

CMS

MAGAZINE

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TEUCO CHOOSES OUR SHEET THERMOFORMING SYSTEM WITH FULLY AUTOMATIC LOADING: GREATER SPEED, GREATER VERSATILITY AND LESS ENERGY CONSUMPTION.

Main news

The evermore frantic dynamics of the world of work sometimes make it difficult to fully understand what sets a company apart from others and how it can produce excellence. Now more than ever, knowing how to communicate one's own values is important.

This is why CMS has decided to create new instruments of communication with a view to clarifying the reasons for its business and worldwide growth. This newsletter constitutes one of the key instruments in the recently launched upgrading process of our image.

This News is addressed to a wide audience and intends to give information explaining the culture of our enterprise better. We wanted it to be characterised by clear and accessible language, without ever giving up precision and authority. In perfect agreement with our identity, the News points to concreteness and fully reflects our commitment to service and dialogue with customers.

Stefano Dal Lago
Marketing Director CMS Group

Previews

The technologically integrated system - world CMS patent - for the production of skins for the aeronautical and aerospace sector which avoids requiring traditional systems based on the use of acids is in a prototype phase.

The Market & Markets

We are delivering eight new machining centres for the working of stone and marble to the US market: an order worth 4 million dollars, finalised for the production of monuments, sculptures and large artistic installations.

Insights

The collaborative relationship between CMS and some of the main motor racing teams, at the heights of the technical-agonistic world of Formula 1, has developed over recent years with the creation of machinery for the manufacture of carbon and other composite material products.



POSITIVE ENERGIES FOR TEUCO

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The industrial Group Teuco-Guzzini has been successfully operating since 1972 and it has always maintained its production plants in the area of Montelupone, in the province of Macerata.

Teuco continues to lead the development and evolution of the hi-tech bathroom sector with solutions that make it not only more functional in its suitability for human living, but also a place of stylistic excellence. Precisely for the typical characteristics of the Teuco production, that for its bathtubs and showers prefers the use of thermoplastic materials, ideal for contemporary design projects, the thermoforming machining centre plays a key role in the productive

cycle of the company.

Until now traditional vacuum thermoforming technologies have been implemented in the Teuco plants, based on the use of diathermic oil.

Teuco felt the necessity for innovative machinery, able to better support the project requests of contemporary design, especially concerning the corners of bathtubs and shower trays, but also in order to optimise loading/unloading times. So they turned to CMS who, after carefully evaluating their needs, recommended the BR5S machining centre, set up in a specific operative configuration.

The sheet vacuum thermoforming process provides a great aesthetical result for the product, without the need for additional machining.

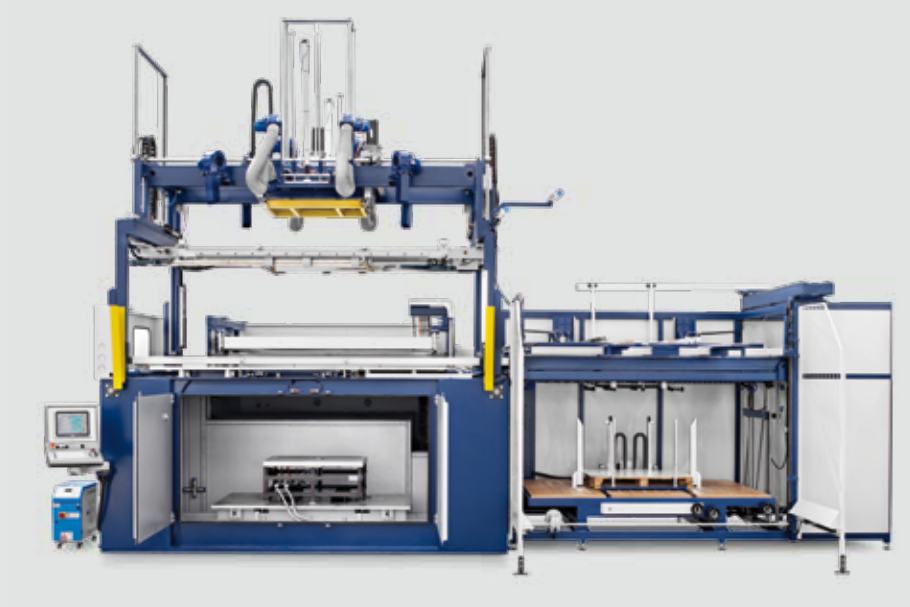
The processing characteristics on the workpiece, namely temperature, air flow / vacuum and speed of the axes, can be varied via the control panel.

The BR5S thermoforming technology uses specific software directly developed by CMS Plastic Technology. The software is very rational in its use, versatile and easy to manage for the machining centre operator.



*A few words with
Eng. Giuseppe Villa - Technical Manager of CMS
Plastic Technology*

The BR/5 series - sheet thermoforming machining centres with manual or automatic loading - is a point of reference on the market and benefits from over 30 years of technical development. The utmost attention has been paid to the ease of tooling, reducing the changeover times to just a few minutes. Another goal sought and achieved is the ease of programming and diagnostics: the machining centre can also be used by anyone who has no knowledge of the process. The movements are handled by brushless motors with motion dynamics fully controlled by CMS developed software.



The software allows for the setting of the work parameters, it monitors the functioning of the machining centre and the various operational phases of the process in real time, creates a "log" of everything that occurs and establishes, based on the specific needs and when necessary, a dialogue with computer units and online networks within the production plants or the engineering departments.

Various types of technical products with very particular shapes can be obtained by means of the CMS Plastic Technology BR5S machining centre.

The sheets can be made of different materials, such as PC/ polycarbonate, ABS, PE/polyethylene and PP/Polypropylene.

Thanks to the automation of the process ensured by the BR5S machining centre, a significant growth in production rates and a significant reduction in costs have been achieved at the Teuco factories, especially regarding the energy bill and the total man-hours required for the specific functions of the thermoforming department.

After having first adopted a BR5S machining centre, the Teuco management intends to integrally upgrade its own thermoforming lines with cutting-edge CMS Plastic Technology machinery.

FORMULA 1 PERFORMANCE

Some of the top motor racing teams of the Formula 1 world avail themselves of our technologies for the finish of carbon or other composite material workpieces, essential for the structural, dynamic and aerodynamic performance of the cars which take part in the world top level motor racing competition.



courtesy of Frieform Technology

versatile and accurate equipment, able to perform different types of work in the most efficacious way, beginning with aluminium models, for example. Before deciding on the technology of CMS, such prestigious and notoriously careful teams in the selection of their suppliers carried out meticulous research at an international level, taking into account and analysing numerous other proposals for specialized machining centres. These investigations were aimed at singling out technologies which were able to satisfy the quality levels provided for by strict protocols which characterise the activity and engineering of Formula 1 teams. CMS is able to be in agreement with these specifics and this ensures another essential component: the

spirit of collaboration and the efficiency of service in both the pre- and post-installation phases. As far as the product is specifically concerned, after numerous experiments on test pieces, the teams could ascertain directly that in most cases the best result was actually obtained with the CMS machining centres. Naturally

also competitiveness, the price factor, has played its part. CMS is convincing also from this point of view, without reneging on the efficiency and reliability of its own technologies. The Ares/Antares five axes machining centres are particularly appreciated. They are perfectly integrated with the production cycles and have allowed for the expansion of the quantity and type of processing. The experience of CMS in the highest technological levels of the automotive sector aimed at motor racing competitions continues to develop, thanks to new important collaborations, both in Italy and abroad. Moreover, it is interesting to note how the know-how that CMS implements from the reciprocal interchange of experiences is precious and exclusive on the world market in applying determined solutions, also in technologies destined for wide production in the regular automobile market.

ARES/ANTARES MACHINING CENTRES

The Ares/Antares series of CMS affords a range of interpolated five-axis machining centres dedicated to the high speed processing of aluminium, light alloys, composite materials, plastic substances and wooden materials. These machining centres are characterised by an excellent combination of very high accuracy and motion dynamics thanks to precision mechanics, agile structures – the fruit of accurate FEM studies – and completely digitalised control and handling systems of the most famous brands (Fanuc, Siemens or Heidenhein). The electrospindles are entirely designed and built by CMS, which guarantees the torque and power characteristics required in the processing of advanced materials. Furthermore, particular attention is paid to the containment and removal of processing dust and to the protection of the mechanical

and electrical parts of the machines, thus guaranteeing the best environmental work conditions and reliability of the machinery in the long term.



CMS Cms
advanced materials - plastic - wood technology



Previews

OUR ENGINEERING SOARS

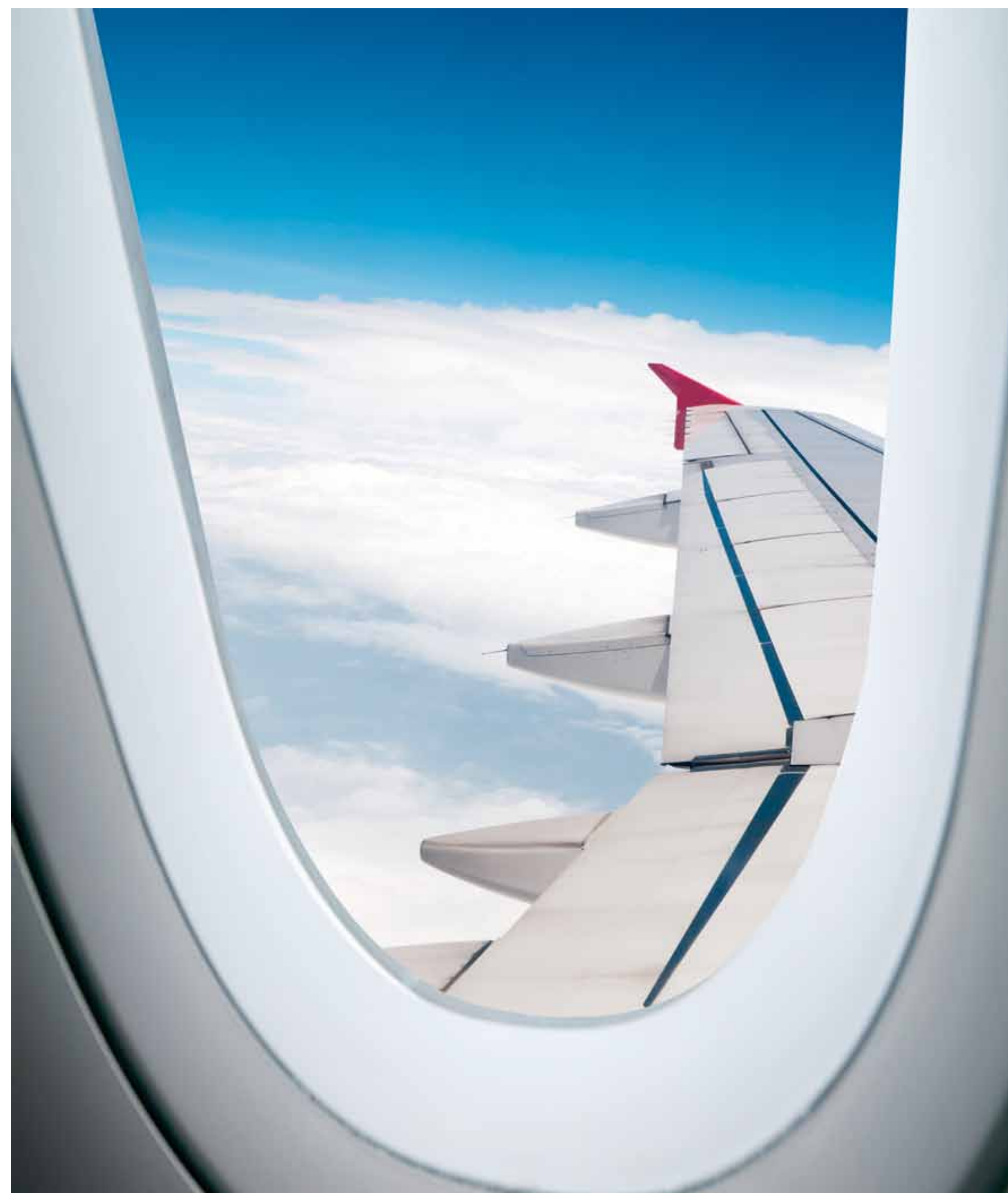
The CMS world patented technologically integrated system, for the production of skins for the aeronautical and aerospace sector which avoids requiring traditional systems based on the use of acids, is in a prototype phase.

Our commitment to research has conquered a new important result: the prototype of the integrated technological system for the production of skins for the aeronautical and aerospace sector - a CMS world patent - has been tested with foreseen results, in particular as regards aluminium sheets with such characteristics to create innovation destined to revolutionise the sector.

In fact the CMS technology avoids the need for traditional systems based on the use of acid to reduce the thickness of the sheet (lightening), ensuring a substantial reduction in maintenance times on the workpieces, greater versatility concerning the shape and characteristics of each individual workpiece and minor environmental impact, thanks to the absence of aggressive chemical components and the total recyclability of machining swarfs.

The guide concept of the CMS system is to work the sheet without being affected by the typical deformations and bending of the skins.

The heart of the system is the original "iUHF table", exclusively set up by our engineering team, made up of more than 100



actuators with a self-creating "intelligent" function, mobile on the five axes, controlled by a dedicated software, which keeps the workpiece in always ideal operating conditions for the machining centre action (CMS Standard).

In practice the skin, positioned horizontally and fixed through adjustable clamps, is "read" during the step by step process and the process supervisor operates the deformation calculus module in real time.

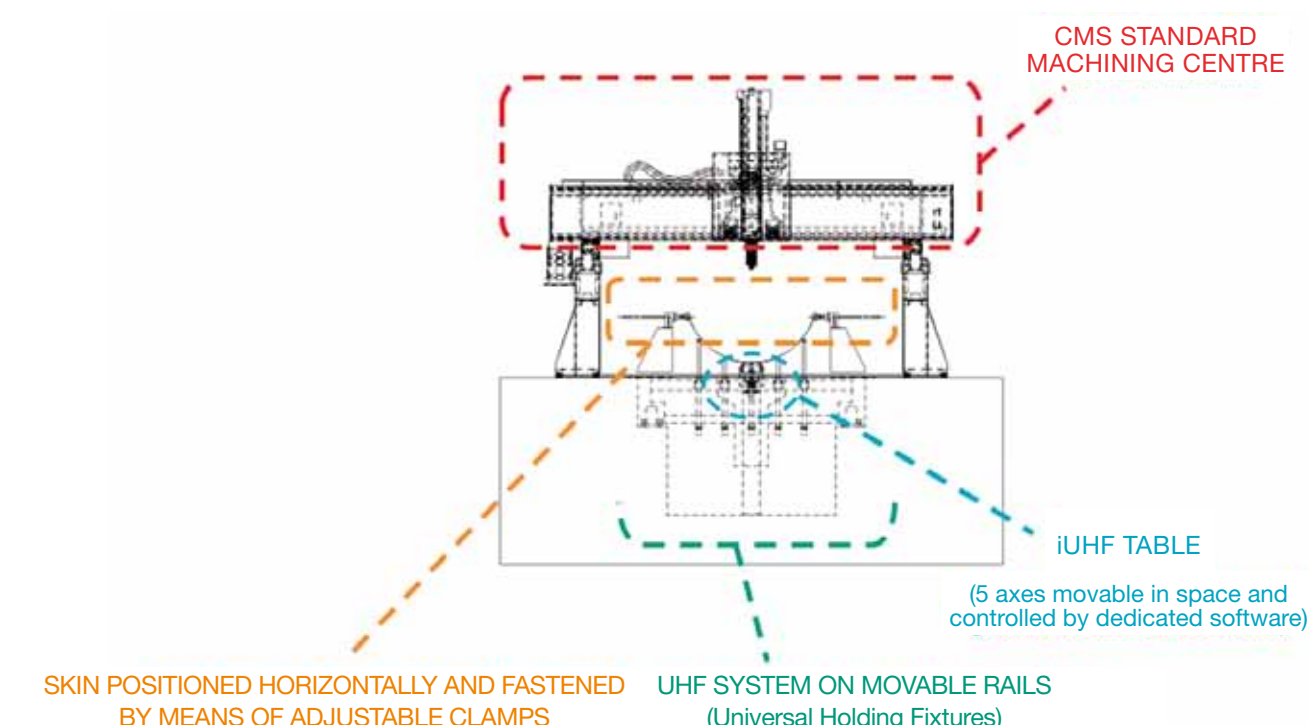
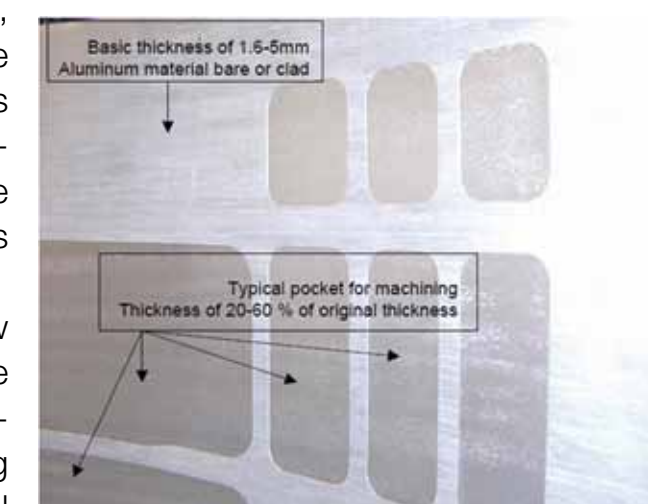
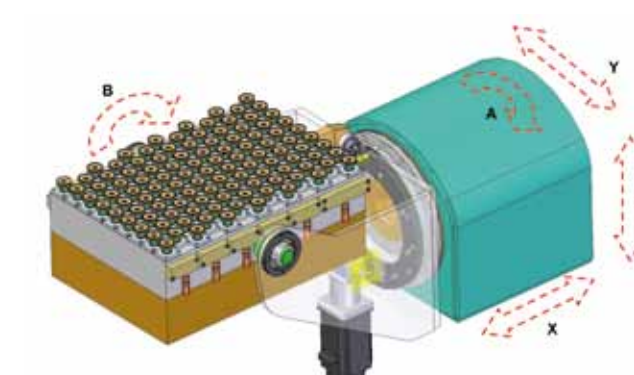
This opens up new possibilities for the lightening processing, guaranteeing advantages from all points of view: uniformity of the lightened surfaces (absence of steps), minimal tolerances of the lightening thickness, high

grade of finish of the worked surface and reduction of machining times (with a single positioning operation).

The eco-sustainability component is to be considered too, inasmuch as the process does not pollute and does not require the use of protective films on the sheet.

As it was easy to imagine, the CMS technology immediately attracted huge interest from the aeronautical and aerospace production sector, from both international majors and also smaller-sized and lower-turnover companies, since the CMS proposal is accessible

with a relatively contained investment, ensuring complete optimisation of process costs and results.



Save the date

The CMS team is present at some of the most important trade fair appointments with reference to various industrial sectors and markets.



22. Fakuma - International Trade Fair
for Plastics Processing
16.- 20. OCTOBER 2012 FRIEDRICHSHAFEN



INTERNATIONAL TRADE FAIR FOR GLASS
PRODUCTION • PROCESSING • PRODUCTS

23 - 26 OCTOBER 2012
DÜSSELDORF - GERMANY



The World's No.1

23 - 27 OCTOBER 2012
HANNOVER - GERMANY



27. - 30. NOVEMBER 2012
FRANKFURT / MAIN, DEUTSCHLAND

The Market & Markets



AS STRONG AS MARBLE IN THE USA

The consolidated activity and presence of CMS in the US market in 2012 has been a significant confirmation of our success thanks to one of the singly most important commissions ever taken on by our company in the sector of machining centres for the processing of stone and marble.

In fact, during the course of this year we will deliver eight new machining centres to the overall value of 3 million Euros (approximately 4 million dollars). The customer profile is particularly interesting. It is an influential American company which deals with the processing of stone and marble for architectural and artistic purposes (monuments, entrances, sculptures, etc.). In the company framework there also appears one of the most affirmed and celebrated artists of the New York scene. Among the factors which have convinced the customer's engineering team are the precision of the results and ease of managing the changes in typology in the processing of materials, in addition to which there is the capacity for CMS to offer timely and qualified assistance in situ, thanks to our headquarters in Michigan.



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CMS IN THE WORLD

