

A new CMS
machining centre
in line with its top
quality Made-in-Italy
manufacture.

Case History Minelli





Its wood production ranges from outdoor to indoor objects, including health and wellness items and wooden articles: each product is designed and manufactured in close collaboration with its customers, with the goal of ensuring the best results in terms of image, functionality and performance.

An Italian company takes over the global market with its highly specialized production of wooden items.

The growth of Minelli in the sport equipment and leisure time components processing is remarkable and persuasive in terms of its real technological leadership and production quality.



Established in 1937 in the Brembana Valley, just a few kilometres from San Pellegrino Terme, the company was able to grow and make a name for itself in an international context and in a highly competitive market, combining the sound entrepreneurial values of the Minelli family, characterized by a out and out talent for woodworking, with organizational and industrial decisions based on technological innovation and process rationale. The company now extends over five production sites (three in Italy, one in Albania and one in the States) covering about 30,000 square metres in total. Its wood production ranges from outdoor to indoor objects, including health and wellness articles: each product is designed and manufactured in close collaboration with its customers, with the goal of ensuring the best results in terms of quality and performance. In particular, Minelli is one of the major global players in the production of handles for brushes and professional tools of all sorts. Minelli's growth in the wooden carved parts processing industry is remarkable and persuasive in terms of its absolute technological leadership and production quality, in line with the

most prestigious Made-in-Italy manufacture. The constant research and the careful study of the close relation between form and function make Minelli products the unquestioned reference point from an aesthetic and functional viewpoint.



RELIABILITY

Sturdy and rigid mechanism to ensure machining accuracy and quality, along with durability.

VERSATILITY

Wide range of operating units and work surfaces, with the possibility to install single or multiple operating units.

SPEED

State-of-the-art machining speeds and accelerations.

INTEGRABILITY

Easy integration with automatic loading/unloading systems.



→ Karat
Triposto
5-axis high
productivity

The Karat series is a range of machining centre's characterized by their fixed-bridge design and developed by solely by CMS. The Karat comes with 3-, 4- or 5-interpolated axes in more than 200 configurable versions. Karat is the ideal machine for an extremely wide range of applications and is the world reference point as regards performance, versatility and reliability. Like all CMS offerings, Karat can be configured according to the customer's actual production needs, in order to optimize its operating efficiency even further.



A new machining centre that strengthens a partnership-based dialogue, steadily growing over more than 40 years.



90% of the technological equipment adopted by Minelli for the production of wooden carved parts is CMS-branded.

The working relationship between Minelli as a company and CMS as an industrial source sets out an extremely interesting and meaningful entrepreneurial path in the context of engineering and application development of numerically-controlled machining technologies. This synergy is also based on the long-lasting personal esteem that binds the Minelli and the Aceti families together (especially between Marco Minelli and Pietro Aceti). Both companies started their own manufacturing story in the Brembana Valley, emphasising a business model based on resolution, innovation and determination in pursuing ambitious and original targets, among which was the intention to stand out at an international level. They jointly focused on: improving production through automation; demonstrating that manufacturing quality and the number of machined parts may not only blend well, but also typify a company and make it competitive. The first machine constructed by CMS for Minelli Group (at that time the company name was Tecnolegno SPA) dates back to 1975 and it was the first CNC machine designed by Pietro Aceti, founder of CMS. The machine operated in Minelli till 2014 and then was replaced by CMS' new Karat Triposto, the last machine designed by Pietro Aceti, who passed away in January 2014. From then on the collaboration between the two companies has strengthened even further, as demonstrated by the fact that to this day over half of the machines and machining centres used by Minelli are the result of CMS engineering and capabilities.

ADVANTAGES:

High level of automation with automatic workpiece loading/unloading.

Machining of all workpiece sides with no manual intervention.



Fully automated and unattended loading/unloading.



5-axis interpolated and simultaneous machining of 3 workpieces.



Compact and functional design.



Karat Triposto, the exclusive CMS system dedicated to the automated production of complex objects.

The fast growth of Minelli's activity in the wooden carved parts manufacturing industry, brought about by the increase in job orders from North America and some important European nations, required a new machining centre capable of fully automatic operations and a very high work rhythm. The preference of Minelli's customers for its products is understandable considering Minelli's original and outstanding aesthetic characteristics which perfectly meet their expectations of quality in every detail, manufactured with the utmost accuracy, and at an increasing level of output. At the same time the market calls for economic competitiveness. Such a result can only be achieved by integrating cutting-edge machining centres in the production process, as well as guaranteeing consistency of production quality and precision.



The new machining centre in the Minelli production chain

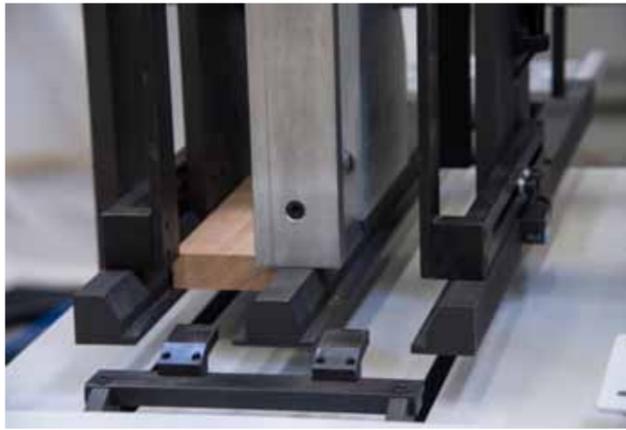
The choice of introducing a new Karat machining centre in its own production chain comes from Minelli's clear-cut view of the market and its own standing. Indeed Minelli continues to make its production chain more dynamic and competitive, without giving up its own identity: an all-Italian and long-standing company, capable of overcoming the concept of standard mass-production, bestowing its own technological heritage and unique sectoral expertise, a company well organized and constantly implementing these strengths for the purpose of quality results. The new Karat machining centre makes it possible to maintain such distinguishing marks while noticeably increasing the number



Thanks to the new Karat Triposto machining centre by CMS, the company Minelli integrates tradition with innovation and strengthens its standing on the market.



of parts produced, by avoiding any waste or need of supervised monitoring. The workpieces processed by the CMS machining centre appear perfect in every detail and ready for the following interventions, such as laser engraving. The Karat technology enhances the whole of Minelli Group's skills and responds to the needs of its research and development department in a special field of application, a strategic asset for Minelli's presence on the market and a continued effort in the direction of its worldwide expansion.

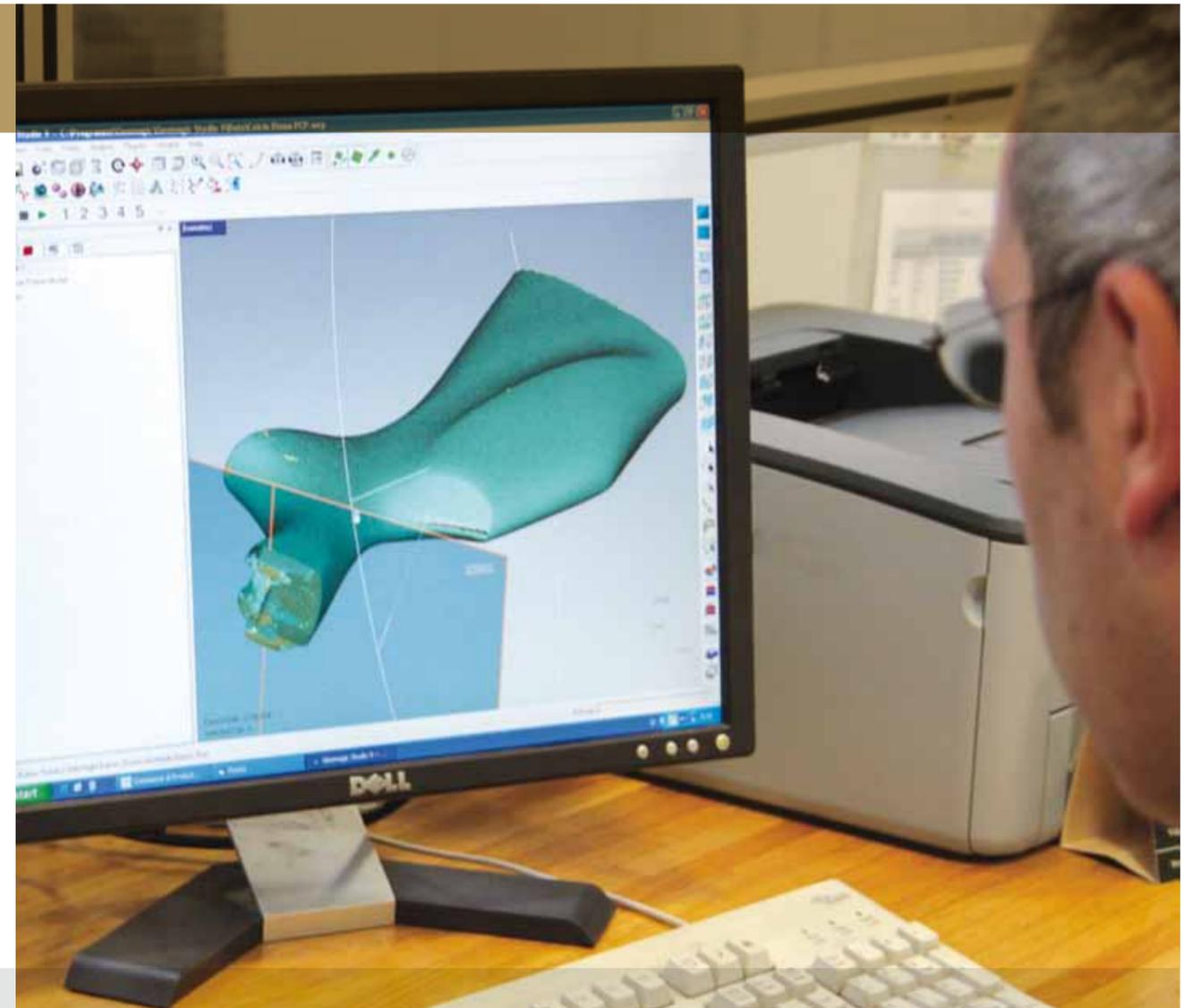


Since the 1970s we have covered a parallel distance while growing together.

CMS machining centre in MINELLI'S testimony

"The introduction of this new CMS machining centre in our factory – states Adriano Minelli, Financial Director of the company – represents a further link in the chain of our long-standing collaboration, yet young as regards the expectations and the entrepreneurial enthusiasm that enliven us. Since the 1970s we have virtually covered a parallel track, while growing together in terms of technological evolution and solutions that we were able to envision for the relevant markets. CMS' exceptional helpfulness allowed us to achieve outstanding results. We have always interacted openly, sharing ideas, instructions and experimentation. This positive and constructive attitude occurred again at the occasion of this new technological step. Thanks to the new Karat we can carry out milling and turning operations and noticeably increase our working rhythm. In the present market situation, endured by everyone world-wide, only the most advanced automation with the most effective cost rate per working-hour can make a company like

ours competitive. In particular, the possibility to carry out all machining operations in one single phase in parallel with the automatic workpiece loading and unloading phases represents a crucial added value. I would also like to underline that also with this new machining centre the factor that I deem the most meaningful in the relationship between Minelli and CMS was confirmed: each machine we have acquired throughout 40 years of collaboration has always been different from the other ones, but always designed, engineered and set up to meet the peculiar needs of that type of production and in line with the historical production chain context. Minelli feels confident about the future and shows a growing interest in industrial sectors where wood can be an original, eco-friendly and attractive choice for the market. For instance, luxury packaging, spectacle-frames, and also new generations of toys and design accessories. We believe that CMS will always guarantee its valuable support in the light of these new scenarios. A group that is our next-door "neighbour", perfectly attuned in the desire to look ahead, to strive for perfection, to innovate and to improve".



Karat triposto

Technical data

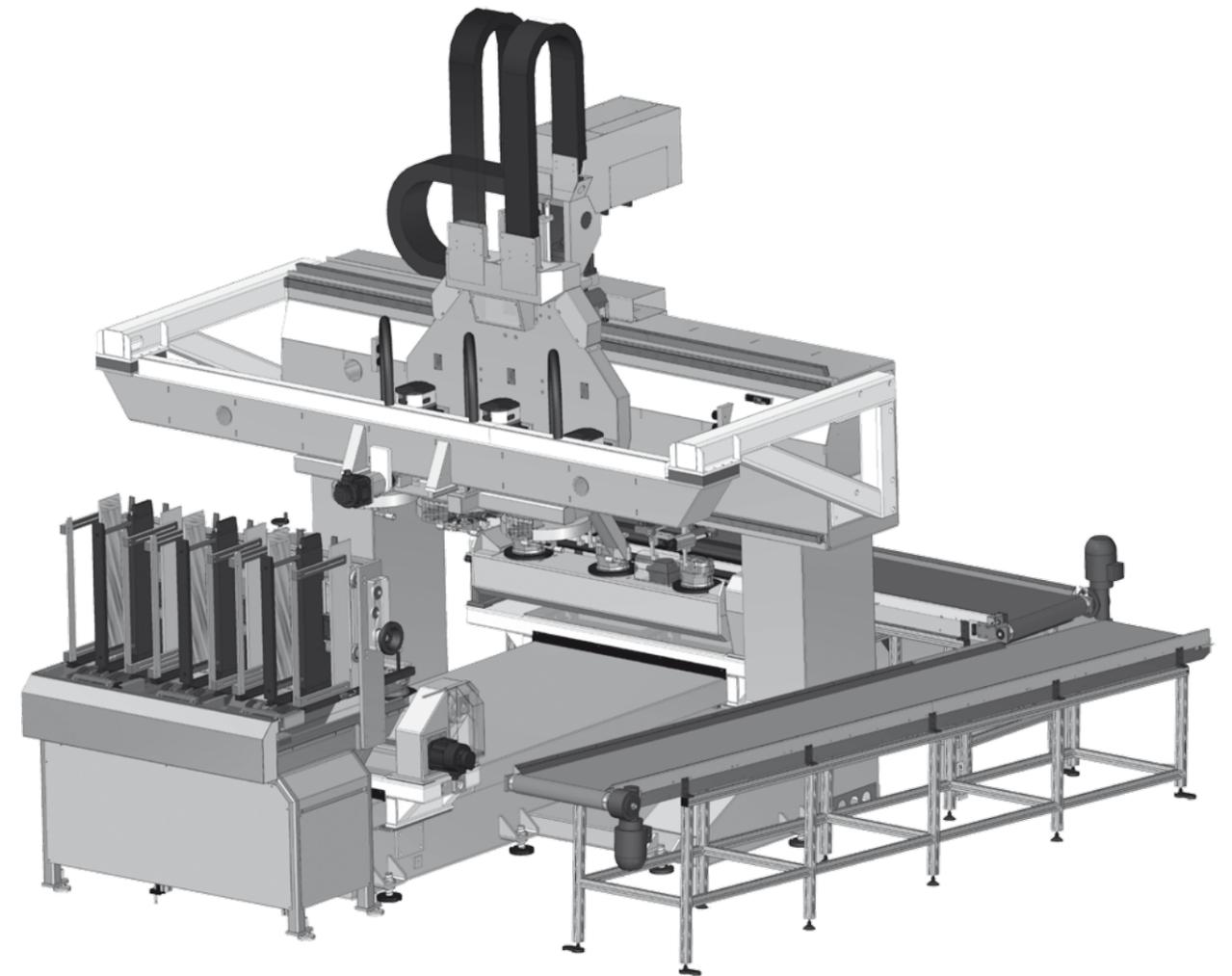
Karat triposto • Technical Sheet

AXIS STROKES	RAPID SPEED
X = 1,700 mm	100 m/min.
Y = 1,560 mm	40 m/min
V = 1,300 mm	40 m/min
Z = 525 mm	30 m/min.

ROTARY AXES	
A - B = +/- 110 ° (alternating elements)	9,000 °/min
C - D = 360 + ° (rotating disks)	9,000 °/min

OPERATING UNITS - NO. 3 PX3-TYPE HEADS WITH AUTOMATIC TOOL CHANGE	
Connection	HSK63/F
Electrospindles	12 kW at 12.000 rpm - maximum rotation 24,000 rpm - Liquid cooled (ceramic bearings)

TOOL CHANGE MAGAZINE - 3 DISK TOOL MAGAZINES WITH 8 STATIONS EACH	
Connection	HSK63/F
The magazine can house tools with max diam. 155 mm and length 222 mm from nose spindle	





www.cmsindustries.it

Founded in 1969 C.M.S. SpA is the head of CMS Industries, a brand that brings together two divisions, with a consolidated turnover of 100 million Euros, four branches and a worldwide sales and customer service network. CMS Industries specializes in the production of multi-axis CNC machining centres, thermoforming machines and water-jet cutting systems. This wide production range enables C.M.S. to meet the needs of several industrial fields: aerospace, automotive, marine industry, wind power generation, eyewear, building, mechanicals, moulds, prototypes, stone, glass and wood processing. This wide range of products, combined with processing quality and precision, offers flexible, innovative and effective solutions to meet the various production process phases or the customers' specific needs.

CMS Wood Technology designs, engineers and manufactures CNC machining centres for the woodworking industry. It gathers and exploits the important know-how developed throughout 40 years of activity in the field of special woodworking centres.

Capability of applied research, production aimed at the specific needs of its customer and constant innovation make CMS Wood Technology the global reference point in terms of production quality and service competence in the woodworking industry.



CMS SpA

via A. Locatelli, 123
24019 Zogno (BG) - Italy
Tel. +39 0345 64111
Fax +39 0345 64281
info@cmsindustries.it