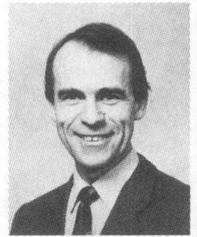

GUEST EDITORIAL



Submit Guest Editorials to Editor-in-Chief Lansing Hatfield.

No CIM Without MCAE

Only eight percent of the mechanical industry has so far introduced CAD/CAM in its daily operations. Of this eight percent only one third have started on their computer integrated manufacturing or computer-aided engineering systems, and very few companies give the impression that they are following a well-founded strategy. In most people's minds CIM means integrating the existing and possibly some new systems that support the traditional functions of a company. The systems most frequently mentioned are CAD, group technology, MRP, automatic material handling, robotics, SMS, and CAM, all tied together by computer networks and software implementing data-exchange standards.

One effect of this interpretation of CIM is to preserve the traditional organization and human skills, perhaps appointing only some new areas of responsibility or opening a few new positions for systems people. Another effect is that we accept the existing working methods and information flow patterns and data control as adequate. This interpretation of CIM also accepts the fact that product data today, to a large extent, is managed by administrative systems and people. This is the consequence of industry's early investment in MIS and MRP systems. This, in my opinion, is not what CIM is all about. These systems solutions are not taking advantage of the

cynergy effects of modern computer and information technology and human skills. In my opinion, industry is in great need of education and training in information technology thinking. Industry must learn how to manage and take advantage of its most precious resources: product and engineering and manufacturing process data.

For a company to be successful in the future it must have a CIM strategy. This strategy is an integral part of the company's overall business strategy and involves principals and guidelines for all aspects of information management and new working methods in design and manufacturing. Development of a concept of data management and information flow in the product life cycle is crucial. This is easily appreciated in order-producing industries, where some 80 percent of the information from one product life cycle is reused in the next product. For a company to manage all the information in question, we need to develop new software. In mechanical industries we need MCAE software to cover the quotation phase, and we need software to build and manage some 15 to 18 different databases, ranging from the product model with its special demands for sketching like user interfaces to manufacturing databases with expert-system-like user interfaces. Industry also needs an information

executive to control the accessibility and the quality of data.

A closer analysis of the databases needed reveals that industry has a lot of work ahead of it. True enough, engineering data are quite well organized and normalized through years of standardization, but to build these data into databases, industry and industrial interest organizations must better understand the process of database design and how data will be accessed and used in a future systems environment. Most of the structural data in a product is decided on in the early design phase. When the designer shapes the product, most databases will be accessed to support design decisions. An integrated MCAE system is therefore of the greatest importance to support the decisions that enable you to get profit from your investment in CIM.

Frank Lillehagen is president of METIS A/S, a Norwegian-based vendor of software and databases for mechanical CAE. He has served as consultant for numerous European projects.