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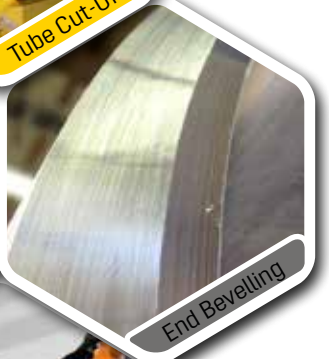
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EDITORIAL

According to Cecimo's quarterly review of machine tools market and production, MT production levels are down, as early estimates show output decreasing by more than 30% in 2020 due to the pandemic. In absolute volumes, machine tool production is expected to drop to 18,7 billion euros in 2020. This is the worst score for CECIMO aggregated machine tool output since the 2009 financial crisis.
Always according to Cecimo statistical toolbox Q3-2020, EU27's Industrial Production Index continue to decrease in the third quarter of 2020. The European economy's average IPI quarterly reading is currently 99,3, a -5% decrease compared to the same period of the previous year. In sectoral terms, the investment goods sector reports double-digit decreases during this three-month period.
The question is now: how long European industry and, from a larger point of view, European economy will stand this state of things? These figures are some months old, when we all were waiting for 2021 as the year in which pandemic would have definitely left behind: now, in ides of March, we have the reasonable sureness that we will have to handle with it until the third quarter and that its significant legacy is yet to come.
In Italy, where total exports mark -24.2% compared to 2019, for a value of approximately 2,300 million euros, the scenery is dark: government largely permitted extraordinary layoffs, with a contemporary ban on firing, but at the end of these measures many companies will be forced to fire many of their workers. If the pandemic will last any longer, it will be difficult for a great number of companies, not only in Tourism and Food and Wine, but also in Services and Industry, to hold on: many have already closed, much more will in short.
On 11 February 2021, the European Commission published its Winter 2021 Economic Forecast. The forecast projects that the euro area economy will grow by 3.8% in both 2021 and 2022. The forecast projects that the EU economy will grow by 3.7% in 2021 and 3.9% in 2022.
The euro area and EU economies are expected to reach their pre-crisis levels of output earlier than anticipated in the Autumn 2020 Economic Forecast, largely because of the stronger than expected growth momentum projected in the second half of 2021 and in 2022.
After strong growth in the third quarter of 2020, economic activity contracted again in the fourth quarter as a second wave of the pandemic triggered renewed containment measures. With those measures still in place, the EU and euro area economies are expected to contract in the first quarter of 2021. Economic growth is set to resume in the spring and gather momentum in the summer as vaccination programmes progress and containment measures gradually ease.
An improved outlook for the global economy is also set to support the recovery. The economic impact of the pandemic remains uneven across Member States and the speed of the recovery is also projected to vary significantly.
Also for Tube Today the pandemic made everything more complicated: the exhibitions have changed their schedule, some have been cancelled, some other held virtually, and the organization of the issues has been subject to constant changes. Anyway, we are still working to give to our readers, subscribers and customers, the best service we can.

See you in better days.

N° 79 - 2021

R.T.S.

Written by: Mr. Giovanni Teolis

The strong increase of ferrous materials: a concern for companies

Steel prices have reached their highest levels in the last ten years, and for months now there has been a worrying rise in the price of ferrous materials and related semi-finished products (sheets, tubes and rods), with a consequent and negative lengthening of delivery times for the various companies in the production chain. These quotations cannot leave us indifferent, since they represent a decisive variable for those who make industry, not only for the steel industry, which in any case remains one of the most important poles of the entire Italian manufacturing sector. The increase is also affecting Italy in a homogeneous way, with significant effects especially in the regions where there is a greater production fabric, such as Piedmont with its more than 9,000 craft enterprises in the mechanical carpentry and mechanical subcontracting sectors. However, these increases are not the responsibility of the client, and what is even more harmful, they are all borne by the companies, which thus run the serious risk of exiting the market completely. This means bankruptcy and job losses.

A recent analysis carried out, for example, by Confartigianato Piemonte shows that in the last period there has been an increase in stainless steel (+ 50-60 cents per kg); scrap +100% (1.30 euros per kg); carbon and common/copper steel (+50%); train plate (+40%); carbon steel (+12-15%); alloy steel (+15-20%); aluminium (+15-20%); bronze (+0.40-0.50%) with a strong upward trend because it contains copper.

This trend can be explained by a number of factors: the sharp rise in the price of steel products at world level has certainly had an impact, with nickel rising to $18,000/tonne and its limited availability due to both the difficulty of importing and the disassortment in the supply chain. All this had a domino effect with a lengthening of deliveries and price increases by the various steel mills. In addition, following the fluctuations and sharp rises, suppliers who stock the goods have decided to postpone sales.

The general slowdown in the economy due to the effects of the pandemic, with the consequent and obvious drop in demand, is undoubtedly behind the recent increases, but for some commentators and analysts it is not difficult to glimpse the emergence of speculative choices within the market, especially the financial one. The increase in the price of raw materials goes hand in hand with an increasing reduction in their availability: a contradiction in terms, given that demand is also clearly falling. The decisive change of pace in the Chinese economy, which after a year of quiet due to the coronavirus, is returning to record volumes of consumption capable of affecting numbers and balances all over the world, has certainly imposed an important weight on prices.

There are also those who are convinced that this is a repositioning of the market on higher values after more than two years of falling prices, or those who attribute the extent of it to the duty imposed in October 2020 by the European Union, a decision born with the intention of limiting imports of stainless steel from China to 5-6%, subjecting higher imports to a duty of 25%, but which has

FROM THE EDITORIAL

NEWS

in fact produced a brake on imports and consequently a fall in market reserves, with an accompanying price increase. The increase is obviously of great concern to all companies in the sector, as there is a tangible perception that this price tension may keep them company for a long time.

In recent weeks, Roberto Ariotti, president of Assofond, the Confindustria association of Italian foundries, has emphasised the special nature of the situation. His words perfectly summarise the historical moment that everyone, with great difficulty, is experiencing: "The trend in raw

material costs is really worrying and is creating quite a few difficulties. In some ways, the dynamic is similar to what we experienced during the financial crisis of the first decade of this century: in 2008, commodity prices more than doubled in a few months, only to return to their starting levels just as quickly. At the time it was a bubble, as it turned out later, while today we have reasons linked to the real economy. On the one hand, the lockdown in spring 2020 drastically reduced the production of raw materials such as pig iron in ingots; on the other hand, the crisis in the automotive sector has also drastically reduced scrap collection. Starting in the summer months, the rapid recovery of steel and metal activity in China and the US quickly drained what little was left on the market, leading to an imbalance between supply and demand that has led to the current situation."

SPECIAL CUTTING TOOLS

Written by: Mr. Giovanni Teolis

In a difficult period due to the spread of the pandemic and the economic crisis that ensued and which is still spreading throughout Europe and much of the world, many companies have had to slow down their investments to concentrate resources and energy on the primary objective. to survive.
Even in a nerve center such as cutting, which normally includes over 50% of all companies producing tube processing machines, the situation is certainly not rosy and we are anxiously awaiting orders to resume after a drastic decline in 2020. If, for now, the vaccination campaign has not yet reached a level that allows an economic recovery proper, it is equally true that, finally, a chance to restart is looming on the horizon and some economies are already preparing to run. Many companies, therefore, have chosen to return to investing and presenting new products on the market, focusing heavily on the fact that there is not much lack of a return to normality, in which being at the forefront will certainly be a decisive factor.
Technological development, however, certainly does not stop and development, in a nerve center such as cutting, is proceeding in great strides, especially in the field of laser cutting.
In the following pages, here are the news and information that some companies in the sector want to share with readers, to keep them updated on the latest developments and also to give a sign of vitality and presence in view of an upcoming return to normality.
Enjoy the reading.

BLM GROUP

BLM

3D laser cutting offers expanded opportunities but requires adequate technical solutions to obtain the desired quality and robustness of results.

The first laser for industrial applications appeared in 1964, emitting just 1 milliwatt (mW). By 1967, lasers with power exceeding 1,000 watts and the capability of cutting 1 mm thick steel sheet was possible. That is one million times more powerful than the first model!

Right from the start, the effectiveness of the laser in melting the metal made use of the aid of a service gas blown through a nozzle thereby removing the layers of molten metal hit by the light energy emitted by the source. With the increase in power, over the years, the cutting thicknesses has increased to over 50 mm of steel with a 10 kW system. Initially, the service gas was compressed air. Subsequently, oxygen was used for the oxidation reaction which significantly contributed to the heating and melting of the metal, enabling the melting of thicker materia. Even more recently and with the increase in available power, nitrogen - an inert gas that does not contribute to heat generation - is widely used due to its characteristic of not thermally and chemically altering (oxidizing) the cut surface.

The advantage is machined parts can be painted directly without the need of further preparation.

With respect to the entire manufacturing process, cutting cost is higher with nitrogen since nitrogen is more expensive than oxygen and requires much greater power to be used to maintain the same maximum workable thickness. Therefore, a higher initial investment will affect the hourly cost of the system and production costs. The benefits of either choice can be assessed by using Protube software -the precise estimation tools of production times and costs. Manufacturers using laser cutting systems consider Protube to be an essential everyday tool.

Whether it is cut with compressed air, oxygen or nitrogen, in all cases, efficiency and quality of the result are connected to the way in which the assist gas is blown into the cutting groove: supplied pressure, but above all flow conditions. The more the gas maintains a linear flow with as little turbulences as possible, the more efficient the ejection of the molten metal from the cutting groove and consequently the quality of the cut itself. With thick materials, the gas flow must penetrate deeply - in a narrow groove - and its flow inevitably becomes turbulent, before being ejected from the opposite side together with the molten metal. In recent years, technical solutions have been introduced to improve the process by widening the cutting groove to facilitate assist gas input and help to obtain the best linear flow possible.

So far we have not specified from which direction the laser beam acts with respect to the cutting surface. The best possible direction is orthogonal (perpendicular) to the surface. In this configuration, the gas flow is centred and penetrates best into the cutting groove. There are no preferential sides nor pressure unbalancing effects due to turbulences around the groove, caused by the part of gas that cannot enter and therefore hits the immediate surrounding area. This is the configuration of all sheet metal cutting machines with rare exceptions. The laser moves on a flat, bi-dimensional (2D), surface and always cuts perpendicular to that surface.

The need to cut increasingly greater thicknesses at higher cutting speeds has been resolved over time with gradually increased power and with the ability to increase the laser beam diameter and therefore the groove width. Together this facilitates the assist gas performance and finishing of the cut edges.

Now, let's move from sheet to tube cutting: the situation changes considerably. We are no longer faced with planar cutting trajectories but with a movement of the laser in space around an object- its thickness, and a profile including radii and edges, convex surfaces and concave angles, the later typical of the special sections. The variation of the configuration between laser beam and tube surface has consequences on the cutting process and needs to be taken into account in order to ensure process efficiency. Therefore, the nozzle distance, focus position (where dynamically adjustable), the power required by the greatest thickness present, in correspondence with the radii, and consequently also the cutting speed, must constantly change. All this must work together to prevent burnt spots and cutting loss.

To these factors we add the possibility to cut by tilting the head, so that the beam hits the surface in a non-orthogonal direction. We know this as 3D laser cutting.
This additional machining option present in machines equipped with a tilting head is especially useful for machining higher thicknesses. With the 3D cutting it is possible to make cuts with an angle up to 45°. For example, to obtain precise supports among several tubes or "chamfered" cuts to facilitate the subsequent welding phase because they create the space for the weld material. Even more challenging, but increasingly used, is the application of welding without filler material, possible when distance between edges to be welded is reasonably precise and constant. However, such cuts pose difficulties and require specific technical solutions.
The ability to tilt the head with respect to the surface to be cut in 3D causes the actual cut thickness to become greater than the nominal one, to a maximum bevel cut of 45 degrees, an angle at which a laser penetration depth must be taken into account and that of the assist gas which should be multiplied by square root of two.
It is also necessary to change the focus position, which poses an issue on parts with mixed 2D and 3D geometries. If focus position can be adjusted dynamically, all cases can be effectively covered by changing the focus height from one geometry to the other, otherwise it will be necessary to pre-configure a compromise focus height, with the consequence of a performance reduction in terms of cut quality or productivity.
A further but significant effect of head tilting is the resulting geometrical inaccuracy of parts, unless suitably managed. The "kerf" that is the beam diameter and correspondingly therefore the width of the cutting groove, vary in function of the angle of incidence. This is a direct result of the shape of the laser coming out of the cutting head being conical and not cylindrical, thus determining the different imprint as tilt varies.
This parameter must be compensated for otherwise the part length will be altered and will not tightly align when matched to another part, thus hindering welding without filler material or jeopardizing the aesthetic result in the most critical cases.

The cut quality is affected by the manner the assist gas enters the cutting groove.
As cutting inclination increases to the limit of 45 degrees with respect to the vertical plane, the gas meets the surface at an angle which is greater on one side compared to the other. On one side (obtuse angle) the gas will tend to slide on the tube surface instead of entering the groove, whereas on the other side (acute angle) it will trigger a greater turbulence. As a result, the gas will be less efficient and the process less stable.
Finally, let's consider a last but no less important factor in 3D laser cutting- tube shape errors and tube axis deformation, either pre-existing or induced by the cantilever position of the tube during cutting. When the tube can be supported vertically during machining and measured to compensate for errors due to existing deformations, more precise parts will be obtained. Conversely, without these measures, wider tolerances and the expectation of higher reject numbers is to be expected.
So far we have learned what 3D laser cutting means, what advantages it offers and also the many technical aspects that must be managed in order to maximize the benefits this machine option has to offer. The experience and technical solutions integrated into the BLM GROUP Lasertube systems, provide our customers with a company that has been producing tube laser cutting machines for over 30 years and in 2003 were the first to introduce 3D cutting on a Lasertube. As the industry leader, we are a good starting point if you are evaluation of this option, in addition to the mechanical configuration of the machine which, however necessary, is not sufficient in itself to ensure the financial return of the greater investment required.

3D cutting - albeit constantly evolving - is a machining process not yet in widespread use but appreciated in specific sectors: where there are aesthetic needs in cutting thin materials, or where cost reduction targets are pursued in creating high thickness steel structural frame metalworks Investing in this direction means moving towards potentially interesting market niches with high added value. It is therefore worth relying on an experienced partner to assist you in evaluating the advantage of the investment, calculate risk margins and define a payback period.

LINSINGER

20 years of machines and tools from a single source

170 high performance cutting machines for seamless tube plants speak for themselves.

In 2001 the Upper Austrian machine manufacturer LINSINGER took a bold step. The manufacturer of special machinery and plants for the steel industry launched its own-operated tooling-technology center. Since then, LINSINGER has been able to offer its customers machinery and plants of its core business units Sawing-, Milling- and Rail-Technology as a turnkey solution.

Insourcing as a corporate strategy – this rather unusual approach in the industry is confirmed by continuous growth and world market leadership in LINSINGER's areas of competence to be a model of success. Separate competence centers have been created for the company's business units and the know-how is bundled at the company's headquarter in Steyrermuehl. Engineering, manufacturing and assembling as well as programming and commissioning are all done in-house by over 500 employees.

The resulting technological lead has been rounded off for 20 years by the Tool Technology Center, which specializes in research and development of tools and is exclusively available to LINSINGER customers. One of the innovations, emerged from the company's R&D department, is the LINCUT® saw blade developed by LINSINGER Maschinenbau. It is a patented disc miller cutting system which, thanks to a simple and economical concept, has triggered a fundamental re-orientation of the entire saw blade industry worldwide.

"What others are announcing now, has long been successfully in production with us. With the LINCUT® disc miller cutting system, the customer saves up to 50% in cutting costs.", confirms Mr. Guenter Holleis, Managing Director of LINSINGER Maschinenbau. After several years of development work, the LINCUT® went into production in 2010, and the constantly increasing number of customers shows that the technology keeps what it promises. Over 130 LINSINGER circular saws are already in production with the LINCUT system. In the last five years, 95% of all LINSINGER large circular saws have been delivered to customers with LINCUT®.

This is not surprising, given that in today's production industry, machine costs are calculated in life cycles. And this reveals that the running costs for tools, calculated over the service life of the equipment, amount to a multiple of the initial investment price of the equipment. A lot of money can be saved in this area, but it also can be wasted. For milling and sawing machines alike, it has already been achieved several times that the savings in tool costs lead to an amortization period of less than 3 years, with a simultaneous increase in quality. With the all-in solution of machine and tool from a single source, LINSINGER also takes responsibility accordingly. The know-how about equipment and tools specially adapted to it, enables LINSINGER to provide the costumer with a reliable view on tooling costs as early as the project planning stage. During in-house commissioning, this package is fine-tuned and unpleasant surprises are avoided. There is no need for lengthy test and trials after commissioning at the customer's facility, and the production runs with the agreed performance in shortest possible time.

Should there be a need for optimization during the life of the system, responsibility is not shifted back and forth between the machine manufacturer and the tooling supplier – leaving the customer as the victim. As the sole supplier, LINSINGER is purely focused on solutions and offers comprehensive after-sales support with its service technicians and tool specialists who are deployed around the world.

MEPSAWS

The SHARK 332 RC KONNECT band sawing machine, fully automatic and with programmable double cutting angle, maximizes safety and power for reliable performance and intelligent production that is always efficient.

- Automatic band sawing machine, with double cutting angle between -60° and +60°, with automatic and semi-automatic cycle operation for cutting iron pipes, profiles and beams.
- "Operator-free" operation: with the self-positioning of the operating head and the vices, the automatic management of the scrap and the facing cut, the machine operation is fully automated, thus minimizing the operator's programming and intervention times.
- Programmable automatic rotation of the operating head between -60° and +60° for symmetrical and asymmetrical cuts with brushless motor, which allows precise control in speed, torque and position.
- Cutting force control by means of an electric cylinder driven by brushless motor; the combination of the servomotor with ball-recirculating screw guarantees a precise control of the cutting dynamics with an immediate feedback response to all stress variations generated during chip removal.
- Double vice for optimal bar management: the movable vice automatically positions itself according to the programmed cutting angles, reducing the machine set-up times; the fixed vice contributes to better clamping while cutting and ensures that the position of the fed material is not lost during the feeder out-of-size.
- Rotating table mounted on a preloaded one-turn base fifth wheel to ensure a high number of automatic revolutions of the operating head.
- "Modular feeding system with 1500 mm stroke (repeatable to cut at any length); it is possible to extend the stroke of the feeder to 3000 mm or 4500 mm. (OPTIONAL).

RALC ITALIA

Conni Cutting Lines is the brand belonging to Ralc Italia srl dedicated to the automatic cutting lines for pipes, bars and profiles in steel, copper, brass and aluminium.

Belonging to Ralc Italia since 2012 but operating on the market since 1965, Conni Cutting lines is known for the reliability and versatility of its cutting lines.

The Kronos model is the entry level of the range: fast, versatile and precise, it is the ideal solution for budgets proportionate to medium production volumes, and excellent for small or large series. Gemini and Aries are the models dedicated to high production: thanks to the roller feeding, Aries fully expresses its potential on lengths over one meter, while Gemini is extremely flexible and highly performing in any type of work. The New Lybra allows straight and angle cutting of a wide range of sections, materials and thicknesses and guarantees high performance thanks to the single, double and triple cutting capacity.The modular structure of automatic loaders and unloaders allows the creation of cutting lines which are perfectly customized on the basis of individual needs. The production process can be enriched by additional processes and special applications. The automation of further production processes reduces the cost of man work and allows unattended production, increasing the value of the cut piece.

REIKA

Final acceptance of the 6th plant at VW for series production

Global player Volkswagen has been relying on REIKA systems for the production of blanks for constant velocity joints for almost 20 years now. During the second half of last year, machine number 6 was put into operation to series production in Wolfsburg and was successfully accepted.

From now on, serial production on REIKA lines for automotive constant velocity joints is estimated at approx. 50 - 60 million blanks per year. "High efficiency combined with low energy consumption on REIKA lines, another proof for REIKA as a worldwide top supplier in the automotive industry," Braun said. REIKA's High Speed Cutting Center model 224/324-CNC is operating with maximum precision at low cost, due to low tool- and energy costs, in particular low electrical energy- and compressed air consumption, to name but a few benefits. In future, production processing will focus on the CO2 balance even more with the automotive industry playing a leading role and mostly aware of the situation, as proper planning departments have already been set-up. Prominent part of the machine equipment is the automatic tool changer, minimizing manual changeover times with the production process becoming more efficient," REIKA's Managing Director continues. For example, two different geometries can be produced alternately without interruption, automatically feeding two different production lines.

SIMEC

X 120 CNC

The automatic cutting machine X 120 CNC of SIMEC Srl, has been designed to improve the productivity and the quality of the mitre cuts of the pipes. The new version, compare to the old one, has an extra axis that allows customers to manage, precisely changes in the cutting head's feed speed. This novelty, with the addition of the use of TCT blades, guarantees excellent cutting performance. Extra job are done on the new gear transmission and in the use of 5.5 kw motor with inverter, for all the machine version. The clamping devices are hydraulic and slides on linear guides (no manual changes are requested when change the pipe size).

The new control has an innovative software to optimize the job called LogiBARRE that ensure professional processing by limiting losses. The nesting program efficiency makes possible to exploit to the fullest its shearing equipment.

The software works by inserting the length, quantities and cut inclination of the pieces to be produced; in addition to the basic functionalities, logiBARRE has the possibility to work on a stock of available bars, in order to calculate independently which combination insert, to have the least possible residual material during processing. To integrate the standard options, the possibility to preview, in a few seconds, also in graphic form the optimal position on the material in the saw machine panel.

CURIOUS NEWS

FROM THE WORLD

Stop to Keystone XL oil pipe

Between the first decisions taken by the new US President Joe Biden, there was the stop to the construction of the Keystone XL pipeline, an impressive work at the center of a long "back and forth" that also involved Obama and Trump .
But what is the Keystone XL? It is a 1900 kilometer long oil pipeline with a transport capacity of 830 thousand barrels of oil per day. A massive project, initially estimated to cost $ 8 billion, which was to connect the city of Hardisty in Alberta to Steele City in Nebraska, passing through the states of Montana and South Dakota. From Steele City, the pipeline would connect to existing pipelines, allowing Canadian crude to be transported to American refineries on the Gulf coast of Mexico, specially designed to process such qualities.
The Keystone XL received approval from Canadian regulators in 2010. However, in 2015 then-President Barack Obama halted the project in the name of transitioning to more sustainable energy sources. The decision was overturned in 2017 by Donald Trump, who restarted the work, despite some forms of popular and legal opposition.

Now Biden (as promised in the election campaign) has turned the situation upside down again and canceled the project, giving reasons similar to those of Obama: the Keystone XL is contrary to the American national interest, it is not useful for energy security and undermines Washington's credibility in the fight against global warming, is written in the executive order. A decision that has disappointed Canada, given that the extraction sector - oil, gas and minerals - is worth 8 percent of Canadian GDP (fourth largest producer of crude oil on the planet) and 27 percent of that of Alberta, where the third largest oil reserves in the world are concentrated.

New ecological tubes from Pringles

The tubes of Pringles chips are now an icon: beautiful, easy to recognize on supermarket shelves, far more effective than a bag in preventing the chips from crumbling, and with that noise when opened so characteristic that it becomes one of the slogans: «Once you pop, you can't stop», which in Italian has become «All the fun in a pop».
Yet, the Pringles tubes have a huge flaw, they are almost impossible to recycle, because they are made of many different and difficult to separate materials: a metal base, a plastic cap that covers a tear-off lid again in metal, and a cardboard case covered with a film. A big problem, given that three million are produced in Europe every day.
For this reason the company is studying new eco-sustainable versions, a first version is already on sale in some stores in the United Kingdom. The green tube is made of 90 percent paper and 10 percent of a particular type of plastic needed to seal the inside, preventing oxygen and humidity from altering the flavor and texture of the chips.
The new Pringles tubes are part of Kellogg's attempts (which has controlled the brand, born in the 1960s since 2012) to make all its packaging reusable, recyclable or compostable by 2025.

CURIOUS NEWS

Fishway Tube

It's called the Fishway tube, it's a real highway - or if you prefer an overpass - to let fish pass over the dikes. The problem is real: according to research by the Center for Ecosystem Science, the UNSW School of Biological, Earth and Environmental Sciences, "the world population of freshwater fish has decreased by over 80% in recent decades. This is partly due to the hundreds of thousands

of dams and barriers that block their movements"and interfere with the reproduction cycles of the fish, preventing them from migrating to their spawning destination.
UNSW Sydney engineers have studied the solution, the Fishway tubes, which reconnect rivers and give fish the ability to navigate them safely. The device with a diameter of one meter guarantees the protection of the fish by pumping a sort of "water cushion" that transports it quickly and without trauma to the other side of reefs even more than 100 meters high. The invention is inexpensive and ecological, as it requires very little energy.

"Finiu a tri tubi", etymology and meaning

A disappointing evening? A date gone wrong? In Sicily, when something doesn't go the right way, it is often said that "finiu a tri tubi".
This expression owes its origin to a fact that really happened. At the beginning of the last century, a fast steamship called 'Città di Catania' was built in Catania, which was nicknamed 'the three pipes' for the three large chimneys that defined its figure. During the First World War this boat was used for war purposes with great success, but on 3 August 1943 an English submarine intercepted the position of the steamship near Brindisi and sank it in a few minutes.
The end of this boat greatly affected the Sicilian population. And it is therefore for this reason that when something does not go as it should, it is associated with the sad end of this means of maritime transport.

Insects in the tubes of still aircraft

19,000 aircraft, two thirds of the world fleet, were parked for weeks due to lack of customers due to the pandemic. Starting again is not easy: EASA, the body for the safety of European skies, has reported an increase in anomalous data on speed and altitude on the first return flight. The fault is allegedly of insects that have set up the house, including larvae, in the pitot tubes, the sensors that signal altitude. This is just one of the many problems reported by planes returning to fly: batteries that fail, gasoline contaminated with bacteria, and somewhat rusty pilots who struggle to regain confidence with landing. For this reason, the flight authorities and IATA itself, the airline organization, have felt the need to publish precautionary decalogues to follow in these weeks before returning jets and crews to service. A further problem for a sector already decimated by the crisis, given that even today air traffic is 35% lower than last year, but safety comes first.

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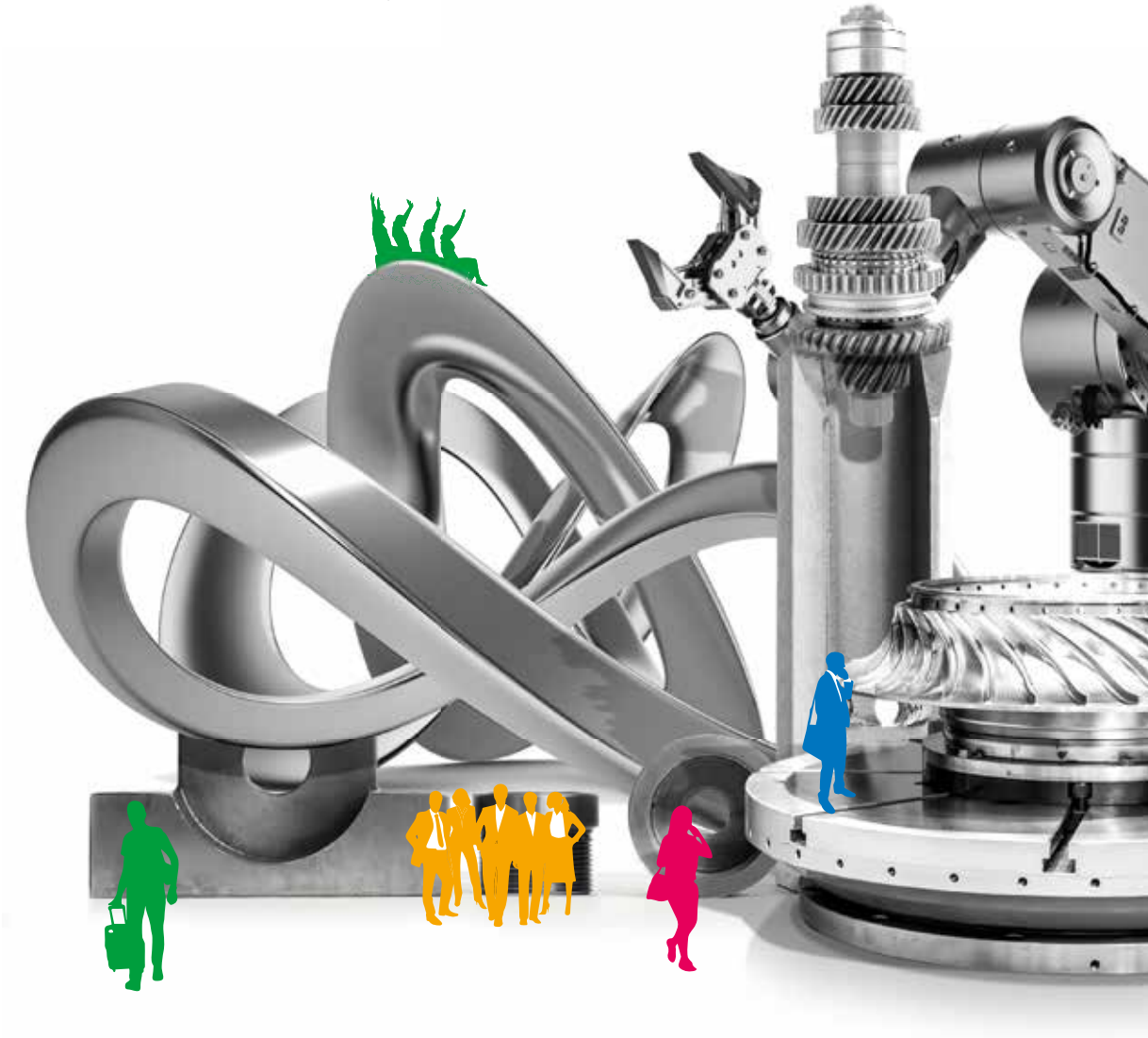

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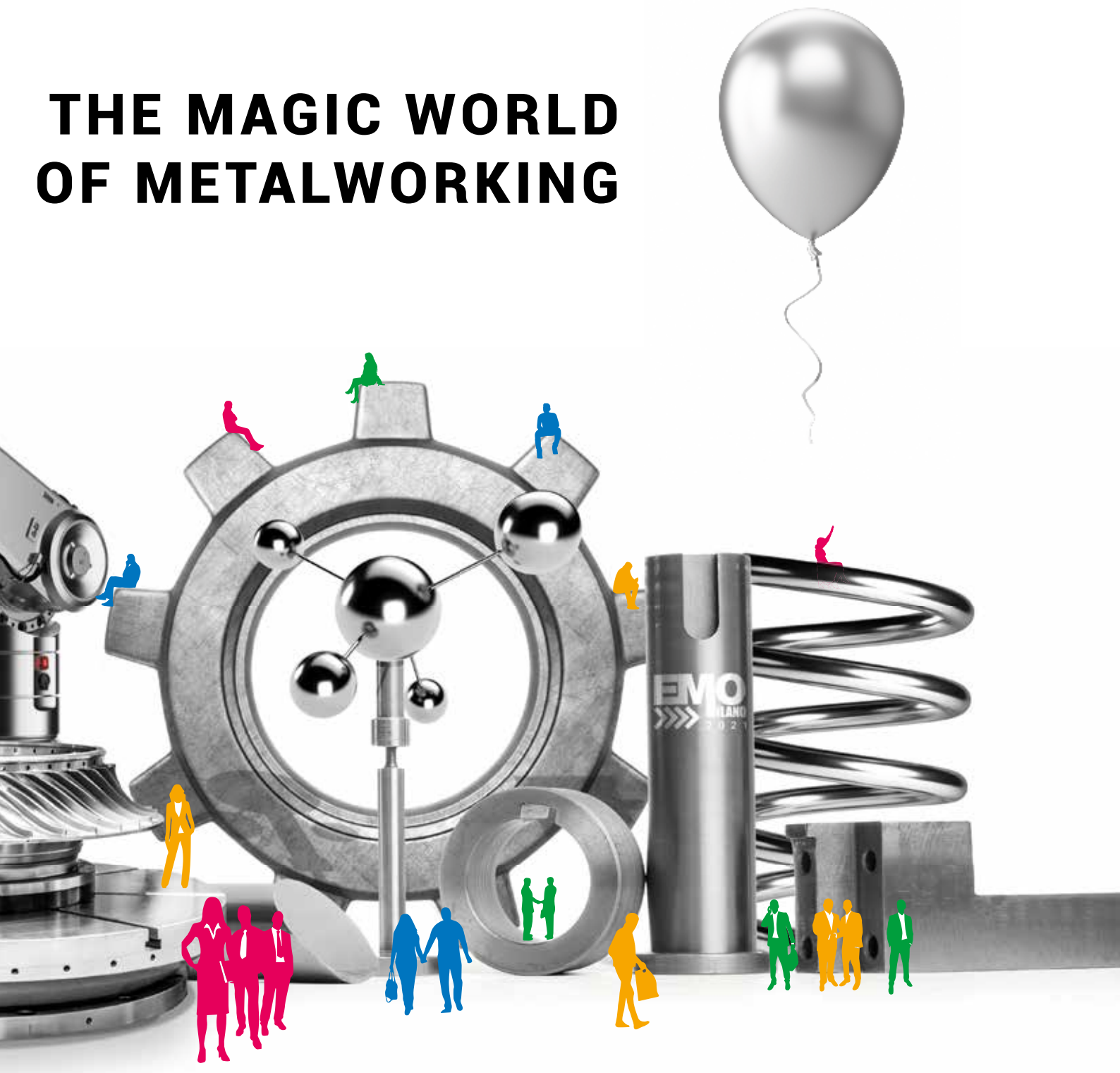

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NEWS

FROM THE BUSINESS WORLD

Belgrave & Powell Completes the Strategic Acquisition of Autotech Robotics Limited

TAMWORTH, PRESTON & PLYMOUTH UK - Belgrave & Powell Limited, a specialist engineering services group announce with effect from 29thJanuary 2021 to have acquired 100% of the shares of Autotech Robotics Limited based in Plymouth, UK. The new acquisition will form part of Belgrave & Powell's Machine Technology Group (MTG) which comprises some of the leading UK specialists in high quality machine tool products, robotics and automation covering a wide variety of applications for Rail, Aerospace, Gas Turbine, Oil & Gas, Energy and Automotive sectors.

The new Autotech Robotics acquisition is complimentary to MTG's recently announced robotics & automation platform and compliments their other group businesses to provide services not only across the UK but also internationally in their SME and larger corporate engineering clients. Autotech Robotics was established in 1989 and has been a high quality provider and integrator of robotic systems across a wide of sectors in the automotive, aerospace, marine and metal processing industries. Led by founder and Managing Director, Graham Gilbert, the business comprises some of the UK's leading experts in robotic applications and process knowledge.

Paul Ward, a partner in Belgrave & Powell, will lead the company as part of Belgrave & Powell's Machine Technology Group and commented; "As a group we are really pleased with the acquisition as the founder Graham has built a great team and reputation able to provide specialised applications knowhow and service capability for integration of robotics. Coupled with our other machine tool, engineering and automation specialists, the Machine Technology Group now has sizeable scale and capability across a range of robotic and automation platforms. Our focus will be on automated cells for machine loading, vision systems, robotic welding, cutting, forming, painting and handling principally for the metal working industries initially but followed with other sector growth."

CADENAS WEB2CAD Inc. sets the course for the future with new CEO in Japan

Yasuhiko Murata takes over the management of the Japanese branch of the international software specialist

CADENAS Technologies AG is a worldwide leading software manufacturer in the areas of Strategic Parts Management and parts reduction (PARTsolutions) and Electronic CAD Product Catalogs (eCATALOGsolutions) with 17 branches. At the Japanese location in Tokyo, Yasuhiko Murata has been CEO of CADENAS WEB2CAD Inc. since the beginning of October 2020, taking over the position from Yoshio Ueda, who successfully managed the Japanese CADENAS subsidiary for many years.

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Yasuhiko Murata knows the current developments and challenges within the CAD, CAM, CAE industry already very well through his previous professional activities in key positions of well-known companies. Among others, he was able to successfully establish the new company and business expansion at Nippon Parametric Technology Corporation (now PTC Japan, Inc.). In his new function as CEO he will set the course for the future at CADENAS WEB2CAD: "I am looking forward to further advancing the technological development of this very innovative company and am confident that I will be able to provide valuable impulses thanks to my many years of experience in technologically demanding areas. Together we are committed to the digital transformation of our industry and look forward to working with new and existing customers," said Yasuhiko Murata.

CADENAS WEB2CAD Inc. was founded in 2007 as a partnership between Web2CAD Japan K.K. and CADENAS. The company is a

wholly owned subsidiary of CADENAS Technologies AG and will continue its business in close cooperation with the headquarters in Germany.

From Augsburg engineering office to a globally active Innovation Company

The cornerstone of CADENAS was laid in 1992 with a small team around CEO Jürgen Heimbach. Early on, the company recognized the potential of the beginning IT age and specialized in engineering software to optimize design processes. In the following 25 years, the company has developed into one of the most important international providers of Electronic CAD Product Catalogs and Strategic Parts Management and is now represented on all world markets. Leading global players from the sectors of mechanical and electrical engineering, automotive, aerospace as well as architecture, such as Würth, ABB, Festo, Continental, MAN, Daimler or STIHL, use the software solutions to optimize their design process or provide engineers with optimal design data.

To support engineers, architects and planners even better in the age of digitization, CADENAS has developed the visual search engine 3DfindIT.com for digital component data. It enables users to find, configure and download manufacturer-verified 3D CAD or BIM planning & engineering data quickly and easily. Innovative search methods such as 3D Shape Search, Sketch Search, Color Search or Function Search, etc. are available for this purpose, which can be used to find millions of 3D CAD and BIM models from currently over 2500 manufacturer catalogs. The search functions are specifically tailored to the needs of CAD users and can effectively reduce the time required for design and time-to-market.

NEWS

Launch of new Aisle Master Order Picker: Aisle Master-OP

Combilift officially launched the latest addition to its product portfolio in a virtual press conference on February 3rd. The NEW Aisle Master-OP (AME-OP) is a pioneering stand-on electric powered model that combines the advantages of a narrow aisle articulated forklift and an order picker for versatile operation in warehousing applications.

The development of this model was influenced by customer feedback - as has often been the case with Combilift's innovations - as well as the recent soaring growth of e-commerce. "Customers already using the Aisle Master for space saving, storage and efficiency in their warehouse asked if we could redevelop the Aisle Master to meet their ever-growing demand for order picking customised orders", said Combilift CEO Martin McVicar.

Research & Development carried out in 2019 & 2020 has created the Aisle Master-OP. The main feature of this unit is the step-through operator compartment which has design copyright protection (European Design Registration No. 002676809-0001) across multiple markets worldwide. The low floor height of just 280mm (11") enables convenient, single step access from both sides of the truck which speeds up order picking compared to the operator having to get on and off from a seated position. The AME-OP truck has all the key advantages of the conventional Aisle Master - indoor/outdoor, for loading/offloading and for stock replenishment at other times during shifts when order picking is complete.

The Aisle Master-OP is available in a number of variants, with lift capacities from 1,500kg to 2,500kg, lift heights up to 12.1m and can operate in aisles as narrow as 1650mm. It features a patented chain steering system (EU Patent No. 3008008), which allows the truck to articulate more than 205°, with an inline drive motor and front drive axle assembly, all of which enable narrower aisle operation. The multifunctional programmable joy stick control lever in the operator compartment, which includes controls for the hydraulics and traction, is adjustable to enable comfortable and ergonomic working conditions for operators of all sizes. The Operator Presence Detection floor pad engages the parking brake automatically when the operator steps off the truck to carry out Order Picking.

"Before we officially launch any new model, Combilift carry out extensive field testing on customer's sites, this was the case with the Aisle Master-OP", said Martin McVicar. The AME-OP is now a production model within Combilift, with units currently in build for customers in the United States and in New Zealand - one of which is Sorted Logistics based in Christchurch New Zealand, a third-party logistics provider and freight forwarder who will be receiving eight AME-OP units shortly.

"This is a major innovation in the warehousing sector," added Martin, "and the versatility to use the one Aisle Master for multiple applications - narrow aisle operation, truck to rack handling, bulk picking and item order picking - will result in strong demand for this new product in our home and export markets around the world."

NEWS

WireShow 2021: Messe Düsseldorf Shanghai and SECRI expand their cooperation

A strong trade platform for the global wire and cable industry will take place annually in Shanghai, thanks to Wire China and WireShow.
Messe Düsseldorf Shanghai and its long-standing regional partner SECRI (Shanghai Electric Cable Research Institute Co., Ltd) have combined their expertise in an expanded cooperation project: In addition to Wire China, which attracts numerous international experts from the wire and cable industry to Shanghai every two years, the Wire Show - China International Wire & Cable Industry Exhibition - will also take place in the intervening years, alternating with Asia's leading regional trade fair. The WireShow will be held from August 31 to September 2, 2021, at the Shanghai New International Expo Centre (SNIEC). The goal of this strategic alliance is to use the platforms we have had for years for international companies to showcase innovations in the wire and cable industry and to position ourselves even better in the Chinese market, the largest growing market in the world.
There are also interactive online showrooms to give a digital boost to what is offered in the exhibition halls. This means that companies can attend trade show events even if they cannot travel to Shanghai due to the current economic situation in their countries.

Contrôle Mesure Systèmes is pleased to announce two exciting projects for 2021

After more than twenty years in its current premises, Controle Mesure Systemes started at the end of 2020 the construction of its new ultra-modern and functional head office located in Burgundy (Sevrey, France).
This project will considerably increase CMS's production capacity since the workspace will be doubled. Every project stages (design, assembly, testing) will now be able to take place in a single location, allowing benches and control lines up to 70m long.
Financed with the help of the local region, the Feder and the city, this project will help Controle Mesure Systemes strengthening teams and hiring new talents. A developer will join the adventure in order to perfect our IT team, a designer will join the mechanical engineering office, and finally a marketing center will allow the brand to improve its communication and digital strategy.
The construction of this new head office will be completed at the end of July. You can follow the progress via our LinkedIn and Facebook pages "Contrôle Mesure Systèmes".

This new year will also be an opportunity for Controle Mesure Systemes to expand its sales force. Already represented by a network of agents in more than 15 countries, the company is now aiming to develop the American market to answer the large need in NDT.
In order to do so, CMS has opened its first subsidiary named "Controle Mesure Systemes Inc" and based in New York City. A local presence in the USA will guarantee great reactivity and efficient communication with American customers.
These projects are critical to provide the best service and continue CMS overall development.

NEWS

Machine learning algorithms to classify surface defects in long products manufacturing

Continuous quality control in production of long products such as wire rod, bars or tubes is evolving faster than ever during the last 5 years. This is because now it is possible to make accurate classification of defects in real time without magics; just using machine learning (ML) algorithms to classify surface defects.

The key is the combination of well-known technologies, mainly based on eddy current with the new powerful capabilities of image capturing systems, with allows to combine the reliability, repetitiveness and robustness of the first with the intuitiveness and, specially, the machine learning algorithms approach of the second.

Eddy current has been used for many decades and it remains as the main technology to identify surface defects in continuous long products production. However, it is difficult to interpretate and honestly, there is a big lack of skilled resources in the market.

On the other hand, image capturing systems, working in stand-alone mode are not as reliable as they should be, because the conditions of the harsh environment where long products are produced, such as steam, water or pollution, makes uncertain the results of the inspection. In other words, you need good pictures to make the inspection.

But there is another way, and probably the best of today's methods, that is the combination of eddy current and images capturing systems. In a very fast overview, and eddy current system detects a defect, then, an image capturing system gets the picture and saves both results together. You'd probably think that this is awesome, but in terms of industrial performance, having hundreds or even thousands of defects and pictures is not useful at all. Perhaps it is very cool, but when the real improvement comes, is when you use ML algorithms to make the automatic identification of the defects without a human review task needed. Imagine that you could get a report after each unit of product (coil, bar, tube) with the number and type of all de defects detected. Even more, you could have a detailed report of each defect, share it with your suppliers or with your customers and start thinking in collaborative improvement processes across all the supply chain.

This solution is already available in the market. EDDYeyes, from ISEND, uses the most advanced eddy current technology, the highest performance image capturing methods and the most powerful machine learning algorithms to make easier the live of steel plants. With EDDYeyes, you can start getting information and knowledge in the shortest deployment time, with a huge return of investment, and with a requirement of efforts from the customer really well delimited.

SLM Solutions signs Memorandum of Understanding (MoU) for the purchase of five NXG XII 600 with Major European OEM

A major European OEM has signed an MoU to purchase five NXG XII 600 machines, with the first machine delivery in 2022.

The agreement also facilitates the reservation and allocation of production-slots.

In November 2020, SLM Solutions unveiled the NXG XII 600 boasting 12 lasers, each with 1 kW power and a build envelope of 600x600x600mm. Its arrival marks a breakthrough in the additive manufacturing (AM) sector and paves the way for industrial serial production. Combined with innovative technical features, maximum productivity and reliability, it proves SLM Solutions' technological leadership in

the AM manufacturing industry. The customer will be one of the first global companies to take advantage of its benefits and intends to implement it for serial production.

Sam O'Leary, CEO of SLM Solutions explains: "When we launched the NXG XII 600, we knew it would disrupt the industry and spark a new era for manufacturing. Therefore, this MoU just two months after the launch is an exciting milestone for the company. It validates our vision that the OEMs can implement innovative additive manufacturing technology for serial production into their business models." He then went on to say that: "The NXG XII 600 accelerates the future of metal additive manufacturing, and our engineers have further pushed the boundaries of what is possible."

Additive Manufacturing can lead to numerous commercial and technical advantages allowing companies to strengthen their competitive positions. It requires knowledge in additive manufacturing, but above all, robust and productive machines. The SLM Solutions' NXG XII 600 takes manufacturing to a new level and enables the production of complex, high-quality metal parts in only a few hours.

O'Leary further states: "This MoU underlines that not only are we prepared to step forward to the industrialization of metal additive manufacturing, but the marketplace is ready as well."

The final binding agreement will be signed by Q2 2021.

Unison tube bender makes light work of SST's life-saving Halo system and other titanium structures

Investing in a Unison Breeze all-electric CNC tube bending machine has not only assisted Oxfordshire-based SST Technology in becoming the only British-based precision fabricator authorised to produce the life-saving Halo titanium driver protection system, as used in Formula 1. It has also equipped the business to complete numerous complex structural projects involving titanium tube – including roll-cage structures for military vehicles and aerospace components.

The machine, a Unison Breeze 130 mm 'large diameter' multi-stack tube bender, was purchased to help SST produce high-performance optimal-flow exhaust systems for Formula 1, IndyCar and other motorsport sectors. With a pedigree in motorsport components and a powerful new tube bending machine to hand, however, SST's thoughts quickly turned to driver safety. The exceptionally tight material control, production parameters and dimensional tolerances provided by the all-electric Unison Breeze tube bender, combined with SST's considerable experience in the development and manufacture of ultra-precise fabrications, led to the company's Halo design securing FIA conformity for use in Formula 1, Formula 2 and Formula E motorsport and being adopted by several race teams. SST's Halo design requires the precise bending of titanium tube of 4 mm wall thickness.

Notoriously difficult to bend

Titanium, however, is notoriously difficult to bend. With low uniform elongation typically requiring a much greater bend radii than other metals, titanium doesn't readily lend itself to being formed – a characteristic that makes creating tubular structures for aerospace and motorsport applications particularly challenging. For successful tube forming, the material must be compressed on the inside of the bend and stretched on the outside, while wall thinning and ovality of the tube have to be kept to very tight tolerances. Traditionally, 'hot bending' - a process involving the use of super-heated tooling - has been used to overcome the challenges of bending titanium. However, the very process of hot bending presents a number of issues. For example, the use of super-heated tooling requires considerable care and can present a hazard to operators; complex modifications must be made to bending machinery, and tooling heat-up times are lengthy. By contrast, Unison's infinitely controllable and robust all-electric machines enable the safe, precise cold bending of titanium. With advice and application support from the technical team at Unison Ltd, SST were therefore able to develop

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a cold-bending process for their Halo design that allowed for the low elongation of the metal and delivered precise results.

"To successfully cold-bend titanium, factors such as material quality, tooling configuration, machine design and flexibility of control need to be considered," comments Unison Key Account Manager, Steve Haddrell. "This is because any variation in material quality, any lack of rigidity in the mechanics of the bending machine and any failure to achieve repeatability time after time will invariably lead to failure. With exceptional power, optimal rigidity, precise mechanical motion and all-electric control for accurate, effortless repeatability, we knew the 130 mm Breeze was the ideal machine for precision-bending SST's Halo design. With material quality assured, it really came down to working with SST to establish the correct tooling configuration and programming of the Unison Unibend machine operating system."

Delivering significant benefits

"Investing in the 130 mm Unison Breeze machine has clearly paid dividends," says SST Technology's Group Business Development Director, Daniel Chilcott. "Tool changes are rapid, programming is incredibly user friendly, while the automatic setup ensures uncompromising levels of accuracy and repeatability. Sufficiently impressed with the capabilities of our 130 mm machine, we have also purchased a smaller 65 mm Breeze model for the production of more intricate pipework and parts for aerospace and gas turbine applications. Combining this capability with our AS9100REVD accreditation means we are perfectly set up to support leading aerospace propulsion, fluid and air system OEMs."

Intelligent tube manipulation

The Unison Breeze 130 mm tube bender purchased by SST is well suited to manipulating exotic alloys such as titanium and Inconel, as well as Super-Duplex stainless steels and provides high-quality thin wall bending. Multi-stack tooling allows the most complex of parts to be formed in one uninterrupted manufacturing cycle, while Unison's bar code scanning system ensures that only the correct tooling is installed. The standard-fit rise and fall pressure die can result in significant savings in tooling costs and allows tools of very different radii to be used on a part within a cycle. The tube bender can be programmed manually or from CAD data using industry-standard IGES or STEP files.

"At Unison, we are often invited to advise customers on particularly challenging tube bending projects," concludes Steve Haddrell. "That's partly because of the immense capabilities offered by our tube bending machines. Assisting SST on establishing the optimal tooling configuration of their Unison Breeze machine for the production of the life-saving Halo device, however, is one of the most rewarding projects we have been involved in."

NEWS

TIG welding made easy: 10 kg, extensive range of functions

Tungsten inert gas welding (TIG). There is simply no other welding process that can beat it in terms of cleanliness and weld seam quality. To make TIG applications even easier, Fronius has developed TransTig 170/210, a compact manual welding system.

TIG welding can be used in a variety of applications. The process is suitable for all metals, thin sheets, out-of-position welding and root pass welding. Welding can be performed with or without a filler metal and the process is of particular benefit to industry users, such as plant and container construction, pipeline construction and also maintenance, assembly and repair. Since stainless steel and aluminium are primarily used in these sectors, the TIG process wins praise due to the high quality "look and feel" of its weld seams. The TransTig is also particularly impressive for mobile applications, as its lightweight and easy to handle design aids users with their varied tasks.

Reliable arc even with an unreliable mains supply

The new generation of TIG DC devices from Fronius strikes the perfect balance between a compact design and a wide array of functions. Despite their small dimensions and low weight of under 10 kg, the new TransTig 170 and TransTig 210 offer all the important setting options that are otherwise only found in bigger professional TIG devices. The development engineers were determined that the welding system should use the input voltage as effectively as possible, to make the TransTig not only energy efficient but also extremely reliable and productive. The small TIG device offers a duty cycle of 40 percent, while at maximum output, the welder can work continuously for four minutes - a far longer period than with other comparable welding systems.

Furthermore, the Power Factor Correction (PFC) of the TransTig means that it has a high degree of mains voltage tolerance. Even with 30 percent less input voltage, the devices are still able to operate at full power. Furthermore, the PFC function means that the available power from the grid is used as efficiently as possible. By using the Fuse parameter, the welder can adjust the maximum current drawn from the grid and is therefore able to adapt it to the local conditions on-site - such as on construction sites, where many devices are already in operation. This can also make the difference between being able to weld or not in scenarios with long mains leads, poor mains fuse protection or during generator operation.

Large array of functions for easy operation

The compact TransTig devices also boast impressive welding results, which until now were only possible with larger devices. For example, the TransTig features a comprehensive MMA welding mode including CEL mode and various functions for TIG. The spot function (TAC) makes it easier to tack components together, making tacking twice as fast as conventional processes. An additional UpSlope and DownSlope function has been provided to reduce current in order to change a filler rod or to weld over tacked spots. This can be either reduced or even increased in relation or the main current. The gas post-flow time is thereby set manually or automatically according to the welding current being used. Furthermore, the touch high frequency ignition considerably increases user convenience at the start of welding by detecting contact with the workpiece and igniting the high-frequency arc after a pre-defined amount of time at exactly the desired location. This makes it possible to use welding torches without buttons and helps welders with difficult to access interfaces.

Brimming with high-tech features

Despite being packed full of technology, it's the practical operating concept with simple rotary and push-button and the clear, illuminated function display which make the TransTig stand out. The device is not only lightweight, but also extremely robust, as the plastic housing has been tested for its mechanical load capacity beyond existing standards. Manual welding systems from Fronius are also resistant to spray water, meaning that they are also suitable for use under tough conditions on construction sites or during assembly.

NEWS

SimpliVacTM vacuum impregnation system with automatic cycle control, enhances reliability and efficiency

SimpliVac™, the new castable vacuum mounting system by Buehler – ITW Test & Measurement GmbH, allows impregnation of porous samples or structures more efficiently by means of an automatic cycle control system. The system generates a vacuum – reliably, rapidly and efficiently, and without the need for an external pump. Thus, pores and cracks will be filled completely with epoxy resin, resulting in optimized edge retention for metallographic examinations. The system is also ideal for mounting delicate samples where pre-impregnation before sectioning and/or grinding ensures samples are well protected.
The number of cycles, the vacuum level and the time under vacuum can be set according to your needs. To optimize the mounting process, multiple cycles can be run without user intervention between cycles. Due to these special features, SimpliVac ensures consistent uniformity, even at high throughput, and reduces the time required to complete the mounting process. The large chamber diameter allows simultaneous mounting of multiple small samples. Alternatively, SimpliVac can also accommodate samples with larger dimensions. Its compact and small footprint allows more space on the lab bench.

The new vacuum impregnation system offers cold mounting solution of test samples to both quality control and/or research laboratories. Examples include electronics components, thermal spray coatings, additive manufactured components and other specialty aerospace surface treated test samples. Technicians or metallographers will appreciate the ability to optimize sample impregnation in a faster, more automated way. SimpliVac is easy to use. A video showing its simple operation is available at https://youtu.be/5bphC-lyUxY.
When it comes to hot compression mounting, the equivalent of the new SimpliVac is the SimpliMet™ 4000 by Buehler, for quick and reliable use. It is ideal for demanding industrial environments, both in terms of sample throughput and mounting quality.

Acquisition by the EMAG Group: Samputensili becomes EMAG SU

Samputensili Machine Tools and Samputensili CLC - including 78 employees at the two plants near Bologna and Reggio Emilia - were acquired by the EMAG Group. In this way, the German manufacturer is creating a new technology company: EMAG SU Srl, a subsidiary of the existing Italian sales company EMAG MILANO Srl. The two plants of Samputensili Machine Tools and Samputensili CLC are combined into EMAG SU Srl. The new company aims for a turnover of 35 million euros by 2025.

EMAG has had extensive know-how in technologies and applications for decades. The southern German machine manufacturer optimally manages the entire process chain, from machining on unhardened to hardened parts, and thus represents a decisive added value for the success of individual production solutions and complete production systems. With the acquisition of Samputensili Machine Tools and Samputensili CLC, EMAG is expanding its technology spectrum by focusing on gearing: “tooth flank grinding”, “shaving”, “slotting”, “profile grinding” and “rolling”.

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These technologies perfectly complement EMAG's portfolio of gear machining operations, which includes, for example, gear hobbing, chamfering and deburring. EMAG's entire mechanical engineering department will certainly benefit from this investment, thanks to which it will be able to offer new and complete production solutions. The solutions offered range from the initial turning and hobbing of a workpiece to the grinding of various shoulders and the final grinding of tooth flanks, the latter using Samputensili technology.

At the same time, the acquisition of Samputensili Machine Tools and Samputensili CLC expands EMAG's customer base, as the technology of the Italian machine manufacturer is also used in the production of pumps and compressors, as well as components for wind turbines, for the aerospace and shipbuilding industries, in industrial drives and in agricultural machinery. "The automotive industry continues to remain an important sector for EMAG. Samputensili's work procedures also play a major role here," explains Francesco Zambon, Managing Director EMAG Milan.
"In parallel, we would like to penetrate the non-automotive sector to a greater extent, on the strength of our extensive process know-how. The possibility of interconnecting our distribution with Samputensili customers is undoubtedly an excellent possibility."

A win-win situation for both companies

The technology of Samputensili Machine Tools is in demand all over the world: in sectors such as aerospace technology, automotive and shipbuilding as well as in various other industries, the knowledge and experience in the field of gear machining of this Italian excellence is particularly valued. The grinding, slotting and shaving machines used are extremely precise: only a few companies can guarantee such a wide range of high-tech products. Consequently, the market opportunities for Samputensili will continue to be excellent in the future as, in order to cope with the technological transformation taking place in these sectors and the globalized competition, a high level of specialization of machine manufacturers is necessary: there is an increasing need for more efficient production solutions to guarantee lower costs per piece and higher quality components in the micrometer range.
With this in mind, Samputensili particularly benefits from the global presence of the EMAG Group: the southern German machine manufacturer is responsible for the worldwide distribution of the machines, thus laying a solid foundation for future success. The existing sales and service infrastructure of Samputensili will be integrated and expanded in a targeted manner. "In the application areas we deal with, customer consultation is extremely important," confirms Zambon. "As a result, we have to ensure an extensive presence and provide customized consulting services for individual markets and sectors. This is made possible by EMAG's global distribution. We have set ourselves the goal of acquiring and expanding EMAG SU's new application areas."

In addition, the production networks of the two companies will merge: in future, various components and assemblies of Samputensili machines will be produced at EMAG's production facility in Zerbst, one of the most modern machine tool factories in Europe. Final assembly of the machines will continue to be carried out at the two plants in Italy. In this way, many of Samputensili's solutions will continue to be produced more quickly and efficiently. The quality of the machine produced is further increased.

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Lantronix Launches New EDS3000 Serial-to-Ethernet Servers, Bringing Affordable Remote IoT Device Management

Expands Lantronix's IoT Offerings for Industrial and Medical Industries
Lantronix Inc. (NASDAQ: LTRX), a global provider of Software as a Service (SaaS), engineering services and hardware for Edge Computing, the Internet of Things (IoT) and Remote Environment Management (REM), today announced its new EDS3000 family of serial-to-Ethernet device servers. Ideal for industrial and medical applications, the EDS3000PR and EDS3000PS expands Lantronix's family of external modules designed for the Industrial IoT industry, delivering affordable remote device management capabilities.
"With faster adoption of industrial automation, renewed interest in private networks and increasing demand for remote environments, Lantronix is leading the charge by offering a new family of serial-to-Ethernet device servers that will enable its customers to expand connected technologies in today's changing world," said Xavier Dupont, senior director, Mobility Solutions at Lantronix.
Lantronix's EDS3000 series delivers next-generation hybrid Ethernet terminal/multi serial port device server connectivity for easy remote access and management of virtually any IT/networking equipment or edge devices. Ideal for devices such as medical equipment, POS terminals or security equipment, the 1U rack-mountable EDS3000PR offers eight, 16 or 32 ports while the sleek, compact EDS000PS offers eight to 16 ports and is ideal for desktop or wall-mount, making it perfect for medical or other high visibility installations.
The EDS3000 series features:
Centralized Device Management Platform, which enables users to monitor, manage and control devices from anywhere and at any time with the ready-to-use software platform web application. The easy-to-use platform provides software-defined automation with zero-touch provisioning across all of your devices and the capture of device telemetry data for event management and analytics.
Comprehensive Device Security Framework that delivers an unprecedented level of intelligence and safety with SSL/TLS, AES and SSH built in. EDS provides enterprise-level security, allowing safe remote access and management from practically anywhere. Lantronix core software carries 30 years of 'data-center grade' protection, so each networked device has the same level of security as corporate data center equipment and provides robust defenses to hostile Internet attacks.
Easy Configuration with Windows-based Lantronix Provisioning Manager, which can be used locally or remotely with the Lantronix cloud-based ConsoleFlow® device management platform. A "Cisco-like" command-line interface (CLI) simplifies configuration and control, making it easier to integrate edge devices or data center equipment into the network. The EDS3000 device servers leverage the Lantronix Com Port Redirector virtualization software, allowing existing applications to work with the EDS with no code modifications.
Quick connection to any device with a serial port to the network using robust SSH or SSL enterprise-level security.
With this recent launch of the EDS3000 family, Lantronix continues to offer its customers solutions for a variety of industries who need serial-to-Ethernet devices servers, medical and IoT gateways. To view our complete portfolio of external modules, click here.

About Lantronix
Lantronix Inc. is a global provider of software as a service (SaaS), engineering services and hardware for Edge Computing, the Internet of Things (IoT) and Remote Environment Management (REM). Lantronix enables its customers to provide reliable and secu-

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re solutions while accelerating their time to market. Lantronix's products and services dramatically simplify operations through the creation, development, deployment and management of customer projects at scale while providing quality, reliability and security.

Lantronix's portfolio of services and products address each layer of the IoT Stack, including Collect, Connect, Compute, Control and Comprehend, enabling its customers to deploy successful IoT and REM solutions. Lantronix's services and products deliver a holistic approach, addressing its customers' needs by integrating a SaaS management platform with custom application development layered on top of external and embedded hardware, enabling intelligent edge computing, secure communications (wired, Wi-Fi and cellular), location and positional tracking and environmental sensing and reporting.

With three decades of proven experience in creating robust industry and customer-specific solutions, Lantronix is an innovator in enabling its customers to build new business models, leverage greater efficiencies and realize the possibilities of IoT and REM. Lantronix's solutions are deployed inside millions of machines at data centers, offices and remote sites serving a wide range of industries, including energy, agriculture, medical, security, manufacturing, distribution, transportation, retail, financial, environmental, infrastructure and government.

New corporate culture in smart factories

METAV digital to showcase work process solutions which favour "context over control"

The digitalisation and networking of entire factory floors and the new processes in Industry 4.0 scenarios are raising ever more questions surrounding the role which employees play in this environment and how their supervisors need to respond. Above all, the dynamics of production lines supported by artificial intelligence (AI) necessitate giving human beings working at machines greater decision-making authority and responsibility than many organisational charts provide for at present. For their part, the supervisors, relieved of routine activities by the algorithms, must cast off their classic control function and shift their emphasis to the role of coach. Industry 4.0 will have more far-reaching consequences than many think. Most experts agree, however, that this should not be taken as grounds for delaying the digitalisation process. Indeed, the sooner this is started, the better. As a consequence, METAV digital from 23 to 26 March 2021 will be presenting many solutions in the field of Industry 4.0. and Work 4.0.

"Over the past eight years, we have seen that Industry 4.0 projects are not just about technology. They can be soundly designed from a technological and planning viewpoint, but they also have to gain the acceptance of employees," explains Prof. Gisela Lanza, head of the wbk Institute of Production Science at the Karlsruhe Institute of Technology and

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member of the WGP (German Academic Association for Production Technology). Work 4.0 has practically put itself onto the agenda: scientists have had to address aspects such as acceptance, motivation and new role distributions in the digitalised factory. The clear result so far: in the age of algorithms and artificial intelligence, and with 100 million euros in funding programmes for autonomy and smart services, 26 SME competence centres funded by the Federal Ministry of Economics and over 300 examples of application currently in production – all these confirm the 2,500-year-old wisdom of the Greek philosopher Protagoras: Man is the measure of all things.

Intelligent systems also raise motivation levels

In production, real-time control and algorithm-supported monitoring require rapid decision-making. Aachen-based Ifp-Software GmbH offers a program for networking and optimising production lines. The company appreciates METAV digital as a platform for showcasing its possibilities to potential new customers. An algorithm uses time series to calculate probable sources of error and sends them to the mechanic within seconds. The system raises plant output by up to 30 per cent – while also motivating the employees. Jörn Steinbeck, co-founder of the company, explains the impact on everyday work on the shop floor: "We work in real time, and a finely-calibrated algorithm can suggest solutions within seconds." But if the workers have to run to the foreman with this information in order to get instructions, "then any time gained is lost again." Basically this means that if the possibilities of AI applications are to be fully exploited in practice, "employees must not only be allowed to make more far-reaching decisions, but also have a greater understanding of the overall system." Steinbeck's conclusion: "We're moving away from control to context." Or as Lanza puts it: "Employees need to be given sufficient personal responsibility to correct the error immediately themselves. "

Sebastian Weski, Sales Manager at Exapt Systemtechnik GmbH in Aachen, has had a similar experience. The company has been developing and distributing CAM systems since 1967. It also provides intelligent resource management for the machining industry. The complex program stores intelligent workflows which allow tool requirements to be responded to and stock movements and set-up optimisations run automatically. As a result, the software company is already achieving productivity increases of up to 30 per cent, and interested visitors to METAV digital will be able to see demonstrations of the solutions. Even state-of-the-art CAM applications only run effectively if the machine operators have greater responsibility and direct decision-making power. "Our system allows trial runs with a digital twin. The mechanics can see straight away if the tools are scratching the surface, for example, or whether the feed rate is too high. They immediately report this back to the CAD programmers. Our software connects the people at all the different points in the machining process," Weski explains. And that means: more responsibility, more competence, more decision-making power for the machine operators.

Profitable production of small batches

"Manufacturing thousands of different products and variants down to batch sizes of one without costly plant conversions" – that is the vision at Bosch Rexroth. In 2019, the Bosch Group achieved a 25 per cent increase in its sales of networked Industry 4.0 solutions for manufacturing and logistics to 750 million euros. This vision can only be achieved with the help of intelligent assistance systems. But the latest generation of collaborative industrial robots (cobots), too, requires a new corporate culture and flatter decision-making structures. Müller Maschinentechnik GmbH from Düren sells lightweight robots that support mechanics in various task areas. An "ecosystem" of tools has developed around the apparatus: the metal helpers load, palletise, weld, mill or grind, depending on the requirements. All interested parties are welcome to watch digital demonstrations of the full range of possible applications at the METAV. Pascal Klee, Sales Manager Automation, emphasises: "Cobots are designed to work together with humans. Together they can operate a whole production unit instead of just one machine." It's about networking, not about replacing human employees. On the contrary - the possibility of cooperating to pro-

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duce even small batch sizes profitably gives the company a decisive competitive edge.

AI agent provides relief from routine work

However, it is not only the production workers, but also their supervisors who are confronted with fundamentally new demands. In the joint interdisciplinary teamIn project, researchers from WGP collaborated with two industrial companies to find out how to integrate digital technologies and AI meaningfully into the production process. The researchers are focusing primarily on the new role of the supervisor and are pursuing four sub-goals: The task is to develop suitable digital management tools – an AI agent that relieves supervisors of the need to perform mundane routines. In addition, the team has set out to design modern management systems and to examine the effects on role models and competence requirements. In the final step, the researchers will design a complete transformation process. The results will be fed into learning workshops and then be accessible to all companies based in Germany. Gisela Lanza explains: "The aim here is for company representatives to consult with the pilot companies and to pick up some new ideas. Based on a best practice example, the company sees which elements and tools are available and then adapts them to its own problem." In the workshops, the researchers even simulate new hierarchy models in a game environment, for example a scenario with no boss in which the employees have to organise the shop floor themselves.

Optimality despite decentralisation

The researchers have already identified a number of trends: the system boundaries for each individual are being extended. "Mechanics who previously operated a single machine will in future orchestrate the entire line," summarises Lanza. "The foreman will take care of the entire plant instead of just one line, and the plant manager will be responsible for the entire supply chain." Jörn Steinbeck contributes his own practical experience: "Our intelligent systems accumulate experience that used to reside with the foreman. A well-trained algorithm democratises expertise."

This, of course, has an impact on the corporate culture. Classic top-down decision-making and complex hierarchies are too cumbersome for agile production groups supported by algorithms and intelligent assistance systems. Quality assurance alone can push conventional instruments to their limits – monthly reports are of little use if the software reports errors and anomalies in real time. The manager then transforms from an instructor into a coach. The learning systems are increasingly taking over the classic problem-solving competence of the foreman, and the machine operators are solving many problems themselves. For this, they need the supervisor less as a controlling authority and more as an assistant who offers support. Lanza submits: "In the past, we thought only centralised units worked effectively. But in the future, we are expecting to reach optimality despite the decentralisation."

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Federmacchine: after a 2020 to forget, 2021 will be a recovery

Having closed a truly forgettable 2020 with double-digit declines for all the main economic indicators, the Italian capital goods manufacturing industry is ready for the recovery that is expected as early as 2021. This is, in essence, what emerges from the surveys carried out in January by the Gruppo Statistiche FEDERMACCHINE, the federation of capital goods manufacturers.

In 2020, the turnover of the Italian industry in the sector fell to 39,674 million euros, 17.9% less than in 2019. Both the reduction in exports, down, by 15.9%, to 27,177 million, and the drop in deliveries by Italian manufacturers on the domestic market, down, by 21.8%, to 12,497 million euros, weighed on the overall result.

The effect of the pandemic therefore reverberated on all the main indicators and was particularly heavy on the trend in domestic consumption, which fell by 22.6% to 19,826 million euros. The reduction in Italian demand for new machinery had a heavy impact not only on domestic deliveries but also on imports, which fell by 23.9% to 7,329 million euros.

The situation in 2021 will be different. According to the forecasts drawn up by the FEDERMACCHINE Statistics Group, turnover will return to growth this year, though only partially making up lost ground; in fact, with an expected increase of 8.9% compared to the previous year, it will stand at 43,200 million euros.
The partial recovery will be determined both by exports, expected to grow by 8% to 29,349 million euros, and by deliveries by Italian manufacturers which, by virtue of an increase of 10.8%, will reach a value of 13,850 million euros.

Italian consumption of capital goods, also supported by the tax incentives provided by the Transition 4.0 plan, will rise to 22,279 million euros, 12.4% more than in 2020, driving not only manufacturers' deliveries but also imports, which should mark a recovery of 15%, reaching a value of 8,429 million euros.
Giuseppe Lesce, president of FEDERMACCHINE, commented: "2020 was also a year to forget for the capital goods sector. Despite this, given the trend of the first few months, things could have been decidedly worse. I do not want to say that we are satisfied with this, but - continued the president of FEDERMACCHINE - I note that Italian companies in the sector have shown that they know how to hold and the market knows how to react".

"With these assumptions and with the contextual indications that reasonably lead us to trust in an improvement of the health situation on a global scale, we can think that 2021 will allow us to recover part of the lost ground".
"In fact, while the mobility freeze still remains a major problem for a heavily exporting sector like ours, the tax incentives provided by the Transition 4.0 plan throughout 2021 and 2022 will certainly support investment in new machinery in our country."

"What we need is confidence - concluded President Giuseppe Lesce - and this can only come from the clear certainty of being able to count on a rapid and widespread vaccination campaign among the population and relative political and economic stability. For this reason, we ask the authorities to facilitate the resumption of normal government activity, which is more necessary than ever now, and to concentrate their resources and efforts on the organization of all those initiatives that can help the country out of the health crisis".

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Ucimu Academy: with the signing of the ats, the commitment of the actors involved is made official the first project starts with 9 young people employed in 6 companies in the sector

This morning the ATS, a temporary association of purpose, was signed for the establishment of UCIMU Academy, the project designed to encourage and support the training of people who will work in the machine tool manufacturing industry.

Signatories of the ATS are: FONDAZIONE UCIMU, the non-profit organization - belonging to the UCIMU group - which, established in 1993, operates as an institute for economic and scientific research, cultural deepening, development, promotion and support of Italian machine tool and production system manufacturers; ENERGHEIA IMPRESA SOCIALE, a body accredited by the Lombardy Region for training and employment services, which deals, among other services, with supporting companies in the search for personnel; PROMOS, a professional training center accredited by the Lombardy Region; Atena Impresa Sociale and numerous actors in the world of education and training: Carlo Cattaneo University - LIUC, Istituto Tecnico Industriale Statale Giulio Riva, Istituto Statale Istruzione Superiore Andrea Ponti, Istituto di Istruzione Superiore Evangelista Torricelli.

This morning's official signing marks the official start of the UCIMU Academy activity, which is working on the development of the first training project that already involves 9 new graduates hired on a first-level apprenticeship contract by 6 companies manufacturing machine tools, robots and automation. The companies, all associated with UCIMU-SISTEMI PER PRODURRE, are: D'Andrea (Lainate MI), Ficep (Gazzada Schianno VA), Ghiringhelli (Luino VA) Oerlikon (Brugherio MI) Rosa (Rescaldina MI), Tecno Delta (Saronno VA).

Thanks to this year-long program, the 9 young people will be able to follow a training course that alternates between classroom hours - held by a pool of teachers, chosen from among the institutes that have joined the project and from among the employees of companies in the sector - and activities in the company. At the end of the 12 months, the students will obtain a certificate of higher technical specialization - IFTS, which attests to their attendance at a higher technical training course.
Participation in the UCIMU Academy project is reserved for UCIMU member companies only and, since, for operational reasons, it can only be organized according to the principle of geographical proximity, the FONDAZIONE UCIMU has already taken steps to consider the creation of a project dedicated to the province of Milan, an area that hosts numerous companies in the sector and just as many training institutes.

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