

AGE OF QUALITY

There is a worldwide interest and an energetic action towards managing for quality in the industry. Where there is not yet a definite program the interest will soon be translated into them. A breath of the age of quality is felt.

Quality control made it possible for the industry to produce high quality goods at low cost. The world's markets welcomed them and quality control was given recognition.

Until then high quality and low cost were considered to be mutually exclusive. When it was proved that they could be complementary rather than exclusive it made news. The good news travelled at an amazing speed and encouraged study. Today no one challenges this "miracle."

But it had taken almost half a century to prove that today's quality control is an effective technique. Managing for quality was easier said than done. And it could not be achieved only with techniques. Its success was the fruit of cooperation of every person in the organization who was involved either directly or indirectly with quality. In particular it should not be overlooked that the success was largely due to the commitment and active involvement of those persons who would otherwise have simply obeyed orders and reacted to instructions. Because it is their hands that work quality.

The industrial society had created two classes drawing a sharp line of division between them. This division had borne discord. Cooperation across this dividing line had

worked miracle in quality. This new cooperation symbolizing unity of efforts for quality is promoting a change in industrial relations that recognizes each worker is entitled to life worth living and work he can be proud of.

There is another activity that suggests increasing convergence towards quality. This is quality in the intangible. Quality control which had an enormous success in the production sector is adopted in the business administration such as in purchase, sales, accounting and personnel, contributing greatly to reducing every kind of managerial redundancy. This activity has been transplanted into the services industry involving people who are in direct contact with the customer. With well defined objectives the zealous activities are contributing to improving business results. The intangible quality activity is being introduced to public institutions such as the hospitals and city offices. In a sense one can say that public services represent "social quality." It is hoped that increased commitment in this field will enhance the quality of our society which in turn will enrich our minds and fulfill our hearts.

There is yet another area which is an essential part of the age of quality. The progress of science and technology has enabled man to live better and turn his dreams into reality. But that same progress has given man the power to destroy himself if he is careless. What good is the progress in science and technology if it destroys man? And we cannot stop the advance of technology. It is here to stay. The failure to use it well will have greater loss than a vast economic loss for no loss is greater than the loss of human life. Therefore safety is the most important quality for science and technology.

And finally peace is a quality we must create together.



Kohei Suzue
President, JUSE

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“SEVEN MANAGEMENT TOOLS FOR QUALITY CONTROL”

Special Feature of Report of Statistical Application
Research, JUSE
Vol. 33, No. 2

The Committee for Developing QC Tools was established in April 1972, which was one of the study groups under the QC Basic Course of the Union of Japanese Scientists and Engineers (JUSE). After a long period of studies by the committee, the 7 Management Tools for QC were proposed in 1977.

Since 1977, about 8 years of continuous studies and of earnest promotions in education and diffusion of the 7 Management Tools for QC were further conducted by the members concerned. The use of the 7 Management Tools for QC are now increasing in Japanese industries as one of the QC tools for managers and staffs. This is a great pleasure for the present author as a member concerned.

Corresponding to severe changes in social and economic environment a wider introduction of the total quality control (TQC) or company wide quality control (CWQC) is expected, through many enterprises are already conducting the TQC activities earnestly. The TQC expects that all the members of enterprise, especially managers and staffs, acquire a thinking, creating, and idea-developing constitution through its activities.

As the tools for QC, we already have the QC 7 Tools and various statistical methods including the design of experiment. These tools have been widely utilized by all the members of QC Circles in enterprises from managers to workers and have showed their effectiveness in various TQC activities.

However, the present author and his colleagues believed that further new tools were necessary in addition to the existing QC tools for managers and staffs to adapt to the above expectation on the constitutions. The reason is as follows. The role of managers and staffs in TQC activities are not only in analyzing the data obtained for the problem

to be solved. Rather, their important role is to specify the problem, to collect the alternatives to solve the problem, and to make various related divisions cooperate closely before starting the problem solving.

For this reason, the main role of managers and staffs should be to analyze various descriptive and technical informations gathered in and outside of their enterprise, to add creative ideas to the results analyzed, to specify the problems to be solved, and to specify the program for solving the problems. Some additional tools are needed for managers and staffs to use at these stages.

1. Affinity Diagram Method
2. Relation Diagram Method
3. Tree Diagram Method
4. Matrix Diagram Method
5. Matrix Data Analysis Method
6. Process Decision Program
Chart (PDPC) Method
7. Arrow Diagram Method

The Committee for Developing QC Tools has searched and studied various tools expected to be effective in TQC activities for developing the 7 Management Tools for QC. During the committee study, more than 30 tools were selected from various techniques for creativity and management; such as, operations research (OR), value engineering (VE), and etc. Most of them were used and examined

in the TQC activities within the enterprises of the members and related to the members. At the same time, actual examples applying those tools to the TQC activities were collected from the literatures and the studies by the members. After this sort of trial and error process, the 7 Management Tools for QC were established.

Lastly, it should be emphasized that the 7 Management Tools for QC are not substitutes for the existing QC tools. The fundamental tools in the TQC activities should be always the QC 7 tools and various statistical methods analyzing numerical data. The present author and his colleagues only recommend an additional use of the 7 Management Tools for QC for analyzing descriptive data by managers and staffs for supplementing the above fundamental tools. In this sense, the 7 Management Tools for QC may be cor-

rectly understood by naming the Supplementary 7 Management Tools for QC.

— Yoshinobu NAYATANI: *Seven Management Tools for QC, Introduction*

Development of Quality Control and its Tools

Stages	QC tools
QC in inspection stage (classification of good and defect)	● Sampling inspection
QC in production stage (prevention of inspected defects)	● Process control and improvement using the QC 7 Tools, mainly control chart
QC in design (Design of the quality of new product satisfying consumer's requirement)	● Method of quality design using quality table, etc. ● Design review using FMEA and FTA, etc.
QC in research stage (Development of preceeding technology for future new product)	● Not settled definitely, but tools for design approach, such as the 7 Management Tools for QC, are expected to be useful.

— DESIGN APPROACH ANALYTICAL APPROACH —

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“Seven Management Tools for QC”

Yoshinobu NAYATANI

Professor

Osaka Electro-Communication University

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Ryoji FUTAMI

Lecturer

Osaka Electro-Communication University

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Masaru IWAHASHI

Manager of Laboratory

Sakura Color Products Corp.

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Yasuo KUSAMITSU

Manager of Sales Support & Order Placing Dept.

Yaskawa Electric Mfg. Co., Ltd.

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WRITE AND SUBSCRIBE TO REPORT OF STATISTICAL APPLICATION RESEARCH, JUSE

The Report is a quarterly published since 1961 with the objective of introducing to foreign readers research on statistical theories and methods developed and applied in Japan. The subscribers include related parties and readers in the universities, academic societies and industries from sixty countries. The content of the Report covers a broader range of topics and contributors are invited to write in, either by recommendation or at his or her initiative, on the following categories. The articles are published after due selection by the editorial board.

Articles to be published in the Reports of Statistical Application Research, JUSE (Rep. Stat. Appl. Res., JUSE) shall be such not published before in any language other than Japanese and conform to either of the following:

A-Section: Original papers dealing with the development of statistical theories and methods.

B-Section: Original papers dealing with the application of statistical theories and methods or the implementation of statistical quality control.

C-Section: Reports on activities in quality control, applications of statistical methods and other related topics.

Short Note: Brief reports on creative studies, which include important discoveries or conclusions, or persuasive data.

News: Recent activities in Japan, related to the contents of this publication, considered worthy of being introduced overseas by the editorial board.

The annual subscription fee is ¥8,700 for airmail and ¥7,300 for sea mail. Enquire at JUSE for submitting articles or for subscriptions.

DEMING MEDALIST, 1986

MR. RYOICHI KAWAI:

Winner of the 1986 Deming Prize for Individual Person

A 1939 graduate of the Economics Department, College of Economics, Tokyo Imperial University, Mr. Ryoichi Kawai joined the Ministry of International Trade and Industry. In 1950 he became head of the Machinery Export Division, of the International Trade and Machinery Bureau, and in 1953 assumed duties as the Third Guidance Division chief of the Guidance Department, the Small and Medium Enterprise Agency. In 1954 he entered Komatsu, Ltd., and successively held the positions of Managing Director (1960), Executive Vice President (1963), and President (1964). Since 1982 he has functioned as Chairman of the Board.



When in 1961 Komatsu introduced and promoted company-wide quality control as its policy to best serve the needs of trade liberalization of construction machinery, Mr. Kawai made good use of his leadership as Managing Director to achieve rapid quality improvement in Komatsu products and to establish a basis for the firm's international management, and as a result it won the Deming Application Prize. In 1981, as corporate President, Mr. Kawai

made a valuable contribution toward Komatsu's winning the Japan Quality Control Medal.

Early in 1975, at the dawn of Japan's postwar business recession, Mr. Kawai saw that strengthening competitive power through high-level activities of product quality assurance was indispensable, and strove to introduce and promote quality control in Komatsu group corporations. As a result, two firms in the Komatsu sphere won the Deming Application Prize: Komatsu Forklift Co., Ltd. (1980), and Komatsu Zenoah Co. (1984). Meanwhile, Komatsu Zoki, Ltd., won the Deming Application Prize for Small Enterprises (1976), and Kyowa Kogyosho, Ltd. (1980), and Hokuriku Kogyo Co., Ltd. (1984), won the same prize as Komatsu affiliates.

Mr. Kawai greatly contributed to the diffusion of Japanese-style quality control to such nations as China, the United States, Australia and the Soviet Union. With China in particular he has exerted tremendous efforts to promote quality control ever since serving as Vice President of the Japan-China Association on Economy & Trade. In 1978 he gave guidance and assistance to the quality control of the Beijing General Internal Combustion Engine Plant in China, and altogether has logged an impressive record of achievements as a pioneer in the introduction and promotion of Total Quality Control (TQC) throughout China.

Mr. Kawai has lectured extensively on the subject of quality control and its dissemination in Japan. Since 1983 as Vice Chairman of the Japanese Society for Quality Control, and 1985 as its Chairman, he has devoted himself almost exclusively to the research and dissemination of quality control.

DEMING APPLICATION PRIZE WINNERS, 1986

TOYODA AUTOMATIC LOOM WORKS, LTD.:

Winner of the Deming Application Prize

Through its quality assurance system, strengthened by thorough planning and a rationalized start in the manufacturing process, both anticipating the market and consumer requirements, Toyoda's main products have reached the top position in the industry, and this in turn has increased the power to compete. Consequently, production has greatly expanded, which enabled gaining a larger share of the market. It has also reduced incidents of customer complaints regarding qualitative issues to near-nonexistence.

All Toyoda personnel, top to bottom, have united in formulating long-term plans focusing on product planning, and developing and carrying out the first year's plan as basic policy for the balance of the term. As a result the

development of important products has made remarkable headway, and this has brought about a rapid increase in sales of new merchandise.

The abovementioned activities have indeed helped bolster Toyoda's overall structure, generating sales and profits well in excess of predetermined goals.

HAZAMA-GUMI, LTD.:

Winner of the Deming Application Prize

The striking characteristics of Hazama-Gumi:

Defining each year's policy in line with long- and mid-term planning and deploying it out;

Appropriate selection of control items and enrichment of management by policy through diagnosis by heads of departments and other personnel;

Efficient treatment of vital quality issues;

Grasp of quality required by customers and build quality in up-stream of the process by carrying out the design review;

Establishment of work specification and control system at the construction site;

Promotion of standardization and vitalization of QC group activities including the affiliate companies;

Execution of education and training for all employees of the company;

Especially praiseworthy is the solidarity Hazama-Gumi has established between its activities to secure orders and those which assure the quality.

NITTO CONSTRUCTION CO., LTD.:

Winner of the Deming Application Prize for Small Enterprise

Nitto Construction Company Ltd., a mainstay general constructor, is commended for promoting its own TQC activities rather than simply imitating the TQC systems of other major construction companies. In particular, it has achieved and accumulated numerous cases of quality im-

provements and safety assurances through promoting QC circle activities at small building sites and by strengthening company-wide cooperation between the head office, various departments, shops and field offices by utilizing the decentralized management system adopted at each local construction site.

SANYO ELECTRIC WORKS, LTD.:

Winner of Deming Application Prize for Small Enterprise

Translating a clearcut policy from the top management into concrete measures and in the spirit of market-in, Sanyo carried out company-wide efforts to improve management and business activities in the fields of new technology and new product development, quality assurance improvement and built-in quality in the production and assembly processes, and development of new markets. As a result, Sanyo won large shares for specific target products in the seven markets, namely, bus, automobile, neon signs, and high voltage-, industrial-, medical- and aviation equipment.

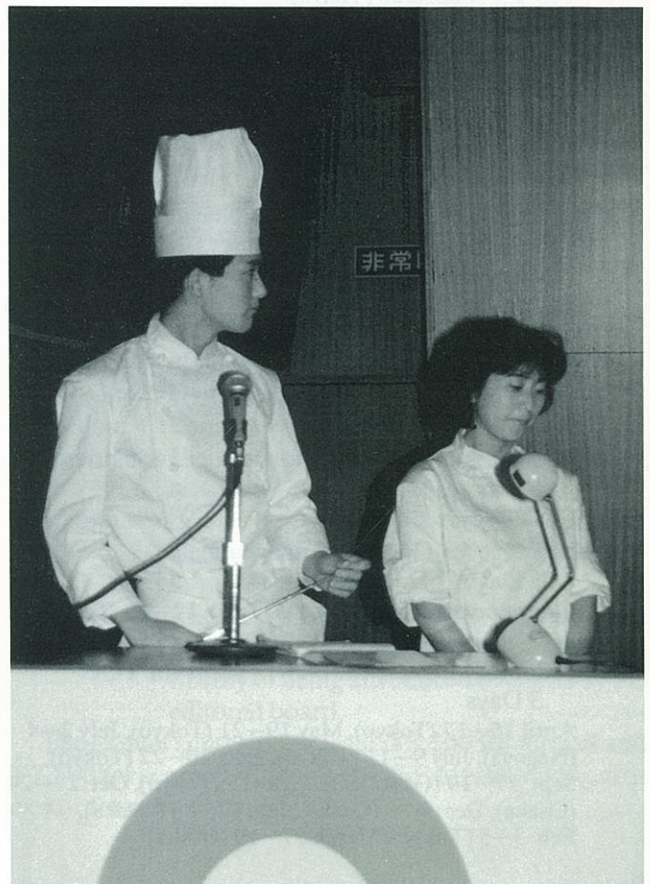
THE SECOND QUALITY CONTROL CONFERENCE FOR SERVICE INDUSTRY **— Held in November, 1986 at Tokyo —**

"The Second Quality Control Conference for Service Industry" sponsored by the Union of Japanese Scientists and Engineers (JUSE) took place on 26—27 November, 1986 at the Nikkei and the Nokyō Buildings at Ōtemachi in Tokyo. Approximately 830 persons participated.

The Conference was the second since it was initiated in 1985 as one of the events of the Quality Month.

"Let's Expand the QC Circles, and Let's Improve the Quality of Our Services" was the theme selected for the 1986 Conference. A total of 39 reports including 22 on solving problems by QC circles, 7 on promoting QC circle activities, 6 on improving activities by managers and staff and 4 on promoting TQC were submitted.

By types of industry, the reports included 14 from department stores, super markets and co-op stores (cooperative stores), 9 from hotels and restaurants, 4 from retail stores including those selling lighting fixtures, spectacles, books and stationary, 2 from wholesale dealers of paints and construction materials, 2 from elevator maintenance and repair shops and 1 each from a travel agent, a hospital, land transport and rent-a-car companies and a golf club (total of 5). The presentations were enhanced by nurses appearing in their immaculate white uniforms and the cooks in theirs. The colourful flavour of their presentations was a good demonstration of their commitment to better services.



LIST OF JUSE EDUCATION AND TRAINING

QUALITY CONTROL

QC Top Management Course

5 Days (Stay at hotel in Karuizawa)

June 30—July 4, July 6—10, July 14—18, Sept. 1—5, Sept. 29—Oct. 3

QC Executive Course

5 Days (Stay at hotel in Hakone)

April 21—25, May 19—23, June 16—20, Oct. 20—24, Nov. 18—22, March 23—27

QC Introductory Course for Executive & Managers

3 Days

April 9—11 (Tokyo), June 3—5 (Osaka), Sept. 17—19 (Nagoya), Dec. 17—19 (Osaka), Feb. 2—4 (Tokyo)

QC Middle Management Course

12 Days (3 D×4 M)

April 3—July 9 (Tokyo), April 17—July 23 (Tokyo), April 21—July 17 (Osaka), Aug. 25—Nov. 27 (Tokyo), Aug. 6—Nov. 21 (Osaka), Aug. 7—Nov. 22 (Osaka), Dec. 8—March 11 (Tokyo), Dec. 12—March 25 (Tokyo), Dec. 12—March 20 (Osaka)

QC Basic Course 30 Days (5 D×6 M)

April 7—Sept. 5 (Tokyo), April 22—Sept. 20 (Tokyo), April 7—Sept. 20 (Osaka), Oct. 6—March 6 (Tokyo), Oct. 21—March 21 (Tokyo), Oct. 6—March 6 (Osaka), Oct. 21—March 28 (Osaka)

QC Introductory Course 8 Days (4 D+4 D)

May 14—June 14 (Tokyo), May 26—June 23 (Osaka), Aug. 25—Sept. 27 (Tokyo), Sept. 29—Oct. 30 (Osaka), Feb. 23—March 26 (Tokyo)

QC Course for Sales Department

13 Days (3 D×14 M+1 D)

April 14—July 12, Oct. 18 (Tokyo)

QC Course for Purchasing Department

16 Days (3 D×5 M+1 D)

Sept. 11—Jan. 14 (Tokyo)

QC Introductory Course for Purchasing Department

QC Introductory Course for Sales Department

4 Days (2 D+2 D)

July 25—Aug. 30, Nov. 14—Dec. 13, Feb. 13—March 14 (Osaka)

TQC Instructor Course 6 Days (3 D+2 D)

June 26—July 26, Sept. 8—Oct. 4, Oct. 13—Nov. 12, Jan. 29—Feb. 28 (Tokyo)

TQC Introductory Course for Service Industries

6 Days (3 D+3 D)

Oct. 29—Nov. 28 (Tokyo)

QC Course for GMP (Pharmaceutical)

5 Days (2 D+3 D)

○Introductory Course (2 Days) April 14—15 (Tokyo)

○Advanced Course (3 Days) May 19—21 (Tokyo)

Introductory Course for New 7 Tools for TQC

3 Days

April 15—17 (Tokyo), May 19—21 (Tokyo), July 2—4 (Nagoya), July 9—11 (Tokyo), Aug. 20—22 (Tokyo), Sept. 17—19 (Osaka), Oct. 13—15 (Tokyo), Oct. 22—24 (Osaka), Dec. 3—5 (Osaka), Jan. 12—14 (Osaka), Feb. 3—5 (Tokyo), March 17—19 (Osaka)

QC Basic Course for Foreman

6 Days (3 D+3 D)

April 7—May 14 (Fukuoka), April 22—May 21 (Osaka), April 24—May 17 (Tokyo), June 12—July 9 (Tokyo), July 9—Aug. 6 (Osaka), July 24—Aug. 27 (Tokyo), Aug. 21—Sept. 27 (Tokyo), Sept. 11—Oct. 18 (Nagoya), Oct. 16—Nov. 15 (Tokyo), Oct. 29—Nov. 28 (Osaka), Dec. 8—Jan. 15 (Tokyo), Jan. 22—Feb. 21 (Nagoya), Feb. 2—28 (Tokyo), Feb. 4—March 6 (Osaka), March 5—April 1 (Tokyo)

QC Basic Course for Group Leaders

4 Days (2 D+2 D)—Tokyo and Osaka

3 Days (stay at hotel)—elsewhere

May 20—June 13 (Tokyo), May 29—June 26 (Tokyo), June 11—July 2 (Osaka), July 15—17 (Fukuoka), Aug. 26—28 (Nagoya), Sept. 30—Oct. 17 (Tokyo), Jan. 18—Feb. 17 (Osaka), Jan. 19—Feb. 17 (Tokyo), Feb. 18—20 (Sapporo)

QC Circle Top Management Course

2 Days (Stay at hotel)

June 20—21 (Fukuoka), Sept. 4—5 (Osaka), Jan. 30—31 (Nagoya), March 20—21 (Tokyo)

QC Circle Instructor Course 6 Days (3 D+3 D)

4 Days (Stay at hotel in Sapporo or Okinawa)

April 3—23 (Tokyo), April 9—May 9 (Osaka), May 12—31 (Tokyo), May 15—June 14 (Nagoya), July 15—18 (Okinawa), July 10—Aug. 6 (Tokyo), July 22—Aug. 23 (Osaka), Aug. 18—Sept. 6 (Tokyo), Sept. 11—Oct. 1 (Tokyo), Sept. 25—Oct. 25 (Osaka), Oct. 6—Sept. 12 (Fukuoka), Oct. 15—Nov. 12 (Nagoya), Oct. 21—Nov. 20 (Sendai), Nov. 11—Dec. 11 (Osaka), Nov. 20—Dec. 13 (Tokyo), Nov. 25—28 (Sapporo), Jan. 7—31 (Tokyo), Feb. 5—25 (Tokyo), Feb. 24—March 12 (Osaka), March 2—25 (Tokyo)

QC Circle Leader Course 3 Days

April 7—9 (Tokyo), April 14—16 (Tokyo), April 15—17 (Osaka), May 20—22 (Nagoya), May 22—24 (Tokyo), May 26—28 (Tokyo), May 28—30 (Osaka), June 2—4 (Osaka), June 2—4 (Kokura), June 9—11 (Tokyo), June 16—18 (Okinawa), June 18—20 (Sendai), June 23—25 (Sapporo), June 26—28 (Tokyo), June 30—July 1 (Tokyo), July 8—10 (Nagoya), Aug. 25—27 (Osaka), Sept. 1—3 (Tokyo), Sept. 8—10 (Tokyo), Sept. 24—26 (Fukuoka), Oct. 1—3 (Osaka), Oct. 20—22 (Tokyo), Oct. 27—29 (Tokyo), Nov. 5—7 (Osaka), Nov. 10—12 (Tokyo), Nov. 17—19 (Tokyo), Nov. 26—28 (Nagoya), Dec. 4—6 (Tokyo), Dec. 16—18 (Tokyo), Dec. 17—19 (Osaka), Jan. 15—17 (Tokyo), Jan. 26—28 (Tokyo), Jan. 28—30 (Osaka), Feb. 19—21 (Tokyo), March 11—13 (Tokyo), March 19—21 (Tokyo), March 26—28 (Tokyo)

QC Circle Course for Clerical Work

6 Days (3 D+3D)

April 10—May 8 (Tokyo), May 14—June 21 (Osaka), June 23—July 23 (Tokyo), Aug. 7—30 (Tokyo), Oct. 2—25 (Tokyo), Dec. 1—24 (Tokyo), Dec. 2—24 (Osaka), Feb. 16—March 18 (Tokyo), March 4—April 1 (Nagoya)

QC Correspondence Course 6 Months

April—Sept., Oct. —March

COURSES IN 1987 (Apr. '87 – Mar. '88)

RELIABILITY ENGINEERING

- RE Management Course 4 Days
April 21–24, Sept. 16–19, Jan. 19–22 (Tokyo)
- RE Basic Course 15 Days (5 D×3M)
April 7–June 6, Sept. 1–Nov. 8, Jan. 6–March 20 (Tokyo)
- RE Introductory Course 4 Days
March 31–April 3, June 9–12, July 8–11, Aug. 18–21, Oct. 27–30, Feb. 1–4, Feb. 2–5 (Tokyo)
- RE Course on FMEA–FTA 2 Days
April 14–15 (Tokyo), May 15–16 (Tokyo), July 18–19 (Tokyo), Aug. 28–29 (Tokyo), Sept. 2–3 (Osaka), Oct. 23–24 (Tokyo), Nov. 26–27 (Osaka), March 2–3 (Tokyo), March 27–28 (Tokyo)
- RE Course on Design Review 3 Days
May 12–14 (Tokyo), June 18–20 (Tokyo), July 3–5 (Tokyo), Aug. 7–9 (Tokyo), Oct. 20–22 (Osaka), Dec. 22–24 (Tokyo), Jan. 28–30 (Osaka), March 4–6 (Tokyo)
- RE Course on Probability Paper 2 Days
June 16–17 (Tokyo)
- RE Course on Test 3 Days
Aug. 4–6, Jan. 12–14 (Tokyo)
- RE Six Day Course 6 Days (3 D+3 D)
June 18–July 17, Sept. 10–Oct. 16 (Tokyo)
- RE Course on Failure Analysis 3 Days
March 26–28 (Tokyo)

DESIGN OF EXPERIMENT

- DE Basic Course 30 Days (5 D×6 M)
Oct. 13–March 13 (Tokyo)
- DE Osaka Course 20 Days (5 D×4 M)
May 12–Aug. 22 (Osaka)
- DE Introductory Course 8 Days (4 D+4 D)
April 16–May 24 (Tokyo), May 26–June 27 (Tokyo), Aug. 20–Sept. 21 (Tokyo), Sept. 9–Oct. 10 (Osaka), Nov. 25–Dec. 21 (Tokyo), Jan. 20–Feb. 21 (Osaka), Jan. 26–Feb. 27 (Tokyo)

MULTIVARIATE ANALYSIS

- MA Seminar 7 Days (4 D+3 D)
Nov. 4–28 (Osaka)
- MA Basic Course 4 Days
July 14–17, March 23–26 (Tokyo)
- MA Advanced Course 3 Days
Aug. 25–27 (Tokyo)

INDUSTRIAL ENGINEERING

- IE Basic Course 16 Days (4 D×4 M)
June 3–Sept. 19 (Tokyo)
- IE Basic Course for Foreman 6 Days (4 D+2 D)
Sept. 17–Oct. 14 (Osaka), Oct. 6–31 (Tokyo), Feb. 10–March 10 (Tokyo)

OPERATIONS RESEARCH

- Corporate Strategy, Executive Course 4 Days (2 D+2 D)
Oct. 16–28 (Tokyo)
- Corporate Strategy, Managers Course 8 Days (4 D+4 D)
June 16–July 24, Feb. 2–March 5 (Tokyo)
- OR Basic Course 30 Days (5 D×6 M)
March 31–Sept. 20 (Tokyo)

MARKETING RESEARCH

- MR Seminar 17 Days (5 D+4 D×3 M)
Sept. 8–Dec. 18 (Tokyo)

SENSORY TEST

- Sensory Inspection Seminar 11 Days (6 D+5D)
Feb. 23–March 27 (Tokyo)

PRODUCT LIABILITY

- PL Prevention Introductory Course 3 Days
May 26–28 (Tokyo)

OTHER MANAGEMENT TECHNIQUES

- Statistical Application Seminar for Clinical Test 7 Days (4 D+3 D)
Oct. 20–Nov. 15 (Tokyo)
- Software Production Control Seminar 8 Days (4 D+4 D)
June 16–July 17, Dec. 15–Jan. 23 (Tokyo)
- Cost Reduction Seminar 6 Days (4 D+2 D)
Nov. 25–Dec. 20 (Tokyo)
- Finite Element Method Seminar for Fluid Mechanics 3 Days
March 16–18 (Tokyo)
- Numerical Analysis in Geotechnical Engineering 2 Days
Oct. 24–25 (Tokyo)
- VE Basic for Foreman 3 Days
May 22–24, Sept. 22–24, Jan. 29–31 (Tokyo)

- Most of the above courses are held regularly every year.
- All the courses are conducted in the Japanese language.
- Priority for course enrollment is given to JUSE member companies.
- The courses may be provided in a foreign language, such as English, upon request.
- Send your enquiries to the International Relations Section, JUSE:
Telex: 02322485 JUSE J Fax: 03-356-1798
Telephone: 03-352-2231

ICQC '87 Tokyo

**INTERNATIONAL CONFERENCE OF
QUALITY CONTROL
1987 TOKYO OCTOBER 20TH TO 23RD**

**Progress Report:
276 PAPERS FROM 40 COUNTRIES**

In response to the "Call for Papers" for the International Conference on Quality Control 1987 scheduled for October 1987 there were offers for 276 papers from 40 countries.

The 30 member program committee is now selecting 200 papers which will be presented in 5 halls (including Poster Session) on the second and the third day of the conference.

Bearing in mind that quality control is above all a practise, papers based on actual data and experience will be presented at Poster Sessions which are allocated sufficient time for discussion.

The selection committee has noted that the quality (content) of papers have dramatically improved so that it is having a difficult time selecting the papers for presentation. As a matter of fact it has already spent one month in this regard. The applicants, however, will be advised of the results by the end of February.

The session programs will be finalized in March and will be posted on the third circular.

**NATIONAL QC CONFERENCES IN
QUALITY MONTH (NOVEMBER)**

1. Consumer QC Conference (1 Day: Nov. 2)
2. All Japan QC Circle Conference (1 Day: Nov. 10)
3. QC Conference for Foreman (3 Days including Plant Visit: Nov. 11 to 13)
4. QC Conference for Top Management (1 Day: Nov. 16)
5. Deming Prize Awarding Ceremony (Evening of QC Conf. for Top MGT)
6. QC Conference for Manager & Staff (4 Days including Plant Visit: Nov. 17 to 20)
7. QC Conference for Service Industry (2 Days: Nov. 26 & 27)
8. QC Annual Public Lecture Meeting (Held in 20 Industrial Cities throughout Japan)

[Note]

Besides the above which are scheduled during the Quality Month, there are other QC Conference as follows:

QC (SPRING) CONFERENCE IN NAGOYA
(3 Days including Plant Visits: May 20 to 22)

**QUALCONTEX
TO RUN CONCURRENTLY WITH
ICQC '87 TOKYO**

While the Quality Control Exhibition usually coincides with ICQCs in Europe and the U.S., this year's QUALCONTEX marks the first for Japan. The reason we decided to hold the exhibition is partly the need to more effectively promote the goals of quality control by providing the Conference with relevant information on both hardware and software technology, which have made such outstanding progress in recent years, and partly because so many interested persons in Europe, the Americas and Southeast Asia sincerely requested us to do so.

We would greatly appreciate your displaying software or hardware, tools or materials on this important occasion when so many people from around the world related to quality control will gather, so as to contribute to the study, education, operation and management of this vital phase of industry.

Official Data

Name: ICQC '87 Tokyo Quality Control Exhibition (QUALCONTEX)

Period: October 20—22, 1987

Place: Hana Room (4F), Keio Plaza Hotel, Tokyo

Organizer: Union of Japanese Scientists & Engineers (JUSE)

Booth Charges:

Small Booth: $^w1.8\text{ m} \times ^D1.8\text{ m}$ @ ¥350,000

Large Booth: $^w2.7\text{ m} \times ^D1.8\text{ m}$ @ ¥550,000

For further information or application please contact:

Secretariat

ICQC '87 Tokyo Quality Control Exhibition

c/o International Congress Service, Inc.

Kasho Building 2F

2-14-9 Nihombashi, Chuo-ku, Tokyo 103 Japan

