

iNews

IBARMIA NEWS JOURNAL
N° 04 - SEP 2017

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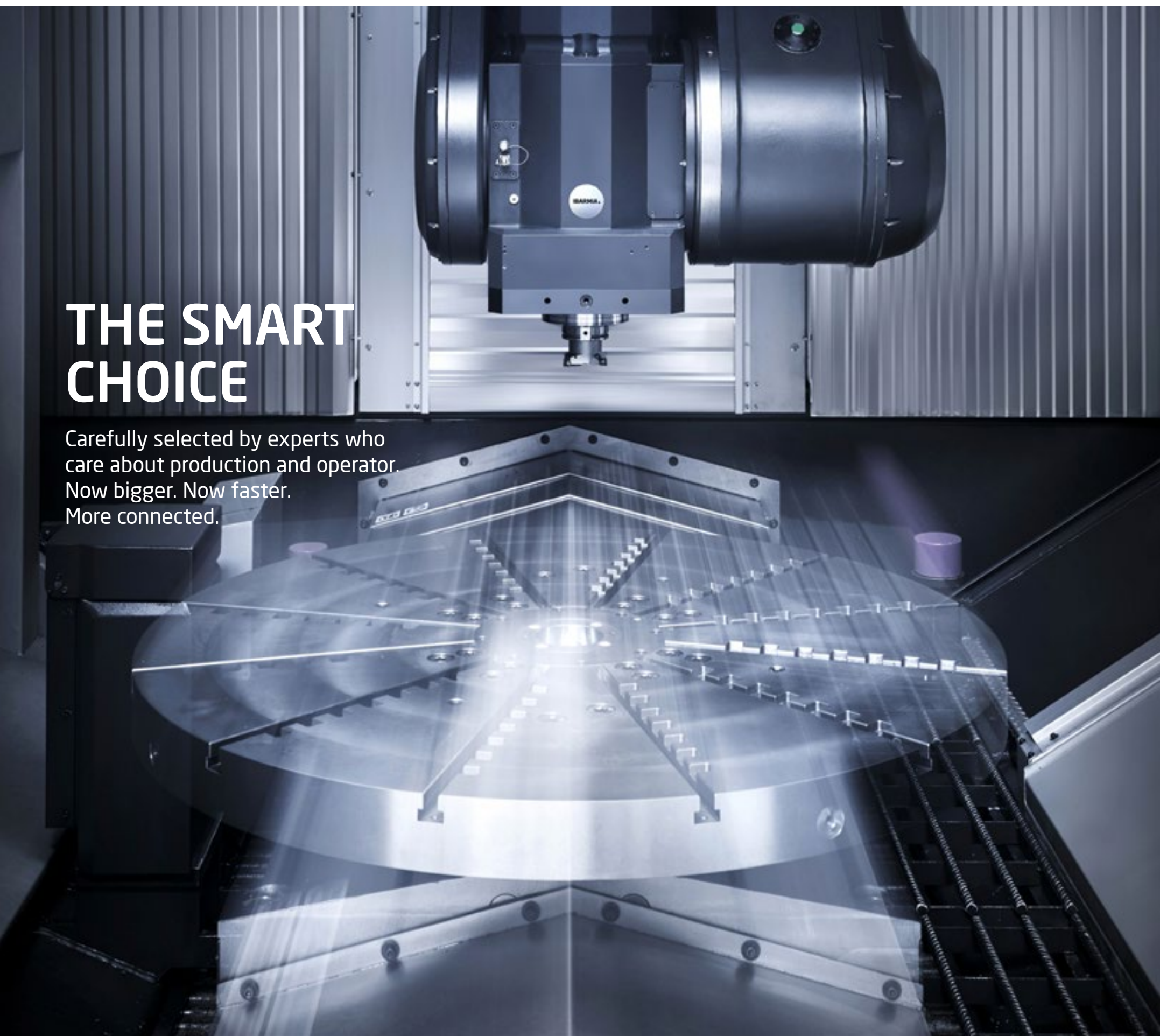
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THE SMART CHOICE

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care about production and operator.
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DEAR READER

WELCOME TO OUR JOURNAL



Coincidirá conmigo en que el tiempo vuela y que, en estos exigentes escenarios, hay que hacer mucho y bien para seguir estando en la élite. En un suspiro han pasado 2 años desde la pasada EMO Milano. Parece que fue ayer, pero en ese tiempo IBARMIA ha hecho mucho y bien y así se recoge en este nuevo iNews que presentamos con ilusión, bajo el titular de: **The Smart Choice**. En dos años, de Milano a Hannover:

- El crecimiento de volumen de negocio y personal ha superado el 25%.
- Se han constituido implantaciones propias en dos de los principales mercados de MH a nivel mundial: Alemania y China.
- Se han culminado importantes inversiones productivas en la matriz, triplicando el área de montaje de máquinas.
- Se han incorporado al programa nuevas máquinas y procesos.
- Se ha lanzado la plataforma Smart Point que ofrece una elevada conectividad de nuestros equipos.
- Se han actualizado las líneas de diseño de las máquinas reforzando la transmisión de tecnología, calidad, ergonomía, elegancia y sobriedad.

Somos una empresa viva y dinámica comprometida en ofrecer la mejor solución para cada caso. Por ello, confiar en IBARMIA es, además de una decisión elegante, una decisión inteligente como recoge nuestro nuevo eslogan para la EMO, The Smart Choice. Nos encantaría ampliarle cualquier contenido de este iNews que despierte su atención, porque nuestro objetivo es ser su punto máquina-herramienta.

Atentamente,



I think you will agree with me that time flies and that, in these demanding environments, much good work needs to be done to continue among the elite. The two years since the last EMO Milano have passed in a flash. It seems like only yesterday, but in this time IBARMIA has done a lot of good work which is included in this new iNews, which we are very happy to present under the title of: **The Smart Choice**. In two years, from Milan to Hannover:

- Growth in business volume and personnel has exceeded 25%.
- We have implemented new projects in the two main global MT markets: Germany and China.
- Significant production investments have been completed in the parent company, tripling the machine assembly area.
- New machines and processes have been incorporated into the programme.
- The Smart Point platform has been launched which offers high connectivity of our equipment.
- The design lines of the machines has been updated to better convey their technology, quality, ergonomics, elegance and simplicity.

We are lively and dynamic company committed to offering the best solution in each case. Therefore, trusting IBARMIA is not only an elegant decision, it is a smart decision, as our new slogan for the EMO says: The Smart Choice. We would be delighted to expand any content that has caught your attention, as our aim is to be your machine-tool reference point.

Yours faithfully,



Koldo Arandia
MANAGING DIRECTOR
OF IBARMIA



Höchstwahrscheinlich werden Sie mir zustimmen, dass die Zeit wie im Flug vergeht und in diesen anspruchsvollen Zeiten „gut“ und „schnell“ gearbeitet werden muss, um weiterhin „Top“ zu sein. Seit der letzten EMO in Mailand sind wieder zwei Jahre vergangen. Zeit die IBARMIA dazu genutzt hat, um weiter innovative Lösungen zu entwickeln. Mit großer Freude möchten wir Ihnen nun diese Lösungen in unserer neuen iNews, unter folgendem Motto, präsentieren:

- The Smart Choice**. In zwei Jahren von Mailand bis Hannover:
- Zuwachs um 25%, sowohl bei Umsatz sowie Personal.
 - Gründungen eigener Niederlassungen in den wichtigsten Weltmärkten für Werkzeugmaschinen: Deutschland und China.
 - Investition in neue Fertigungskapazitäten, Verdreifung der Montagefläche und Erweiterung des Lieferprogramms.
 - Einführung der Plattform Smart Point, welche eine erweiterte Vernetzung unserer Maschinen anbietet.
 - Neues Maschinendesign: Qualität, Ergonomie und Technologie. Unser Unternehmen ist lebendig und dynamisch. Jeder einzelne Kunde ist uns wichtig und aus diesem Grund, passen wir unsere Lösungen perfekt auf die Kundenwünsche an. Daher haben wir uns dazu entschieden, The Smart Choice als Motto für die diesjährige EMO zu wählen: Smart wie „intelligent“, aber gleichzeitig auch „elegant“. Seien auch Sie Smart und vertrauen Sie in IBARMIA. Sollten Sie neugierig geworden sein und sollte es uns gelungen sein Ihr Interesse zu wecken kommen Sie auf uns zu. Ihr Machine Tool Point.

Hochachtungsvoll,



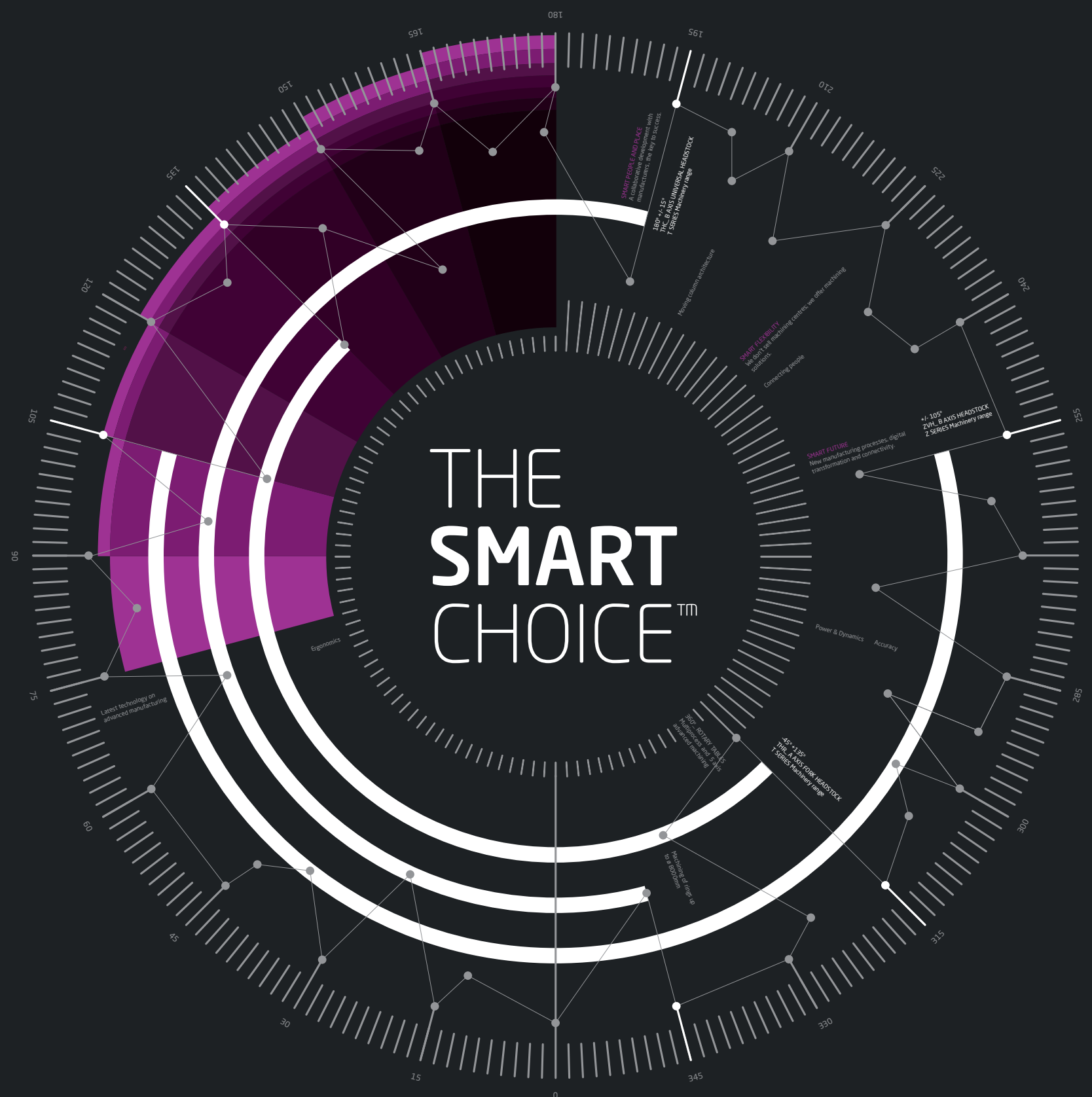
您一定也和我一样感到时光飞逝，在这样严苛的环境中，必须要做得且多且出色，方能继续留在精英的队伍中。自米兰EMO之后，两年仿若一叹而过。一切仿佛还在昨日，但当时的IBARMIA就已经做的十分出色了。为此，我们热情献上以下内容以收录在最新一期的iNews中，其标题为：智慧之选。从米兰到汉威诺的两年：

- 营业额和人员增长已超过25%。
- 在全球2个主要MH市场建立了自己的基地：中国和德国。
- 主要生产性投资已在母公司完成，机器装配区翻了三倍。
- 已经将新的机器和流程添加到程序中。
- 智能点平台已启动，为我们的设备提供了高连接性。
- 机器设计线已更新，强化了技术传播和质量，更加符合人体工程学，更加优雅和清爽。

• 我们是一个活泼且充满活力的公司，致力于于为每位客户的情况提供最佳解决方案。因此，信任IBARMIA，是您的优雅之选，明智之选，正如我们在EMO打出的新口号，智慧之选。我们希望扩大iNews中的任何内容以引起您的注意，因为我们的目标是成为您的机床供应商。

此致

敬礼



IBARMIA ROOTS

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BASQUE INDUSTRY / BASQUE COUNTRY_ ABOUT IBARMIA'S LOCATION

BASQUE INDUSTRY_ THE LEAP TOWARD A NEW INDUSTRIAL PARADIGM



Arantxa Tapia Otaegi
MINISTER FOR ECONOMIC DEVELOPMENT AND COMPETITIVENESS, BASQUE GOVERNMENT



The business fabric as well as the Basque society has been dealt quite a blow after the recent financial, economic, business and social crisis. However, the solid economic structure, heavily based on industry and framed in an ecosystem of technology and innovation, has been our main shield of defence.

In spite of this, because of the crisis, industry has become a smaller player in our economy and employment suffered severely. Now, based on the data of last year and the start of the year, the conclusion we may draw is that we find ourselves in a new, and even sometimes relatively unrecognisable scenario.

The economy grows, the rate of unemployment falls, business people are positive, all industrial sectors report high expectations and, without exception, all forecasts point toward a positive future.

However, in this environment there are some companies that show exhaustion, weakness, and what is worse, face the risk of closing.

Which is an affirmation of what we have been saying for many months: the crisis has opened up a new scenario in which there is no comfort zone. We must remain vigilant and the search for competitive improvement in each company and sector will be unstoppable.

We have just adopted the new Industrialization Plan 2017-2020 which aims to tackle the immediacies and the most pressing needs of companies in difficulties, as well as the long term to strengthen the foundations of the industry of the future. A new industrial paradigm in which the Basque Country has much to learn and much to contribute.

According to the most recent data from the Basque Institute of Statistics, the weight of industry in the composition of the Gross Domestic Product is 23.9%; the objective and commitment of the Basque Government

is that in 2020 the industry represents 25% of the economy of the Basque Country. The transformation of the industry, with a growing commitment toward servitization and integral services, expands its field of performance making the boundary between industry and services more opaque, not to say non-existent when we talk about advanced services.

We are working to convert traditional production into new technologically advanced industries that offer high added-value services and evolve from a "production focus" to a "solution focus".

The Basque industry is on its way to take that qualitative leap, and the machine tool sector is one of the benchmarks in this process. A major part of the Basque Industry 4.0 strategy is focused on designing systems and methodologies that steer Basque companies towards adopting technologies of the new industry and digitalization, with spaces designed for self-diagnosis and reshaping of SMEs, for example, additive manufacturing or robotics. We have a common network from where the totality of this type of services is available, with interlinked services (www.basqueindustry.eus), and we aim to create a Digital Innovation Hub as a space where businesses can share and test their technologies in a collaborative way.



BASQUE INDUSTRY

BASQUE INDUSTRY 4.0

THE SMART FACTORY

The Basque Country, *at the european forefront* of the fourth Industrial Revolution



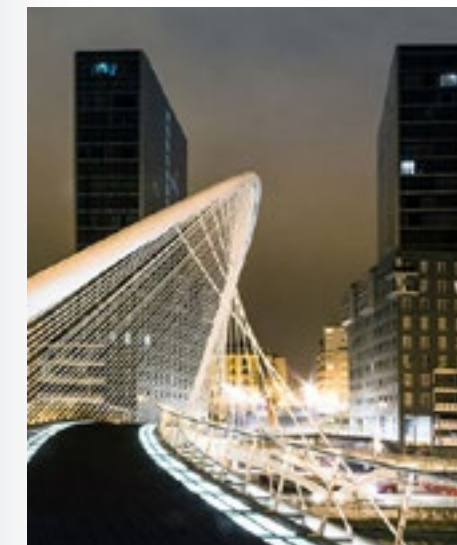
GRUPO spri TALDEA

Euskadi, auzolana, bien común

EUSKO JAURLARITZA GOBIERNO VASCO

AN IDEAL LOCATION TO MANUFACTURE MACHINE-TOOLS AND MUCH MORE.

The Basque Country, ancient region in the north of Spain, close to the French border, is with no doubt an ideal location to manufacture machine tools.



A region with a vast industrial tradition, hard working men and women, responsible and committed, a rich component and support industry, a market leading technology environment, mild climate and protected from natural disasters, well connected with the world by road, sea and air, a government sensitive to the importance of industry. From here, from this ideal environment, we approach the world.

BASQUE COUNTRY

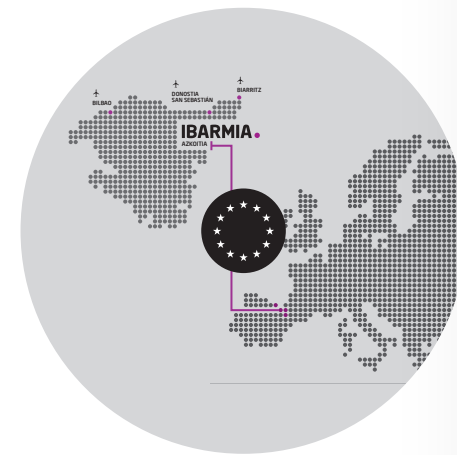
IBARMIA WORLD

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ABOUT THE PRESENT AND FUTURE OF THE IBARMIA PROJECT

IBARMIA_ PLAYING GLOBAL WITH STRONG LOCAL ROOTS

IBARMIA has an unprecedented presence both in production capacity and sales activities in the two biggest machine tool markets in the world. During this time of renovation and expansion works at the headquarters in Azkoitia, IBARMIA opened the sales branch in Eislungen/Fils Germany and established the Joint-Venture in Shandong, China.



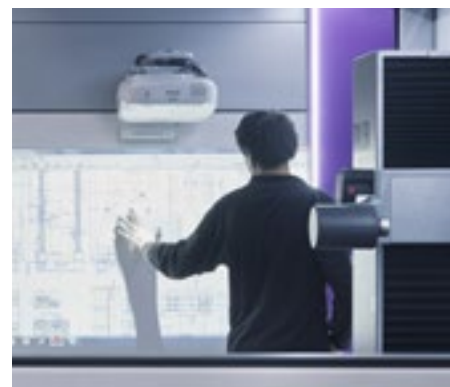
IBARMIA is located in Azkoitia the Basque Country, a land with a strong tradition in machine tool manufacturing.

HEADQUARTERS IN AZKOITIA BASQUE COUNTRY, SPAIN_

The culmination of the expansion works in Azkoitia allowed to triplicate the space for machine manufacturing, with specific areas for different machines depending on their size and required manufacturing time.

Apart from investments in the buildings, IBARMIA has also added:

- New production machines such as the THC30 EXTREME to manufacture the moving structures of the full IBARMIA range in an autonomous pallet system.
- New quality control area with a great capacity ZEISS CMM.
- New warehouse and logistics area, with an independent stocking area for spare parts and tools.
- New machining shop of 1.200 m² in climatized environment for various machine components.
- New offices for the Production, Purchasing and Logistics departments. The new premises take 9300 m² and 1220 m² for the offices.



Sun sets over the factory. Each day is an opportunity to keep improving ourselves. That is the philosophy at IBARMIA.

FROM AZKOITIA WE FOLLOW PROJECTING OUR IBARMIA OF THE FUTURE.



The THC 30P is part of our new production facilities of Azkoitia, working as a production unit, machining test bench and showroom from visitors of all countries and industries.

IBARMIA WORLD



IBARMIA Werkzeugmaschinen GmbH in Eislungen/Fils.



IBARMIA WERKZEUGMASCHINEN GMBH, EN EISLINGEN/FILS, DEUTSCHLAND_

Deutschland ist mit Abstand der größte europäische Markt für Werkzeugmaschinen. Speziell Bearbeitungszentren in Fahrständerbauweise, auf deren Herstellung IBARMIA spezialisiert ist, sind in Deutschland äußerst beliebt.

Nach mehr als 20 Jahren Präsenz auf dem deutschen Markt, über Vertretungen und Maschinenhändler, möchte IBARMIA noch näher am Kunden sein.

Aus diesem Grund eröffnete IBARMIA eine deutsche Niederlassung im Zentrum des Werkzeugmaschinenbaus, in Baden-Württemberg.

Herr Andreas Soine leitet die IBARMIA WERKZEUG MASCHINEN GmbH am Standort in Eislungen/Fils.

Neben der IBARMIA Werkzeugmaschinen GmbH, steht den Kunden in Baden-Württemberg weiterhin unser langjähriger und exklusiver Vertriebs- und Servicepartner, die Firma Nagel Werkzeugmaschinen in Ulm, zur Verfügung. IBARMIA hat seine Präsenz in Deutschland hiermit weiter ausgebaut.

IBARMIA WERKZEUGMASCHINEN GMBH, IN EISLINGEN/FILS, GERMANY_

Germany is the biggest machine tool market in Europe, and it is where the moving column machines like the ones made by IBARMIA are most popular.

After several years working with agents and distributors, in 2016 IBARMIA Werkzeugmaschinen GmbH was opened in the heart of the German machine tool industry, Eislungen/Fils just at a few kilometers of Stuttgart, in the region of Baden Württemberg. Heading the sales office, we have Andreas Soine, a machine tool professional with a wide and proven experience in the sector. With this office, IBARMIA establishes their presence in the German market with real proximity to the customers. The sales and service network is managed from Eislungen/Fils ensuring a quick and efficient response in their home language.



In the centre of the image, Andreas Soine, Managing Director of IBARMIA Werkzeugmaschinen GmbH.

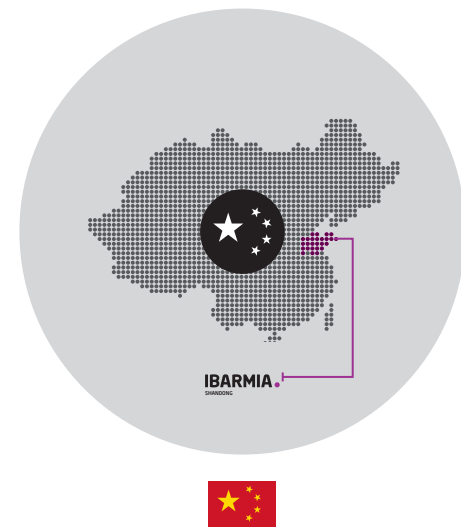


Located in the southwest of Germany, Baden-Württemberg is a key economical area in the European Union.

LOCATED IN THE HEART OF THE GERMAN MACHINE TOOL INDUSTRY.

IBARMIA WORLD

ABOUT THE PRESENT AND FUTURE OF THE IBARMIA PROJECT



SHANDONG IBARMIA. CHINA.

With the new century, IBARMIA started their landing in the Asian giant. The first sales came from European companies with production plants in China. In a second stage local private and public companies showed an interest on the IBARMIA machines which due to their quality and affordable price won various tenders of big companies in the Energy, Aerospace and Railway sector. China is today, the world's main producer, consumer and importer of machine tools and IBARMIA does not ignore that reality. It is the reason why last 12th of July a Joint Venture was signed in Madrid with the company Shandong Iraeta Heavy Industries to create Shandong IBARMIA CNC Machine Manufacturing Co., Ltd. Shandong IBARMIA will be the first production plant outside the headquarters and will be responsible for the sales and service activity of the IBARMIA range, both the one manufactured locally and the one made at the headquarters. Initially IBARMIA will count with a new building of 5.563 m² for production and 951 m² offices and a 15.000 m² advanced manufacturing plant is already planned for 2019. The company is based in Zhangqiu, Jinan - Shandong Province, conveniently connected to major areas such as Beijing, Tianjin, Jinan and Qingdao. There will be an initial team of 50 people and the local manufacture will kick off in 2018.

SHANDONG IBARMIA IS THE FIRST PRODUCTION PLANT OUTSIDE THE HEADQUARTERS IN THE BASQUE COUNTRY.



The signature of the Joint Venture Contrat, last 12th of July in Madrid. From left to right: Mr Yugang Niu, Mr. Koldo Arandia, Mr. Jon Riberas and Mr. Javier Imaz.



The plant will begin manufacturing large batches of standard machines. These machines will be destined to supply the local market.



Industrial premises of SIHI in Jian Shi (Shandong) where IBARMIA CNC Machine Manufacturing Co., Ltd. is located.



Shandong, a millenary region with ancient history and tradition that is considered one of the most prosperous regions in China due to its key location near South Korea, Japan and other main business areas in the country.

中国-山东 IBARMIA

随着新世纪的到来, IBARMIA开始接近亚洲巨人。在上述国家建立了生产中心, 其第一阶段的销售掌握在欧洲客户手中。在第二阶段, 赢得了公共和私营区域的本土客户。IBARMIA设备的表现, 合适的价格, 以及其技术水平, 带领我们在面对全球诸多竞争对手的情况下, 赢得了能源、航空、铁路等各大行业公司的招标。如今, 中国是主要的机床生产商, 消费商和进口商, 而IBARMIA并不想忽略这一事实。这就是为什么, 在去年7月12日, IBARMIA在马德里与山东伊莱特重工股份有限公司签署了“山东IBARMIA数控机床制造有限公司”的合资协议。山东IBARMIA将是母公司以外的第一个生产性企业, 负责IBARMIA计划的所有销售和援助活动, 并根据母公司提供的个性化标准和技术规范实施的本土制造工作。最初将新建仓库, 占地厂房面积5.563平方米。办公面积951平方米, 计划于2019年新建先进的生产厂房, 占地15000平方米。公司位于山东济南章丘, 与北京, 天津, 济南, 青岛等重要城市交通便利。初期员工人数达到50人, 将于2018年开始本土设备制造。



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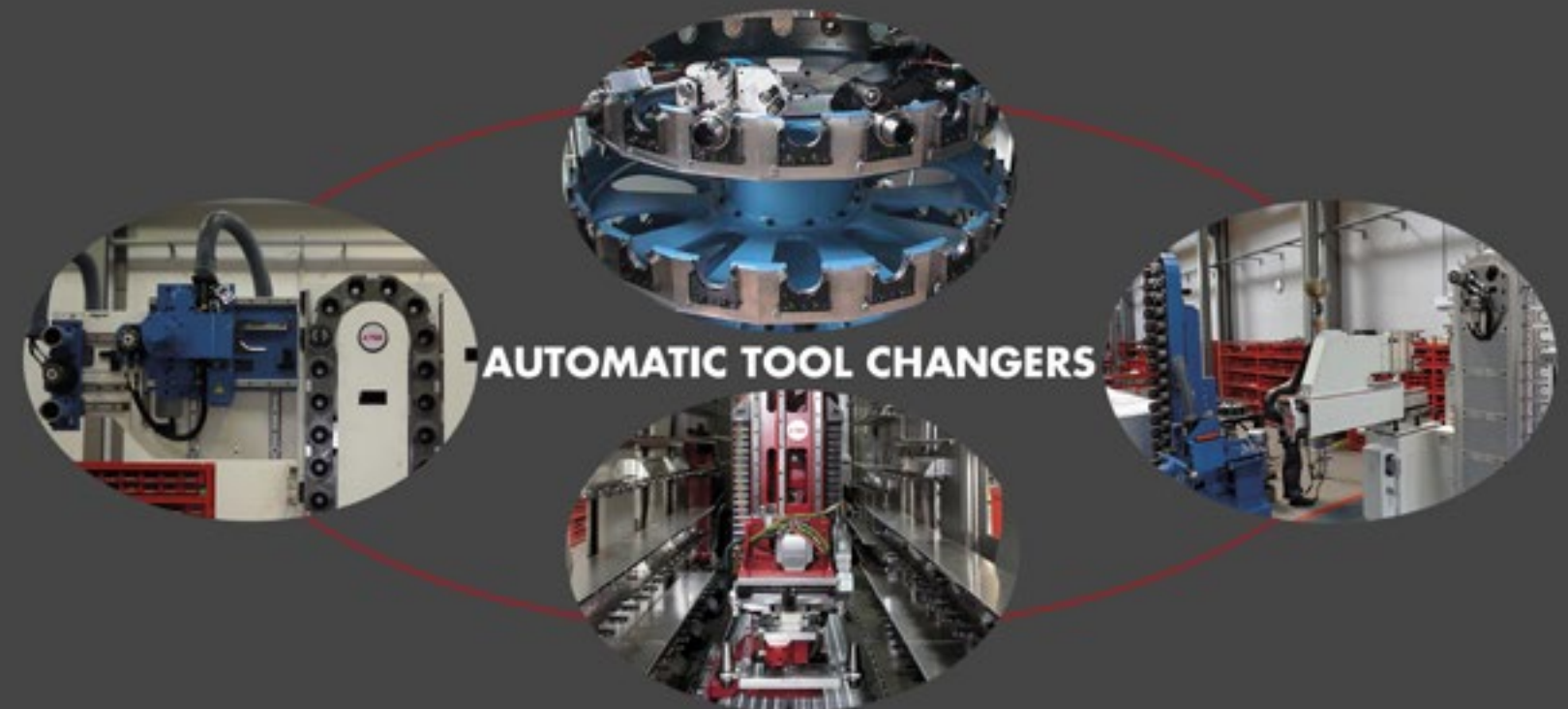
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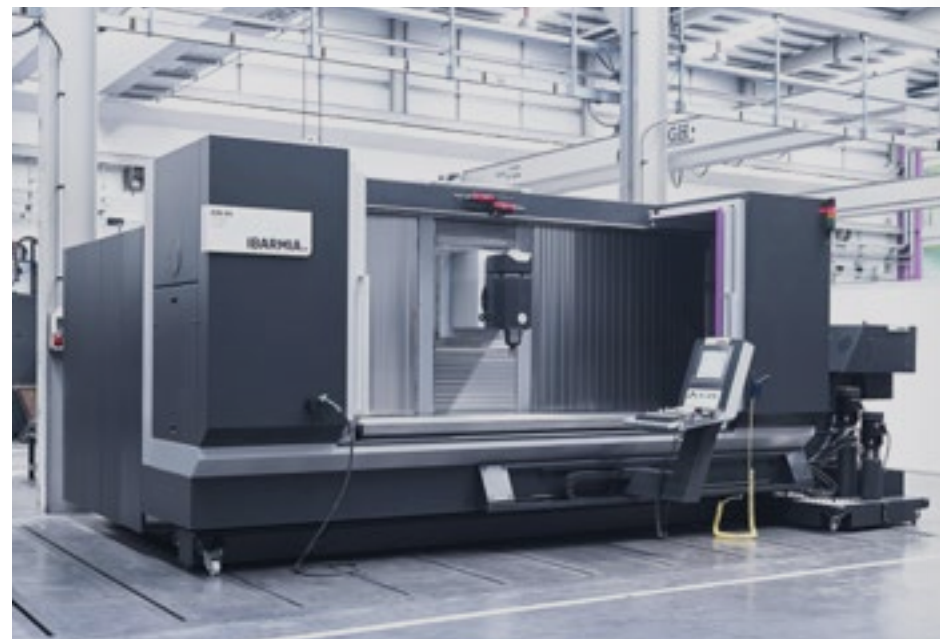
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ABOUT OUR MACHINING SOLUTIONS AND TECHNOLOGICAL DEVELOPMENTS

Z SERIES

INNOVATE TO COMPETE.
NON STOP RESEARCH AND DEVELOPMENT.

At IBARMIA we strive to constantly move forward. Our objective is to innovate our products and services every year, constantly creating new proposals for our customer demands. Our mission is to offer a range of solutions according to the specific requirements of each client based in a wide range of machines and technological elements. See below a few of our latest developments in our moving column machining centers.



1_ ZVH 45/L3000 STAR

This has been one of the greatest challenges for our engineering team. Creating a special edition of machines with a configuration that covers the widest possible range of machining requirements of any workshop in any sector.

The STAR range is conceived to be manufactured in batches as a fixed configuration that should meet at least 90% of our usual machine requests.

Delivery time is another key factor: The machine must be manufactured in very short times to respond to the rapid market requirements.

With all this in mind IBARMIA is launching the STAR machine which we are sure will be a complete success.



ZVH 45 STAR:
IBARMIA HIGH TECHNOLOGY COMPRESSED IN A PREMIUM MACHINE.



2_ AUTOMATION

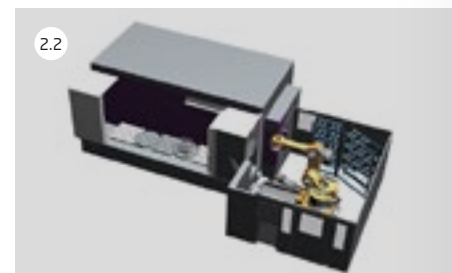
Only the ones moving forward will be successful in the long term. IBARMIA machines are designed to work long hours without pause and when possible, unattended. In that line, IBARMIA went from being a simple machine supplier to providing processes where automation is key to achieve the highest productivity.

3 new automation developments are now part of our existing solutions.

2.1_ Automatic change of chucks and fixtures for horizontal lathe spindles.

2.2_ Pallet changer from the side of the machine: This new solution allows loading/unloading pallets from the side of the machine while the front side is clear for normal work access. An automatic side door is used by a robot that load/unloads pallets and stores them.

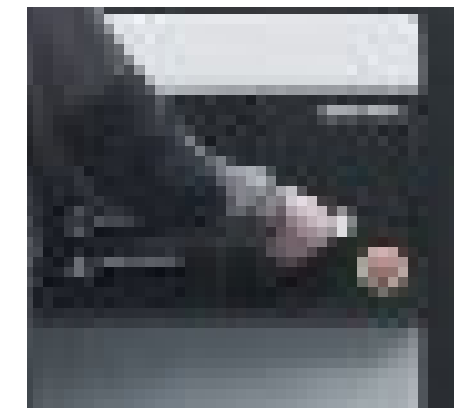
2.3_ New tool changing solutions: Rack type magazine with up to 400 tools of 20kg. This solution is completely adaptable in quantity and tool length depending on customer requirements.



3_ ERGONOMIC DESIGNS

The ergonomics factor covers the relation between operator and the machine considering visual, position and handling aspects. We have re-designed the area to integrate the command station, informative panels and control devices so we now have 3 different models depending on the quantity of indicators and devices to be integrated. We considered the following points:

- Ideal position with the best vision and reach.
- Intuitive use.
- Ideal size and shape for an easier use.



WE DESIGN MACHINES WITH THE OPERATOR IN MIND.

IBARMIA PROUD OF

ABOUT OUR MACHINING SOLUTIONS AND TECHNOLOGICAL DEVELOPMENTS



4_CUSTOM MACHINES. ENGINEERING AND INNOVATION TO DESIGN THE DREAM MACHINE OF OUR CUSTOMERS.

IBARMIA machines are known for their high quality and precision combined with excellent ergonomics and flexibility. Using the smart moving column architecture of high modularity, IBARMIA offers multiple solutions to most of the challenges brought by our customers.

See below 3 examples of customized machines that show the technical capacity of our engineering team to understand our customers requirements.

4.1_ZVH58 L6000 & Ø2000 rotary table

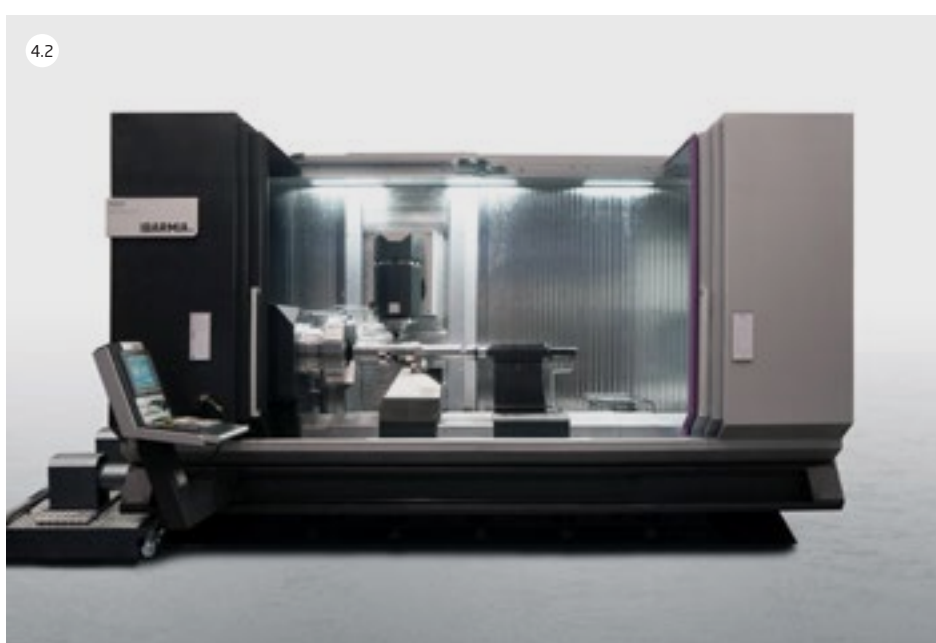
- Machine with ø2000 rotary table and automatic changer of angle heads
- Swing capacity increased from ø1400 to ø2400
- Automatic storage and change of angle heads
- Modified front to allow walking access of operators into working area.

4.2_ZVH55 L2200 MULTIPROCESS

MULTIPROCESS machine with excellent ergonomics and flexibility. Machine with two moving elements (tailstock and steady rest) with semi-automatic positioning guided by the machine column.

4.3_AUTONOMOUS PRODUCTION CELLS

Ibarmia offers various levels of automation. Going from simple pallet changers and Smart loading systems to modern and complex robot installations. In this case the images show an autonomous production cell of 4 machines ZVH45/L1600 EXTREME where the piece loading process is executed by a travelling robot.



Marc Konrad
VICE PRESIDENT SALES MACHINE TOOL SYSTEM. SIEMENS AG.

DIGITALIZATION IN MACHINE TOOL MANUFACTURING

It has been two years, since our last presentation in this magazine. A lot has happened since then in terms of digitalization and increasing productivity. Let me just explain highlights of our own production sites, which serve as model samples for many projects around the globe.

In our SIMOTICS plant in Bad Neustadt, we were able to improve the availability and efficiency of our machines dramatically. What helped us was a clear view on our production data, as well as the ability to track downtimes down to specific causes, which could be remedied. This helped us in boosting productivity significantly. On top of that, the analysis also helped us to improve our make or buy decisions, taking into account the cost and efficiency of specialized machines for example.

Another example, again in Bad Neustadt plant was the virtual run-in of a machine, before it was even delivered. By using the so-called "digital-twin" we were able to drastically reduce commissioning on-site by more than 20%

Another highlight is the productivity gain of about two percentage points in our Tübingen Factory where we produce geared motors SIMOGEAR. The challenges resulting from the time and cost reduction, when maintaining the same quality standards, were mastered through seamless transparency in NC programming, the constant, digital transfer of production programs as well as the targeted initiation of measures aimed at detecting and correcting faults.

These are just a few examples to show to you the power of our digital portfolio. Be it the digital process chain involving the digital twin for construction work preparation and shop floor. Be it the management of huge amount of programs and tools, as well as their status for planning and cost optimization. Or be "just" OEE and monitoring, combined with remote access to boost your maintenance. There are many ways to explore and improve your productivity and efficiency and we are happy to check what is best for you.



SIEMENS
Ingenio para la vida



Digitalization in Machine Tool Manufacturing

Increased efficiency, enhanced flexibility and shorter time to market – all this is promised by digitalization.

Whether integrated engineering in machine development or networking machine tools in a production landscape: We support machine builders as well as machine tool users with our solutions! The basis is always our SINUMERIK® CNC with its openness and technological bandwidth.



IBARMIA PROUD OF

ABOUT OUR MACHINING SOLUTIONS AND TECHNOLOGICAL DEVELOPMENTS

T SERIES FLEXIBLE AUTOMATION & PERFORMANCE

The IBARMIA T Series gathers a modern range of solutions to manufacture medium and medium/large pieces for the most demanding sectors which focus in high productivity and accuracy by using the multi-function and automation of machines.

NATURAL EVOLUTION.

A decade ago, pulled by satisfied customers used to deal with the performance and production capacity of IBARMIA machines, we decided to make a strategical step, to enter in the market of medium and large work pieces.

Trusting in the deep experience acquired with the successful Z series, we developed a solution starting from a solid base. Staying true to our principles we are offering to the market high performance machines with multi-axis continuous machining capabilities for milling and turning.

The T Series covers 4 different models depending of the axis strokes and swing diameter of the working area T12, T16, T22 and T30 for strokes that go from 1200mm to 3000mm.

There are two available heads in the range, both for continuous 5axis machining with high dynamics. Both heads work by direct transmission with a torque motor on the turning shaft, avoiding backlash issues and guaranteeing dynamics and accuracy while minimizing maintenance and repair costs in case of collision.

The combination of milling, drilling, tapping, gear milling, boring, turn/milling and turning in a single machine, offers a complete solution for sectors such as Aeronautics, Automotion, Mold & Die, Ferrocarril, Valves & Pumps, Energy...

AWARDED MACHINE.

The highest quality standard of the T Series is internationally recognized, proof of which the National Prize for Innovation in advanced manufacturing technologies in 2016.

The prize judged by the AFM, evaluates the aspects related to:

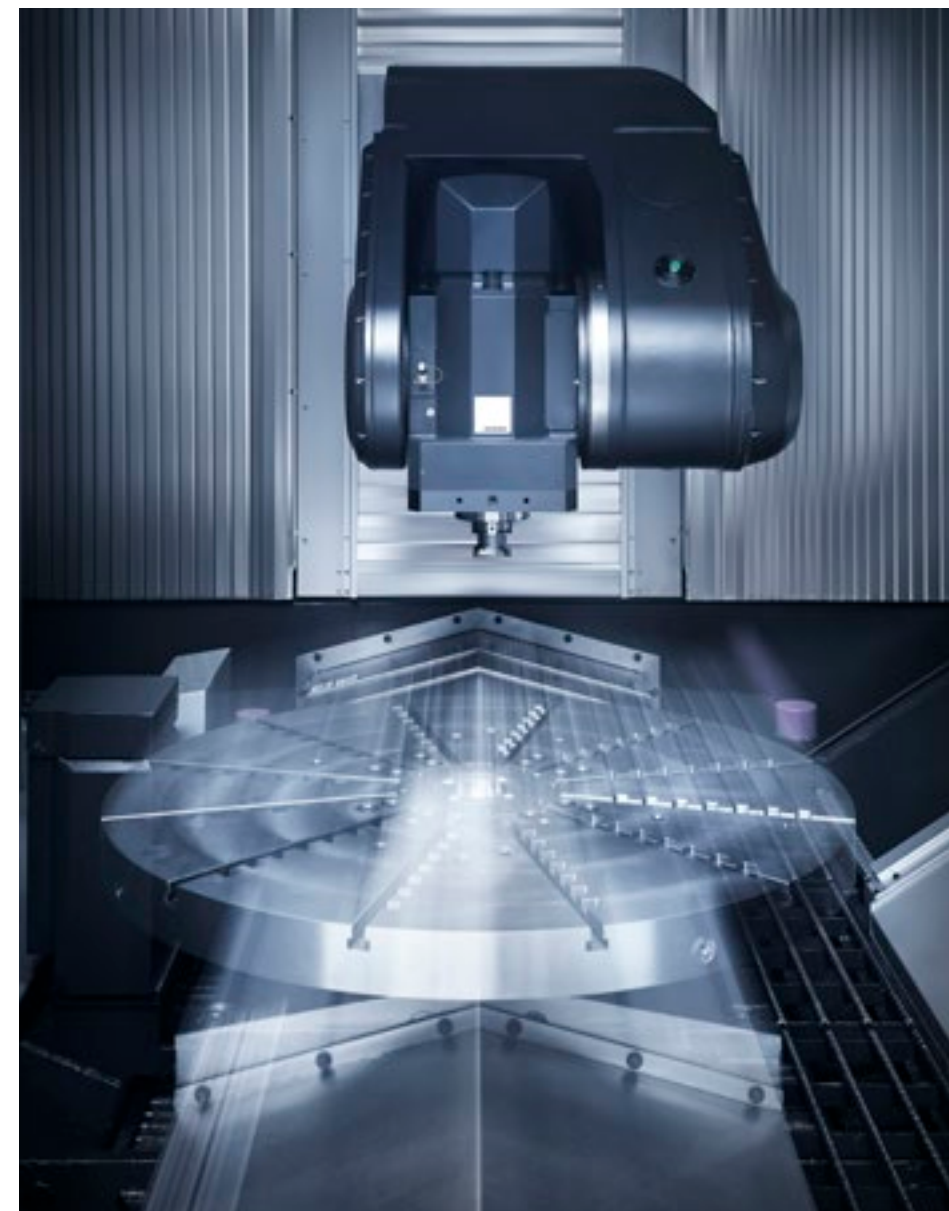
- Design, communication and sustainability
- Ergonomics and Safety
- Technology and Innovation

FLEXIBLE AUTOMATION.

One of our biggest concern is to design machines fast and flexible enough to respond to the volatile conditions of the market. The T Series combines a multi-task machine with the newest automation solutions based on handling and connectivity, perfect to support production processes with single, medium and large batches.

IBARMIA PROUD OF

WE DESIGN MACHINES FAST AND FLEXIBLE ENOUGH TO RESPOND TO THE VOLATILE CONDITIONS OF THE MARKET.



T16

1_ THR 16 MULTIPROCESS

5-axis multiprocess machining of medium diameter parts. The T16 model is able to swing ø1600mm pieces with a maximum height of 1450mm and a maximum weight of 6T, equipped with an A axis headstock for full 5-axis machining of the most complex parts, system that allows machining negative angles. This THR 16 could have been equipped with an B axis head (THC), with exactly the same tilting system.



THR FORK HEADSTOCK A axis that allows machining negative angles



T30

2_ THC 30P EXTREME

5-axis advanced machining of big diameter parts. The T30 model is able to swing ø3000mm pieces with a maximum height of 1950mm and a maximum weight of 20T, equipped with a powerful B axis for full 5-axis machining of the most complex parts. This THC 30 could have been equipped with an A axis head (THR), with exactly the same tilting system. The machine is provided with an intelligent pallet system to allow a quick set up of parts while the machine is working.



THC UNIVERSAL HEADSTOCK B axis system. Strokes: 180° +/-15°

IBARMIA PROUD OF

ABOUT OUR MACHINING SOLUTIONS AND TECHNOLOGICAL DEVELOPMENTS



THE T SERIES OFFERS A WIDE RANGE OF SMART FUNCTIONS THAT BRING THE FUTURE TO THE PRESENT.

BUILDING THE FUTURE, FROM MACHINE TO PROCESS EXCELLENCE.

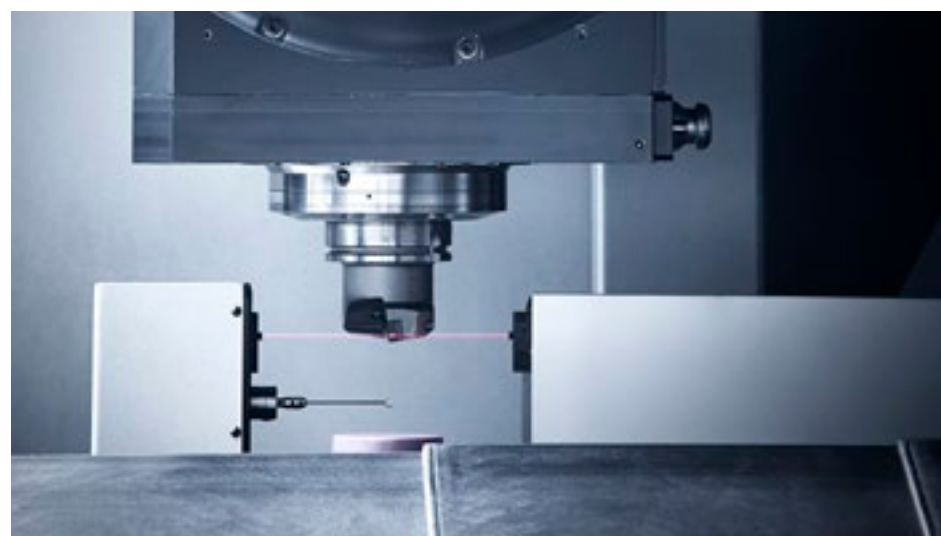
In the age of the accessible technology and a borderless world, in IBARMIA has a very strong commitment with the continuous process improvement related to our machine and installations. To achieve the process excellence, we have several research areas.

Integrated Machine Capabilities

Technological grinding cycles for single setup pieces of complex geometry.

Smartization.

Data acquisition, process monitoring and online working. The setting up of this machinery range offers a wide range of smart functions that bring the future to the present. T Series machine are equipped with black boxes for Data acquisition opening the door to data analytics and machine learning to improve the availability of the machine making possible a robust complete process.



Bernhard Aicher
SENIOR PRODUCT MANAGER
MARKETING, CONTROLS FOR MACHINE TOOLS
DR. JOHANNES HEIDENHAIN GmbH

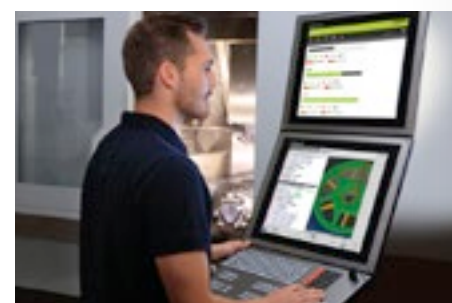
HEIDENHAIN TNC 640 AND CONNECTED MACHINING. TAILOR-MADE DIGITIZATION

Many medium-sized businesses are facing formidable challenges from digitization. The main question for them is how digital networking and software solutions can be used to analyze their own manufacturing, improve internal processes, and tailor the use of cloud solutions. Connected Machining from HEIDENHAIN offers functions for very individual networking of production, which places the TNC user at the center of digital order management through the control.

Creativity and innovative power drive the important and unique features that make a production company successful. This depends on innovative and motivated employees who put their expertise at the service of the company. No matter how deeply digitization is to penetrate into manufacturing workshops, the goal of digitization in a company has to be to make this proprietary, highly sensitive know-how available in the right places.

TNC controls from HEIDENHAIN support the shop worker with their Connected Machining package of functions for networking. The software entitled StateMonitor creates transparent processes through data acquisition and data analysis. Using the HEIDENHAIN DNC interface, the control can provide important data while the Remote Desktop Manager allows it to access data on the network. A clear, digital representation of information on the machine by the Extended Workspace is also one of the functions. All this enables flexible order management starting at a batch size of one.

The realization of uniform digital order management with Connected Machining through HEIDENHAIN TNC controls leaves the necessary leeway for individual design and connection of the network. The worker has the digital flow of information firmly in control in order to be able to exploit company-specific competitive advantages in the future—regardless of whether it's on the machine tool or in production planning.



Familiar and easy handling with overview: Extended Workspace with Remote Desktop Manager—Central digital access to relevant production data.



HEIDENHAIN



TNC 640 – High-End Control for Milling and Turning Operations

The TNC 640 from HEIDENHAIN: for the first time, milling and turning are combined in one TNC. Now users can switch as desired between milling and turning—within the same NC program. Switchover is independent of the machine kinematics. It automatically takes the respective operating mode into account and without any additional action. This new simplicity is complemented by dialog-guided plain language programming, the optimized user interface, powerful programming aids as well as comprehensive cycle packets taken from amply field-proven HEIDENHAIN controls into the TNC 640.

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Angle Encoders + Linear Encoders + Contouring Controls + Position Displays + Length Gauges + Rotary Encoders

IBARMIA PROUD OF

ABOUT OUR MACHINING SOLUTIONS AND TECHNOLOGICAL DEVELOPMENTS

C SERIES EFFICIENT TURNING & DRILLING OF LARGE FLANGES AND BEARINGS

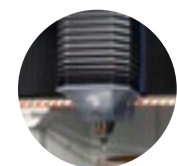
Machining large rings with IBARMIA: A Complete range of solutions for the machining of big dimensions rings_ It is not an easy task to find specific machines for niche market applications, as the low demand makes them unattractive for the manufacturers to develop specific solutions of high technology. IBARMIA has faced this issue and proposes a complete range of solutions for the machining of rings of big dimensions, up to a diameter of 8 meters, becoming one of the manufacturing leaders for this niche market.



Either in gantry type machines or opposing machines, IBARMIA offers integral solutions machines and fixturing devices. These solutions respect the morphology of the rings, which are much better placed in a horizontal position. This way the part is placed on a central rotary table which indexes the exact degrees between centers of adjacent holes. The rotary tables are manufactured in-house using bearings or hydrostatic supports depending on the diameters and weights to be placed on them. In both cases a double pinion gear system triggers the dented crown generating the turning underneath the rotary table. The positioning accuracy is guaranteed thanks to a RCN type encoder in the turning axis of the table.

1_ HEADSTOCKS: DRILLING & TURNING CENTRES

Due to the experience of IBARMIA manufacturing machines for big dimensions rings we can propose several headstocks options for drilling centers as well as turning centers.



V VERTICAL SPINDLE HEAD (Drilling)



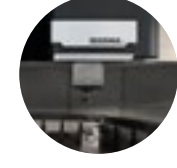
K UNIVERSAL SPINDLE HEAD (Drilling)



U INDEXING HEAD (Drilling)



H CONTINUOUS TILTING HEAD (Drilling)



RAM+ ROTARY TABLE (Turning)



IBARMIA OFFERS HIGH PERFORMANCE SOLUTIONS FOR THIS APPLICATION

IBARMIA PROUD OF

2_ MODELS BY ARCHITECTURE

2.1_Portal_Single & Dual

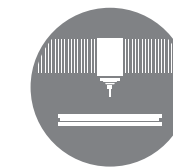
The Portal machines was developed to avoid that situation as the portal construction allows covering every range from the center of the rotary table to the limit of the axis at the end of the cross bar. Once again, we use a central rotary table underneath a fixed cross bar portal type construction where we can install either one (portal single) or two (portal dual) spindle heads.

When horizontal operations are required it is possible to use:

- VH Headstock, our last proposal to the market.
- Bj-rotational head
- An automatic change of 90° heavy duty angle heads
- Angular heads directly placed on the tool holder.

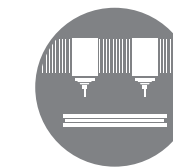
Since 2011 the portal range of solutions has been extended with high performance lathes specific for this application. For work pieces over 3500mm in diameter, the L series is made of a portal structure with cast iron bodies and rotary tables on a hydrostatic support. It is usually equipped with a double RAM although the machine can also be provided with a single RAM. Prioritizing the rigidity of the machine, we have chosen a fixed cross bar with a RAM stroke of 1200mm for work pieces up to 1050 height. Selection of manual clamping systems with independent or self-centering jaws as well as self-centering automatic clamping devices for first clamping (raw piece) or second clamping (previously machined piece). Wide range of options for tool changing, from manual tool holders to automatic tool change using a CAPTO system.

We find the top level of the range in the MULTIPROCESS series, where we add live RAMS to the high-performance lathes so we can execute operations that were in the past, impossible to do in one single machine. Apart from turning operations, the machine can also do drilling, tapping, milling, boring and even grinding operations. The machine incorporates tool and head changes to support its versatility. Due to our extended experience in this application, IBARMIA can advise on layouts of circular piece machining plants, piece handling and transportation, centralised chip evacuation systems... making us the perfect technological partner for the companies of this industry. Our global approach to sales and service with own offices in Germany and China guarantee the proximity to our customers regardless of their location.



PORTAL SINGLE

PSV, PSU, PSH DRILLING CENTRES (PS+ V, U, H heads)



PORTAL DUAL

PDV, PDU, PDH DRILLING CENTRES (PD+ V, U, H heads)

LDV, LDV_MULTIPROCESS TURNING CENTRES / TURNING & DRILLING CENTRES



PORTAL MACHINES

2.2_Vertical_Single & Dual Opposing The basic models "S", with vertical spindle head (SV) or automatic vertical/horizontal spindle head (SVK) make the basic range at IBARMIA. Components fixed around a rotary table make an efficient drilling center. The machine is made by a transversal axis generated by the column to adjust to different diameters and a vertical axis generated by the spindle head. The SVK version with a vertical /horizontal universal spindle head is recommended for horizontal drilling works such as the hole for ball introduction and the drilling and tapping of the holes used to grease the bearing tracks.

The addition of a second column and spindle head to the previous range gives place to the "F" models. This time there are 2 spindle heads working simultaneously on the same part. The machine can be configured with 2 vertical spindles (FVV), with a vertical spindle head and a universal one (FVK) as well as 2 universal heads (FKK).

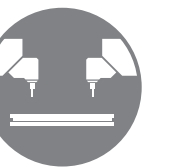
In case of having an odd number of holes or a variable distance between holes, the columns can be equipped with an intermediate saddle that generates an additional axis. It gives place to these models.

On this models and the previous one, the range of covered diameters is limited by the jig, distance between the spindle center and the guides of the vertical axis, making it impossible to reach the center of the rotary table for rings bigger than 2 meters diameter.



VERTICAL SINGLE

SV, SVK DRILLING CENTRES (SV+ V, K heads)



VERTICAL DUAL OPPOSING

FVV, FVK, FKK DRILLING CENTRES (FVV: 2 V heads) (FVK: 1 V & 1 K heads) (FKK: 2 K heads)



VERTICAL MACHINES



IBARMIA PROUD OF

AT IBARMIA WE KNOW THAT THE COMPLETE KNOWLEDGE OF THE PROCESS IS THE KEY TO SUCCESS



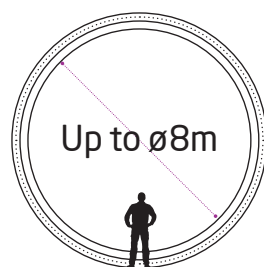
3_ MAIN FEATURES

3.1_ Fixturing Devices

Customers need more than just a machine, need a complete solution; therefore, it is essential to solve piece fixturing issues. During 20 years of experience, IBARMIA has developed several types of self-centering fixturing devices, manual and automatic. The flexibility and simplicity to change jaws and support positions for pieces of different diameters is something that has a clear impact on productivity which is highly valued by our customers.

3.2_ Control & Monitoring Of Tools

IBARMIA incorporates the most advanced tool wear monitoring systems. The automatic tool magazines allow the management of twin tools and a more autonomous use of production. Ensuring the process avoiding down times caused by broken tools is crucial in this application.



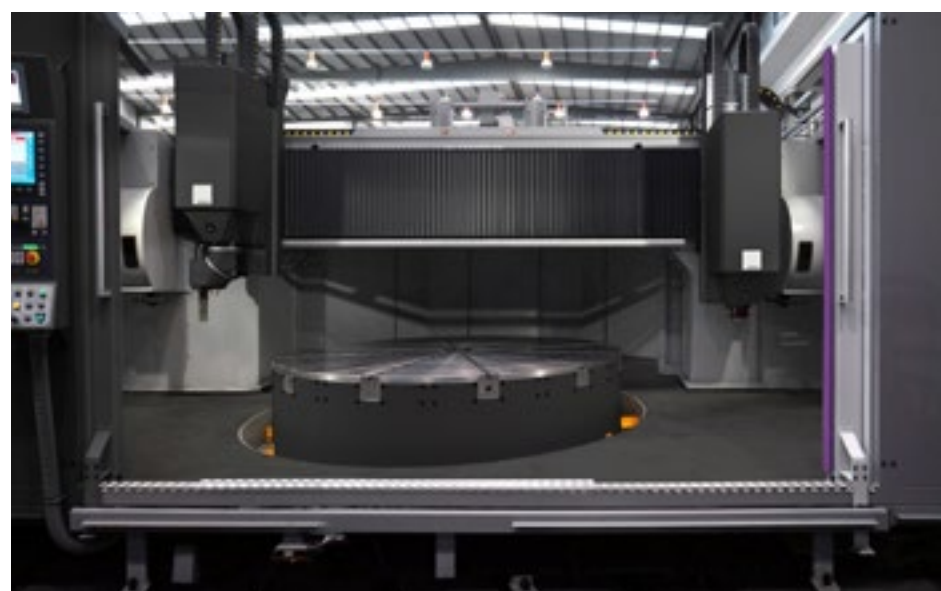
3.3_ Work Area Encapsulation & Coolant Through Spindle

Using tools with hard metal inserts to drill deep holes requires coolant through the spindle for two main purposes, reducing the elevated temperatures generated in the drilling process and using the pressure to push the chips out of the inside of the hole. High pressure (22, 40, 60, 70 bar) pumps are used for this purpose which combined with high feed rates, push chips with great violence so it is recommended to encapsulate the entire machine to prevent chips and coolant coming out of the working area as well as reduce the machining noise.



3.4_ Automatic Chip Evacuation

Evacuating the high volume of chips generated during the machining process is a great challenge for every manufacturer, especially when it comes to big dimension machines of intense use (usually 3 shifts). With this purpose, our design avoids flat surfaces where chips could settle and favor their fall to the central channel where the paddles that turn with the rotary table push the chips to an external evacuator.



David Trabal
GENERAL MANAGER
FANUC IBERIA

THE INDUSTRIAL AUTOMATION: A FRIEND HORIZON

During the last months, a spiral of opinions has been generated regarding a relatively near future, which informs us of the massive arrival of machines and robots that will be key factors for an exponential loss of jobs and, therefore, the beginning of a possible economic chaos.

In all this, there is something certain: that there is a growth in automation. But that's all.

I would like to mention some current data: the countries with the highest density of robots (number of robots per number of employees) are those who have lower unemployment figures. Countries such as South Korea, Singapore, Japan, or already in Europe, Germany, are proud to regularly show their unemployment data. And when we talk about robots, we are talking about automation in general, and this increasing level of automation allows countries to be more competitive, and therefore more attractive to investment, generating a change in the profile of jobs.

Some European policies have come to raise taxes on robots in their programs with the idea of protecting the worker, without actually assessing the consequences that could have, and that really understanding the trend of this market, would undoubtedly lead to a production leak and also a leak of investments to other countries, generating precisely the opposite effect to the desired one.

All this growing trend in process automation, has its maximum reflection in the denominated Industry 4.0. The complete interconnection of systems is allowing us to go a step further in the industrial sector. FANUC presents its FIELD system as IoT. It is necessary that all these networks are open, since the guests are very diverse. With the FIELD (FANUC Intelligent Edge Link & Drive) system, FANUC provides an open, complete and intelligent platform in which data is exchanged transparently and in real time.

With all this, we must consider that we cannot lose the real horizon of our current and future time, to build a more competitive and strong country, thanks without a doubt, to the industrial automation.

FANUC

Challenge us!

5-axis technology

FANUC

Everything revolves around your productivity.

With more than 60 years of experience, 3.7 million CNC controls installed worldwide, we are clearly the No.1 in factory automation. For complex 5-axis machining, our high-performance CNC 30i-B is the solution.

FANUC, the highest precision and reliability together with a dedicated service and support team.

WWW.FANUC.EU

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SHAPING THE FUTURE OF MANUFACTURING

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PIXEL SISTEMAS is the first Siemens PLM Software Smart Expert and companies like IBARMIA, use Solid Edge 3D CAD for design, NX CAM Express for manufacturing, and FEMAP with NX Nastran for CAE solutions, to achieve their goals in Industry 4.0 innovation process.

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IBARMIA PROUD OF

ABOUT OUR MACHINING SOLUTIONS AND TECHNOLOGICAL DEVELOPMENTS

NEW_ZVH 45/L3000 STAR EDITION

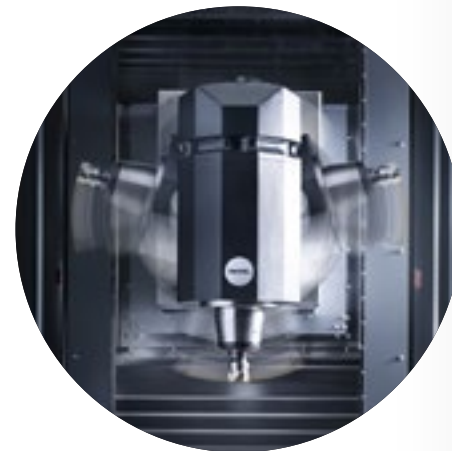
The ZVH45 STAR is a new milestone in the history of IBARMIA, launching for the first time a machine with a closed configuration covering the widest range of machining requirements. This configuration is based on the awarded moving column architecture and the strategy of using only the best quality products with a high technological content.

IBARMIA has a history of working with very high level companies, IBARMIA users are usually technicians with high level of machine tool expertise, people who instead of just purchasing the standard machine their usual machine tool dealer provides, prefer to carefully select their machining options, consider their ideal axis configuration, compare specs of spindles, feed and power rates, even venture inside the machines heart to understand the construction and design differences and explore possible modifications to standard working areas that would better suit their specific production requirements. IBARMIA not being a big scale marketing company, these technicians need to filter through a lot of different brands before finding IBARMIA.

Companies like Thyssenkrupp, Airbus, Michelin, Liebherr, INA Schaeffler, Andritz Group, Avic, Energomash, Lufkin, Schoeller Bleckmann, SKF etc have perfect production units thanks to their machine tool experts taking the smart steps to find the right machine for their requirements.

Once IBARMIA gets contacted by a potential customer, the collaboration starts by configuring the working area, axis strokes, spindle type...and an endless list of up to 800 different options to tailor the perfect solution for this specific customer.

A DESIGN BASED ON OUR AWARDED MOVING COLUMN ARCHITECTURE



ZVH B AXIS HEADSTOCK (+/-105°)



IBARMIA PROUD OF

This working philosophy and the high technological content of the machines make IBARMIA a high level brand with a very selected group of customers.

However, not all the companies in the industry have the time and resources to dedicate to this research and often choose the standard configuration provided by their usual dealer.

Shorter lead times, standardization of machining processes and the fast pace world in which we live pushes dealers to offer the "good enough and close enough" solutions which are in stock to meet the requirements of a wide range of their customer base.

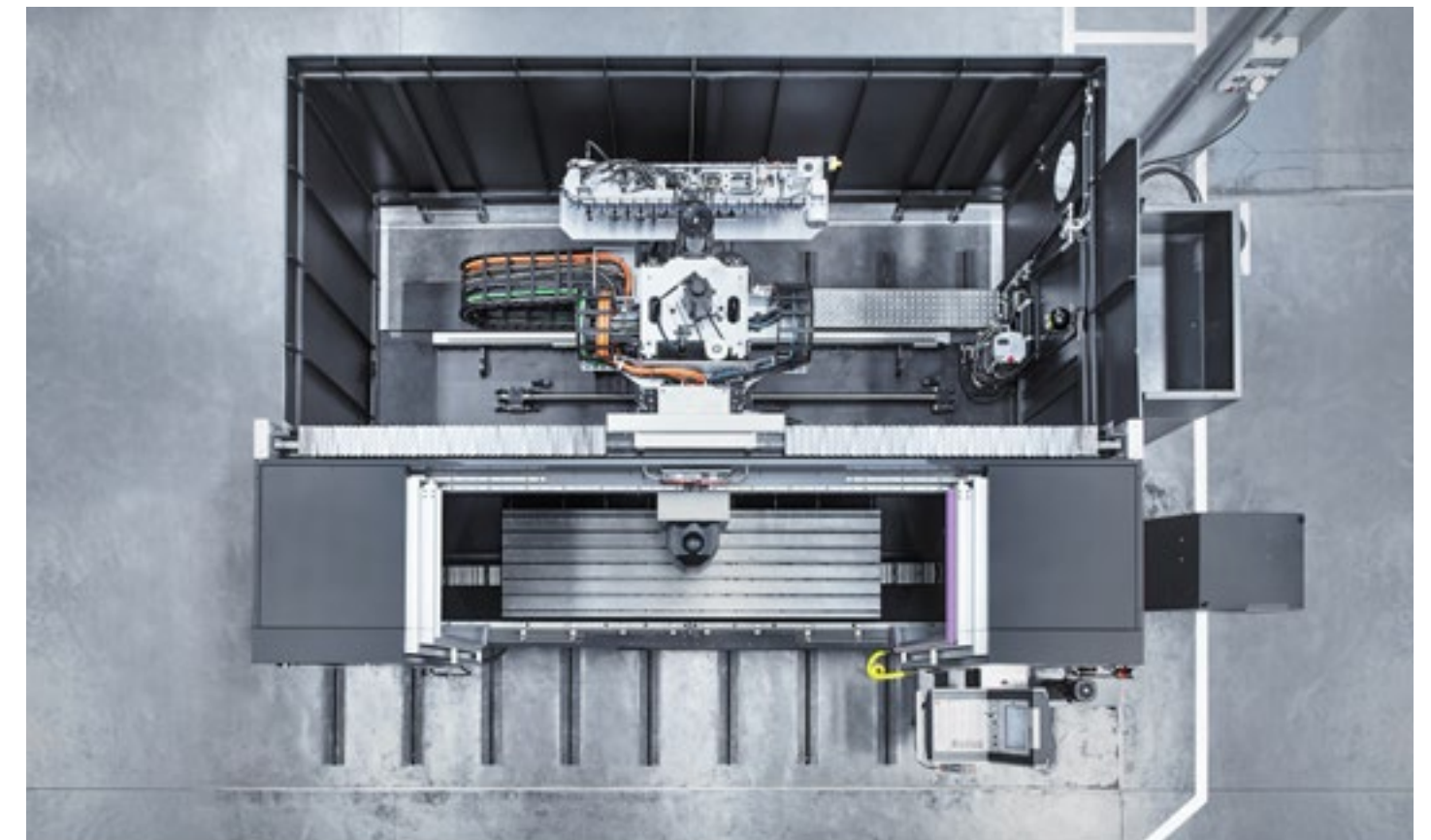
This situation was brought to IBARMIA's attention by their Italian machine tool dealer.

The technical office at IBARMIA considered a universe of possible axis configurations, spindle and various other options to come up with a standard machine that would meet the widest possible range of machining requirements by using the usual high technology components and the award-winning design that made IBARMIA famous among machine-tool experts.

IBARMIA designed and conceived the ZVH45 STAR. This special edition of machines with close configuration will be manufactured in batches and shipped to selected showrooms all over the world to be delivered to end users with immediate needs, which is nowadays probably the biggest part of the market.

So now IBARMIA authorized dealers and customers have the best of both worlds, high technology machines with a configuration that has already been designed with their needs in mind AND prompt availability so they can immediately start using the technology and produce parts that will already be the return of their investment.

A HIGH PERFORMANCE MACHINE THAT WILL COVER MOST OF YOUR PRODUCTION REQUIREMENTS.



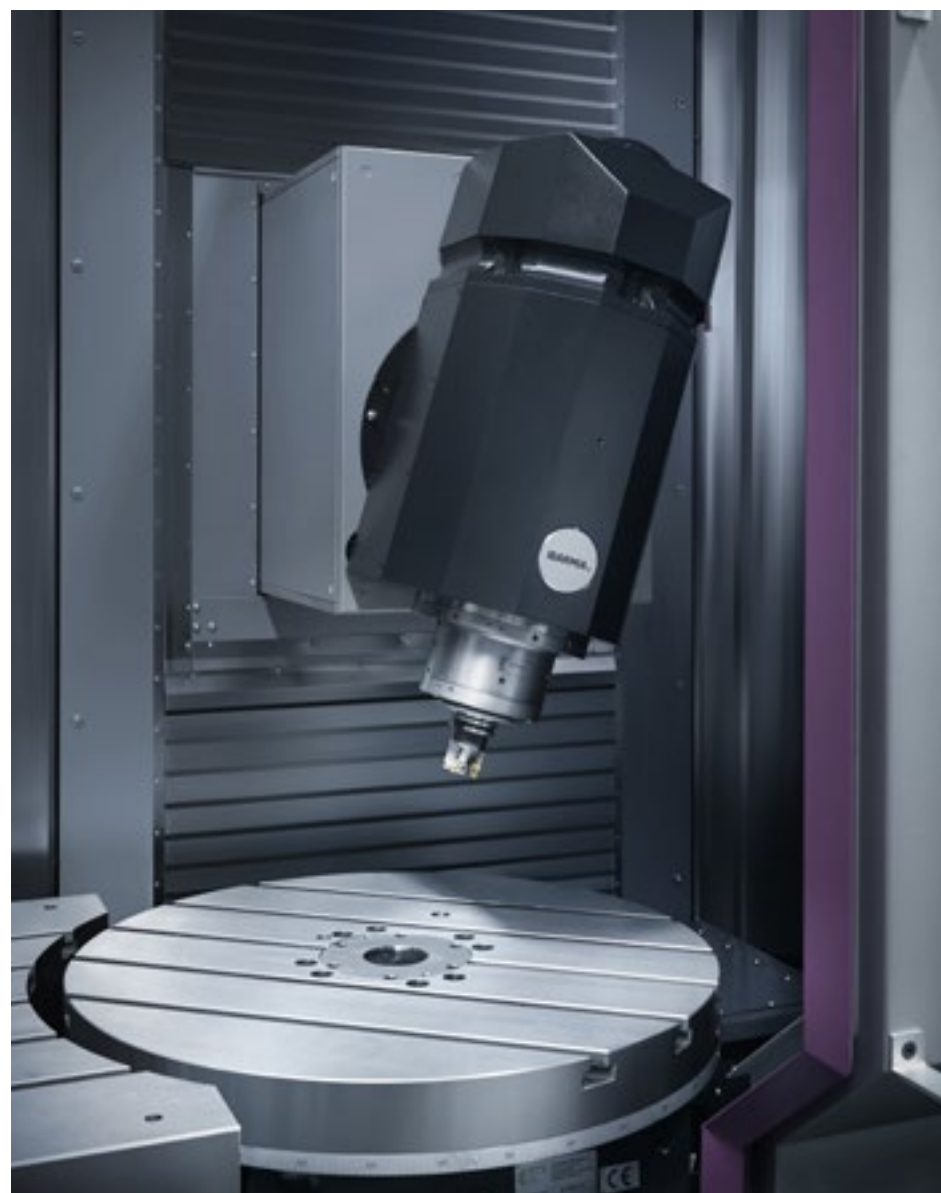
IBARMIA PROUD OF



Do not hesitate to contact your local IBARMIA authorized dealer to get detailed information about the STAR machine configuration, it is very likely that this solution will meet most of your workshop machining demands with the highest accuracy, dynamics and reliability.

And of course, IBARMIA being IBARMIA, if you need that "extra touch" that would make it your ideal production unit, do not hesitate contacting us, our technical office will be delighted to hear about your needs so we can together CREATE YOUR OWN MACHINE.

BEST TECHNOLOGY WITH IMMEDIATE DELIVERY FOR A MACHINE DESIGNED WITH YOUR NEEDS IN MIND



Rikardo Bueno
ADVANCED MANUFACTURING DIRECTOR
TECNALIA

LAB-FAB-APP THREE BUZZWORDS IN R&D NOW ALSO IN THE MACHINE TOOL INDUSTRY

At a recent conference on the future of R&D in Europe, the terms LAB-FAB-APP were mentioned as keys to innovation for the first time.

The first one, LAB, reminds us of the importance of research for new knowledge generation. At TECNALIA, we develop manufacturing processes, model new machine concepts and prototype new developments in our laboratories with the clear aim of qualifying to offer solutions to the machine-tool sector.

The second, FAB, is part of our own make-up. Advanced Manufacturing is one of our main scopes of work and the heart of our country's economic activity, generating well-being and wealth for all. We aim to collaborate with companies like IBARMIA, to make them even more competitive, if possible, in the global arena and make Basque products and services available around the world.

Finally, APP refers to industry digitalisation and all the new opportunities now available to us, as machine users and manufacturers, companies and individuals, and also to a large extent, processes and machines. This involves improvement in terms of quality, productivity, machine and tool use, etc; which is possible thanks to the integration of sensors, data analysis and monitoring systems among other measures.

Therefore, we welcome the presence of IBARMIA in this EMO, where the three keys "LAB-FAB-APP" have become a reality, thanks to an ongoing commitment with R&D, tenacity in innovation to achieve results and generate new products and services, as well as making the most of digital technologies.



WE CAN DO SO MUCH TOGETHER.

Our work is not understood without yours; we want to work together so your company can compete better. Because together, we can develop technologies that transform the present.

The future is technological, let's share it!

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 Call us on +34 946 430 850



Cellro is a distinguished developer and manufacturer of robotic automation for the machining industry, founded in 2004. The company is acclaimed for its standardized, modularly constructed automation solutions.

Cellro enables its clients to maximize machine profitability. Its versatile solutions reduce labor costs, increase hourly output and allow for overall production growth. Now, and in the future, Cellro's distinctive standardized modularity empowers the owner with unequalled flexibility, granting full trust in the future.

www.cellro.com

Technology in rotation

- Dual lead worm gears technology
- Master slave technology
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- Tailor made solutions

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- Complements
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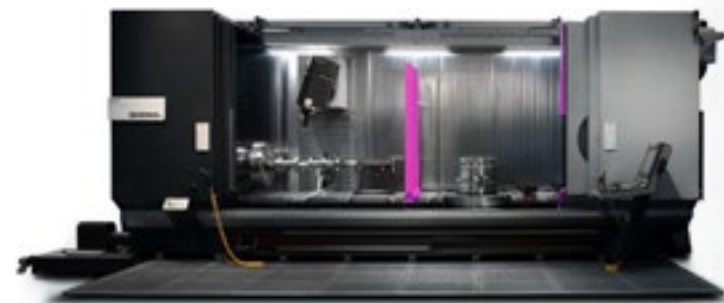
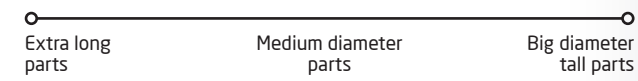


Z SERIES MACHINERY RANGE

MOVING COLUMN MACHINING CENTRES

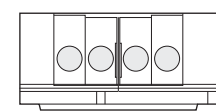
THE MACHINE FOR ALMOST EVERYTHING THROUGH IT'S MORE THAN 700 CONFIGURATION OPTIONS.
 Since 1986 we have created the most extensive product range following the same concept. Our machines offer the highest quality, accuracy and power with excellent ergonomics, dynamics and flexibility.

RANGE OF MACHINING

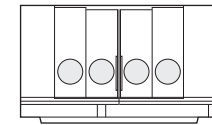


CONSTRUCTION SIZES

ISO 40

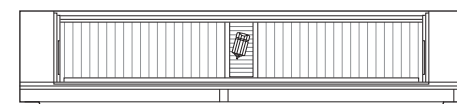


ISO 50



Specific machine construction for each spindle size: ISO 40 - ISO 50.

Up to 12000mm in X axis



L1600 / 2200 / 3000 / 4000 / 5000 / 6000 / 7000 / 8000 / 9000 / 10000 / 11000 / 12000

HEADSTOCKS



ZVH
 B AXIS +/- 105°
 Fast continuous and accurate movements measured by glass scale.



ZV
 VERTICAL 3 AXIS HEADSTOCK.

TABLES

Capacity to machine pieces in a wide range of sizes for multiple industrial sectors.

Multiprocess and 5 axis machining tables examples

3 axis machining tables examples



MODELS BY MACHINING TECHNOLOGIES



ZVH_ADD+PROCESS
 3D laser cladding and 5axis advanced machining technology.



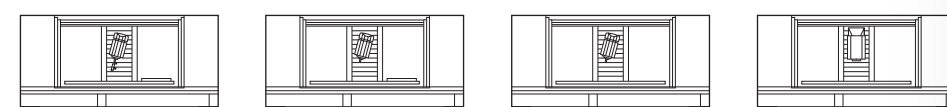
ZVH_MULTIPROCESS
 Milling / Turning 5 axis advanced machining technology.



ZVH_EXTREME
 5 axis advanced machining technology.



ZV_EXTREME ZV_CLASSIC
 Vertical 3 axis machining technology. EXTREME: Direct Drive Spindle transmission. CLASSIC: Belt and pulley transmission.



MAIN FEATURES

HIGH SPEED AND HIGH TORQUE SPINDLES

COOLANT THROUGH SPINDLE

PIECE AND TOOL PROBES

TURNING CAPACITY AVAILABLE

CNC CONTROL: HEIDENHAIN, SIEMENS, FANUC.

SMART WORK MANAGEMENT

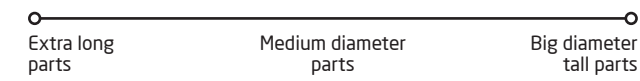


T SERIES MACHINERY RANGE

UNIVERSAL 5 AXIS MACHINING CENTRES

ADVANCED MACHINING OF BIG SWING DIAMETERS PARTS COMBINING POWER, DYNAMICS AND AUTOMATION.
 The IBARMIA T Series gathers a modern range of solutions to manufacture medium and medium/large pieces for the most demanding sectors which focus in high productivity and accuracy by using the multi-function and automation of machines.

RANGE OF MACHINING



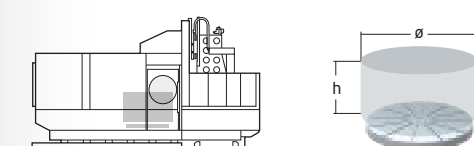
CONSTRUCTION SIZES

T12 ø 1200mm h 1250mm

T16 ø 1600mm h 1450mm

T22 ø 2200mm h 1750mm

T30 ø 3000mm h 1950mm

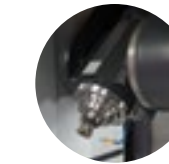


Construction sizes depending on swing diameter and height.

HEADSTOCKS



THC
 UNIVERSAL HEADSTOCK
 B AXIS 180° +/- 15°



THR
 FORK HEADSTOCK
 A AXIS_ Headstock that allows machining negative angles.

AUTOMATION

High production without dead times for piece preparation.



1_ PALLET POOLS
 Various systems available for all sizes.



2_ ROTOPALET
 Available for T12 and T16 sizes.

MODELS BY MACHINING TECHNOLOGIES



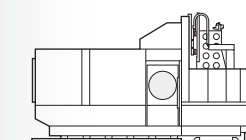
THC / THR
 ADD+PROCESS
 3D laser cladding and 5axis advanced machining technology.



THC / THR
 MULTIPROCESS
 Milling / Turning 5 axis advanced machining technology.



THC / THR
 EXTREME
 5axis advanced machining technology.



MAIN FEATURES

HIGH SPEED AND HIGH TORQUE SPINDLES

COOLANT THROUGH SPINDLE

PIECE AND TOOL PROBES

TURNING CAPACITY AVAILABLE

CNC CONTROL: HEIDENHAIN, SIEMENS, FANUC.

SMART WORK MANAGEMENT

AUTOMATION SYSTEMS

TOOL MAGAZINES UP TO 360 TOOLS

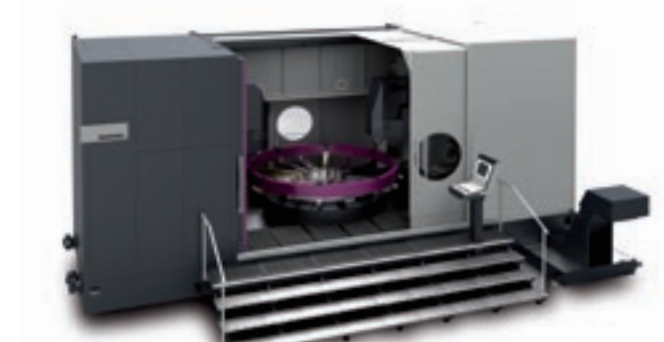
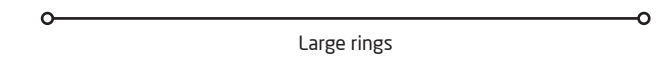


C SERIES MACHINERY RANGE

MACHINING SOLUTIONS FOR BIG CIRCULAR PIECES.

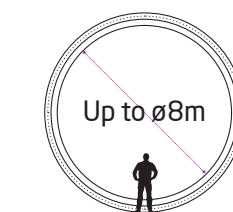
A COMPLETE RANGE OF SOLUTIONS FOR THE MACHINING OF BIG DIMENSION RINGS.
 Engineering capacity and construction flexibility made IBARMIA a leader in machining big flange and bearings up to 8 metres diameter. Either in gantry type machines or opposing machines, IBARMIA offers integral solutions -machines and fixturing devices.

RANGE OF MACHINING



MACHINING SIZES

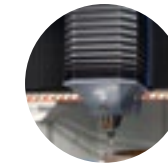
Maximum possible diameter ø 8000mm.
 Maximum possible height DRILLING CENTRES: h 350mm.
 TURNING CENTRES: h 1050mm.



Efficient turning and drilling of big flanges and bearings.

Machining of rings up to ø 8000mm.

HEADSTOCKS



V
 VERTICAL SPINDLE HEAD (Drilling)



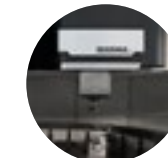
K
 UNIVERSAL SPINDLE HEAD (Drilling)



U
 INDEXING HEAD (Drilling)

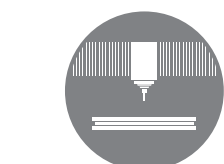


H
 CONTINUOUS TILTING HEAD (Drilling)

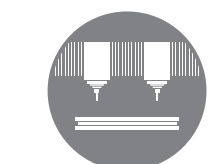


RAM+
 ROTARY TABLE (Turning)

MODELS BY ARCHITECTURE



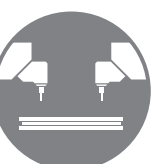
PORTAL SINGLE
 PSV, PSU, PSH
 DRILLING CENTRES (PS+ V, U, H heads)



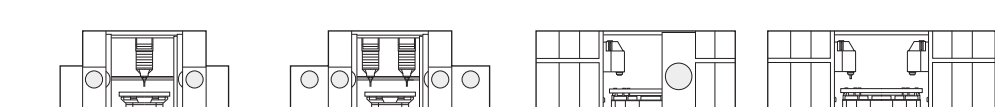
PORTAL DUAL
 PDV, PDU, PDH
 DRILLING CENTRES (PD+ V, U, H heads)



VERTICAL SINGLE
 SV, SVK
 DRILLING CENTRES (SV+ V, K heads)



VERTICAL DUAL OPPOSING
 FVV, FVK, FKK
 DRILLING CENTRES (FVV: 2 V heads) (FVK: 1 V & 1 K heads) (FKK: 2 K heads)



LDV / LDV_MULTIPROCESS
 TURNING CENTRES / TURNING & DRILLING CENTRES

PORTAL ARCHITECTURE

Drilling centers & Turning centers. With single or double Spindle head (Drilling). With single or double RAM (Turning).
 • Drilling: V - U - H headstocks.
 • Turning: RAM+hydrostatic rotary table.

VERTICAL ARCHITECTURE

Drilling centers. With single or double Spindle head.
 • V - K headstocks.

IBARMIA PROUD OF

ABOUT OUR MACHINING SOLUTIONS AND TECHNOLOGICAL DEVELOPMENTS

ADD+PROCESS TECHNOLOGY_ THE SOLUTION TO NEW MACHINING REQUIREMENTS

The Add+Process is a technology based on laser metal deposition, focused on manufacturing, coating and repairing parts using metallic powder as a raw material and a laser beam as a heat source. Additive manufacturing and 3D printing are a reality that is drastically changing process in various fields and sectors. The machining process of pieces obtained by additive methods has only been approached by a few world leading companies so far.

ZVH45 L1600 ADD+PROCESS HYBRID MACHINE BASED ON MOVING COLUMN ARCHITECTURE Z SERIES MACHINERY RANGE



The substrate material is melted with the laser beam creating a melt pool, where the metallic powder is injected in a locally controlled atmosphere by an inert gas. The LMD head is moved along a tool path to create the final geometry layer by layer. The result is an extremely strong union between the substrate and the deposited material achieving structures with similar or even better properties than the base material.

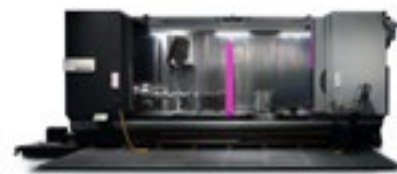
1_ OUR MACHINERY RANGE, THE BASIS OF A NEW GENERATION OF MACHINING CENTRES

The machining centres of IBARMIA offer the manufacturing of complex geometry and large volume pieces reducing considerably the lead time thanks to the multiprocess concept (milling and turning in the same machine). These machining centres improve the quality of the final piece and reduce the initial investment cost by requiring fewer machines as well as less space, eliminating the transit of parts between different machines and simplifying industrial management.

2_ THE HYBRID MACHINE, THE TRANSFORMATION THAT WILL MULTIPLY YOUR PRODUCTION CAPACITY

The evolution of the IBARMIA's machining centre into a hybrid machine involves the integration of the Additive Manufacturing based on Laser Metal Deposition (LMD) technology. This integration provides high versatility to produce parts with complex geometries and to combine different materials in the same part. The automatic change of the LMD head allows an easy switch between additive and subtractive processes. Thus, parts produced by LMD can be finished in the same set up, obtaining the accuracy and the precision of machining processes in additively manufactured parts.

Z SERIES MACHINERY RANGE
MOVING COLUMN MACHINING CENTRES
HIGHEST QUALITY, ACCURACY AND POWER WITH EXCELLENT ERGONOMICS, DYNAMICS AND FLEXIBILITY.



T SERIES MACHINERY RANGE
UNIVERSAL 5 AXIS MACHINING CENTRES
ADVANCED MACHINING OF BIG SWING DIAMETER PARTS COMBINING POWER, DYNAMICS AND AUTOMATION.



ADDITIVE MANUFACTURING & MULTITASKING MACHINING IN THE SAME MACHINE

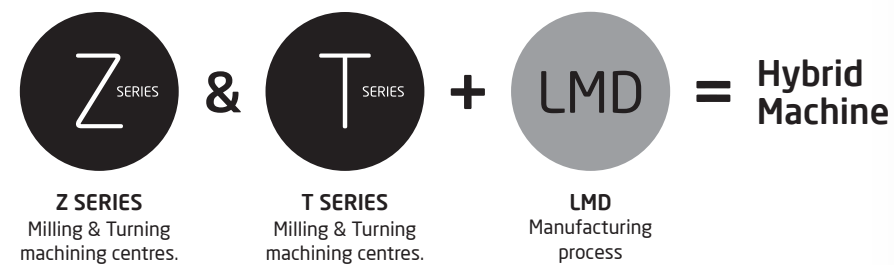
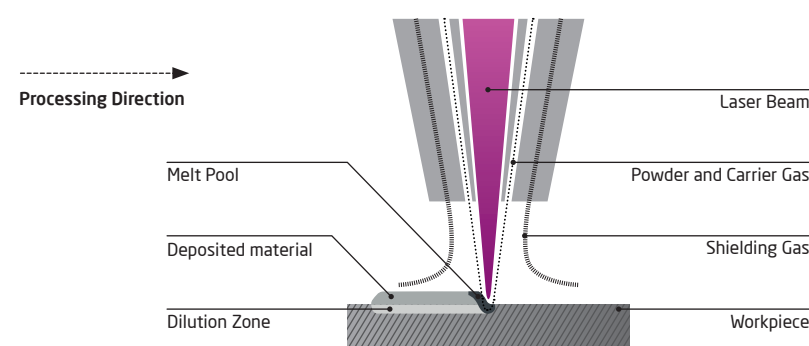
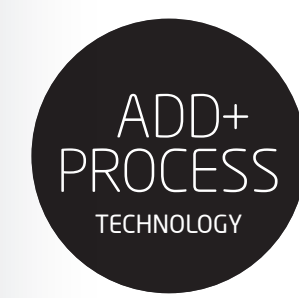


DIAGRAM OF THE PROCESS



IBARMIA PROUD OF



THIS INTEGRATION PROVIDES HIGH VERSATILITY TO PRODUCE PARTS WITH COMPLEX GEOMETRIES

3_ LATEST TECHNOLOGY ON ADVANCED MANUFACTURING

Our Add+Process technology is focused on manufacturing, coating and repairing parts using metallic powder as a raw material and a laser beam as a heat source. The substrate material is melted with the laser beam creating a melt pool, where the metallic powder is injected in a locally controlled atmosphere by an inert gas. The LMD head is moved along a tool path to create the final geometry layer by layer. The result is an extremely strong union between the substrate and the deposited material achieving structures with similar or even better properties than the base material.



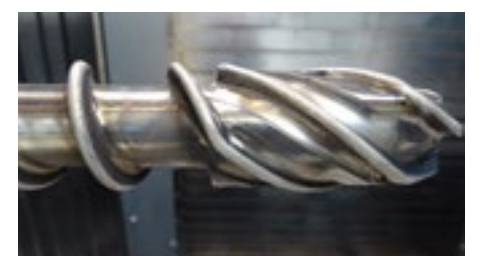
The laser beam concentrates the energy in a spot of ~1-3 mm, thus, allowing the production of high-accurate and complex parts.

4_ LASER BASED MANUFACTURING PROCESSES

- Laser Metal Deposition (LMD)**
Manufacturing of 3D features, repairs and coatings to improve the properties of the piece allowing a combination of different materials in the same piece.
- Laser Heat Treating**
This process consists in using a laser beam as a heat source to improve the surface properties of the metallic parts by locally changing its microstructure through controlled heating and cooling cycles.
- Laser Polishing**
In the laser polishing process a thin metal surface layer is melted with surface tension leading to material flow from peaks to valleys, thus, smoothing the surface roughness.
- Laser Marking**
This process, including engraving of an object, consists in leaving marks on an object in most cases by the typical physical effect of inducing a color change withing the material.

5_ LASER BASED MANUFACTURING APPLICATIONS

- Coating**
The LMD process can add functional coatings to specific areas of parts in order to improve its mechanical properties, thus, increasing the lifecycle of the final product.
- Repairing**
The combination of machining and LMD processes can be used to repair damaged parts to increase their lifecycle by first, restructuring the damaged area by machining, then, by adding new material by LMD, and finally, by finishing to achieve the required geometrical accuracy.
- Feature adding**
Instead of producing the whole part, the LMD can also add features with specific characteristics (complex geometry, different material, etc.) to parts previously manufactured by other manufacturing processes.
- 3D parts manufacturing**
The LMD process can be used to produce a three-dimensional object layer by layer creating a three-dimensional object.



*FOLLOWING RESULTS HAVE BEEN OBTAINED WITH ADD+PROCESS TECHNOLOGY:

Productivity: 0.75Kg/h
Clad width: 1-3mm
Clad height: up to 1.2mm
Powder efficiency: 70%

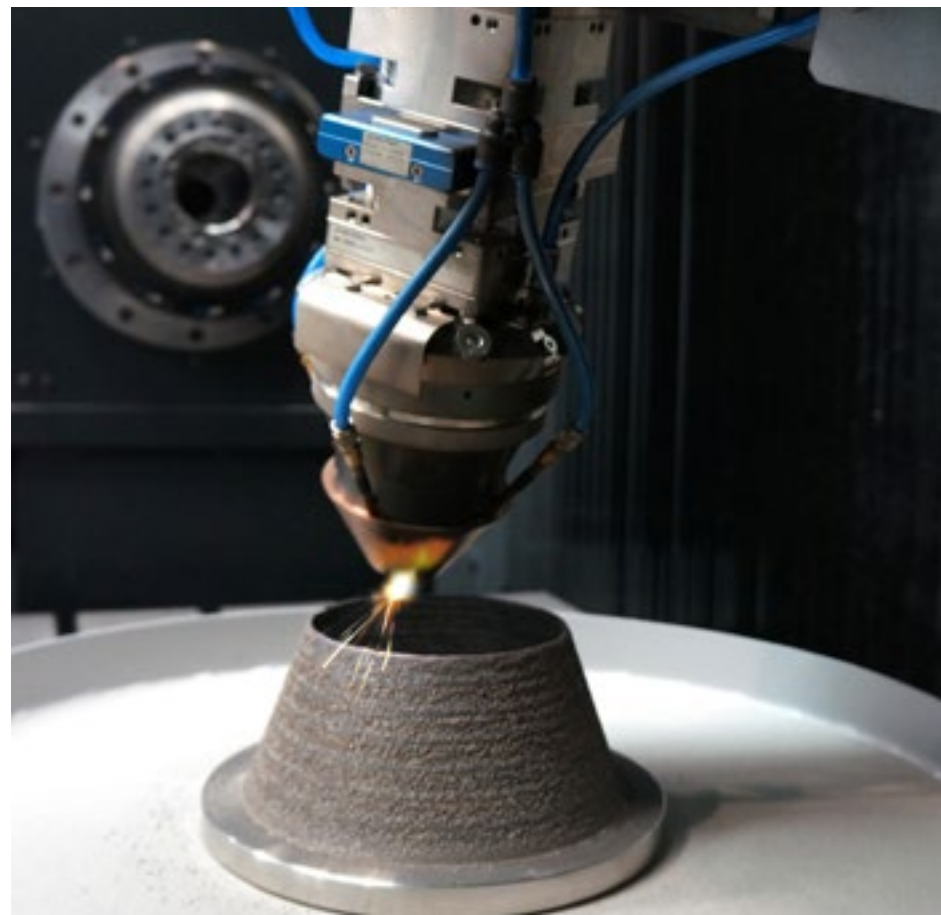
*Those values depend on the material.

IBARMIA PROUD OF

A STEP AHEAD IN SEARCH OF FLEXIBILITY AND PERFORMANCE

6_ ADD+PROCESS TECHNOLOGY MAIN TECHNICAL DETAILS

- 3 kW LASER POWER**
- PRECITEC YC52 CLADDING HEAD**
- POWDER FEEDER**
- AUTOMATIC TOOL CHANGER**
The easy switch between the LMD head and machining provides the flexibility to combine both processes.
- VARIABLE SPOT**
The laser head offers the possibility to vary the spot size in order to achieve high productivity or fine geometries.



7_ MATERIAL DATABASE

- Nickel based alloys**
Offer high mechanical properties at high temperatures and are well suited for service in extreme environments subjected to pressure and heat.
- Cobalt based alloys**
Offer high wear and cavitation resistance at high temperatures and they are appropriate for coating operations to increase the mechanical properties of surfaces.
- Iron based alloys**
Offer high mechanical properties as high abrasion resistance up to 500°C, which can be improved with surface heat treatment. They are useful for coating operations.
- Stainless steel**
Steels with a minimum of 10.5% chromium content by mass, notable for its corrosion resistance and good strength. It is widely used in almost all sectors.



Nickel based alloys

Inconel 718
Manufacturing Applications.



Hallestoy X
Manufacturing Applications.

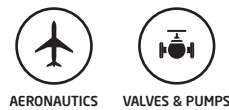


Colmonoy 56
Coating Applications.



Cobalt based alloys

Stellite 6
Coating Applications.

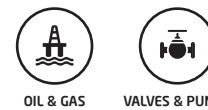


Eutroloy 16606
Coating Applications.



Stainless Steel

Aisi 316L
Manufacturing Applications.



RENISHAW
apply innovation™



Dr. Marc Gardon
ADDITIVE MANUFACTURING
TECHNICAL MANAGER,
RENISHAW IBÉRICA, S.A.U.

WHERE DOES ADDITIVE MANUFACTURING FIT INTO INDUSTRY 4.0?

Additive Manufacturing (AM) can produce complex geometries that provide superior benefits which cannot be manufactured by conventional manufacturing methods, such as welding or machining. AM introduces new design possibilities, including opportunities to combine multiple components in production, minimise material use and reduce tooling costs.

In order to be able to manufacture in the most precise and efficient way the process of design for AM (DfAM) has to be taken into account when it comes to the design of the part and its orientation during the build. It is important to note that AM is not exempt from design limitations, and in fact is a succession of interlaced processes, not a series of independent processes.

Another advantage that AM is bringing to Industry 4.0 is that the data generated by the process and its monitoring is managed in an intelligent and continuous way. For example, remote mobile applications exist which can track the manufacturing process and learn how the parameters of different machines are evolving in real time across different locations. An exhaustive control of different parameters (temperature, pressure, etc.) of the manufacturing process is essential in guaranteeing manufacturing success and to be able to generate reports at the end of each manufacture to certify that each batch of produced parts has been carried out correctly.

These technologies that comprise component design, manufacturing, post-process and inspection software already exist and they are not future projects, nor are they science fiction. AM is not an island in the production process. In other words, it is not an isolated phase of the manufacturing system, but one more stage to be included alongside the already existing processes.

Renishaw's expertise in process development and our experience in using the technology in our own manufacturing operations enable us to provide turn-key and optimised additive manufacturing solutions for a broad range of applications in industrial and healthcare sectors. Find out more about additive manufacturing systems and services for your industry at our stand at EMO located in hall 7 stand A72.



RENISHAW
apply innovation™

Últimos avances en metrología y control de procesos integrado

Visite Renishaw en la mayor feria metalúrgica internacional, EMO Hannover 2017, stand B46, pabellón 6. También exponemos nuestros nuevos sistemas y software de impresión metálica 3D en el stand A72, pabellón 27, donde puede obtener toda la información sobre las ventajas de nuestra red global de Centros de Soluciones de Fabricación Aditiva.

Compruebe por qué nuestros clientes nos han elegido como socio de confianza para fabricación innovadora.

Para más información, visite www.renishaw.es/emo2017



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www.renishaw.es



REDEX

The Machine Tool Drive Company

Hi-tech reducers for rack & pinion machine axes and milling spindles.

Leader in machine tool gearboxes and racks, REDEX has developed a product range with optimized stiffness, high accuracy and a modular design, which are all essential features for modern and dynamic machine tool.

The patented design using unique integral pinion with high-capacity taper roller bearings allows the highest "stiffness to the rack" on the market.

Through its worldwide sales network, with 7 subsidiaries and 2 research centers, REDEX provides full support for product sizing, integration and commissioning.

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IBARMIA PROUD OF

ABOUT OUR MACHINING SOLUTIONS AND TECHNOLOGICAL DEVELOPMENTS

SMART POINT_ NEW OPEN SOFTWARE PLATFORM BASED ON CLOUD INFRASTRUCTURE

IBARMIA presents a new cloud infrastructure platform open to other platforms & host of smart apps; a customer-focussed solution that allows the access to reliable and valuable services increasing productivity, through production control, precision, programming, machine self-learning and maintenance.



WHAT?

SMART POINT is a cloud infrastructure and open Software as a Service (S.a.S) platform that allows the access to reliable and value services. It is compatible with other platforms such as Predix, MindSphere or Heidenhain and in addition, it offers the possibility of hosting applications to third party companies that belong to the value network of IBARMIA, as a tool manufacturer, machine component manufacturer, CAD-CAM or any other machining enabling technology supplier. Moreover, this platform is the digital media for the apps that incorporate the different functionalities that make possible the **Smart Machine Performance** and the **Smart Machine Use**.

WHAT FOR?

The IBARMIA's platform SMART POINT offers new customer-focussed services and solutions that contribute to significant benefits to the users of the machines. An increase in productivity, as an impact from the production control and the optimization of the processes; guaranteed precision, thanks to the intelligent tuning in real time machine, according to the online conditions of the machine-process; the easy definition of high performance machining processes due to technical suggestions, easy programming cycles and self-learning machining capabilities and the maintenance optimization, which enables the prevention and prediction.

HOW?

The Smart Machine Behaviour applications make decisions of autotuning thanks to the comparison between the real state of the machine; the perceived from a sensitive machine system, the digital twin; and the data from historic performance. The autotuning and compensation of the thermal deformations or the dynamics of the axis depending on the part weight or morphology are examples of real time intelligent autotuning capabilities. As for the Smart Machine Use, the ease of interacting with the machine and the definition of complex processes are key. For example, a selective and easy to configure view of the process executed in the machine, both in real time and historic, allows the optimal analysis and self-learning of the machining processes.

WHY?

SMART POINT makes the status of your machine and your processes transparent and makes easy taking more effective and clever decisions.

smart.

OPERATIVE FUNCTIONS NOW

STATUS MONITORING

Machine's current state can be viewed in real-time using a web application in any internet device. Deviations from production plan can be instantaneously detected and notifications regarding production events can be received.



SMART MACHINE PERFORMANCE

MACHINE HISTORIAN

Fired alarms, all critical signals of the process and other key performance indicators areas securely saved on the cloud to be required when needed. These information is used by operator and CAM engineers to boost machine performance and increase workpiece quality.



SMART MACHINE USE

REPORTING & NOTIFICATIONS

Periodical reports and notifications are configured to keep up to date about production events, machine performance and components' health.



SMART MACHINE USE

3D MONITORING

The performed toolpath can be visualized in 3D. Using this view key process signals can be projected on this reconstructed toolpath in a user-friendly way to help the resolution of problems or the optimization of the machining.



SMART MACHINE USE

IBARMIA PROUD OF

SMART MACHINE PERFORMANCE_ ALL THE APPS

1_ LUBRICATION ON DEMAND

This smart and sensorized equipment is aimed at adjusting the requirement of lubrication in ballscrews according to the variable operational conditions in terms of loads, temperatures, velocities, etc. The goal of this adaptive lubrication is to minimize the friction torque in these ballscrews as a means for increasing their efficiency and above all, their lifetime. This on-demand lubrication system has the following characteristics:

- Integration of a simulation model for calculating, in ballscrews, reference temperature and friction torque values for specific load, temperature and velocity conditions.
- Automatic detection of abnormal deviations among values measured in ballscrews and calculated reference values.
- Automatic adjustment of lubrication for minimizing any deviation detected among reference values and measured values.out of the working area as well as reduce the machining noise.

2_ MACHINE THERMAL COMPENSATION

Thermal induced errors are the most significant errors on machine tools; the thermal error compensation is designed to compensate thermal drift of the Tool Center Point (TCP) due to thermoelastic deformation of the machine. The effect of some particular heat sources on the drift of the TCP has been characterized very accurately, regarding the temperature of the heat source and TCP position; therefore it is possible to compensate for this drift by means of some temperature sensors distributed on the machine. The thermal error compensation has the following features:

- Based on temperature measurement on many points on the machine.
- Static and position dependent machine error compensation.
- Compensation for 3 axis machines.

3_ ELECTROSPINDLE THERMAL COMPENSATION

The compensation of thermal drift of main spindle is designed to compensate thermal drift of the Tool Center Point (TCP) due to thermoelastic deformation of the main spindle. There are two sensor kind solutions, on one hand direct measurement of the main spindle drift which is carried out by non-contact sensors; on the other hand thermal drift is estimated by the measurement of main spindle bearing temperature. The compensation of thermal drift of main spindle has the following features:

- Direct and indirect measurement of thermal drift of main spindle.
- Available for various spindle references.

4_ MACHINE COOLING ON DEMAND

The cooling systems are one of the main electric power consuming system on the machine tool, it is normally sized to the maximum flow consumption and the maximum heat dissipation whereas this power is not required all the time on the machine. The Demand Operated Cooling System (DOCS) adjusts the pressure and the flow of the refrigeration of the gas circuit to the flow and pressure of the coolant circuit. This way, the cooling of the machine is steadier and less prone to thermal micro-oscillations of the TCP. The features of the DOCS are the following:

- A frequency converters for fan and pump motors.
- Flow and pressure sensor for both circuits.
- Controller of the coolant system adapted to the machine tool.
- Steadier cooling less prone to thermal micro-oscillations of the TCP.

5_ ELECTROSPINDLE PRELOAD CONTROL

This equipment is aimed at adjusting, by means of an appropriate actuator, the preload of electrospindle bearings according to their specific load and velocity values. The idea behind this adjustable preload is to reduce the preload in non-demanding operations and increase it in demanding ones as a means for maximizing the stiffness and accuracy values when required, while at the same time maximizing the lifetime of these electrospindle bearings. The main characteristics of this equipment are the following:

- Integrated force monitoring capabilities for detecting the requirement level for electrospindle bearings.
- Automatic spindle bearing adjustment according to the type and level of forces detected by the integrated force sensors.

6_ AXIS AUTOTUNNING CYCLE

This application tunes in an automatic manner the gain values of position and velocity control loops of moving axes in machine tools. This automatic tuning procedure is aimed to maximizing the position loop bandwidth for the case of variable moving masses, especially for the case of variables masses placed on rotary and mobile tables. This application has the following features:

- Automatic measurement of axis inertia for every notable change in the mass on moving tables.
- Automatic calculation of natural frequencies and inertia ratios by means of motor consumption signals.
- Automatic adjustment of velocity and position control gains for maximized position loop bandwidth according to the specific values of mass, inertia ratios and natural frequencies in the feed drive.

7_ MACHINE SPINDLE PROTECTION

This smart equipment integrating vibration sensors and monitoring tools has been designed to detect at very early stage abnormal situations and disturbances that may

affect the lifetime of main spindles, especially imbalanced tools and collisions among spindles and machined parts. This equipment will also take decisions for minimizing the effects of those disturbances and will also monitor the condition of spindle bearings in a continuous manner. This protection equipment has the following characteristics:

- Monitoring of spindle imbalance during idling conditions and automatic warning for the case of imbalance values that are above predefined values at specific balance grades.
- Automatic stop of spindle feed axis for the case of abnormal vibrations above security threshold values.
- Continuous diagnostic of the state of spindle bearings for preventive maintenance purposes.

8_ RESIDUAL UNBALANCE CHECK FOR ROTATING AXIS

Unbalance reduces the lifetime of the bearings and other components, produces noise and may be a safety risk; the Rotatory Axes Unbalance Compensation (RAUC) enlarges the life and the safety of your machine. Accelerometers located on the axis detect static, coupled and dynamic unbalance and fires an alarm that stops the spinning of the axis. RAUC detects the causes of the unbalance among clearance on the bearings, bending on the shaft and uneven mass distribution; for the later on rotary tables, it proposes the location and weight of balancing masses. The RAUC features are the followings:

- Static, coupled and dynamic unbalance detection.
- Clearance of bearing, shaft bending and uneven mass distribution detection.
- Balancing masses weight and location suggestion for rotary tables.

9_ STATUS MONITORING

Machine's current state can be viewed in real-time using a web application using any internet device. Deviations from production plan can instantaneously detected and notifications regarding production events can be received.

10_ CHIP BREAK FUNCTION

Long chips are needed to be removed from the machine manually, causing long machine downtimes. This chips are generated in continuous operations and can disturb the operation time and surface finish of the part if not removed in time. The solution is cutting the metal chips using the drives of the machine and then quickly removed not to alter the machine production.

- Save machine tool time and ensure continuous production.
- Avoid long chip hooking.



THE MULTI-TOOL THAT MAKES THE STATUS OF YOUR MACHINES AND PROCESSES TRANSPARENT

IBARMIA PROUD OF

SMART MACHINE USE

ALL THE APPS

1_ B AXIS FIT IN

High workpieces often give problems while internal machining because of the difficulties to introduce the tools into the cavities. The B axis fit in cycle enables to move the table in X, Y simultaneously with the long tool so that the machining can be done safely.

- Synchronised movement of the tool and table to take full advantage of the machine.

2_ GEAR HOBBING CYCLES

The gear hobbing cycle is designed to support machine operators to program gear hobbing machining strategies in a simple and quick way. An interface requires the basic geometrical features of the gear (diameter, module, angle, length, etc.) by the conversational programming method and the CNC code is generated automatically, which implies a significantly reduced programming time.

- Operator friendly cycle by using dialog programming.

3_ TECHNOLOGICAL CALCULATOR

The Machining Technological Calculator is a simple, user-friendly machining calculator which can be used for estimating cutting conditions and net metal-cutting power demand, material removal rates, cutting forces and spindle-torques for various machining applications. The calculator has the following characteristics:

- Data input fields include several machining parameters (tool diameter, width of cut, depth of cut, cutting speed, etc.).
- Depending on the input data, the calculator provides the cutting conditions (rpm, mm/min) and an estimated net metal-cutting power demand, forces and torque for various machining applications like milling, turning and drilling.

4_ ADD+PROCESS TECHNOLOGICAL CALCULATOR

The ADD+Process Technological calculator is designed to support design engineers, manufacturing engineers and machine operators for using the AM technology when producing metallic parts. This calculator provides a database with adequate process parameters for different material feedstock and calculates the productivity, the powder efficiency and the material deposition rates depending on the processing conditions. The calculator has the following characteristics:

- Materials included: AISI 316, Hastelloy X and Inconel 718 for 3D part manufacturing and Ni-based, Fe-based and Co-based alloys for coating.
- It provides the layer thickness and the distance between adjacent clads for toolpath programming.
- It provides the additively manufactured material properties for making an adequate part design according to the final requirements.

5_ BEST FIT PART ALIGNMENT

The centering assistant for variable over material parts is designed to support machine operators during the parts set-up and to reduce machining time. For example, the material to be machined in big cast parts is not normally distributed in a regular way. The assistant aims to reduce the part set-up procedure and machining time by:

- Calculating the part center position/s in an automatized procedure.
- Optimizing the machining strategy by reducing air cut trajectories.

THE MULTI-TOOL THAT WILL HELP YOU TAKING EFFECTIVE AND CLEVER DECISIONS

6_ CNC AUTOTUNING CYCLE

Linear tables work on different load condition so that a single regulation parameter set is not enough to assert the optimal performance of linear tables; the Auto-tuned Linear Tables (ALT) detect automatically the inertia of the axis and set up optimal performance parameter sets so that vibrations, response time and over-shoots are reduced. This assures better accuracy of your machine. The ALT features are the following:

- Automatic inertia detection.
- Automatic set-up of tuning parameter.
- Safe for human errors on the specification on the inertia.

7_ MACHINE HISTORIAN

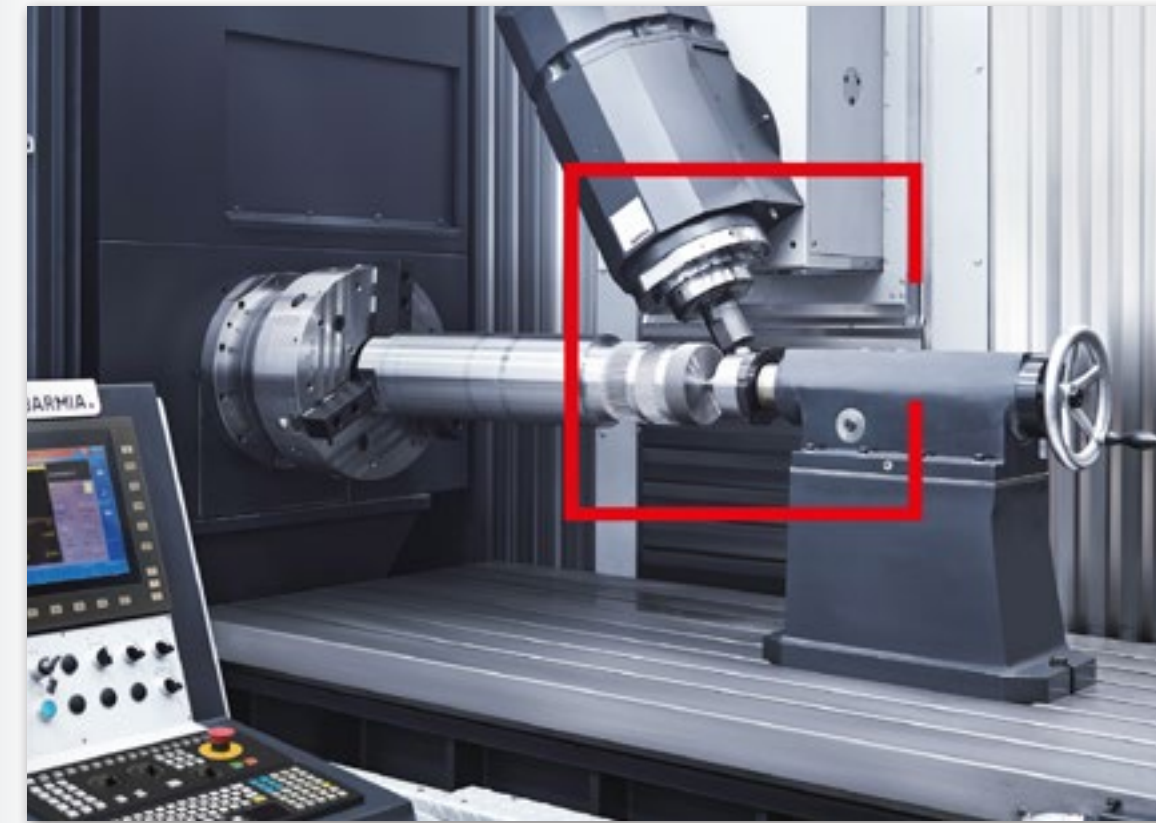
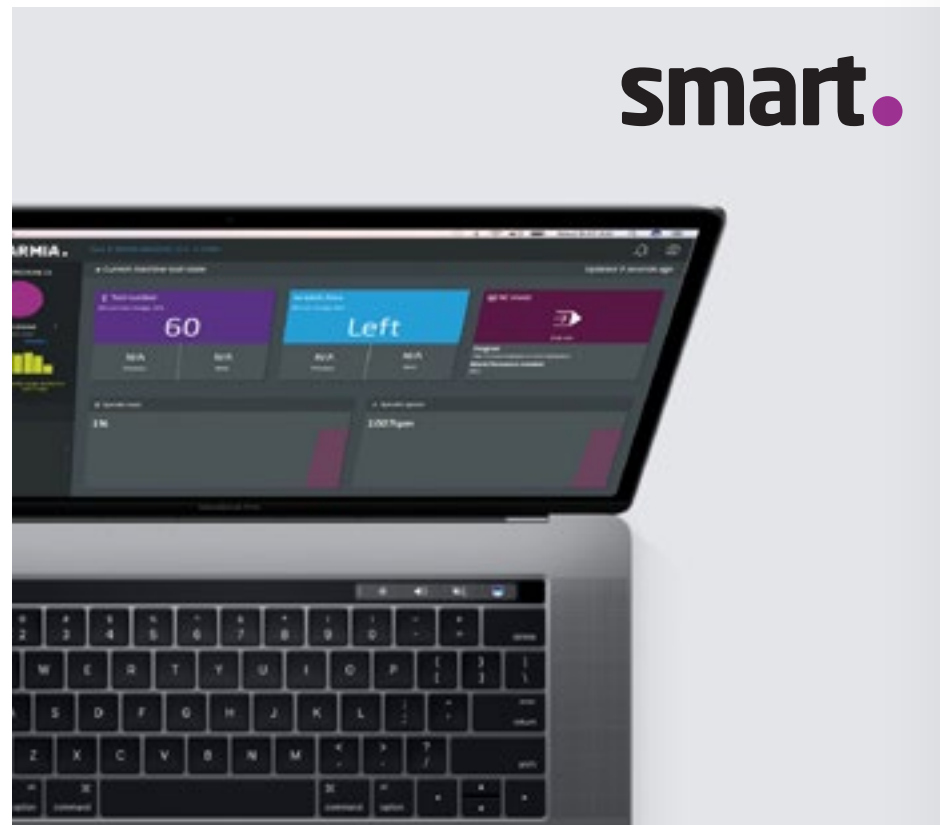
Fired alarms, all critical signals of the process and other key performance indicators areas securely saved on the cloud to be queried when needed. These information is used by operator and CAM engineers to boost machine performance and increase workpiece quality.

8_ REPORTING & NOTIFICATIONS

Periodical reports and notifications are configured to keep up to date about production events, machine performance and components health.

9_ 3D MONITORING

The performed toolpath can be visualized in 3D. Using this view key process signals can be projected on this reconstructed toolpath in a user-friendly way to help the resolution of problems or the optimization of the machining



5 AXIS TECHNOLOGY UNDER CONTROL



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Xtrem Dynamics redefines SHUTON's philosophy in the search of technologies and materials with the aim of increasing the rigidity of the Ballscrews, to improve the dynamics and therefore the efficiency of the machine, resulting in productivity for longer.

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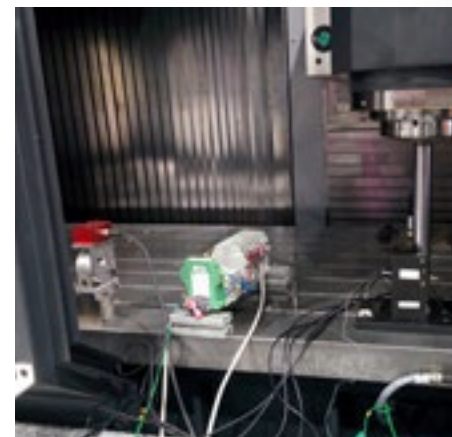
IBARMIA PROUD OF

ABOUT OUR MACHINING SOLUTIONS AND TECHNOLOGICAL DEVELOPMENTS

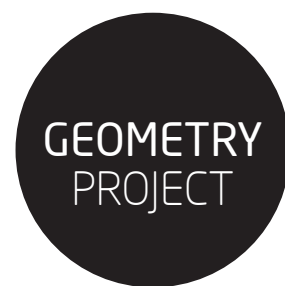
GEOMETRY PROJECT_ SUPERIOR ACCURACY

At IBARMIA the accuracy is a key element when manufacturing machines, as the quality of the work obtained by our customers depends on this accuracy. We constantly work on developing even more accurate machines by generating solutions that ensure high accuracy in non-controlled thermal conditions.

The first step to generate those solutions was to spend 300 hours of machine trials to diagnose and identify accuracy errors and heat sources that generate them. In a second step, we analyzed the solutions to act on the heat sources without interfering with the machine performance and keeping the cost under control. After several trials with solutions such as refrigerated jackets for motors, compensation systems of thermal dilatations on various axes and refrigerated nuts on ballscrews, we defined the definitive package to achieve a volumetric precision of 70µm. As a result, we can now offer our customers the option of an even more accurate machine, ideal for applications requiring a superior level than the standard. We have also developed a methodology to generate a thermal MED of any machine configuration in order to simulate its thermal behavior in a fast and simple way.



The machine was connected to several monitoring devices during the trials.



EVEN MORE ACCURATE MACHINES FOR APPLICATIONS REQUIRING A SUPERIOR LEVEL

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CUSTOMERS TELL US THEIR IBARMIA EXPERIENCE

CHECK THEIR OPINION ABOUT USING IBARMIA MACHINES

P/4

At IBARMIA, we work with the customer in mind, their satisfaction and feedback is what keeps our machines getting better and better.



France, 8, route de Savoie - ZAC de la Patte d'Oie - 31330 Merville

SUDAERO www.sudaero.fr is a company located in the heart of the European Aerospace industry in Toulouse. The company had been using IBARMIA machines since 2013 when they installed a ZVH45L2200 and a ZVH45L4000 with integrated rotary tables to machine a wide range of components in 5axis and other variety of parts by using the generous fixed tables. In 2016, SUDAERO invested in a new plant to take their business to a higher level. Modern premises with the highest technology machines in a fully automatic environment with absolutely no margin for human error. A reliable production cell that can work autonomously day and night. 4 IBARMIA machines in line, ZVH45L1600

EXTREME with a ø800mm rotary table for 5axis works in up to ø1100mm parts. Modern technology spindles, a torque motor driven B axis and the usual dynamics, accuracy and reliability of the IBARMIA machines.

A FANUC robot travels from machine to machine ensuring that every unit is constantly working by making quick job change overs and bringing the finished parts to pallet storing positions.

Guillaume Assorin, General Director at SUDAERO explains: "We purchased 2 IBARMIA machines for 5 axis jobs 3 years ago and we confirmed the superior performance of these machines. We decided to renovate our trust in IBARMIA by purchasing 4 more 5axis machines integrated in a robot system. This automatic cell allowed us getting a huge amount of work orders by a getting drastic reduction of production times. Today SUDAERO proudly owns 8 IBARMIA machines for 5 axis works."

During the impressive growth of SUDAERO to the point of becoming one of the key suppliers for AIRBUS, the company acquired more IBARMIA machines in the second-hand market, showing their total confidence in the performance and reliability of these machines. Mr Assorin often open his doors in Toulouse to companies interested in investing in similar production cells and of course to all potential customers for his machining services".



Netherlands Bemo Rail BV - 1749 DK Warmenhuizen -

Since its foundation in 1970 Bemo Rail has developed into an expert in the field of rail, crane track, railway technology and rail-related internal means of transport, recognized all over the world.

The company Bemo Rail has two business areas:

- Shunting Technology
- Rail Technology

Next to shunting locomotives the business fields are focused in continuous sole plates, crane tracks, maintenance platforms, etc....

Today Bemo Rail is operating worldwide as an expert for rail and shunting systems.

The first machining center of the type IBARMIA ZVX-2000 was introduced by the

through the company Bendertechnik BV in 1996. Due to the lateral doors, it was possible to machine longer work pieces as the offered X-axis stroke and very important for long work pieces like sole plates and rails. Since them Bemo Rail thrust fully in IBARMIA machining centres and has meanwhile 3x Ibarmia machines in their production facility. In 2016 Bendertechnik BV served the longest machine ever build for the Netherlands.



The ZVH 55/L12000 Extreme served in monoblock, was installed successfully in September 2016 and offers full 12.100mm stroke in the X-axis.

The new IBARMIA machine is equipped with a powerful tilting head offering a main spindle with 73kW and 700Nm torque and giving the customer the possibility of heavy duty work in different angles without removing the work pieces. The XXL tool magazine allows the lodgment of big tools and angular



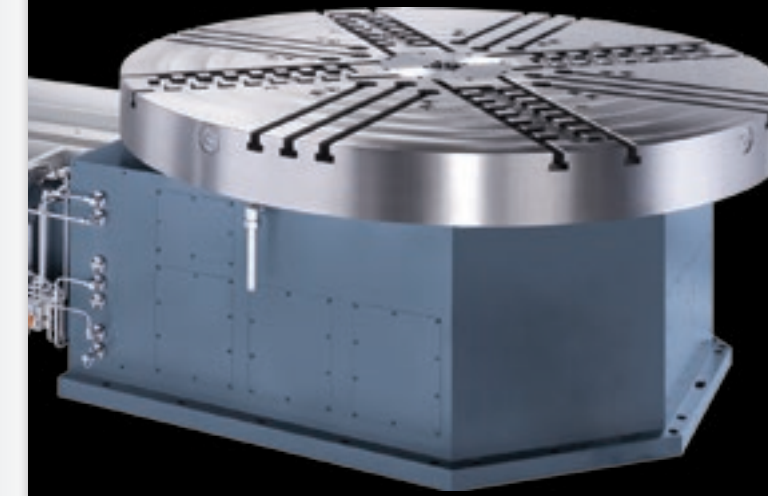
tools, without the need to mount special pick-up magazine on the working table and in case of need the even can machine longer work pieces using the lateral doors of the IBARMIA ZVH 55/L12000 Extreme.



Teun Druif
CEO BEMO RAIL BV

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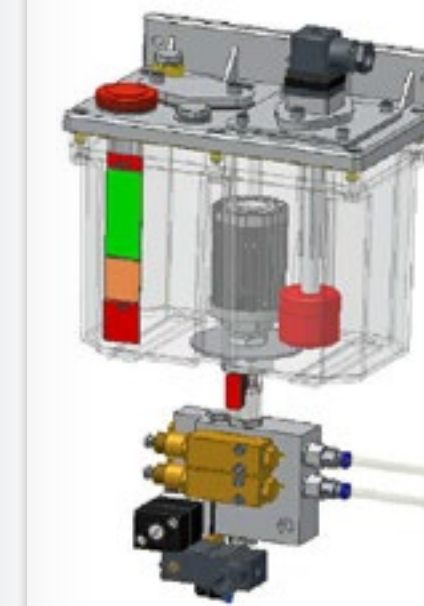
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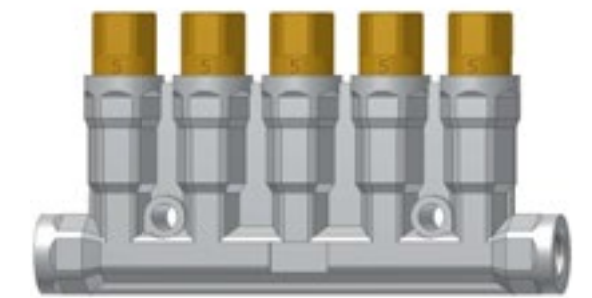
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The Netherlands is a country where Ibarmia has been very active and successful in recent years, thanks to local distributor Bendertechnik. There is a very special case in the Netherlands, a company that fully believe Ibarmia is their machine tool supplier and partner. This company is Itter B.V. They have 7 Ibarmia machines already installed and working, and they placed new orders to deliver the 8th and the 9th Ibarmia machine within 2017

year. Itter B.V. works High technological Aluminum parts and some machines are fully automated with Robot. The prelast ordered machine will be automated as well. "The company Itter B.V. exists already more than 40 years and we're working with Ibarmia machines for more than 25 years. Our company is located in the east of Holland and we're producing mainly aluminum milling parts. All the customers of Itter are well-known company's all

over the world in different industries like semiconductor, medical, defense, aerospace and machine-building. We've chosen for Ibarmia machines because of the very good combination of quality and pricing level. But maybe even more because of the flexibility of the company Ibarmia. Special customers wishes are always taken seriously and easily implemented".



Netherlands Itter BV - Ijslandweg 9 - 7772 TG Hardenberg -



F.S. Wiersma
GENERAL MANAGER
&
Henk Wiersma
MANAGING DIRECTOR

IBARMIA & YOU

CUSTOMERS TELL US THEIR IBARMIA EXPERIENCE



Deutschland_Gebrüder Leonhardt GmbH & Co. KG
Blema Kirchs - 08280 Aue

Die Fa. BLEMA hat sich im Jahr 2017 für die Beschaffung eines weiteren IBARMIA Dreh-Fräszentrums entschieden, welches sowohl aus technologischer Hinsicht, als auch vom Maschinenkonzept her ideal zur traditionellen Firmenphilosophie, sowie zur innovativen Firmenstrategie des Unternehmens passt.

Zudem hat sich der baskische Maschinenhersteller IBARMIA als äußerst flexibler und zuverlässiger Partner erwiesen hat, der den Wünschen der BLEMA in vollem Umfang entsprechen konnte und auch entsprochen hat. Vom Erfinder Erdmann Kirches, im Jahr 1861 gegründet, wurden damals Sickenmaschinen, Spindelpressen, Abbiegebänke, Bördel-, Falz- und Abkantmaschinen konstruiert und gebaut.

Im Laufe des 19. Jahrhunderts entwickelte sich das Unternehmen schnell zu einem

Spezialisten in der Blechdosenfertigung, mit mehr als 112 in- und ausländischen Patenten, einer Gießerei und mittlerweile 1.200 Beschäftigten im sächsischen Aue, im Erzgebirgskreis.

Mit dem Zusammenbruch der DDR und unter neuem Namen „Gebrüder Leonhardt GmbH & Co. KG Blema Kirchs“ wurde seit 1997 das alte Tätigkeitsfeld wiederaufgenommen und darüber hinaus weitere Produkte der Siegeltechnologie entwickelt.

Aus den nach der Wende verbliebenen 40 Mitarbeitern wurden schnell wieder 200 Mitarbeiter und die mechanische Fertigung wurde zu alten Größe und Stärke aufgebaut. Weitere Fertigungsmaschinen wurden angeschafft um die Kernkompetenzen zu stärken und um noch wirtschaftlicher und unter noch höheren Qualitätsaspekten zu fertigen.

Beschaffung der ersten IBARMIA Fahrständermaschine im Jahr 2012: Unter dem Gesichtspunkt der größeren Wirtschaftlichkeit, wurde eine 4 - achsige Fahrständermaschine ZVH 58/L3000 EXTREME der Firma IBARMIA beschafft, weil das Gesamtpaket genau dieser Maschine den



neusten Fertigungstechnologien entsprach und das Maschinenkonzept lückenlos durchdacht war.

2017 Entscheidung und Beschaffung einer weiteren IBARMIA Fahrständermaschine: Da man technologisch einen Schritt voraus sein wollte entschied man sich für eine Investition in die Zukunft, sprich für ein hoch modernes IBARMIA Fräs-Drehzentrum, eine ZVH58/L2200 Multiprocess Fahrständermaschine.

• Der vertikal im Tisch integrierte Torque Rundtisch wurde mit einem von Ø 1.050mm für die im Hause BLEMA befindlichen Spannmitteln angepasst, so dass diese in der neuen ZVH58/L2200 Multiprocess verwendet werden konnten. Mit nunmehr einem Drehmoment von 2000Nm bei 200 U/min und einer Leistung von 47Kw im S1 Betrieb kann künftig neben der 5-Achs Fräsbearbeitung auch die kombinierte Drehbearbeitung ausgeführt werden.

Die Hawa Sliding Solutions AG entwickelt, fertigt und vertreibt seit über 50 Jahren Schiebebeschlagsysteme mit Schweizer Präzision. Von Schiebetüren im Bau und am Möbel über Schiebeläden bis hin zu hochkomplexen Schiebewandanlagen bietet das Unternehmen für nahezu jede Anforderung, jedes Material und Türgewicht eine qualitativ hochwertige Lösung. Dabei kommen Schiebepformen wie Falten, Stapeln

und Dreh-Einschieben zum Einsatz wie auch automatisierte Schiebelösungen an der Fassade. Schiebebeschläge können weit mehr als Türen öffnen und schließen. Sie verändern die Umgebung auf verblüffende Art und Weise im Handumdrehen und erlauben individuelle Raumaufteilungen. Schiebetüren sind äußerst komfortabel und Platz sparend zu gleich. Sie inspirieren Architekten, Designer, Planer und Handwerker zu kreativen Konzepten für immer neue Wohn- und Arbeitswelten.

Die mechanische Fertigung der Einzelteile erfolgt zu einem großen Anteil im eigenen Unternehmen um eine hohe Flexibilität zu ermöglichen und die erforderliche Qualität selbst zu produzieren. Mit der IBARMIA ZVH 45/L4000 EXTREME besteht die Möglichkeit, Schiebepprofile, die sich im Entwicklungsstadium befinden bis

zu einer Länge von 4000 mm in einer Aufspannung herzustellen. Dabei wird das Ausgangsmaterial zwischen dem links und rechts auf dem Tisch positionierten Teilapparat auf einem Spann-Balken aufgespannt. Die beiden eingesetzten Teilapparate arbeiten in diesem Anwendungsfall synchronisiert.

Für kürzere Teile mit der maximalen Länge von 1750 mm kann der Spannbalken um 180° geschwenkt und mit der Maschine kann gependelt werden, so dass das Umspannen der Werkstücke während der Laufzeit der Maschine erfolgen kann. Diese Arbeitstechnik macht die Fahrständerfräsmaschine sehr produktiv. Der dazu gehörige Spannbalken wurde von der Schweizer Firma TRIAG AG entwickelt und bereits bei der Maschinenmontage im Hause Ibarmia implementiert und getestet.

So konnte die Maschine nach der Anlieferung in kurzer Zeit produktiv arbeiten und ihre Vorteile zur Geltung bringen.



Berthold Kübler
ABTEILUNGSLEITER BETRIEB & LOGISTIK



France_AIRBUS Helicopters - Eurocopter
Aérop Marseille Provence - 13700 Marignane



«AIRBUS Helicopters, leader mondial des voilures tournantes depuis plusieurs années, a décidé de d'investir dans un centre d'usinage IBARMIA ZVH48/L4000 EXTREME. Le site de Paris-Le Bourget a pour mission au sein du groupe AIRBUS, de concevoir, fabriquer et réparer les pales d'hélicoptères. C'est pour cette dernière activité que nous avons opté pour une telle machine, afin d'usiner nos pales dans des conditions optimales.

En effet la longueur importante de nos pièces (les pales allant de 5,20 m à 7,30 m) nous contraint fortement au quotidien. IBARMIA, a su être à notre écoute et a répondu parfaitement à nos demandes, et cela dans des délais très courts et un budget serré. Ils ont su apporter leur savoir technique et leur expérience, pour réaliser

une machine spécifique (Ajout de fausses tables, carénage latéral, .etc) mais sans sortir de leur standard et habitude de fabrication. Cela en fait une machine sûre et robuste. »



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Tecnomeccanica srl è un'azienda italiana situata in Lombardia.

Nel 2017 ha ingrandito il polo produttivo, raggiungendo i 5000 mq di officine meccaniche attrezzate per assicurare alla clientela i massimi livelli qualitativi ed un servizio personalizzato su misura per qualsiasi soluzione.

Considerato il mercato sempre in continua evoluzione Tecnomeccanica srl ha una struttura sempre pronta a sviluppare nuove prospettive di lavoro, ritenendo che investire ed essere sempre tecnologicamente aggiornati sia fondamentale.

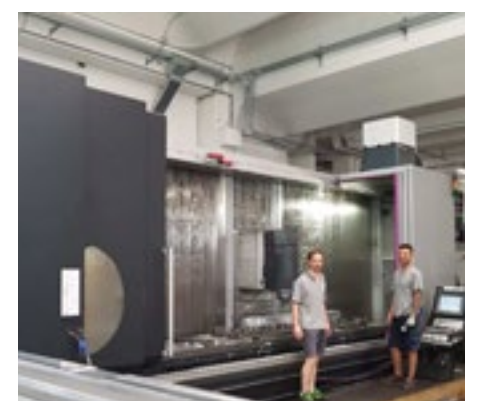
Dal 2008 al 2017 è stato ampliato il parco macchine, sono stati inseriti anche n. 4 Centri di Lavoro Ibarmia: all'inizio n. 1 ZVH42 e successivamente, visto l'ottimo rapporto

di fiducia e di collaborazione dimostrato e instaurato con Ibarmia, sono state introdotte n.1 ZVH58, n. 1 ZVH55 Extreme e n. 1 ZVH60/L7000 Multiprocess.

Grazie alla tecnologia Ibarmia, Tecnomeccanica srl è in grado di realizzare con più facilità, con la massima precisione e ripetibilità lavorazioni che prima potevano risultare complicate, ottimizzando le tempistiche e riuscendo a soddisfare la clientela in termini di tempi di consegna e di costo finito dei pezzi lavorati.

L'assistenza tecnica Ibarmia si dimostra sempre molto collaborativa e disponibile nell'immediato per consulenze anche telefoniche, che permettono di risolvere i piccoli problemi che possono sopraggiungere durante le lavorazioni senza causare fermi

macchina. Possiamo certamente affermare che più che un fornitore di macchine utensili, abbiamo trovato in Ibarmia un collaboratore di lavoro ottimale.

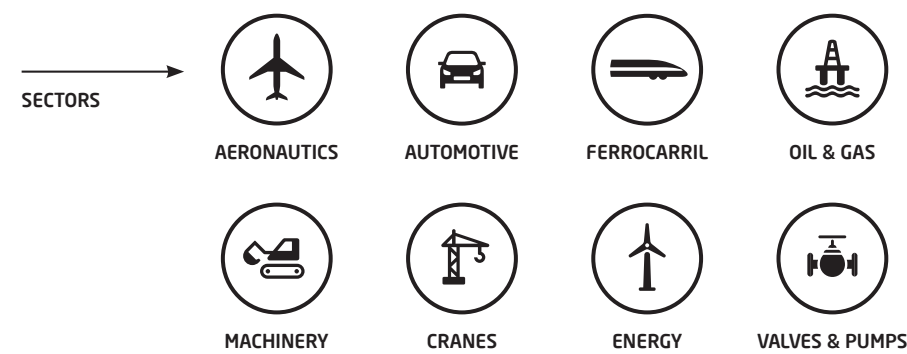
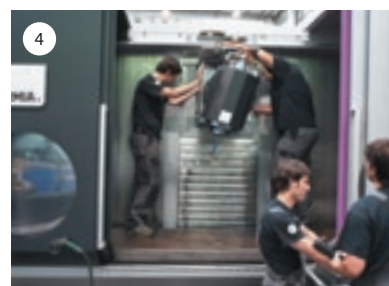
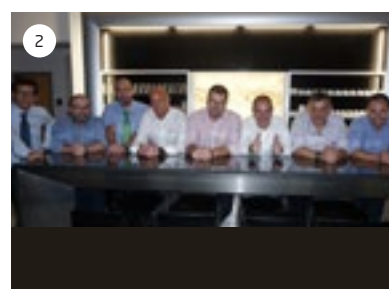
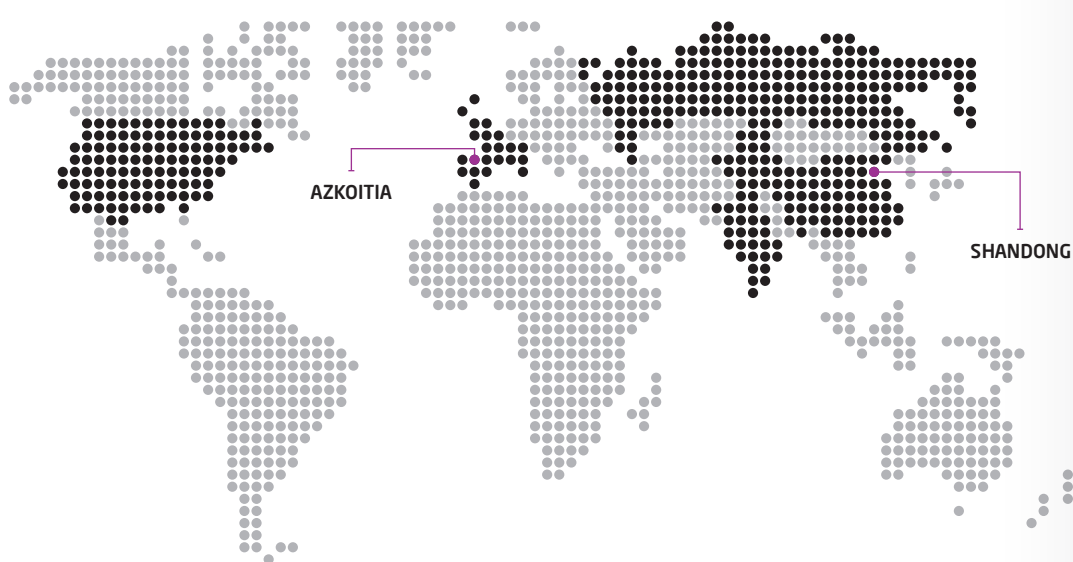
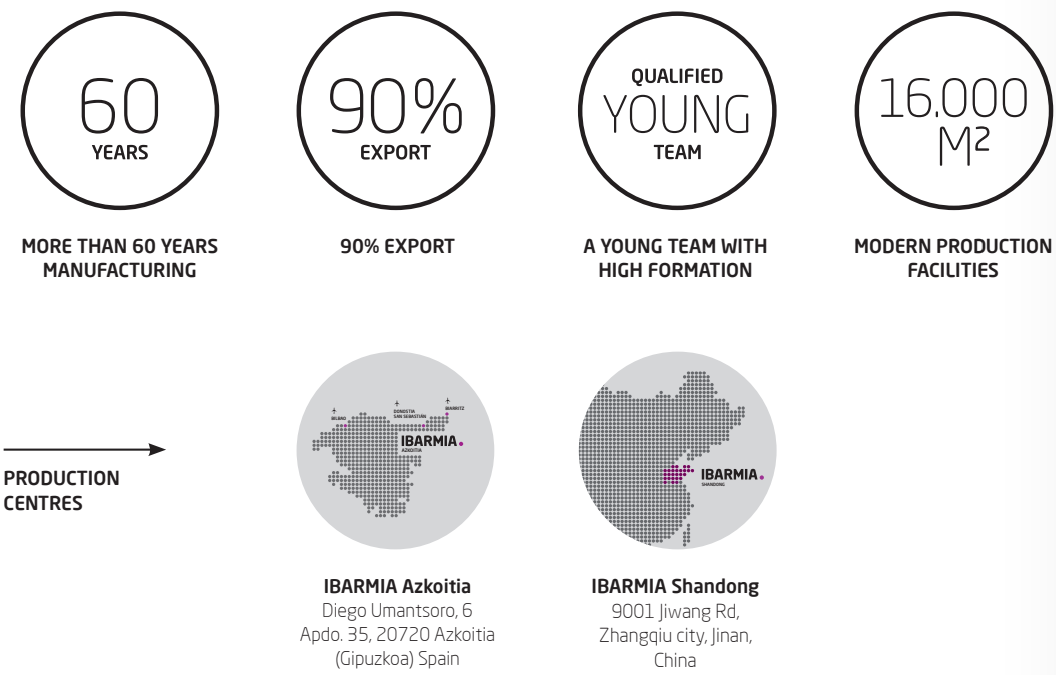


ABOUT IBARMIA

IBARMIA.

A TRUSTWORTHY BRAND MADE OF GOOD AND PROFESSIONAL PEOPLE

We manufacture machines incorporating talent and motivation of our people. A young team with a high formation, live together for a big part of the day. Feeling identified with the project, the importance of a job well done, team work, respect and supporting the colleagues are essential values to be part of our team.



1_ Machine assembly line in Azkoitia.
2_ Staff at the headquarters in Germany.
3_ Team effort during the inter companies race in San Sebastian.
4_ Team work at assembly line.

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