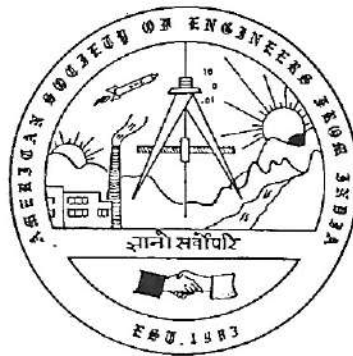


ASEI

*American Society
of
Engineers from India*

SEVENTH NATIONAL CONVENTION



'QUALITY - A Key to Success in the Nineties'

**SATURDAY, SEPTEMBER 15, 1990
HYATT REGENCY, DEARBORN, MI**

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Quality is Job 1.SM



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Our goal is to build the highest quality cars
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Buckle up—together we can save lives.

AMERICAN SOCIETY OF ENGINEERS FROM INDIA

VISION

ASEI TO BE:

- A nationwide network of engineers of Indian origin
- A forum to assist members in advancing their careers
- A facilitator of Technology Transfer between U.S.A. and India
- A national professional organization with the goal of
"service to its members"

ASEI ACTIVITIES

CAREER ENHANCEMENTS

- Provide Career Guidance and Counseling
- Facilitate Networking
- Assist in Skill Development through Continuing Education Courses and Technical Seminars
- Encourage PE registrations

STUDENT AFFAIRS

- Providing guidance to Students
- Establish Merit Scholarships
- Assist in Practical Training and job placement

ORGANIZATIONAL MATTERS

- Establish a National Office
- Establish an Editorial Board and Publish Quality Newsletter
- Increase Membership
- Publish Directory of Members
- Increase awareness of ASEI
- Facilitate local chapter meetings

TECHNOLOGY TRANSFER

- Conduct Workshops on How To Transfer Technology to India
- Assist in Development of Rural India
- Provide Communication Channels for Retired Engineers
- Disseminate Opportunities in India for NRIs.

LIAISON WITH INDIA

- Establish working relationship with government and private organizations in India

CONVENTIONS & AFFILIATIONS

- Conduct Conventions throughout U.S.A.
- Cooperate with Other Professional Societies with Similar Goals.

LOCAL CHAPTER ACTIVITIES

- Conduct bimonthly meetings to promote discussion/participation on current events
- Communicate with ASEI National Office and other Local Chapters

AMERICAN SOCIETY OF ENGINEERS FROM INDIA

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STATE OF MICHIGAN
OFFICE OF THE GOVERNOR
LANSING

JAMES J. BLANCHARD
GOVERNOR



August 30, 1990

Greetings:

As Governor of the State of Michigan, it is a pleasure to extend official welcome to the members of the American Society of Engineers from India as you come to Michigan for your Seventh National Convention on September 15, 1990.

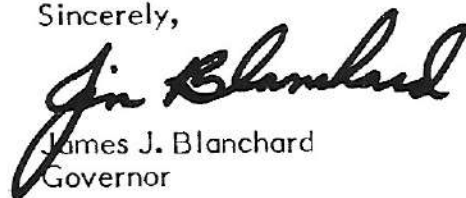
"Quality: A Key to Success in the Nineties" is a fitting theme for your convention. This new decade offers unparalleled opportunities and challenges in the field of engineering. The key to success in our new global economy will indeed be quality.

It is heartening to note that representatives from India will participate in this event. This will strengthen the link between India and the United States in the areas of engineering and technology.

The American Society of Engineers from India, one of the largest nonprofit Indian-American national organizations, is to be commended for its role in increasing awareness of current trends in engineering fields and helping its members to assimilate into mainstream America. I am pleased to see your organization grow in strength from year to year.

Please accept my best wishes for an enjoyable conference and continued success.

Sincerely,


James J. Blanchard
Governor

MESSAGE FROM . . .



Asha Reddy
President



S.M. Shahed
Chairman of the Board

This was a banner year for ASEI. For the past few years, the focus has been on establishing a VISION and operational processes for the organization. Having accomplished these, the focus this year has been on transforming the VISION into reality. We have laid solid foundation in this area and have many milestone accomplishments to report.

The year saw the formation of two strong and active local chapters; one in Washington, D.C. and the other in Huntsville, Alabama. A third is on the verge of formation in Toledo. The strength of ASEI, to be able to play the role of a nationwide network of engineers of Indian origin, lies in its local chapters. We commend the effort put in by the organizers of these chapters.

ASEI has been successful in establishing a working relationship of mutual information exchange with Confederation of Engineering Industry (CEI). A non profit organization in India with 2500 corporate members, CEI is very willing to interact with counterpart associations in other countries for speedy transfer of technology, joint ventures, collaborations and exports. This should go a long way in achieving our goal of helping with the technology transfer between USA and India. It would also help ASEI in disseminating information about opportunities in India for NRIs.

Helping our student members assimilate into mainstream America continues to be a high priority with ASEI. The career planning workshop conducted this afternoon was designed with this goal in mind.

On the recommendation of the two task forces formed last year on Career Enhancement and Corporate Awareness, a major effort is under way to create a membership profile. The profile containing relevant personal and professional data will help us establish a forum to facilitate networking and mentoring.

ASEI has been very fortunate in having some very committed and dedicated individuals as its office bearers. We would like to thank them for their generous donation of time and effort. To grow and be able to sustain its growth, ASEI needs participation from all its members. We hope you will decide to get involved.

ASEI HIGHLIGHTS OF 1989-90

CAREER ENHANCEMENT

- Initiated efforts to create a membership profile to facilitate networking and mentoring
- Developed a booklet on "How to Start Your Own Business"

STUDENT AFFAIRS

- Awarded a \$1000 merit scholarship
- Conducted a career planning workshop for student members

TECHNOLOGY TRANSFER

- Established working relationship of mutual information exchange with the Confederation of Engineering Industry (CEI) in India

LIAISON WITH INDIA

- Increased awareness of ASEI at several major Indian corporations during meetings with their top management.
- Hosted a delegation of representatives of Indian Businesses.
- Initiated efforts to have companies in India become members of ASEI

CONVENTIONS AND AFFILIATIONS

- In addition to the annual convention, conducted a seminar with the internationally recognized Dr. C. K. Prahalad on "Regaining Global Competitiveness, The Challenge Facing Engineers".
- Maintained contact with the Silicon Valley Indian Professionals

LOCAL CHAPTER ACTIVITIES

- Washington, D.C. chapter conducted a panel discussion on "Engineering Opportunities Of The Nineties"
- The Huntsville chapter conducts regular monthly meetings. It has become a member of the Huntsville Association of Technical Societies (HATS). It has also conducted an "Immigration Seminar" with Mr. Myron Krammer, an immigration attorney from Atlanta.

ORGANIZATIONAL MATTERS

- Developed guidelines for relationship between the National Organization and the local chapters
- Published a quarterly newsletter
- Published a membership directory
- Membership in both the categories of annual and lifetime membership continues to grow. As we go to press the membership stands at 770. Conducted membership drive in Toledo. Sent representatives to Washington and Huntsville for their chapter meetings.

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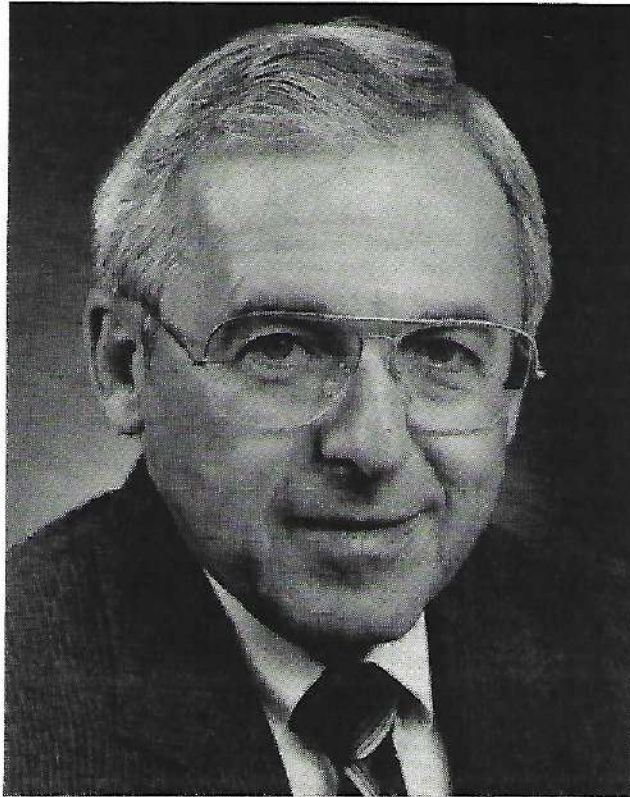
Phone: 642-8610

SIGNIFICANT CONTRIBUTIONS

ASEI accomplishments for the last year were made possible by a number of dedicated volunteers. Special thanks are due to

- **Jack Agrawal:**
Defining guidelines for National Organization and local chapter relationships
- **Hari Bindal:**
Helping the formation of Washington, D.C. chapter
- **Susan Dalley:**
Maintaining the membership database
- **Noor Kapadia:**
Helping with the board of directors selection process
- **Prakash Krishnaswamy:**
Contributions to the technology transfer effort and corporate awareness task force
- **Bhushan Kulkarni:**
Conducting membership drives in Toledo
- **Chad Kymal:**
Arranging the talk by the internationally recognized Dr. C. K. Prahalad. Developing a survey to assess the capabilities and needs of corporations in India
- **Jehangir Mistry:**
Publicity efforts
- **Ram Nomula:**
Helping the formation of the Huntsville, Alabama chapter
- **Ramesh Patel:**
Improving the ASEI accounting system
- **Raj Raja:**
Developing a survey to assess the capabilities and needs of corporations in India
- **Nirdosh Reddy:**
Helping establish contacts with Confederation of Engineering Industry (CEI) in India
- **Arjun Tuteja:**
Editorial tasks for the quarterly newsletter
- **Arun Vijan:**
Defining guidelines for National Organization and local chapter relationships
- **Meera Vijan:**
Leading the corporate awareness task force
- **Lakshmi Vora:**
Spearheading the membership profile development effort
- **Shailesh Vora:**
For fund raising efforts and convention arrangements

PLENARY SESSION



**Keynote Speaker
Mr. Jerome G. Rivard**

Mr. Jerry Rivard is the president of Global Technology and Business Development. He is engaged in advising business and universities on global business approach, especially in automotive electronics. Mr. Rivard retired as Vice President and Group Executive of Allied Signal, Inc. He was responsible for Bendix Electronics operations of Allied's automotive sector. Prior to that Mr. Rivard was brought into Ford to establish a new organization with a charter to bring Ford from behind to a position of leadership. As a result of his efforts as the Chief Engineer at the Electrical and Electronics Division, Ford today enjoys a very strong position in electronics design and manufacturing.

During his 35 years in the industry, Mr. Rivard received many honors; specially noteworthy are his election to the prestigious National Academy of Engineering, fellow status in SAE and IEEE. He also received Edward N. Cole Automotive Engineering Innovation Award.

Mr. Rivard is very active in SAE. He is member of the Electrical & Electronic System Committee, Motor Vehicle Council, Technical Board, SAE Nomination Board and Fellow Selection Board. He was the general chairman of "Convergence 1982 - Automotive Electronics International Congress."

Mr. Rivard holds three patents and has published extensively world-wide.

The Engineers Participation in the Global Economy

By Jerome G. Rivard

Today's Engineer is faced with a rapidly changing business climate. Global awareness is mandatory to be a player. All companies are finding that to be successful, they must be aware of, and participate in the evolving Global Economy. Competition will be fierce and product quality levels will continue to improve at an ever increasing pace. The company and the individual who cannot think globally will not be successful in participating in this move to the Communication Age.

Today's Engineer is blessed with significant and broad opportunities. Technology and Innovation will drive the world economy. Technology will be at the core of solving the third world economic problems. The Engineer must think more broadly. Instead of concentrating on components, they must think about the whole infrastructure of application, especially the environment. Individual components will then be optimized for every application.

The successful engineer will understand and apply certain basic precepts. They will always be people centered. Most engineers strive to become managers, but ignore the basics.

My personal philosophy is centered on people. Encouraging creativity, motivating attention to productivity and recognizing that all people are not alike are fundamental. The successful manager listens to people and avoids isolation. "Management by Walking Around" is vital. The excellent manager sets high standards, tells people what is expected of them and never compromises quality.

The decade of the 90's presents huge opportunities to those who make the effort to understand the globalization of all businesses. Engineers will be at the center of this move to the Communication Age and provide the key ingredient technology.



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AMERICAN SUPPLIER INSTITUTE

A Nonprofit Corporation Dedicated to Improving the Competitive Position of U.S. Industry

Session A

Quality - A Key to Success in the Nineties

Chairperson:
Mukul M. Mehta

A cartoon clip once quoted "Japan invented quality because they have no room for landfills". Management experts say "If you are first, you have a competitive advantage, if you are last, it is a competitive necessity". By being first with quality, Japan has developed an exceptional competitive advantage.

If one looks at the history of the business evolution in the 20th century and analyzes trends to identify factors deemed critical for the success of a business it is apparent that the business world is becoming more complicated and challenging. From 1900 to about 1960 technology was the key; if one had the technology the success was almost assured. In 1960-70 marketing became another key requirement. The Seventies recognized that finance or cost management was equally important. In 1980 NBC TV produced a network television documentary "If Japan Can, Why Can't We"? It centered around an almost unknown American, Dr. W. Edwards Deming, unknown in America and most of the Western world, yet very surprisingly a household word in Japan. That documentary triggered a chain reaction that enabled USA to usher in a new era; a silent revolution had begun, the era of quality was unfolding. In the Nineties quality will be recognized as the most important factor critical for long term success.

While technology can be bought, market share purchased by massive advertising campaigns and product dumping, and, costs can be slashed almost at will, quality is a bit tricky. It must be earned.

The silent quality revolution is also changing the business paradigm; the long held beliefs on what makes a business effective are being shattered and replaced. The new, quality focused organizations of the Nineties have a different set of values and beliefs. They are very customer oriented. They are striving very hard to improve the quality of their products and services, and in so doing beginning to recognize that the problem-solving, project-based-thinking, management-by-numbers, rewarding-people-for-fighting-fires are all anachronistic practices that must be changed. These are very likely to be replaced by process-based-thinking, systems-approach to managing organizations and a need and obligation to perpetuate a better, healthier and more vibrant department, function, and organization to next generation of employees.

In the new organization, the health of the company is more likely to be measured by customer satisfaction surveys, the quality and reliability of products, services, processes and systems, responsiveness to change in the customer needs and market place, "time to market" new products and services, concern for the community and the environment, and, profitability.

Successful companies in the new era will empower their employees to continually improve and innovate. The ability to predict behavior of key processes, systems, products, and services will become increasingly valued. The organization will become more data and fact oriented and decision making will be based on total cost minimization. Team work will replace rugged individualism. It will be renaissance for the manufacturing, renaissance for the engineer/scientist. Our world is going to become more scientific, people who can form hypothesis, collect and analyze data in real world, prove and make changes for the better will come in vogue. It will be the era of the knowledge worker.

However, these changes are not going to be easy. People in the organization will have to be made aware of the potential that the quality revolution has to offer. They will have to be trained and educated in new methods and thinking. Management will have to create an environment that encourages and rewards new behavior. Only through repeated practice and encouragement can one hope to change individual attitudes and beliefs; and only when the newly formed attitudes and beliefs are in sync with the organizations new values can a lasting change be hoped for.

Some organizations will find the change too traumatic. Many managers will find it impossible to change to the new rules from football to soccer. These organizations and managers will cease to be key players.

This is an era of opportunity for the engineer. If you are ready, your career will thrive. If not ...

Our speakers today will address the many facets of the quality revolution from global, American and Indian perspective. They will talk about tools, technologies and methods, the Gurus of qualities and their insights, experiences and approaches of organizations at the leading edge, issues facing these organizations and the emerging role of the leaders in these organizations.



Mr. Mukul M. Mehta obtained his Bachelor of Chemical Engineering degree from the Department of Chemical Technology, University of Bombay; Master of Science degree in Chemical Engineering and Master of Science in Statistics from the Ohio State University.

Mr. Mehta worked for three years as an independent consultant in Bombay, India before joining the BF Goodrich Company as an R&D Statistician.

Since then, Mr. Mehta has held various positions including Supervisor, Manufacturing Statistical Support, and Manager, New Process Evaluation. Currently, he is Manager of Statistics and Computer Aided Research.

GLOBAL TRENDS IN QUALITY

1980 - 2000

Lawrence P. Sullivan

American Supplier Institute

I am very happy to be here today to speak before the American Society of Engineers from India. Your activities toward the development of a better working relationship between U.S. corporations and industry in India will most certainly focus on quality as a means to become more competitive in global markets. In my remarks today, I will characterize the evolution of quality thinking in the U.S. automotive industry from 1980 through the year 2000. I hope this will be helpful in your work.

The quality movement in the United States that we are experiencing today was prompted by Japanese imports and began in June of 1980 with the NBC White Paper entitled, "If Japan Can, Why Can't We?" This TV presentation introduced us to Dr. Deming and his concepts of variation and statistical thinking. From this beginning, we have experienced ten years of dramatic change in quality technology, methods, and (more importantly) how we think about quality and its relationship to the customer.

Historically, quality was defined by the engineer through product specifications with accountability in manufacturing. In other words, "conformance to specification" was the method of measuring quality for many years. Quality improvement therefore, was characterized by defect analysis and problem solving primarily in manufacturing and assembly. Rarely did engineering activities feel the need to improve quality since (in their view) it was adequately covered in product specifications. The change that occurred during the 1980's promoted by Dr. Deming was the focus on variation in product function as perceived by the customer and the need to reduce variability in both product and process design.

Dr. Genichi Taguchi from Japan helped us understand new quality technology using Parameter Design to achieve "robust function" so products and processes will become insensitive to variation. This was a very significant change in our thinking and forced us to look more at the customer and product usage for determinants of quality. In doing so, we become more outward looking toward market requirements and less inward looking toward specifications.

The period 1990 through the year 2000 will be viewed by historians as an important development in further changes relative to quality. This change is driven less by imports and more by the transplants; those foreign companies who build plants in the United States and compete directly with U.S. industries using local labor, taxation, and investment. In other words, the playing field is now level between foreign and U.S. companies competing for market share. This new era is characterized by activities orientated around Continuous Improvement not only in quality, but in cost and delivery.

In the next few years, we will see the development of integrated functions for all phases of the business process from marketing, product development, engineering, manufacturing, assembly and service. Also, we will see quality improvement in administrative functions as well as technical operations. The term we will be using to describe this era is "Process Improvement" which means the continuous improvement of all business processes, not only for a given company, but linked through the supply base for raw materials, tooling, and sub-assemblies. We have now moved from quality as a manufacturing focus through quality as a customer focus to quality in every element of the business process.

Today there are many companies in the United States working on continuous improvement in quality, cost and delivery. I think The Ford Motor Company however, is a leader by developing the Process Improvement methodology to integrate all business functions.

The American Supplier Institute, in cooperation with Ford holds quarterly supplier conferences on new developments in quality for the benefit of suppliers and sub-suppliers. At our June 13, 1990 conference, Mr. Clinton Lauer, Ford Vice President for Purchasing and Supply, introduced his speech with the following comment. "Quality is the price of admission - cost, efficiency and customer satisfaction are the competitive advantage." What this means is that continuous improvement in quality is now a necessity, and all suppliers are mobilized in this direction. The most important competitive advantage in the future, however, is cost which means cost reduction achieved through quality improvement. This is a paradox that we should look at very carefully. Historically, cost reduction was achieved at the expense of quality and in some cases, quality improvement was realized through increased cost. Today, we view cost reduction as a function of quality improvement which can only be realized by changing the process. Here again, we are talking about all business processes, not just those traditionally associated with manufacturing.

To illustrate my point, I would like to review two examples from Ford. The first example is process improvement in Accounts Payable which is an administrative function. The second example is process improvement in Manufacturing with the Transmission Plant Torque Converter operation.

(Examples)

Summary

I think the foregoing examples clearly show how Process Improvement can result in cost reduction through quality improvement. There are several thousand other applications similar to these underway today in supplier companies as well as Ford. Through these applications, we will carry this effort throughout the automotive industry. Based on initial successes, I am confident that U.S. built cars will be more competitive in the next decade and neutralize the challenge from foreign transplants. Thank you very much for listening, and I hope this information has been of interest.



Lawrence P. Sullivan is the Chairman and CEO, of American Supplier Institute. Mr. Sullivan was formerly Manager of Reliability, Warranty and Supplier Quality Assurance for Ford. He has contributed numerous papers to various technical journals on new quality technologies. In 1983, he received the Body Engineering Journal Editorial Excellence Award for an original work on Deming Methods. In 1984, he received the ASQC Cecil C. Craig Award for a paper entitled, "Reducing Variability" which has been published in six different languages. Mr. Sullivan received the first U.S. Taguchi Award in 1985 and a second Craig Award in 1988 for developmental work on Company-Wide Quality Control.

QUALITY EVOLUTION IN INDIA: CURRENT NEEDS AND FUTURE PLANS

Mr. Janak Mehta
Confederation of Engineering Industry

For us QUALITY encompasses all aspects of customer expectations including product quality, cost and delivery.

In India middle income class has rapidly expanded to over 150 million people and material prosperity is seen in all parts of the country. There is general improvement in standard of living as evidence by improved quality of consumer goods, capital goods and industrial products. Looking at India in isolation this quality improvement trend seems positive and we could say that "Quality Evolution" in India is on the way.

However, other developed and developing countries of this interdependent world are sustaining much higher rate of quality improvement. The result is a widening quality gap which eventually affects the standard of living in a society.

Some important indicators of this trend are:

1. Declining share of India in International trade
2. Growing trade deficits
3. Lower rate of growth in productivity indices
4. High incremental capital to output ratio

Technically the bulk of Indian industry still uses inspection as the means of Quality Control. Only a few industries are moving towards process control stage for preventing the defects. It was obviously the lack of competition both external and internal which contributed a great deal to the present situation.

The sociopolitical and economical developments which have caused structural changes in the world over the last decade, and growing external debt, has resulted in changes within India for liberalization of the economy leading to growing competition. This has created an awareness amongst the leaders and managers of Indian industry, for the need of using quality as an important component for sustaining long term growth in a competitive environment.

This has provided various opportunities for development and growth which require certain managerial and technical inputs.

■ REQUIREMENT OF INDIAN INDUSTRY

The needs of the industry can be categorized in two parts:

1. Human Aspects.

- 1.1 Total Quality Concepts
- 1.2 Organizing for quality
- 1.3 Methods of promotion and internalization
- 1.4 Interactive skills
- 1.5 Train the trainers
- 1.6 Train the consultants
- 1.7 Empower people

2. Technical Aspects.

- 2.1 Failure Mode Effect Analysis (FMEA)
- 2.2 Quality Planning
- 2.3 Quality Tables
- 2.4 Quality Function Deployment (QFD)
- 2.5 Statistical Process Control (SPC)
- 2.6 Design of Experiments (DOE)
- 2.7 Taguchi method
- 2.8 Policy development and deployment
- 2.9 Just In Time (JIT)
- 2.10 Single Minute Exchange of Dies (SMED)
- 2.11 New 7 tools
- 2.12 Value Added Management (VAM)

There are many people in India who can explain these concepts theoretically. Need is for engineers who have actually practiced these concepts and techniques over a period of time so that they could share their practical experience and influence trainees to become comfortable in the practice of these tools.

■ FUTURE PLANS

The trends for quality enhancement are positive and the future could be exciting provided the quality movement could be nurtured so that it does not end up as a fad.

After influencing the large industry, it is proposed to reach out to scores of thousands of medium and small industry which forms the back bone of industrial structure in India.

The opportunities are great, potential is large and it is achievable. Professional Indian engineers have an important role to play. I appeal to you to share your experience with the people in India on a Win/Win basis. CEI is committed to provide the platform for a meeting ground.



Mr. Janak Mehta, a mechanical engineer with over 25 years of experience, is working as an Advisor for Total Quality Management with Confederation of Engineering Industry (CEI) since April 1988. Prior to that he was the Chief Executive Officer of Beco Engineering Company.

He is a member of Indian Institution of Industrial Engineering. He has also served as a member of Governing Body of National Productivity Council during 1985-1987, and Governing Body of Indian Standards Institution in 1986. He was Chairman of Engineering Services Committee of CEI from 1985 to 1988 and President of Chinmaya Mission Nasik from 1981 to 1985.

THE QUALITY IMPERATIVE: MANAGING FOR SURVIVAL AND PROFITABILITY

Thomas K. Flaherty

*Director, Total Quality Management
Rockwell International - Automotive Operations*

The decade of the eighties will be notably remembered for many reasons in the world of industry. Those memories will include rapid globalization, intense and increasing competition, fast paced markets, and rapid acceleration of customer demands. There is, however, one aspect that has only recently been acclaimed as the single, most dramatic occurrence in the past decade; namely, the literal explosion of knowledge about quality management.

There is a simple reason that explains this 'recent' acclamation. It is the fact that the awareness and understanding of Total Quality Management (TQM) as the most powerful prescription for what we must do to survive and regain profitability, is now taking root at an explosive rate. While all the descriptive phrases of the past decade help us to understand what is generally happening in business and what specific market trends are emerging, Total Quality Management is the one comprehensive business strategy that has evolved to guide industry's response.

This explosion of knowledge about management for total quality had its first rumblings about fifty years ago. But it has only been during the past few years, when the frustrations over the results of "doing business as usual" spurred management teams in many industries to actively seek new ways to operate their businesses, that the awareness and understanding of quality management gained momentum. Today, in industry after industry, managing for total quality is being heralded as the means to regain the competitive advantage once enjoyed by so many American companies. So strong is the potential of TQM, that it can be argued that not to have a clear vision of the quality imperative and a strong, management led commitment to its implementation, is tantamount to corporate suicide.

This quality imperative is most often referred to by the term Total Quality Management. TQM has its conceptual roots in the West, primarily North America, but its application was developed and refined in Japan. The lasting power and hence, competitive advantage, of a TQM business strategy, lies in its ability to provide both the vision and the means to institutionalize the notions of continuous improvement and customer satisfaction. In other words, central to the business philosophy of TQM is the constant and disciplined pursuit by each element within an organization to meet and exceed customer wants and needs. Total customer satisfaction, whether the customer is internal or external, has become the goal by which all business activities are measured.

What we noted about the past decade has not come to rest. We still see increasing globalization and competition, and rising customer expectations. What also needs to continue, preferably at a faster rate, is the successful transformation of American Industry to the principles of TQM. While there are many examples of individual companies successfully meeting the challenge, whether or not we succeed at the national level remains to be seen. If we cannot succeed at the national level, the quality of life for many Americans will be redefined. We will not be able to support the standard of living now enjoyed by so many if the quality imperative is not successfully managed.

Clearly, TQM will affect every one of us. It will not matter which function we perform within the organization, each one of us will be influenced by the quality imperative. Each business function will have to learn and practice the principles, methods and disciplines of TQM, if our organizations are to survive and profit. In short, TQM will be the way we run our businesses if we are to successfully meet the challenge of continuous and total customer satisfaction.

When we research and study those organizations that have begun the transformation, several patterns begin to emerge. Among these patterns, or trends, are continuous on-the-job training, disciplined deployment of problemsolving tools and methods, greater emphasis on process methodologies, highly trained and highly focused cross-functional teams, more customer sensitive business measures, better people management, less hierarchical organizations, more authority delegated to lower levels within the organization, more employee involvement and ownership in the day-to-day business affairs, promotion of managers for people skills and business ability, and accountability of top management for the long term. All these patterns put together provide the organization with the necessary vision, means and structure to effectively compete in today's demanding markets.

In the engineering community, several changes are likewise occurring and will continue to do so in response to the growing need of products and services that are of world-class quality, cost and deliverability. In particular, the product development process will continue to feel the pressure to reach world-class standards. The pressure will be coming from competitors who are also trying to maintain and capture markets.

Among the many challenges facing today's engineer, all of which require a solid base of engineering know-how, are the abilities to design for manufacturing, design for assembly, design for deliverability, design for cost, design for safety, design for durability and design for service. In addition, all of this design effort will be under the constant pressure of the critical time-to-market measurement. Engineering, working by itself will not and can not achieve this level of world-class performance. Only by learning how to work in concert with other disciplines and functions and by employing the best process methodologies can this world-class level of performance be achieved.

While it is safe to say the engineering community will play a key role in assisting the organization to achieve total customer satisfaction, it is equally safe to say that they will not achieve this objective within the standard, or traditional, organizational structure. More and more companies have begun the integration process that brings engineering out from behind the drafting boards, computers and test labs into the full view. Today, engineers are integral parts of teams working together to understand the 'voice of the customer' and of teams working with process methodologies that enhance their ability to quickly, accurately and cost effectively satisfy market requirements. To those organizations that are making the structural changes that foster highly trained and disciplined crossfunctional product teams, a clear competitive advantage will be realized.

As we look forward in this decade and beyond, I believe that the quality imperative will be nothing less than a strategic business issue. In fact, the survival and future profitability of organizations will, to a great extent, depend upon management's ability to lead the transformation process and realize the full benefits of Total Quality Management.



Mr. Flaherty holds graduate degrees from the University of Dayton and Ohio State University. He has worked within the Automotive Industry for the past thirteen years, holding progressive responsibilities in both manufacturing and quality. He is currently responsible for assisting the TQM implementation process within Rockwell Automotive.

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11:30 a.m. **Registration - Regency Ballroom**

12:30 p.m. **Plenary Session:** Keynote address by Mr. Jerry Rivard
Regency A

1:45 p.m. **Two Concurrent Sessions:**

Session A Regency A

**Quality: A Key To
Success in the Nineties**
Chairperson:
Mr. Mukul Mehta

Global Trends in Quality
Mr. Lawrence P. Sullivan

**Quality Evolution in India:
Current Needs and Future Plans**
Mr. Janak Mehta

**The Quality Imperative:
Managing for Survival
and Profitability**
Mr. Thomas K. Flaherty

Session B Regency B

Career Planning Workshop
Chairperson:
Mr. Sudhir K. Jain

Sponsoring Organizations:

CMS Enterprises
Discussion Leader: Mr. John F. Drake

Complete Business Solutions, Inc.
Discussion Leader: Mr. Canan Gurman

Engineering Analysis Services, Inc.
Discussion Leader: Dr. A. Mani

Integrated Management Systems Inc.
Discussion Leader: Mr. Sudhir K. Jain

General Motors
Discussion Leader: Mr. Milton Fletcher

Evening Banquet

5:30 p.m. **Social Hour**

6:45 p.m. **Dinner**

Master of Ceremonies	-	Mr. Jehangir Mistry
Welcome	-	Dr. S.M. Shahed
President's Report	-	Ms. Asha Reddy
Chief Guest Address:	-	Mr. Suresh Chugh
Awards	-	Dr. Suresh Gulati
Closing Remarks	-	Mr. Raj Raja

9:15 p.m. **Entertainment**
The Nateshan Group from Chicago
(featuring light popular songs & music)

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Chief Guest
Mr. Suresh C. Chugh

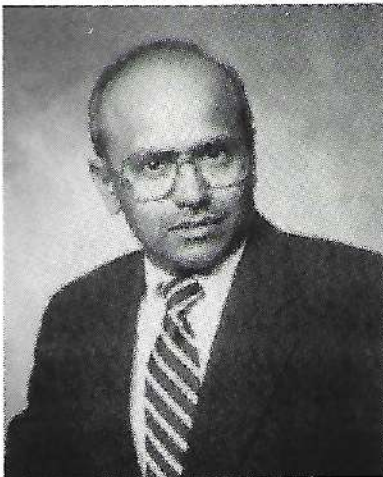
Mr. Chugh is a Managing Director with Morgan Guaranty Trust Company of New York and is currently responsible for the Natural Resource Finance and Structuring group. This group has global responsibility for marketing, structuring and executing complicated Project Finance deals in the areas of natural resource, power generation, waste management, high technology and transportation. From 1988 to 1990, Mr. Chugh was responsible for the development of new methods and policies for managing global credit risks as well as managing the Special Project Services Department of the Corporate Finance Group. In 1987, he was Director of Corporate Training and Management Development. Prior to these assignments, Mr. Chugh served as the Chief Petroleum Engineer and also was an Assistant Vice President in the Petroleum Department in 1977. He was elected Vice President in 1978 and Senior Vice President in 1981. Mr. Chugh is also a member of the Credit Policy Committee of JP Morgan.

Before joining Morgan Guaranty, Mr. Chugh was a division exploitation engineer with Texaco, Inc. in the Midland (West Texas) Division. Prior to that he served with the Oil and Natural Gas Commission, Dehradun, India, in various capacities in oil and gas drilling areas from 1962 to 1967. He has about 15 years of diversified petroleum industry experience in drilling, production, reservoir engineering and operations, both in the United States and overseas.

Mr. Chugh was born November 10, 1939. He was graduated from the Indian School of Mines, Dhanbad, India, with a B.S. degree in Petroleum Engineering in 1962 and from the University of California, Berkeley, with an M.S. degree in Petroleum Engineering in 1968.

AMERICAN SOCIETY OF ENGINEERS FROM INDIA 1990 NATIONAL CONVENTION

Entrepreneurial Awards



RAM THUKKARAM

PRESIDENT AND CHIEF EXECUTIVE OFFICER
GANTON TECHNOLOGIES INC.

" I strongly believe that corporate excellence is achieved through the excellence of individual employees who are encouraged to develop to their full potential and who are united by team work in a shared pursuit of high standards and outstanding performance. I feel that this country provides the opportunity for success to anyone who seeks it. My objective is to fulfill my obligation to my family, my employees, my community and to the nation as a whole. "

Armed with a degree in engineering from the University of Madras, a four-month Danish work permit, a one-way ticket to Copenhagen, Denmark, and three dollars in his pocket, Ram Thukkaram in 1967 began a trip from his home state of Tamil Nadu, India that would end in Chicago, Illinois, where he now heads a die casting, machining and tooling and assembly company that is a major supplier to the American automobile industry.

In the six years after leaving his homeland, Mr. Thukkaram worked in Denmark, West Germany, and Canada, to arrive in Racine, Wisconsin, a tool engineer for a nonferrous die casting firm, and to attend the University of Wisconsin part-time to obtain his Master's degree in business.

With borrowed money and a second mortgage on his home, Mr. Thukkaram in 1978 acquired a small Chicago aluminum and zinc die casting company with sales of \$800,000 and 18 employees. That small company is now Ganton Technologies, Inc., which 12 years later has plants in Illinois, Wisconsin, and Tennessee, sales of \$100 million, and over 800 employees.

The firm holds top ratings from General Motors ("Certified supplier"), Ford ("Q-1") and Chrysler (Quality Excellence). Ganton also supplies such other Fortune 500 companies as John Deere, AT & T, Snap On Tools, and ITT.

A Fellow of the American Society of Die Casting Engineers, Mr. Thukkaram has written and lectured extensively on die casting techniques, and has held seminars nationwide and in India, Canada, and China.

Mindful of his civic responsibilities, he was twice President of Chicago Tamil Sangam, an organization of Indo-Americans of Tamil origin, and Treasurer of the Federation of India Association. Mr. Thukkaram is a Board member of the Tamil Nadu Foundation, which supports various charities in his home town. Serving on the Board of Directors of the Racine Wisconsin Area Manufacturers and Commerce Association, he is active in numerous other professional and service associations.

In recognition of his contributions to the Indo American Community, Mr. Thukkaram received the Chicago Chitrahah 1988 Indira Gandhi Memorial Award, and has been honored by the Golf Association of Indo Americans, of which he was founder and first president.

He and his wife were honored in 1989 by the Chicago Tamil Sangam. Recently, the story of Ganton was aired nationally to 33 million viewers in a 30 minute documentary on the Learning Channel.

Married with two children, Mr. Thukkaram, age 47, lives in Northbrook, Illinois.

AMERICAN SOCIETY OF ENGINEERS FROM INDIA

1990 NATIONAL CONVENTION

Engineering Excellence Award



Dr. Shiva Subramanya

Dr. Shiva Subramanya is an Assistant Program Manager at TRW Defense Systems Group assigned to the Space Surveillance and Tracking System Project. He has over 12 degrees and diplomas in eight different branches of Pure and Applied Science. He has published over 150 technical papers, over 30 of them related to Space Systems and over 40 of them about Strategic and Tactical C3 systems. He has won numerous awards and commendations including the Meritorious Service Award of the AFCEA and has chaired or co-chaired every space systems conference sponsored by Rocky Mountain Chapter since 1984.

He served with Indian Telecommunications Industry in the 1950s, was Appointed to Atomic Energy Establishment of India by the President of India, worked as Chief Engineer of Alcatel's TEI group in the early Sixties, served General Dynamics as Principal Engineer and has been associated with TRW since 1973.

He came to the USA 27 year ago as a doctoral student in Nuclear Physics with vast credentials in academic and applied knowledge in Science and Engineering fields. Today, he has established himself as an expert in Strategic and Tactical Command, Control and Communications with several accomplishments in the field.

He is involved in civic and educational activities of many US organizations and is the National President of Indian Professional Forum and National Vice President of Viswa Hindu Parishad - a nonprofit service organization of Hindus in North America.

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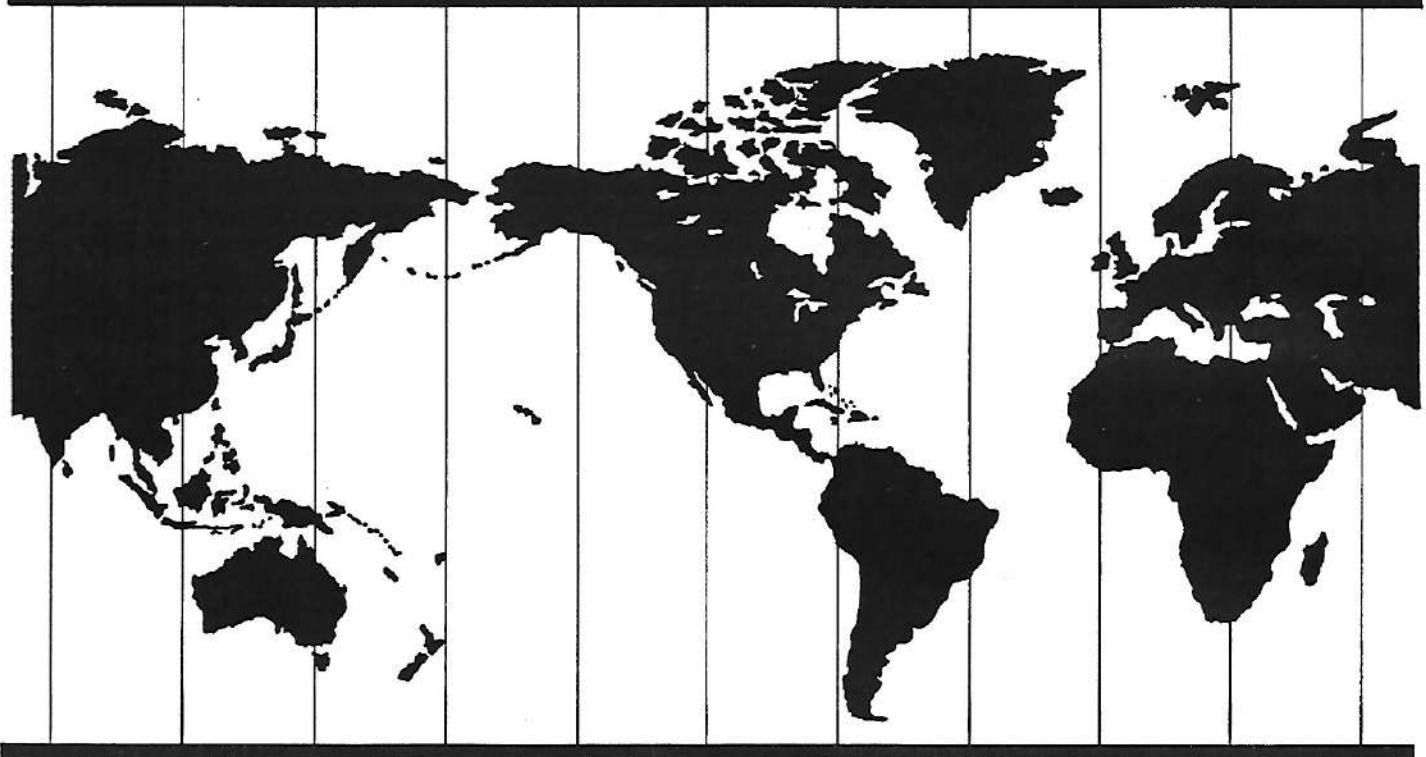
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Confederation of Engineering Industry of India (CEI) is a national organization of Indian Industry representing and servicing 2500 corporate members from the private and public sectors; small, medium and large companies.

CEI is a not-for-profit organization headquartered in New Delhi with a network of 16 offices in India.

CEI regularly arranges Meetings, Workshops, Seminars and Conferences on a variety of subjects such as Corporate Strategy, Business Policy, Technology Management, International Trade, Fiscal Policy, R&D, Energy, Environment, Consumer Affairs, etc.

From time to time, Indian Academics from the USA participate as Faculty, coinciding with their own visits to India.

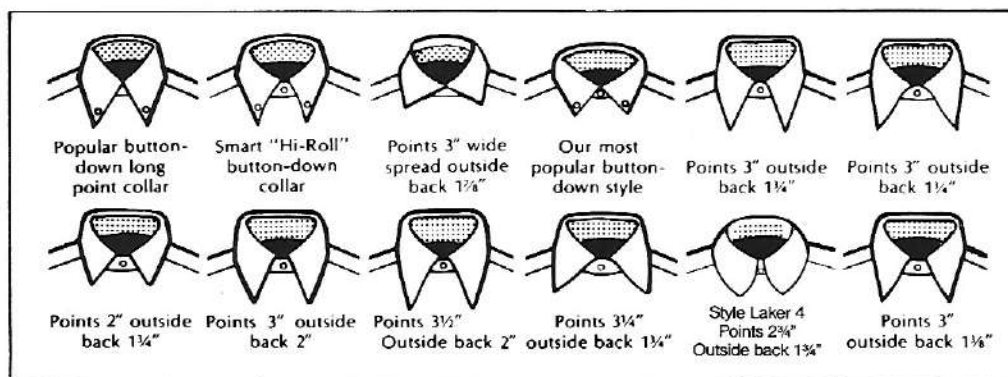
CEI would be very pleased if Indian Academics, who visit India, and would be interested in addressing forums of Indian Industry, research institutions and public officials would get in touch with CEI.

Please write or fax:

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SESSION B

CAREER PLANNING WORKSHOP

Chairperson:
Sudhir K. Jain

This year the career planning for students and young professionals will be conducted in a workshop format. A panel discussion, emphasizing general career topics (see below), will be followed by individual discussion sessions. These discussion sessions will be led by seasoned industry professionals and will answer your personal questions. Typical topics covered during the panel discussion and individual sessions will be:

- dressing for success
- communications, written and verbal
- being recognized as a team player
- personal freedom (habits) versus acceptable norms
- the dilemma: specialize or diversify
- how others form opinions about you and what that means
- continuing education, professional societies, trade shows, skill development.
- PE Registration
- immigration and visa matters

This career planning workshop will enable each individual to:

- Obtain clarification and objective feedback of planned career choices together with developing a realistic timeframe to achieve goals.
- Develop and/or verify a viable career strategy and action plan; confirm skills that need to be developed in the future and any barriers that need to be overcome.
- Improve interviewing skills. Instant feedback will be provided during the session

Helping to develop the potential of Indian students and engineers is a major ASEI priority. Each individual should fully expand his/her professional skills and talents to their maximum potential. By being creative and by focusing on what you "can do" rather on what you "cannot do", you can find ways to stimulate and sustain your individual growth.

Before your career planning session ask yourself these questions: 1) Have you identified the basic building blocks of your strongest skills and interests ? 2) Are you getting locked into just one route to go in the future ? 3) What time spans are built into the route that you have decided to take ? 4) What are your tropisms -- the things you instinctively go towards ? Careers can be managed and the individual should take an active role in this management. The individual's capability to influence what happens is greater than most people believe.

The power to shape your future lies in your own hands. Take the next step; plan your careers.

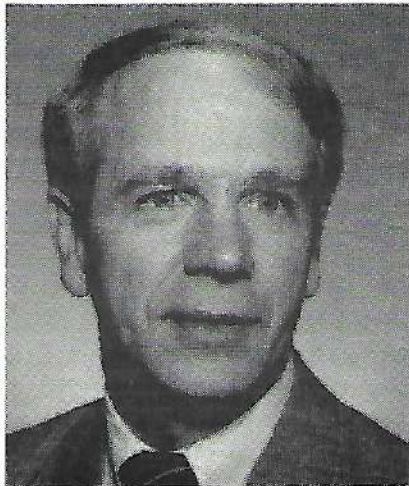
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CMS Enterprises is one of two major subsidiaries of CMS Energy Corporation, established in 1987 to develop and operate non-regulated energy businesses. The other major CMS Energy subsidiary, Consumers Power Company, is the fourth-largest combination gas and electric utility in the United States.

Discussion Leader: Mr. John F. Drake



Mr. John Drake

Mr. Drake is the Director of Human Resources for CMS Enterprises. Mr. Drake has more than 16 years of experience in the energy industry. He joined Consumers Power Company in 1974 and had worked in numerous field and general office departments, in both the human resource and administrative services areas. He worked as a Human Resource Assistant, Corporate Wage and Salary Advisor, Director of Employee Compensation, and as Director of Career Evaluation and Development Assessment Center Program. Prior to joining Consumers Power, Mr. Drake served four years in the U.S. Navy, as a Communications Technician.

Mr. Drake has been recognized by the American Compensation Association as a Certified Compensation Professional. He is currently the Vice Chairman of the American Gas Association Compensation and Benefits Committee. Mr. Drake holds a BA degree in Management Development Psychology from Hillsdale College.

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Mr. Raj Vattikuti

Complete Business Solutions, Inc., (CBSI) was chosen as Michigan's second fastest growing private company in 1989 with a compounded growth of 92% in 5 years. CBSI currently has a staff of 330 people, \$18 million in revenues, and maintains 8 offices; 6 in USA, 1 in London; and 1 in Singapore. Among CBSI's broad range of data processing and consulting services are: networking and connectivity; software development in operating systems, applications, 4GL's; management consulting; turnkey solutions; and systems integration. Mr. Raj Vattikuti is the president of CBS Inc.

Discussion Leader: Canan Gurman

Ms. Canan Gurman is an Administrative Manager at CBSI, and has been with the firm for three years. She started her career working as an accountant in Turkey. After completing her M.B.A. she worked for an international information office in Washington. Ms. Canan holds a BS in Business Administration degree from Ankara, Turkey and a MBA degree from Indianapolis.

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Engineering Analysis Services, Inc. services the needs of the automotive industry in all aspects of structural evaluations of full systems, subsystems and components. EASi's structural analysis group can perform comprehensive analysis covering linear and nonlinear static, dynamic and stability analyses EASi also has a Product Engineering activity that brings together structural, material and manufacturing expertise in proposing engineering advanced and innovative design concepts.

Consisting of 85 engineers (mostly Master's and PhD's), EASi is organized into three areas of expertise: Vehicle Systems, Alternate Materials and Crash. These groups are involved in several engineering programs for General Motors, Ford, Chrysler, their major suppliers and Japanese OEMs.

Discussion Leader: Dr. A. Mani

Dr. Mani is a Project Manager at EASi. His areas of responsibility cover nonlinear applications including crash and specialized software engineering. Dr. Mani specializes in optimization techniques, hypervelocity impact and incompressible materials.

Dr. Mani has a BTech degree from the Indian Institute of Technology, Madras (1982); a MS degree from Penn State (1983) and a PhD from Northwestern University (1987).

INTEGRATED MANAGEMENT SYSTEMS, INC. (IMSI)

Integrated Management Systems, Inc. is a consulting firm which provides project management, application systems development, and other technical services to industry and government. Since it was founded in March 1985, IMSI has developed a track record of success and performance. As a result, it has experienced steady growth and currently maintains a staff of over thirty-five full-time professionals.

IMSI provides planning, scheduling, and management support to large multi-discipline engineering teams by developing master plans, detailed schedules, budgets, timing program activities, assessing and resolving resource requirements, coordinating supplier schedules, assessing impacts of delays, managing change, preparing project status reports and recommendations for management. IMSI develops planning systems and provides training in methods and commercial systems.



Mr. Sudhir Jain

Discussion Leader: Sudhir K. Jain

Mr. Jain is the President of IMSI and has 19 years of professional experience in project management and engineering disciplines. He worked for Bechtel Power Corporation as a Cost Engineer, Planning and Scheduling Engineer, Cost/Schedule Supervisor, and Technical Services Supervisor. Mr. Jain is an active member of American Association of Cost Engineers (AACE) and Project Management Institute (PMI). He currently serves on the Board of Directors of AACE and in Technical Committees for PMI. He is a member of SAE, SME and India Development Service (IDS). Mr. Jain holds a MBA and M.S. degree in Mechanical Engineering from State University of New York at Buffalo and a BS degree in Mechanical Engineering from Banaras Hindu University in India.

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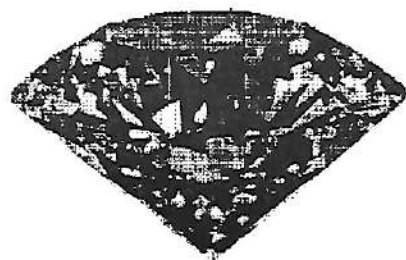
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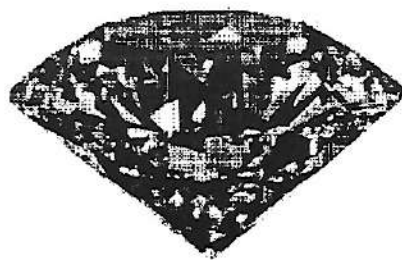
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- | | |
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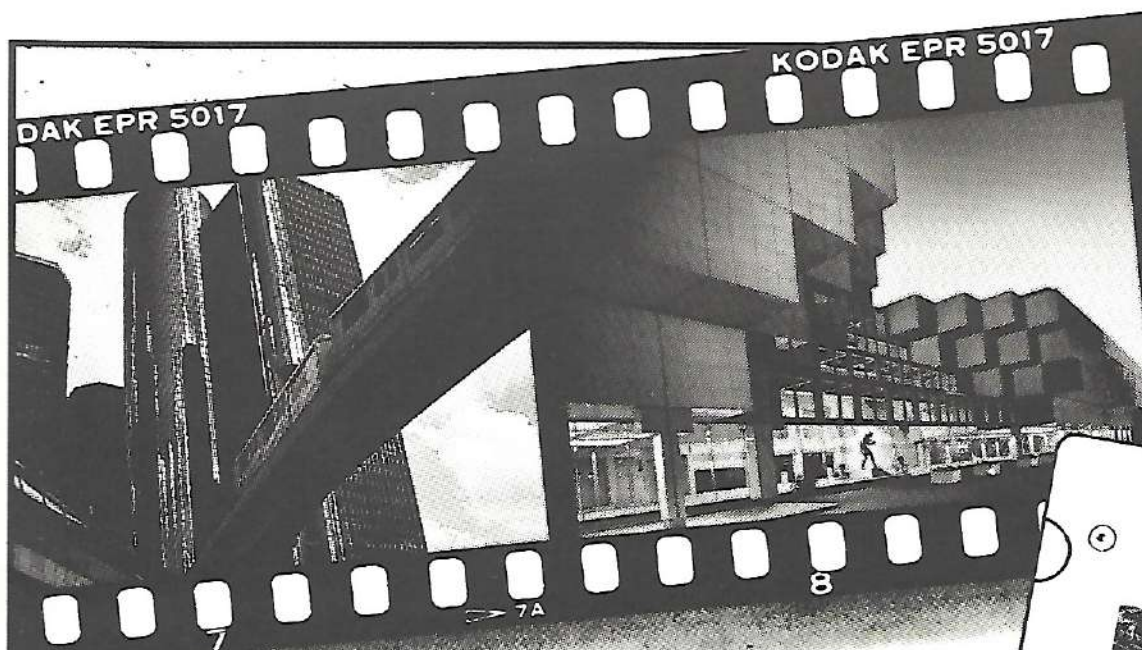
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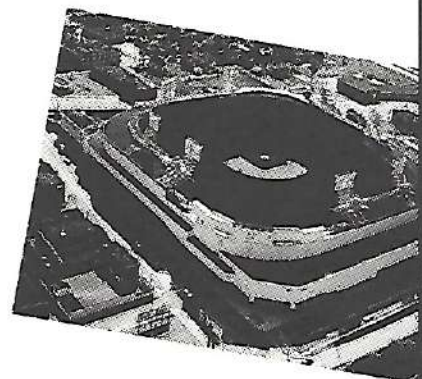
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