NASA GROUP ACHIEVEMENT AWARD

IPAD PROJECT TEAM

JUSTIFICATION

In the mid-1970's, the aerospace and computer industry began to recognize the critical need to organize and integrate computer-aided design and computer-aided manufacturing (CAD/CAM) technology to improve aerospace productivity. Individual aerospace companies were pursuing independent, disjointed CAD/CAM developments, and computer companies were seeking directions and insight into how to develop and provide CAD/CAM support capabilities. A national effort was critically needed to identify key requirements and provide direction toward development of technology to satisfy these requirements. To meet this need, the IPAD (Integrated Programs for Aerospace-Vehicle Design) project team organized a joint government/industry effort in 1976 which investigated requirements for and design of a future integrated CAD/CAM system and developed critically needed data management technology to support integration and focus their combined efforts toward advancement of integrated CAD/CAM capabilities. Major IPAD technology products include: (1) documentation of a representative aerospace design process; (2) requirements and methodology for defining future CAD/CAM system; (3) relational data management system for engineering; (4) unprecedented multischema data base management system; and (5) unique forum for industry to define CAD/CAM technology needs.

Through this effort, the aerospace industry has dramatically increased its understanding of major elements of a future integrated CAD/CAM system, major technology deficiencies, and how current capabilities can be transitioned toward a future capability. As a result, aerospace companies are implementing needed capabilities; computer companies are developing support systems. In addition, computer companies are organizing corporate strategies to provide needed CAD/CAM capability as part of their product line. A better national awareness has resulted from this IPAD project which not only is having major impact on aerospace productivity, but also is providing national direction outside the aerospace field.

The following individuals are members of the IPAD team:

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