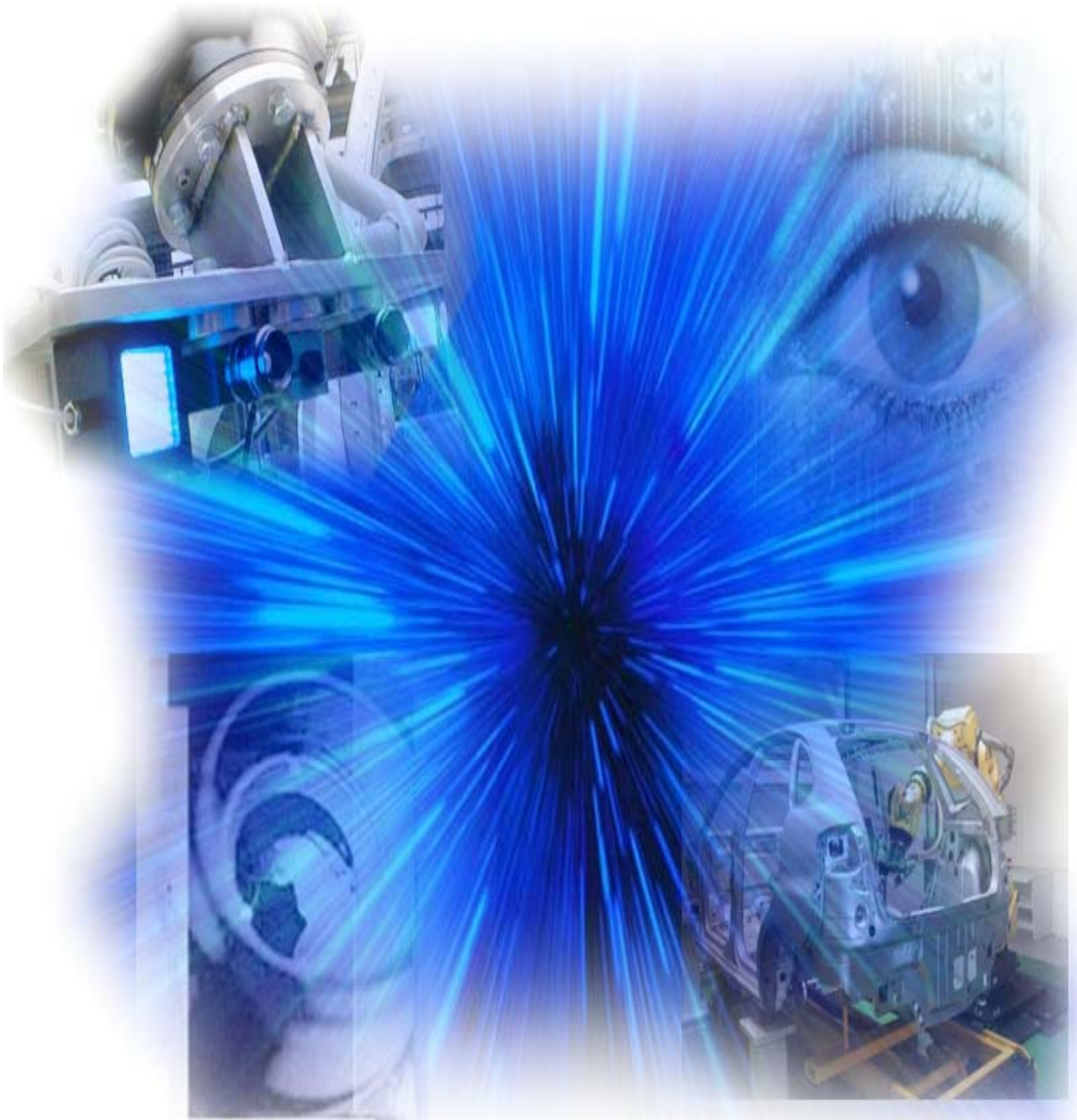




PYSMAC

ADVANCED CONTINUOUS
METROLOGY SYSTEM



EXPERT SYSTEM FOR CONTINUOUS DIMENSIONAL CONTROL WITH AUTOMATIC REGULATION OF MEASURING PARAMETERS THROUGH ARTIFICIAL VISION

The PYSMAC (Advanced Continuous Metrology System), equipped with Artificial Vision, is a system created in order to obtain the spacial position of specific points of items, to determine the parametric deviations of those points and to proceed to their regulation in a reliable way.



The system verifies several measurings of an item, especially in systems of high and medium production, where precise and constant controls are of paramount importance, in order to avoid accumulation of deviations that might cause production of inferior quality items.

With the informations and the aforementioned technology the regulation parameters will be provided and later on the results and the deviations will be checked upon, avoiding in this way the fluctuations of measuring values.

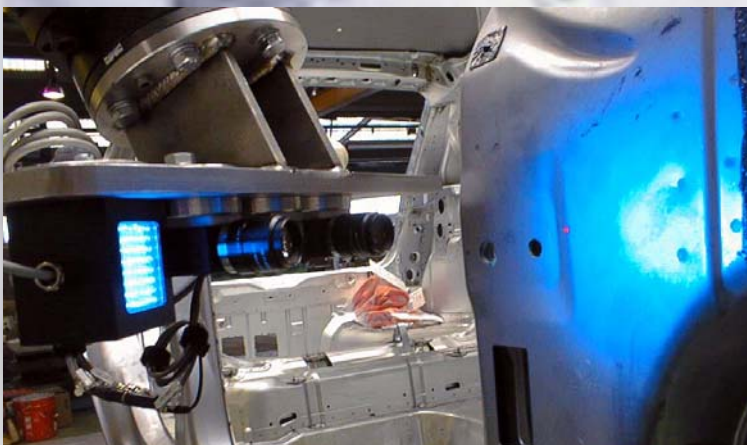
This project is based on the creation of a flexible system, expert, through progressive learning capable of comparing and decision taking depending on the applications and the circumstances determining the experience.

The inspection is based on image capturing with scale of greys, frequencies analysis, outlines analysis, comparison of areas, parts and collections of sub-images, with special calculations to determine the parameters' deviations, inflexion situations, search for objects within a certain picture and other procedures of regressive comparison for the determination of tolerance limits: all this under a quick and efficient setting.



The employed measuring systems may vary depending on the characteristics of the environment of the point to be measured and may be as follows:

- Patronage and Laser Guided Systems: the images of the point are obtained through a laser which captures the site's deformation through the deviation of the coordinate Z.



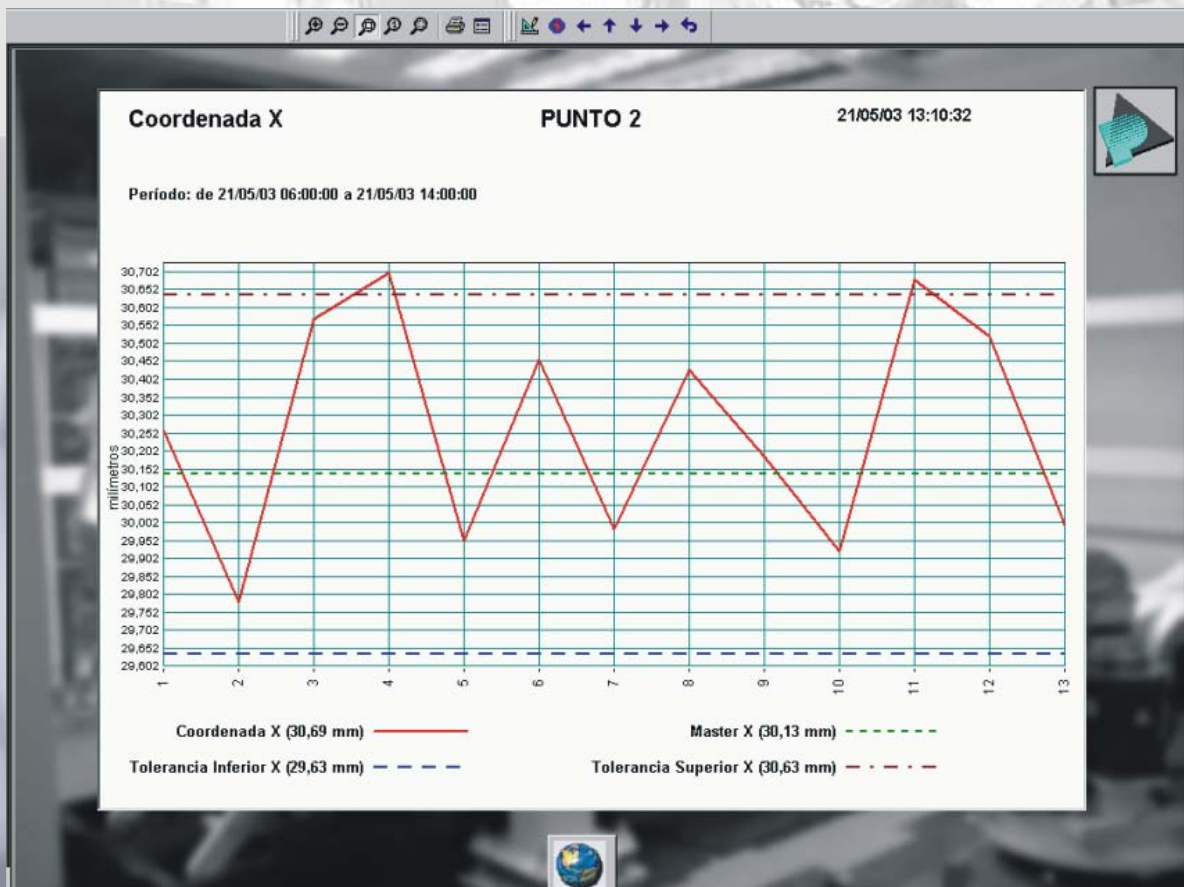
- Estereoscopies Systems: The measuring deviation is obtained through the visualization by two separate cameras, of the same picture.

When the deviation of the measures exceeds the prefixed values, either by absolute comparison or by analysis of the values's obtained inclinations, the program will establish warning signals to the installation's conductor:

- Informing warning signal: luminous, sound, written messages.
- Work limit signal: the installation will be stopped until the conductor determines how to proceed.

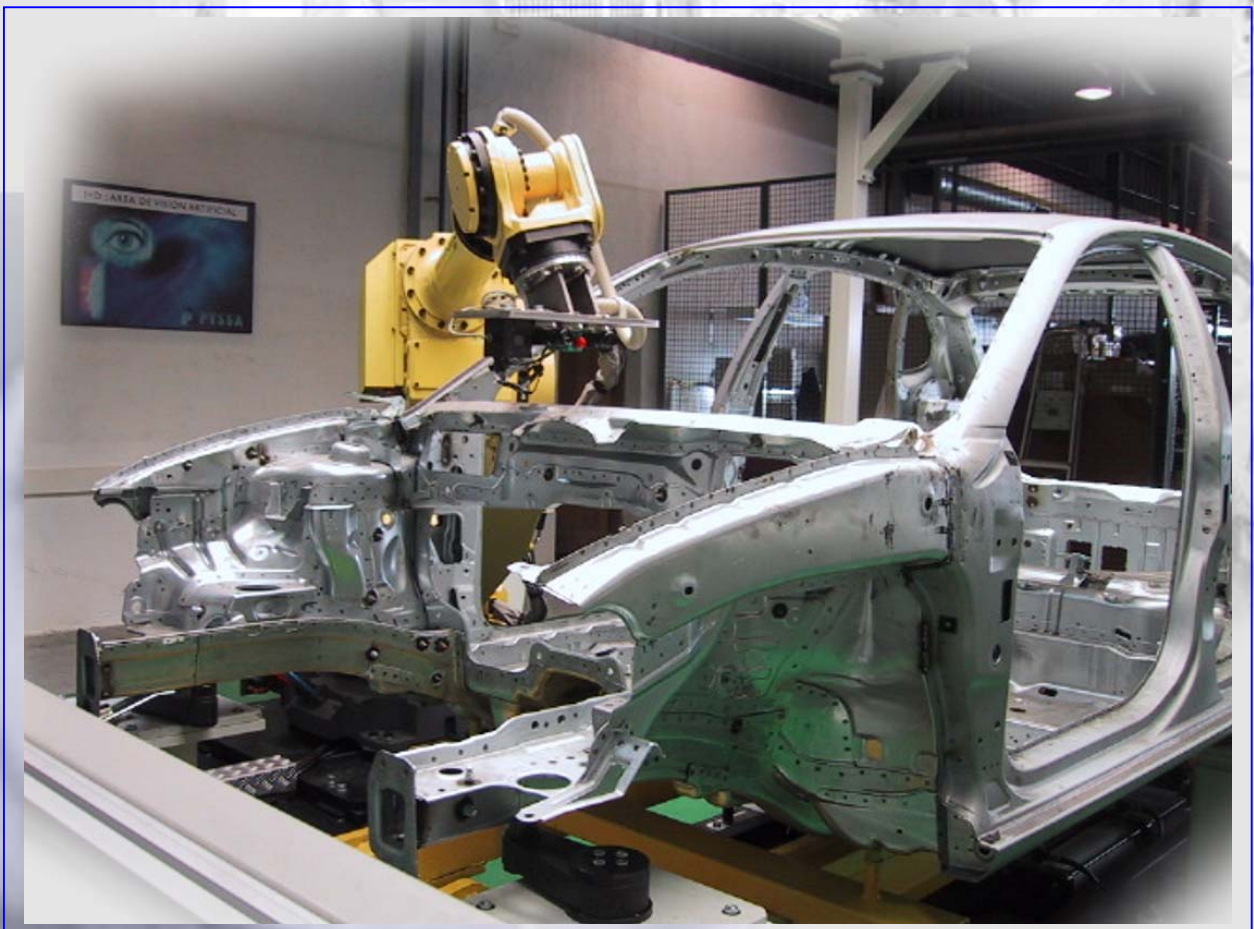
The system is characterized by easy use and set-up, as well as allowing for personalization through a graphic editor.

The PYSMAC, provides information related to the measuring of each point in real time and allows to study the values through layouts compiling data of statistic files.



Depending on the use of robots in the installation, the following two system types are established:

- Dynamic systems (on robot): The robot moves to the different points in order to measure, in this way a major precision can be obtained.
- Static systems (without robot): reduces the cycle time of measuring.



ADVANTAGES OF THE PYSMAC

- **Reliability:** provides precise quality controls of the total items within a reduced length of time.
- **Flexibility,** may be easily amplified, managed and personalized.
- **Prevention,** provides previous information as to the functioning of the installation, allowing for reparations and/or modifications.
- **Connectivity,** easy information transfer compatible with the majority of the main control systems currently on the market.
- **Profitability** high performance at a low cost.
- **Diversity,** system that may be applied according to the user's necessities to any product that requires dimensional production control.

PROYECTOS Y SOFT S.A.

Sector C, calle D, nº 25 – Pol. Ind. Zona Franca – 08040 Barcelona - Spain
Tel.: +34 93 508 42 10 – Fax: +34 93 263 45 22 – E-mail: com@pyssa.com - www.pyssa.com