



## CBS composites and CMS: a successful alliance in flexible high-tech

CBS, an Italian company specialised in manufacturing components for the aerospace, automotive (sports cars and racing cars) and defence sectors, has recently cemented the alliance with CMS by acquiring a third CNC controlled machine, model Antares PX5.

Founded in 1989 and certified according to ISO 9001/2000 since 1998, CBS has earned a well-established reputation as a highly qualified supplier for composite components, numbering among its customers very prestigious brands such as Aermacchi, Agusta, Recaro Aircraft Seating, Ferrari, Lamborghini, Maserati, Momo, Oto Melara.

The company growth has also been aided by its collaboration with CMS, who began supplying 5-axis machining centres starting from 1999, and gradually gained a strategic role in the CBS business.

CBS owner, Mr. Luigi Peroni, briefly recounts the story of his company: “In the 90s our production mainly consisted of composite panels and hand finished 3D components – mostly for the aerospace market – obtained from moulds supplied by customers. Entering the automotive market - although for high-end models –involved a dramatic increase in production volumes combined with more and more stringent quality requirements.

Consequently we needed to switch from a mainly hand crafted production to an industrial one, aided by 5-axis CNC machines, to give us increased productivity as well as top-ranking constant quality. As time progressed, the demand for higher output required an extended control on the whole production process, for a better and more flexible approach and to enable us to react faster to market requirements. So we decided to start the production of moulds and models by ourselves.”

It was at this point that CBS were able to fully appreciate and take advantage of the potential of CMS products and services: by means of CMS machines we are now working resin or aluminium models, jigs and composite finished parts.

For example, the production process to manufacture a carbon fibre dashboard for a super car consists of:

- Acquiring customer’s CAD geometries
- CAM processing and tool path generation
- Production of (male and female) models from epoxy resin on the CNC machine
- Producing the carbon fibre moulds, laying up on the model, and autoclave polymerisation

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- Milling of jigs used for supporting and clamping parts during the finishing operations
- Production of the blanks, placed between male and female moulds, by autoclave polymerisation of carbon fibre pre-peg
- Parts finishing on the CNC machine: routing, cutting of apertures, slotting, drilling etc.

The dynamic features of the CMS machines utilised in the process achieve the accuracies, repeatability and cutting speeds required by a competitive output, while the relevant investment soon becomes profit-making. This is a major advantage over traditional metal cutting machine tools which lose out on price/performance ratio when it comes to machining aluminium or composite materials.

Furthermore, CMS special solutions provided to contain and extract machining dust, to grant operator's full safety and ease of work result in a tailored made machine category for non ferrous machining, remarkably different from the traditional machine tools.

Mr. Peroni concludes: "Thanks to the alliance with CMS we acquired valuable tools which, together with our experience gained over the years and our professionalism, enabled us to hit prominent targets. Since 1999 – when we purchased the first machining centre – CBS turnover has increased by approx. 400% and our consolidated competitiveness drives us to reach increasingly ambitious goals".