



HI-TECH MECHANICAL MANUFACTURING

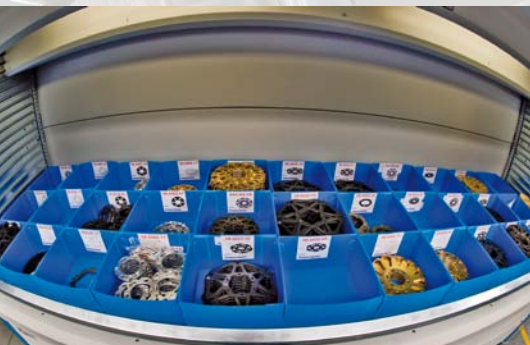


Company

Since 1990, O.M.S. has been working on and building high precision mechanical parts based on customer design, in the **aeronautical**, **aerospace**, **vacuum** and **hi-vacuum sectors**, with continuous growth in the **racing sector**, particularly for the F1 championships and Motogp and Superbike championship.

Our company can count on forty years of experience directing the aerospace sector (Mr Saladino having started activity in 1971) and a consolidated position on the national and foreign markets.





The materials we use

More than twenty years ago we began the process of specializing in the making of various types of "special" materials for aeronautical and aerospace use as well as various stainless steels (AISI 303, AISI 304, AISI 316, AISI 416L), and today we can boast a special experience both in technical and human resources and in the use of equipment and instruments dedicated to making all types of aluminium alloys (avional, ergal, enticorodal, etc.). The use of material coming from leading suppliers in the market, reliable in both delivery and quality, correlated by chemical physics and conformity analysis, allows us to maintain high standards.

Oms: Modern Company, modern applications

Our company has always been careful to evolutive technological processes and machinery related to our products, features and uses the most modern methods for data analysis and process, which: *SPC (statistic processing control), DOE (design of esperiment), 6 Sigma Quality system, computerized production management.*

The production and dimensional analysis are assigned at the most modern work stations and measuring instruments: we can therefore ensure a very small measurement uncertainty, quantified within 0.001 mm.

Our policy

Our company policy promotes a continuous research of new technologies that can further perfect the quality of our products and our processes in order to satisfy the customer in terms of:

- *Continuous interaction with the customer* to offer the technical support necessary to identify alternative solutions that can improve the quality/price ratio.
- *Continuous research* in order to obtain economic maximum efficiency.
- *Continuous professional growth* and the use of human resources through internal and external training, promoting a positive, efficient work environment.

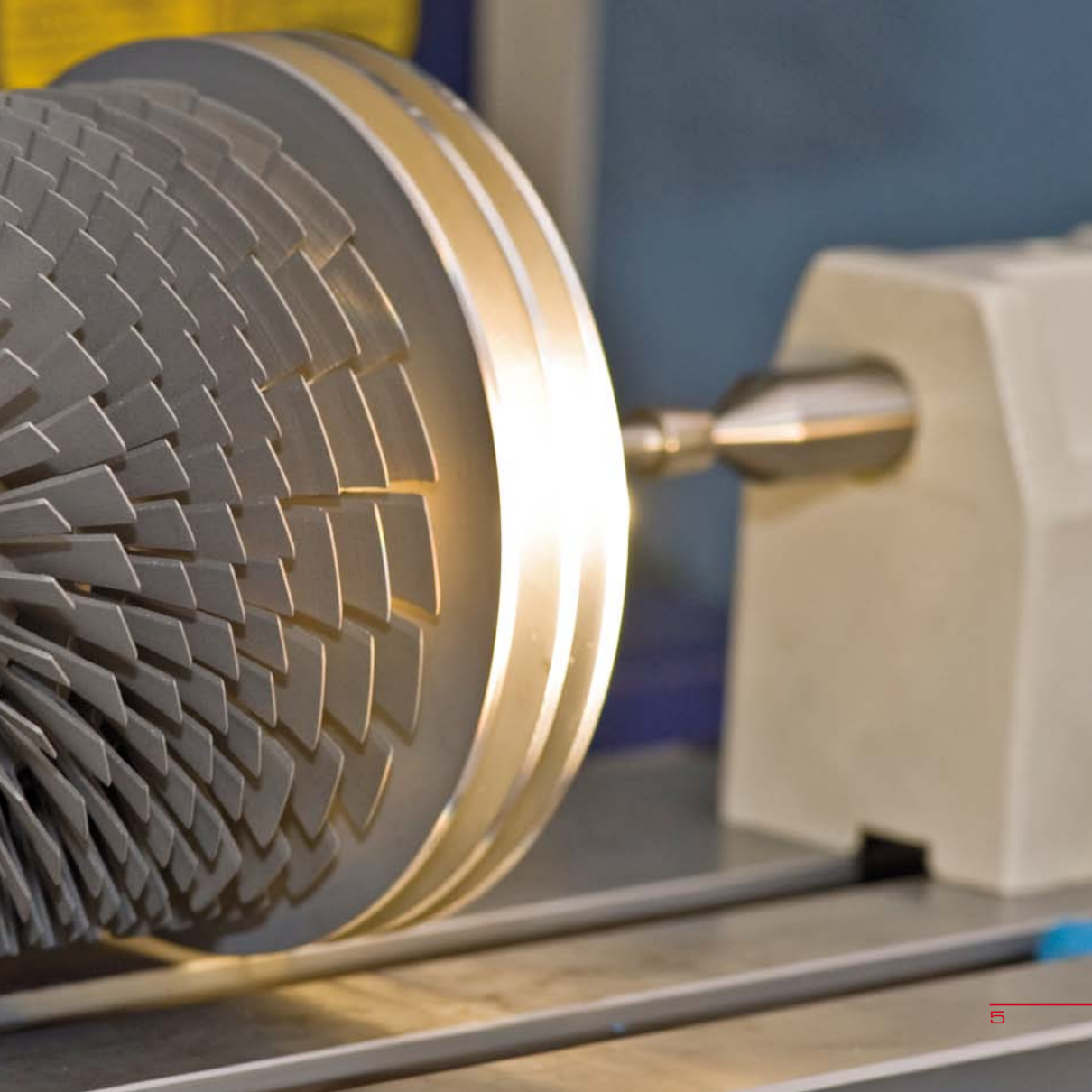
Certification of our products

The production cycle is constantly submitted to verification trials, after which the product is followed and certified, from the acceptance of materials used to the construction and packing phases, and is finally put to careful testing at the end of production, rendering a very high quality product and obtaining strictly monitored size limits and excellent surface finishes.

Research, design and monitoring

Always attentive to the evolution of the market and up to date on the latest technologies, our company promotes constant research and monitoring in the following fields:

- dedicated (based on our design specifications) and standard tools
- innovative dimensional and geometrical verification systems
- numeric control machines
- special machinery



Productive Flow

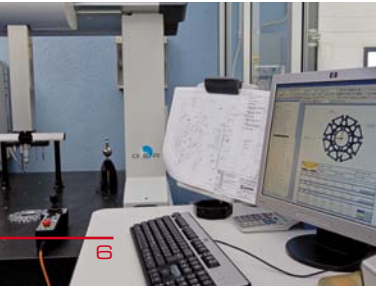
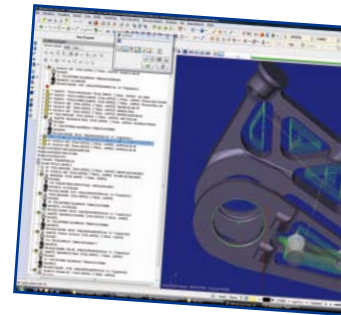
The productive flow follows our manufacturing from design to final delivery of the finished product. Our design diagram has been tested and optimised over the years and reflects the latest technology models.

Project acceptance:

- **Supplier assessment and validation** based on certifications and our selection criteria for our economic and productive efficiency;
- **Supplier acceptance** with inspection certificate of compliance with mechanical and physical characteristics;
- **Supply card draft acceptance.** Quality and quantity control. Assignment of internal code and lot number for constant traceability within the productive flow;
- **Computerised order management start-up.** The beginning phase of computerised order management, with assignments of the following order types: *open order, contract order, urgent, just in time, kanban.*

After acceptance of the project are determined two alternative **production process:**

- **Unique batch delivery assignment**
- **Production scheduling implementation:** BOM Analysis, Analysis of management resources (human and technological) analysis times



projected closing batch/job.

- **Formalised process output** and **insertion in work stations**; taken over by the quality control of the learning process of individual operators/step.

Order processing:

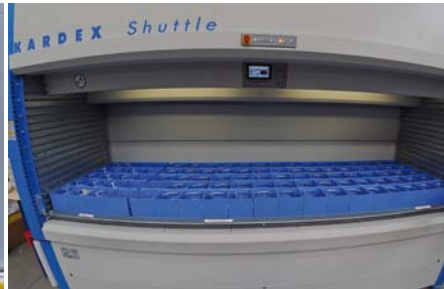
- Verification of each single production phase;
- Entering information into the computer system advancement production, management of contingencies;
- Laser marking of each piece of production for particular unique identification and production history.

Testing:

- Testing of statistic basis default on the 10% of production;
- Possible evolved SPC testing (*Statistic Processing Control*), which control certain features/size distribution of their measurements in the tolerance range;

Product delivery:

- Adjustment, packing and loading up automated warehouse;
- Computerized get-away order with composition of parts which have been prepared from management;
- Delivery of material in own or by courier;
- Quarterly analysis of compliance orders from both a technical and logistical point of view.



Multitasking manufacture

The multitasking section is consisting of an *Integrex 200* with a second mandrel and a second turret (9 axes) and an *Integrex 100* with a second mandrel (7 axes).



MAZAK INTEGREX 100 MULTITASKING MACHINE WITH SECOND SPINDEL

A 7-axis machine with absolute position reading on optical lines –no encoder– for absolute accuracy, repeatability 0,0015 mm, refrigeration at the centre, pressure at 20 bar, housing 40 positions on the milling head, ASA 5 double mandrel, with the same line bearing head, to have 2 mandrels working with equal performance, rather than a primary head and recovery head.

MAZAK INTEGREX 200 MULTITASKING MACHINE WITH LOWER TURRET

A 9-axis machine with absolute position reading on optical lines –no encoder– for absolute accuracy, repeatability 0,0015 mm, refrigeration at the centre, pressure at 20 bar, housing 40 positions on the milling and turning head, and 9 position for the lower turret (only turning), ASA 6 double mandrel, with the same line bearing head, to have 2 mandrels working with equal performance, and not a primary head and recovery head.



5 Axis CNC milling

The CNC milling department consists of 4 Mitsubishi work centres, 3 of which are for high-speed machining (mandrel line with 20.000 turns/min), reading on optical lines, temperature compensation.

2 Axis CNC turning

The turning department consists of 8 CNC lathes for which precision, depending on the type, goes from 0,005 to 0,002 mm, arriving at 0,0005 on the Hardinge Quest 42 lathe.



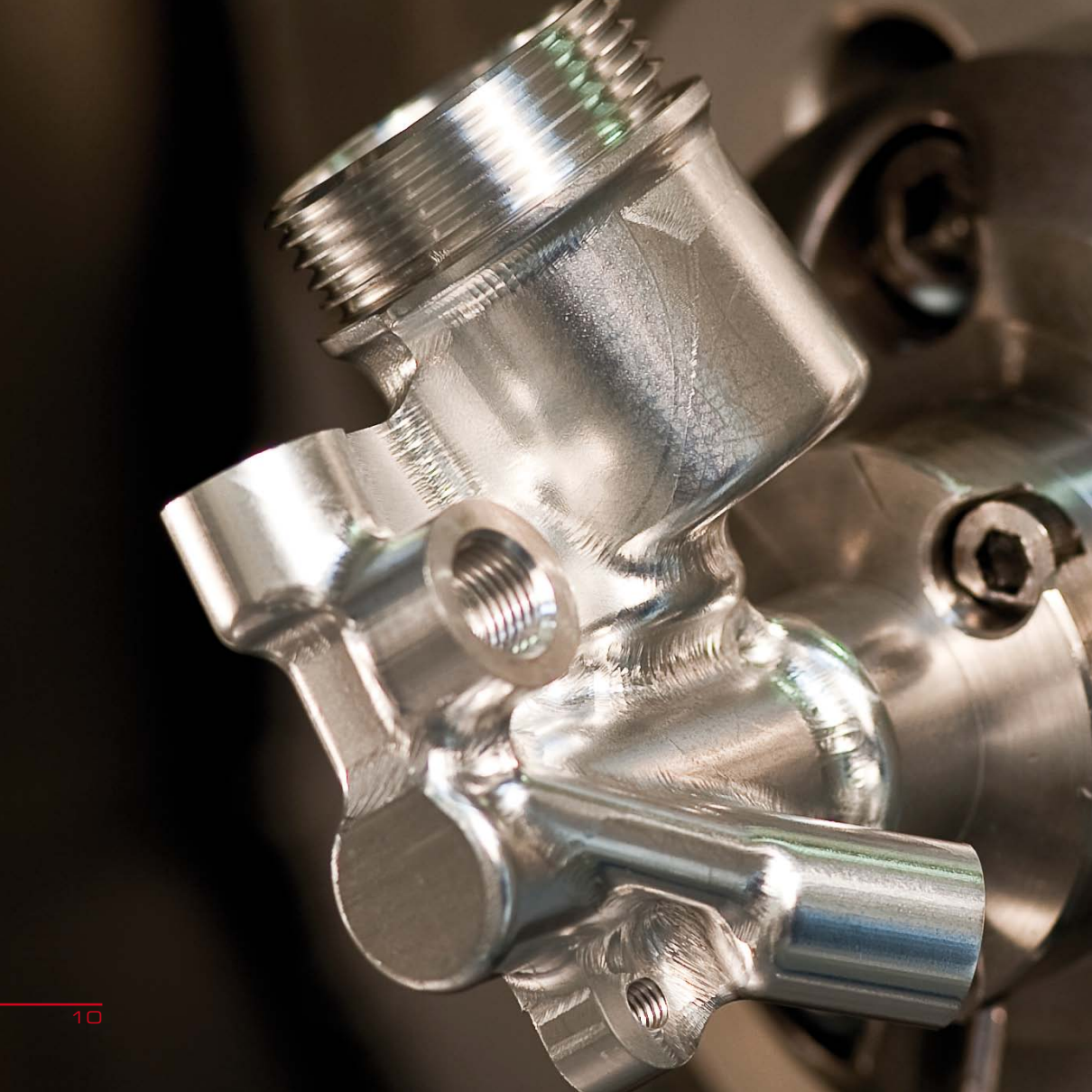
Motorised CNC turning

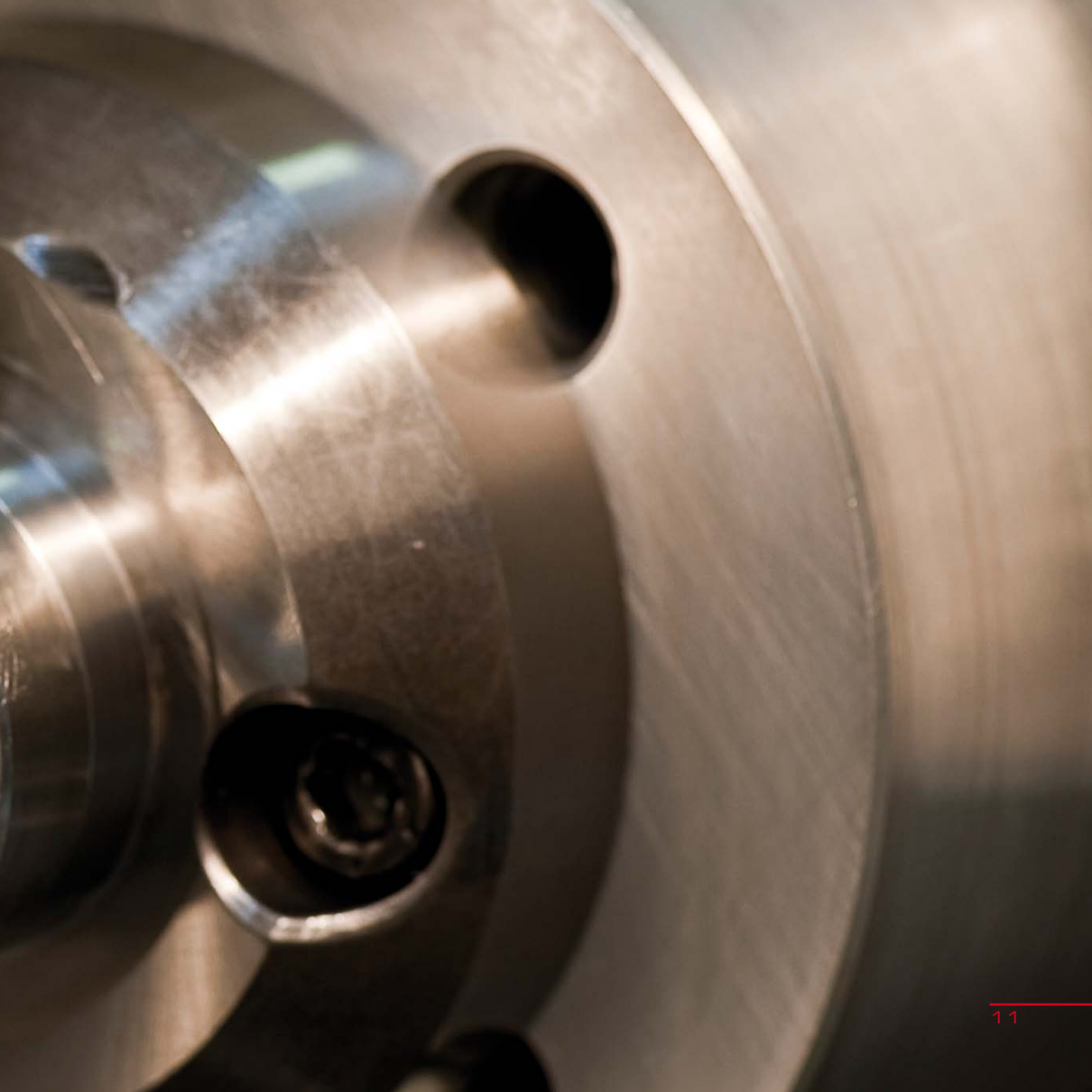
The CNC -Axis Y turning department consists of new generation turning integrated with axis Y and motorised tools, with which, thanks to the combination of milling and turning in a single operation, we perform the most complex and precise work.

Special machining and equipment

The special machining and equipment department, essential to adequately support the production departments, is equipped with traditional machines for milling and turning, as well as modern systems for electroerosion, lapping (Sunnen lapper used internally with tolerance of 0,003 mm and roughness of RA 0.8), and Laser marking (Zaniboni Laserwriter, source Nd:Yag at the solid state with output power of 20 watts).







Control Quality Analysis and Logistic

This department, with its controlled temperature and humidity, is the centre of research and control at the Company. About five years ago we adopted a data certification and storage system for our products, called SPC (*System Processing Control*).

This allows us to obtain a general idea of the critical dimensions of every detail concerning the production lot, *"guaranteeing a quotation close to the nominal size"*. *"Specific Work Instructions"* are also prepared, complete with work cycles and measurement charts acquired from our experience, and *"Control Plans"*.

In the overall classification of our biggest customers, we have been assessed as suppliers of a system with Class "A" quality, with the best performance in terms of cost, quality, service and development capabilities. The equipment in our facilities, made from leading brands and regularly calibrated, allows us to maintain a very high quality standard.





DEA GLOBAL ADVANTAGE MEASURING MACHINE

A 5-axis measuring machine with CMM coordinates.



TESA VISIO OPTICAL MEASURING MACHINE

No-contact optical measuring machine.



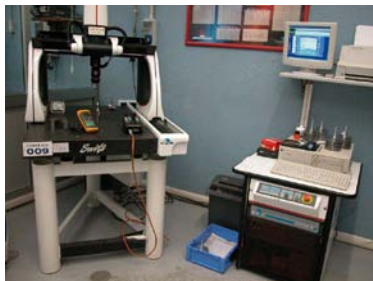
MITUTOYO PROFILE PROJECTOR PH-3500

Double-access projector, allows the projection and the control of profiles.



DEA SWIFT MEASURING MACHINE

Controlled 5-axis CNC measuring machine.



ALTIMETER - MESTRA 300 TRIMOS SYLVAC

Measurement system (diameters/distances/flatness/spans) of very high precision.



Quality control and assisted programming

The area dedicated to production process control is equipped with a coordinate measurement machine (5 axis CMM) with PCDMIS software, and includes an exclusive database for monitoring the details of operations. In the product development cycle the programming is assisted by MASTERCAM X4 (3D) software, the most used CAD CAM system in the world, which allows for efficient and precise management of the tool path, a library management tool dedicated to management of machines with 2 to 5 axes. The CAD tool, complete with both solid and surface modelling, allows you to monitor and analyse the tool in the customer's design phase and, with the support of the CMM, perform reverse-engineering. Also equipped with an internal converter, it manages IGES, PARASOLID, STEP, AUTOCAD, SOLIDWORK, STL and CATIA files. Always with our eye on new markets, we also have ARTCAM software, dedicated to artistic, decorative and designer milling.

Quality analysis laboratory on production area

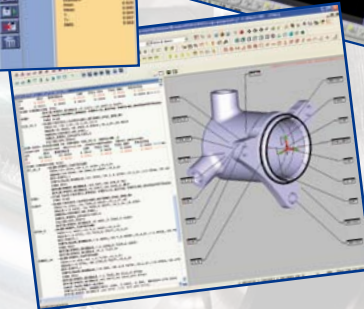
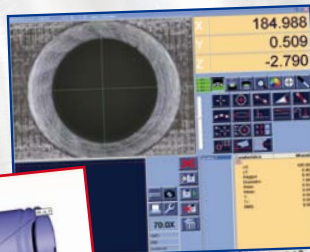
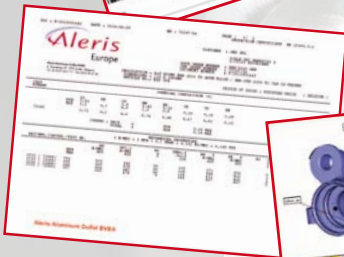
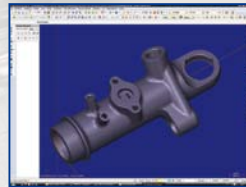
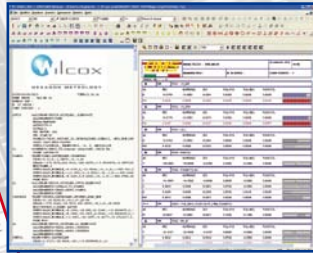
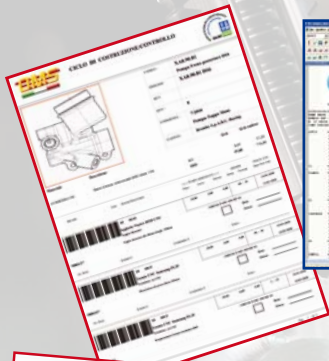
In 2006 we implemented the production department with a new quality analysis laboratory, with controlled temperature and humidity, designed to perform dimensional controls directly during the production process, reducing variations in measurement on the machine, especially in reference to the deviation of the measures in relation to temperature variations.

In the same laboratory we have installed, in addition to a series of measurement tools and verification pads, a CNC measuring machine with 5 controlled axes, called DEA Swift A001.



Quality System

Working with our quality control system, certified according to **UNI EN ISO 9001/ 2008** regulations (first certification, Feb. 1998), with technical and human resources that are always up to date with the latest technologies, measuring instruments from leading brands calibrated annually and innovative machinery and equipment, we are able to ensure our products a very high quality standard.





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