

manner the introduction of CAD in Fiat can be analyzed from two points of view.

- The technological aspect.

Until 1991 only three-dimensioned Computervision work-stations had been adopted. Such a work-station has proved to be in many cases much greater than specific needs and with an unsatisfactory costs/benefit relationship. For this reason later on also 2-D CAD models by Autocad have been used. CAE procedures are employed for simulation activities: these procedures are particularly important since they can forecast any possible defect on prototypes and so reduce testing costs.

- Penetration level

Within Fiat, CAD is considered a strategic choice of vital importance through which it is possible to adapt or detect new organizational structures. The results of the introduction of computerized procedures in the field of product planning and concept are so important that it is extremely difficult to make ex-ante remarks on probable benefits. Fiat chose CAD without previously carrying out careful analysis on investment return.

At present CAD has been introduced for the activities concerning simultaneous engineering in R&D (600 workstations) and in tool design (100 workstations). According to the programme all internal bodies will be involved except for the operations relative to style definition. In this case more sophisticated equipment is necessary, as similar as possible to that of manual modelling.

4.2.2 New testing plan

The new Testing Plan has been drawn up as an efficient device within S.E. because it involves teams from the first steps of the project up to the final checks, in a field which in the past was committed only to vehicle testing. Its concept and effectiveness are strictly linked to the adoption of other work instruments typical of S.E., but above all to the existence, in the initial stage of the project, of a firm, articulated and reliable computing structure which can give a sort of ante-deliberation, starting from the first draft of the project.

When the Testing Plan is drawn up within the team each component undergoes analysis and according to its origin (component or new one, or total carry over or partial carry over) and to calculation supports which are available about it, a decision about what the experimental iter (which should certify its validity) will be taken.