AE APPLIANCE® ENGINEER

THE OPEN DOOR:

THE DEVELOPMENT EDGE

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In today's manufacturing world, winning means generating profit. The key to generating profit in manufacturing is product development, because it is in the development and design processes, not on the factory floor, where the lion's share of total cost and potential profitability is established. An OEM must use product development to create its advantage—its competitive edge.

The success or failure of a product development program is dependent on a great many variables, but by focusing on four issues, you can control many of these variables. These issues make up what we call the four-leaf clover approach: top management commitment, multi-disciplinary teams, early involvement, and analytical approaches.

When we say management commitment, we mean more than just involvement or contribution. Management commitment starts with gaining profound knowledge and understanding. Too often, program executives have found out too late that their projects totally missed the targets because they were watching the big picture, rather than the details. The executive—as the project leader—needs to know the details as well as the big picture. He/she needs an intimate, profound knowledge and must go outside to secure this knowledge. The leader must also create a vision for the project, and it must be inspiring in its reach, challenging team members to do things differently—and better—than they have ever done before.

The second ingredient for successful product development is putting together the right team—picking the right people with the right attitudes. To leap-frog ahead of your competition, you must break the *what-worked-for-us-before-will-work-again* syndrome. It is both essential and difficult and means a major change in the way your team thinks and sees things.

The team must be multi-functional and include profound knowledge from people outside the normal pool. Time and again, the best ideas come from the wrong place—from outsiders who couldn't possibly know anything that would help.

Once you have picked the right mix of team members, you must get them together and keep them together for the life of the project. An empowered team is the single most powerful element in the entire development process.

Team members should be asked to live by six rules: all viewpoints are to be honored by the group; the focus is on possibilities, not blame or defending ideas; discussion should focus on the task at hand, not diversions or history; everyone is expected to participate fully, add value, and make a difference; all team members should be respectful of each other; all team members should strive for highest human potential and ethical integrity.

Thirdly, early involvement is the key driver in getting *fast to market* and getting the team working as early as possible.

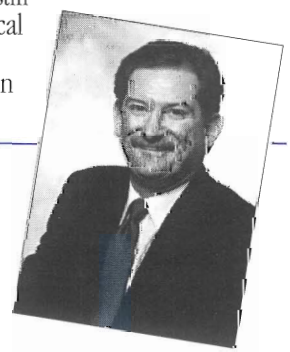
Finally, to make the right choices, you need hard data and good information. To get the information you need throughout the process, a number of analytical tools can provide the data. Which tools an OEM needs depends upon which phase of the product life cycle it finds itself in: redesign/analysis, prototype, or production/maintenance. In redesign and analysis, the first goal is to verify the redesigned product meets customers' needs and expectations. To measure the change necessary to ensure this, quality function deployment helps translate the voice of the customer into specific product requirements and criteria.

Once you know the product changes required, you must validate and improve product feasibility in terms of manufacturability and assembly. The impact of DFM and DFA tools carries through from the concept to production and beyond.

Although prototyping and modeling are not purely analytical tools, they can be extremely helpful for, and during, analysis. Yet, these prototypes and models do not need to be all encompassing or functional.

When a product is in the production and maintenance stage, analysis becomes rather methodical, but it is still critical. Quality management will involve a continuous monitoring, measuring, and self-correcting loop of critical product and process characteristics.

Depending on how good a job your team does up-front, your product can be of the highest quality, in high demand, and be highly profitable.



Sandy Munro founded his consulting firm, Munro & Associates, Inc., in 1988. The firm's expertise lies in the area of applying concurrent engineering and DFM to global competitiveness. Prior to founding the firm, Mr. Munro worked for Ford Motor Company. His last title at the automobile manufacturer was Corporate Coordinator—Design For Assembly. Mr. Munro has chaired and spoken at numerous engineering conferences and symposia across North America and Europe.

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