTOS DE VERIFICAC. Y CONTROL | Bizkaia | 1969 | 4.53 | -15% | 5.30 | 6.37 | 6.38 | 6.06 | -25% | -0.26 | 44 | www.evec.es |
| 126 | NIASA NEFF Y ASOCIADOS SA | Gipuzkoa | 1984 | 4.53 | -58% | 10.86 | 6.58 | 4.87 | n.a. | - | 0.00 | 34 | www.niasa.es |
| 127 | G.E.M.I.N.Y.S. SL | Gipuzkoa | 2002 | 4.40 | -12% | 5.03 | 4.96 | 3.81 | 3.61 | +22% | 0.35 | 70 | www.geminys.com |
| 128 | ERLO TALADROS Y ROSCADORAS SL | Gipuzkoa | 2009 | 4.31 | -4% | 4.51 | 3.76 | 2.28 | 1.45 | +197% | -0.21 | 26 | www.erlogroup.com |
| 129 | ABRASIVOS MANHATTAN SA | Alava | 1963 | 4.24 | -32% | 6.29 | 7.34 | 6.71 | 6.49 | -35% | 0.85 | 34 | www.abrasivosmanhattan.es |
| 130 | TALLERES J BOCANEGRA E HIJOS SL | Burgos | 1992 | 4.23 | -9% | 4.66 | 8.57 | 8.19 | 6.07 | -30% | 0.59 | 29 | www.tbocanegra.es |
| 131 | METALURGICA MARINA SA | Bizkaia | 1979 | 4.14 | -12% | 4.68 | 5.52 | 5.41 | 5.22 | -21% | 0.01 | 46 | www.metalurgicamarina.com |
| 132 | TALLERES HILFA SL | Bizkaia | 1997 | 4.12 | +6% | 3.88 | 4.83 | 3.22 | 3.75 | +10% | -0.19 | 27 | www.hilfa.com |
| 133 | LLAMBRICH PRECISION SL | Barcelona | 1957 | 4.11 | -5% | 4.33 | 3.93 | 4.04 | 2.69 | +53% | 0.18 | 41 | www.llambrich.com |
| 134 | SD. IND. DE MAQUINARIA ANDALUZA SA | Granada | 1981 | 4.10 | -33% | 6.15 | 6.36 | 5.27 | 4.63 | -11% | -0.54 | 25 | www.simasa.es |
| 135 | TECNICAS I.D.E SL | Barcelona | 2011 | n.a. | - | 4.08 | 4.80 | 4.09 | 3.14 | - | 0.24 | 23 | www.tecnicaside.com |
| 136 | UTILLAJES Y MAQUINAS ESPECIALES SA | Alava | 1984 | 4.08 | -22% | 5.20 | 5.57 | 4.81 | 4.02 | +1% | 0.81 | 32 | www.utimesa.com |
| 137 | INTOREX SA | Barcelona | 1982 | 4.05 | -7% | 4.36 | 4.61 | 4.56 | 3.39 | +20% | 0.35 | 21 | www.intorex.com |
| 138 | EDS ROBOTICS SL | Alicante | 2009 | 3.86 | -17% | 4.65 | 4.56 | 2.59 | 2.21 | +74% | 0.13 | 28 | www.edsrobotics.com |
| 139 | RAMIRO VILA SL | Lugo | 1989 | 3.66 | -15% | 4.32 | 3.98 | 3.67 | 2.80 | +31% | 0.15 | 32 | www.ramirovila.com |
| 140 | INGENERSUN SL | Bizkaia | 2008 | 3.57 | +1% | 3.54 | 4.10 | 1.67 | 2.69 | +33% | 0.08 | 22 | www.ingenersun.com |
| 141 | IGORLE SL | Gipuzkoa | 1975 | 3.52 | -42% | 6.03 | 5.37 | 4.87 | 5.71 | -38% | -0.17 | 24 | www.igorle.com |
| 142 | TEKNIATEST SOLUTIONS SA | Barcelona | 2018 | 3.50 | +21% | 2.90 | 0.33 | 0 | 0 | - | 0.25 | 11 | www.tekniatest.com |
| 143 | CMI AERONAUTICA SL | Bizkaia | 1993 | 3.50 | -36% | 5.48 | 4.07 | 4.55 | 5.59 | -37% | -0.59 | 37 | www.cmidurango.com |
| 144 | INTZA SA | Gipuzkoa | 1988 | 3.41 | -16% | 4.06 | 4.47 | 4.09 | 3.57 | -4% | 0.21 | 26 | www.intza.com |
| 145 | SAYER TECHNOLOGIES SL | Navarre | 2011 | 3.36 | -31% | 4.86 | 2.77 | 2.07 | 4.71 | -29% | -0.21 | 18 | www.sayer.es |
| 146 | DIVIPREC SA | Bizkaia | 1996 | 3.35 | -17% | 4.02 | 4.50 | 4.30 | 3.54 | -5% | -0.11 | 24 | www.diviprec.com |
| 147 | JORDI UNIVERSAL V SL | Madrid | 2009 | 3.35 | -30% | 4.80 | 2.89 | 2.79 | 2.67 | +25% | -0.22 | 14 | www.jordi.es |
| 148 | TECNOSPIRO MACHINE TOOL SL | Barcelona | 2008 | 3.33 | -24% | 4.41 | 5.36 | 4.90 | 3.86 | -14% | 0.07 | 30 | www.tecnospiromt.com |
| 149 | MASTED ASSEMBLY SLL | Gipuzkoa | 2007 | 3.33 | -21% | 4.21 | 4.06 | 6.24 | 4.40 | -24% | 0.00 | 35 | www.masted.net |
| 150 | GRANI-ROC SA | León | 1993 | 3.31 | +2% | 3.24 | 4.60 | 3.70 | 3.83 | -13% | 0.02 | 13 | www.grupohedisa.com |
| 151 | TALLERES ESPAÑOL SA | Barcelona | 1984 | 3.30 | +7% | 3.09 | 4.99 | 5.12 | 4.38 | -25% | 0.17 | 17 | www.saespa.com |
| 152 | GENERAL INDUSTRIAL IBERICA SL | Bizkaia | 1967 | 3.29 | -5% | 3.47 | 5.99 | 5.70 | 3.63 | -9% | 0.11 | 8 | www.geinsa.com |
| 153 | NIPROMA AUTOMATISMOS SL | Madrid | 2006 | 3.25 | -21% | 4.10 | 3.84 | 4.21 | 5.30 | -39% | -0.11 | 34 | www.niproma.com |
| 154 | COMETEL SA | Gipuzkoa | 1987 | 3.24 | -35% | 5.02 | 4.82 | 4.72 | 3.02 | +7% | 0.12 | 24 | www.cometel.net |
| 155 | ALFE CUTTING SL | Bizkaia | 2015 | 3.08 | +1% | 3.06 | 2.59 | 2.52 | 2.02 | +52% | -0.09 | 36 | www.alfe.com |
| 156 | CARPEL MIN SL | Barcelona | 1997 | 3.08 | -38% | 4.99 | 4.38 | 4.80 | 2.15 | +43% | 0.04 | 31 | www.carpel.es |
| 157 | DEMAQ GALICIA SL | Lugo | 2005 | 3.08 | -8% | 3.33 | 3.80 | 3.22 | 2.04 | +51% | 0.12 | 29 | www.demaq.com |
| 158 | RYME WORLDWIDE SA | Burgos | 1994 | 3.01 | -12% | 3.42 | 4.35 | 5.23 | 5.60 | -46% | 0.02 | 19 | www.ryme.com |
| 159 | MECANICA COMERCIAL MECO SL | Tarragona | 1984 | 3.01 | +1% | 2.98 | 3.50 | 3.38 | 2.47 | +22% | 0.03 | 30 | www.meco-industries.com |
| 160 | IRUMA DISEÑO Y PROYECTOS IND. SL | Gipuzkoa | 2013 | 2.99 | -5% | 3.15 | 2.96 | 2.40 | 1.30 | +130% | -0.21 | 23 | www.iruma.es |
| 161 | DAMATIC AUTOMATIZACION SL | Barcelona | 2011 | 2.98 | -10% | 3.31 | 3.60 | 2.26 | 2.78 | +7% | -0.01 | 13 | www.damatic.es |
| 162 | DS AUTOMACION SL | Araba | 1992 | 2.98 | -22% | 3.81 | 3.51 | 3.80 | 3.26 | -9% | 0.03 | 20 | www.dsautomatizacion.com |
| 163 | B Y M INGENIEROS SL | Valencia | 1992 | 2.96 | +4% | 2.83 | 2.79 | 2.76 | 2.43 | +22% | 0.05 | 24 | www.bym-ingenieros.com |
| 164 | DOIMAK SA | Gipuzkoa | 1980 | 2.95 | -21% | 3.72 | 4.90 | 3.38 | 3.87 | -24% | 0.00 | 24 | www.doimak.es |
| 165 | TMP CONSTRUCCION DE MAQUINARIA | Burgos | 1982 | 2.93 | -11% | 3.28 | 3.04 | 2.89 | 2.54 | +16% | 0.23 | 38 | www.tmpcm.com |
| 166 | JRG DISEÑO Y CONSTR. SIST. AUTOMAT. | Gipuzkoa | 2001 | 2.92 | -22% | 3.77 | 3.91 | 3.10 | 2.75 | +6% | 0.11 | 21 | www.jrgdiseno.com |
| 167 | INDUSTRIAS METALURGICAS JEM SA | Barcelona | 1957 | 2.88 | -29% | 4.06 | 4.03 | 4.44 | 3.29 | -12% | -0.31 | 37 | www.jem.es |
| 168 | TALLERES TAMACE SL | Castellón | 1987 | 2.86 | -1% | 2.87 | 3.17 | 3.99 | 2.81 | +2% | 0.14 | 43 | www.tamace.es |
| 169 | AUTOMATISMOS RIJAT SL | Barcelona | 1994 | n.a. | - | 2.81 | 2.69 | 2.64 | 1.49 | - | 0.09 | 20 | www.automatismosrijat.com |
| 170 | MECANIZADO VIRTUAL SL | Sevilla | 2003 | 2.75 | -7% | 2.96 | 3.44 | 2.74 | 2.44 | +13% | 0.49 | 26 | www.mecanizadovirtual.com |
| 171 | ALARSIS CORTE INDUSTRIAL SL | Murcia | 2005 | 2.73 | +1% | 2.70 | 2.64 | 2.59 | 2.30 | +19% | 0.07 | 20 | www.alarsis.com |
| 172 | IMOPAC SA | Madrid | 1986 | 2.73 | -6% | 2.91 | 2.81 | 2.69 | 2.62 | +4% | 0.10 | 22 | www.imopac.es |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