

In Celebration of the 2000th QC Circle Conference

by Dr. Kaoru ISHIKAWA, President, Musashi Institute of Technology

I wish to offer my sincere congratulations on the 2000th Conference. We started the QC Circles in 1962, and held the first conference of foremen in the same year, and the first QC Circle conference in Sendai in 1963. Two thousand conferences were held since then.

In 1987, we had a total of 172 QC Circle conferences held all over the nation, which means one conference is held every two days, on the average.

QC Circles in Japan have seen a favorable growth, and it has become quite popular not only among the manufacturing industries but also in the service industries. Outside of Japan, QC Circle activities are also conducted in over fifty countries. I had a chance to participate in the International Conference of QC Circles (ICQCC) held in Bangkok, Thailand last year. We can see that there are very enthusiastic promoters of QC Circles in each of such countries.

There are three major factors behind the success of QC Circles:

1. QC Circles were held as part of TQC.
2. Activities have been carried out according to the "General Principles of the QC Circle" and other principles and 'starting points'. Since lately the QC Circles have become

active also in the service industries, there have been efforts to amend the "General Principles," but the fundamental principles remain completely unchanged.

3. Regional chapters are organized all over the nation from Hokkaido to Okinawa, where the representatives of companies on the management board of the Chapters, who are devotees of QC Circle, have been engaged in the activities with a kind of enthusiasm which comes from the spirit of service.

The above three elements together, in addition to mutual development at the conferences, are the main reason which has enabled the QC Circles to achieve such as expansion.

I feel that stimulating each other through mutual development at the conferences like this has been a good method indeed. In fact, back in the days when we started QC Circles, there were not any opportunities for the foremen to come out and discuss matters. At first, those who participated in the conferences suffered from lack of confidence, but today there are a lot of people taking part in the discussions and making mutual development. It has been a major reason of success.

Therefore, I hope you will all promote mutual development today in the occasion of the 2000th Convention. The case-studies of companies engaged in lines of business different from one's own are particularly informative. People often tend to look at only their own line of business. For instance, let's look at the robots, which we often see recently. The use of robots, in other words, is automation. Automation has been present in the chemical industry for twenty or thirty years now. If we adopt the management method of the chemical industry, therefore, we could immediately realized the introduction of robots in our own industries, and services are no exceptions. I hope you can learn from the examples of the other lines of business, engage in active discussions, and enliven this Conference.



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THE REPORT AWARDED GOLD MEDAL AT 1987 ALL JAPAN QC CIRCLE (COMPETITION) CONVENTION

The road to OA (Office Automation): Learning from each other, discussing with each other, and joining efforts

Reported by: Fumie Kudo, Keiko Kunishige, Mieko Harada

— Yasukawa Electric Mfg. Co., Ltd. Yukuhashi Plant, System Design Dept.

Constituent members of the group: 6 (female)
Average age of the members: 31
Date of establishment: March 1980
Number of themes presented so far: 40

Frequency of meetings: 8 times/month
Length of one meeting: 60 minutes (during or after office hours)

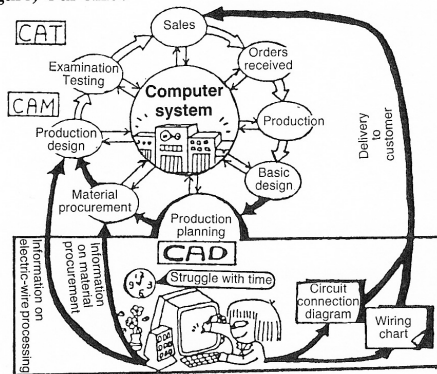
1. Introduction

Yasukawa Electric Mfg. Co., Ltd. is specialized in the development, design and production of control equipments and system electric appliances, which are the nucleus of automation. Our motto is "Quality First". All employees of all divisions in our plant participate in either one or the other of the 107 QC circle groups, engaged in lively activities with a target of completing more than six themes annually.

2. Our department

Our department consists of 60 women employees who are engaged in the important task of drawing the plans necessary for production, according to the drawings designed by the Basic Design Division, and aided by various OA machines, as well as forwarding the information regarding materials procurement and electric-wire processing to the downstream production lines (See Figure).

(Figure) Our office



3. The history of our QC Circle

(1) The way to independence

1) The awakening as a leader (1980—1981):

Our activities in 1980 were just enough to keep pace with the other QC circles. Then, in 1981, I participated in a training program for circle leaders and had a chance to learn the basic philosophy. "Design is a field of work where it is the skill of the individuals that counts. What does QC have to do with it anyway?" I used to think in this way, but what I learned from the training caused me to change my mind. Upon returning to the place of work, we set up a "Three-year plan."

2) Learning from others (1981):

The first year, we started the "Operation 'Make-up'", which meant we were going to master the QC approach and study how to carry out improvements. We invented the so-called "Pair-pair system": senior and junior members made up teams of two, and taught to or learned from each other on a one-on-one basis.

3) Original Ideas (1982):

In the second year the "Operation 'Shape-up'" was initiated, so as to introduce our original ideas to the circle activities.

4) Independence (1983):

The third year, each member tried to be more independent, through enforcement of "Operation 'Dress-up' ". Problems of the circle were pointed out by referring to the "QC Circle Diagnosis Chart" and an "Annual Activity Plan" was set up by checking the problems against the "Policy of the Head of the Department". Further, thanks to the "Theme-leader system" and the "System of performing the duties of secretary and report presentation by rotation", each circle member developed her ability and the group as a whole improved its quality.

(2) Conflicts with the CAD and a new start: learning from each other — "Harmony" (1984)

1) Revolution:

The introduction of the CAD system in this year brought about a complete change of the working environment. From a paper-and-pencil drawing to interaction with the CRT screen and to designing with light-pens and keyboard operation... it was a drastic change both in the method and content of work. There was a change in members: two left our department, and two others joined us. The name of our circle was also changed to "MOGA", the acronym standing for the Japanese words meaning "Tackling the complicated OA machines with hard work and enthusiasm."

2) A "dying" circle:

Once the (company's) group education on OA machines started, we were overwhelmed by difficult technical terminology, English language interaction with the machines, and a hoard of matters hard to understand. While the younger colleagues seemed quite happy with CAD, the senior members kept complaining about it: "Designing by hand is much faster. So why should we learn to use CAD?" Each time we held a meeting, I used to appeal to my colleagues, "Let's master the use of CAD by the 'Pair-pair' approach!" but no one would pay attention. I myself was poor at CAD, and found myself in a dilemma between my own problems and the circle activity, so I had to send out a "distress signal" to the "Progress board".

3) Harmony restored:

The superior who ran to my aid advised me to sound out my colleagues about their sincere feelings, and I found that everybody was fretting, all by herself. I made a diagram out of their answers, based on which I personally had talking sessions with each colleague, and got to know each other's way of thinking.

As a token a fresh start, I proposed that we go to a French cuisine restaurant. We enjoyed a lively conversation at the restaurant, for the first time in a long while, and decided to challenge CAD. In this way we were able to unite our hearts at last.

4) Starting from zero:

The degree of mastery of the CAD system proved to be higher for the younger colleagues and lower for the elder ones, contrary to normal office routines. When we learned QC approach through the "Pair-pair" method, it was the senior members who took the lead. This time, things were different. To be sure to let everyone gain mastery as early as possible, we all started from the same balk line; we divided the task among us four, each person learning a part of the assigned CAD system, taking turns teaching to and learning from each other. We named it "Operation 'Relay'."

Thus we all mastered the basic skills of CAD.

(3) Recognition of "Quality-First": Contributing ideas (1985)

1) From the experience of our seniors:

Then one day, a mistake made by Ms. Baba caused the electric-wire processing line to stop. As we saw Ms. Baba brooding over the "(Mistake) recurrence-prevention control form" handed to her by her superior, we held a special meeting to "deal with the problem as our group's issue". While we were trying to determine the cause of the mistake, Ms. Hara joined us in the discussion, bringing with her an old notebook and saying, "I also made that same mistake once!" The notebook was a record of past cases of mistakes and of the respective countermeasures.

We decided to learn from the experience and knowhow of our seniors, and compiled a manual entitled "Career sheet". Further, we made a "Check list" by classifying the items according to the degree of effect the mistakes could have on the downstream production lines. The "Check list" could be used by the whole design division.

2) Attempt to realize "Zero-mistakes":

"Mistakes should not happen!" we said to ourselves, and set about carrying out "Operation 'Zero-mistakes'." Through such activities we learned the importance of obtaining cooperation from the staff.

(4) In pursuit of infinite possibilities — circle activities for display of total abilities (1986)

1) Learning from exchange meetings:

At the beginning of 1986, we were requested by the superiors to "take up the issue of bringing forward the delivery date" at the QC circle. We were at a loss how to deal with this question. Just then, based on evaluation of our past activity records, we were chosen to participate in the internal selective convention of the plant to pick the candidates for the Head Office Manager Prize. Result: rejected.

Each of us put forward some of the current problems and ideas for solving them, evaluated them according to the importance and emergency, and decided to solve job-related problems in a joint effort with the other QC circle groups in the company.

2) Extending the boundaries of circle activities:

In order to cope with the issue of early delivery, we promptly invited the QC circles of the adjacent production lines to join us in a joint brain-storming session, through which we found that mutual understanding of the job-responsibilities could be useful for reducing mistakes and for helping each other. Then we proceeded to "Operation 'Friends'"; each group picked up a number of subjects for briefing each other on the respective jobs. The activity was carried out by 20 women employees, including housewives and part-timers, every one becoming a "teacher" to others. We used the "teacher reservation cards" to coordinate our schedules. It was a good chance for reinforcing mutual confidence and for widening the range of each person's skill.

4. Conclusion

We started by learning the QC approach, and built up on our original system of circle operation, by putting it into actual practice. It has become a precious asset in continuing the circle activities. Seven years ago, we were groping for ways to carry out QC activities. Then we experienced the importance of learning from and discussing with each other, as well as the joy of cooperating for devising the ways of effecting improvements: this is how we grew up to have the ability to contribute to good office ambience. Now we feel that we are very happy to have continued practicing QC circle activities.

5. Into the future

Office automation will be further advanced in our place of work. We cannot expect the circumstances to be lenient on us because we are "housewives" or "ladies". We are determined to keep on advancing, step by step, to attain the realization of the basic philosophy of QC circle activity, along the lines of the new "Three-year Plan" (Table).

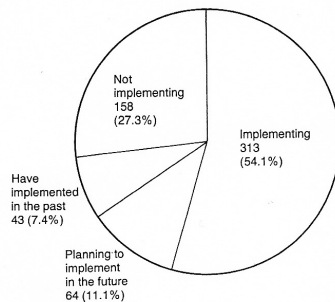
(Table) The New Three-year Plan — "MOGA" group

Philosophy	Targets	Year		
		1987	1988	1989
Making full use of one's abilities and bringing out infinite possibilities	— Raising the level of individual skills — Developing analytical abilities	Knowing the upstream production line	Reviewing one's own work	Participating in the making of CAD
Respecting people's humanity and contributing to good office ambience	— Exhibiting one's personality and creativity — Expanding the boundaries of circle activity	Increasing knowledge on system-electric appliances. Understanding the structure of CAD. Raising the level of 'statistical thinking', the new tool of QC.		
Contributing to the development of the Company	— Putting the 'Quality-First' philosophy into practice — Augmenting the quality of the 'improvements'	Making proposals for an easier-to-use CAD. Promoting interchange with: the Basic Design Division the cooperating plants the affiliated companies		
		Improvement of basic design, reviewing of daily control.		
		Expanding joint improvement activities with other circle groups.		

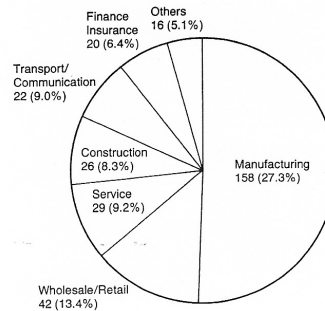
RESULTS OF FACT-FINDING SURVEY ON QC CIRCLE ACTIVITIES DISSEMINATION

In January through February, 1988, JUSE/QC Circle Center conducted a survey by mailing a questionnaire to 4,000 establishments having 30 or more employees picked up from all over Japan through the systematic sampling method. Close analyses of the results are now being made in order to make a follow-up survey, and the following is a part of the results of the first survey which gathered 578 effectual replies:

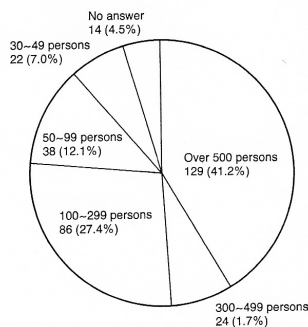
A. Implementation of small-group activities (N=578)



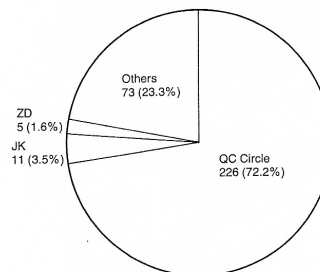
B. Types of industries implementing small-group activities (N=313)



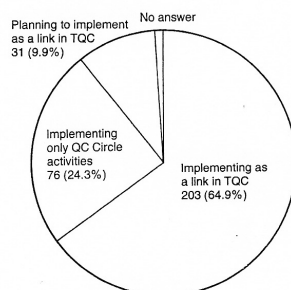
C. Number of employees at workplace implementing small-group activities (N=313)



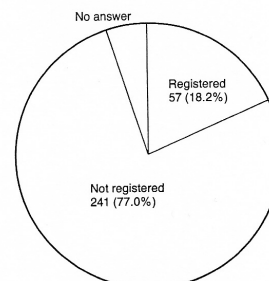
D. Name of small-group activities (N=313)



E. Existence of TQC activities (N=313)



F. Registration of QC Circle activities with QC Circle Center (N=313)



What is expected of the QC Circle activities of the future

from the special lecture in commemoration of the 2000th QC Circle Conference

by Dr. Eizaburo NISHIBORI*



The future development of the QC Circle depends on raising technology one step higher. Good ideas on which designs are made, or the methodical issues derived from them could be considered. The "circle" of the QC Circle should be expanded, if necessary, to include people of different workshops. What should be done to keep on enhancing technology? What is technology? I would like to invite you all to consider such questions.

Based on the Seven Tools of QC Circle which you have been using and in addition to them, elements of a higher level such as the so-called technology, or learning, must also be introduced. Methods of research should be improved, and statistical approaches must be adopted more often. I expect you to grapple with technical matters more closely than in the past.

I want to say that every one of you, including the operators, are "persons engaged in technology" rather than technicians. Everyone makes the most of technology and becomes the nucleus that makes up new technology. I believe you are very familiar with the letter T of TQC. It is this T that I am referring to. I hope every one of you can be a "person engaged in technology." If I am in such a position that I do not deal with it directly but have sufficient knowledge about it, and support it, then it means that I already belong to the kind of "persons engaged in technology." The "person engaged in technology" must have the idea of morality based on which that person can face the evil bravely. Whether it is an issue related to pollution, or to wasteful use of resources, please make sure there is not even a bit of deceiving the customers.

We have a bright future before us. Utilizing a small amount of resources to make decent goods. Never making things that could cause pollution. It is also important to consider the life of goods: it is better to manufacture things that, once made, are cherished and taken good care of for a long time. Besides, safety is another major issue of concern in the future. If a rocket is to be launched, nobody would want a rocket that could go up in a blaze. If a nuclear reactor is made, nobody would want to see problems such as accidents of the reactor. When we take all these things into consideration, it can be said that there are a host of problems that the "people engaged in technology" must solve.

In this sense, the "persons engaged in technology" are never enough, even if they should increase. They are so much in demand that there is a constant shortage. In order to fill such demands, all of you must study and improve your technical level. How? Technology comes out of research. Research does not necessarily mean research done in the laboratories. To make good use of the experiences of the first line is also research in a way.

Until now, you might have had a noting that "We should not think of these matters," or "We do what we are told to do, that's how it is." You must not stick to such conventional ideas. You have all learned the voluntary attitude in the QC Circles; learned that you can work hard of your own will, and enjoy it. So I hope that based on this, from now on, you will further expand your views and enhance your technical level.

* Advisor, Union of Japanese Scientists and Engineers (JUSE). Born in Kyoto 1903. Doctor of science, Kyoto University, Dept. of Science. Studied corporate management methodology and human relations before World War II. After the war, played a pioneer role in introducing Statistical Quality Control. Awarded Deming Prize 1954. Appointed as the leader of the nation's antarctic wintering team 1957, and as the head of Himalayan expedition party 1973 and 1980, he is actively engaged in a wide range of activities and has written many books on Quality Control and other themes.



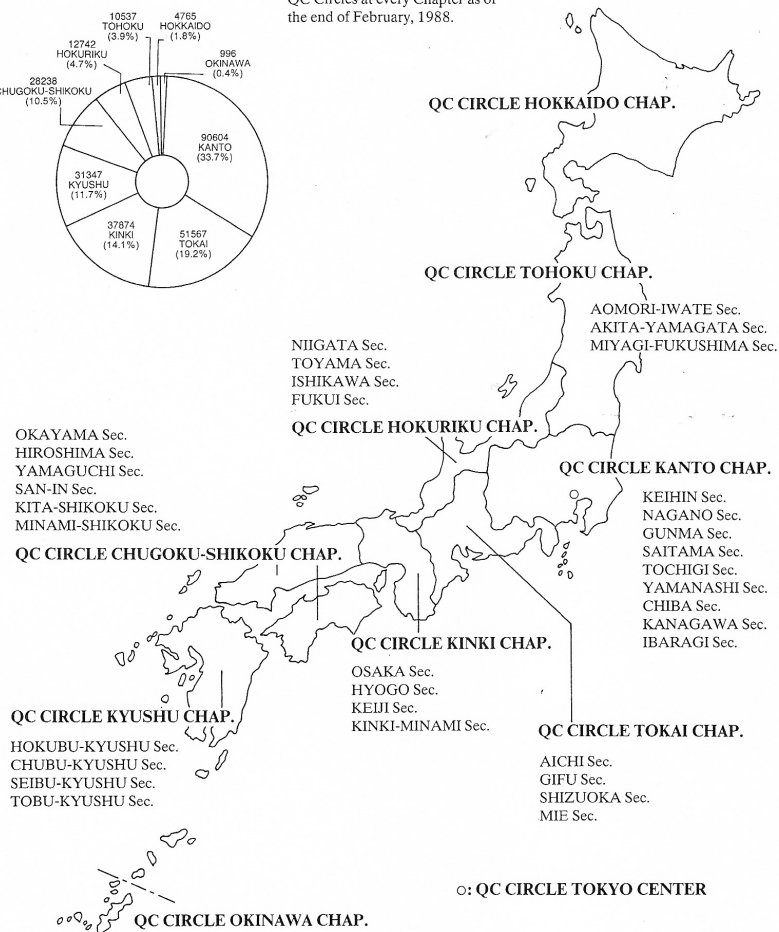
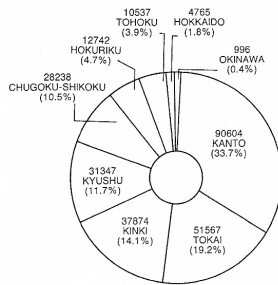
SCHEDULE OF QC CIRCLE CONVENTIONS, APR. '88 – FEB. '89

(CHP: Chapter; S: Section; V: Plant visit; TWO LETTERS: Section code; *: For women)

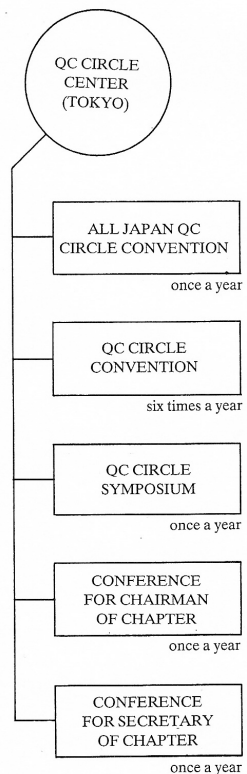
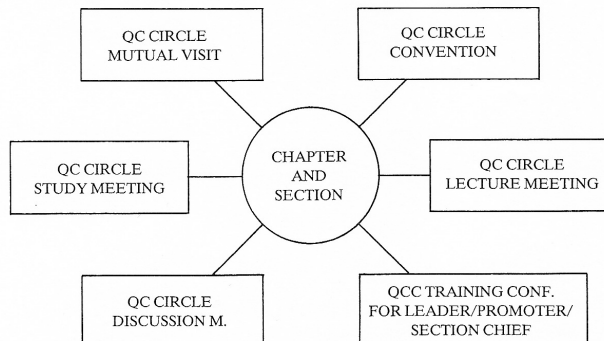
(TIMES)	OKINAWA	KYUSHU	CHUGOKU SHIKOKU	KINKI	HOKURIKU	TOKAI	KANTO	TOHOKU	HOKKAIDO	TOKYO CENTER
APR. (9)		8 HO · S 20 TO · S		26 OS · S	14 FU · S	22 MI · S 20 AI · S	28 KA · S	22 FU · S		14, 15 at OKINAWA
MAY (25)	11 CHP	11 HO · S 26 CHP	17 MI · S 20 OK · S 27 KI · S	17 CHP 27 KM · S		18 SH · S 27 CHP	12 CH · S 13 NA · S 13 YA · S 16 TO · S 17 KE · S 17 SA · S 17 GU · S 18 IB · S 20 KA · S* 24 NA · S	27 AO · S 27 IW · S 27 AK · D 27 MI · S	27 CHP	
JUN. (22)		3 CH · S 17 HO · S	3 HI · S 17 YA · S	3 HY · S 14 KE · S	9 FU · S 16 TO · S	10 SH · S 15 CI · S 19 MI · S 23 AI · S	10 SA · V 13 GU · V 15 IN · S 17 KE · S 17 YA · S 24 KA · S 24 NA · S	17 CHP 24 YA · S		23, 24 at SAPPORO
JUL. (21)		8 TO · S 14 CHP 22 SE · S	22 SA · S 29 CHP	5 KM · S 22 CHP	5 IS · S 8 NI · S 22 CHP	22 CHP	5 SA · S 7 GU · S 8 NA · S 12 KE · S 14 CH · S 20 CHP 26 GU · S 38 IB · S	22 CHP	8 CHP	
AUG. (8)		10 HO · S	26 KI · S	23 CHP 30 OS · S			23 KE · S 24 TO · S		31 CHP	25, 26 at YAMAGATA
SEP. (20)	6 IS · SA new Sec. establ.	8 CHP 22 CH · S	2 HI · S 2 YA · S	9 KM · S 19 HY · S	1 HO · S* 9 IS · S	7 GI · S 7 HI · S 8 SH · S 14 CHP*	2 IB · S 6 CH · S 8 NA · S 16 KA · S 19 TO · V 22 YA · S 27 SA · S			
OCT. (23)	26 CHP	7 TO · S 20 CHP 27 HO · S	21 CHP 28 OK · S	11 IS · S 19 HY · S	27 TO · S	20 AI · S 26 GI · S	5 NA · S 11 SA · S 13 TO · S 18 AU · S 19 CH · S 19 KA · V 19 KE · V 20 IS · S	7 AK/YA 7 AO · S 18 MI · S*		13, 14 at FUKUI
NOV. (10)			11 MS · S 18 YA · S 25 HI · S 29 KS · S	1 CHP 4 OS · S	11 NI · S		9 NA · S 11 KA · S 25 YA · S			(8 All JPN QCC CONV.)
DEC. (16)		2 CH · S 2 SE · S 2 TO · S	2 HI · S	6 HY · S			2 TO · S 2 NA · S 2 IB · S 6 CH · S 6 SA · S 8 GU · S 9 KA · S 20 KE · S	2 FU · S	2 CHP*	8, 9 at KUMAMOTO
JAN. (10)		19 CHP	20 SA · S	26 CHP		20 AI · S 20 MI · S 24 SH · S	17 GU · S 19 CH · S* 23 KE · S		27 CHP	
FEB. (10)			3 CHP			9 CHP	2 NA · S 3 TO · S 9 KE · S 10 KA · S 17 CHP 24 CH · S	24 CHP		16, 17 at KYOTO
(176)	(5)	(19)	(19)	(18)	(10)	(19)	(64)	(13)	(5)	(6)

REGIONAL CHAPTERS AND SECTIONS FOR THE PROMOTION OF THE QC CIRCLE ACTIVITIES

Figures are number of registered QC Circles at every Chapter as of the end of February, 1988.



QC CIRCLE PROMOTIONAL EVENTS BY CENTER AND REGIONS



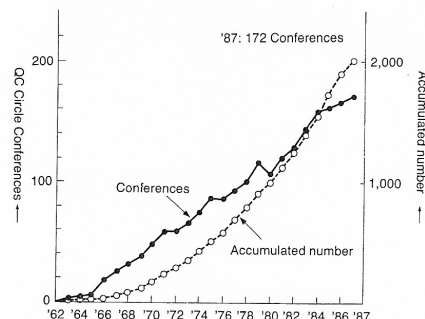
QC CIRCLE 'KORYO' GENERAL PRINCIPLE OF THE QC CIRCLE Foreign Language Versions Based on Agreements with JUSE

Version	Publisher
Japanese (Original)	Union of Japanese Scientists & Engineers (JUSE) 1970
Korean	Korean Standards Association (KSA) 1976
English	Union of Japanese Scientists & Engineers (JUSE) 1980
French	Association Francaise de Normalisation (AFNOR) Association Francaise pour le Controle Industriel et la Qualite (AFCIQ) 1981
Chinese	Ministry of Machine-Building Industry 1983
Indonesian	P.T. Pustaka Binaman Pressindo 1983
Spanish	Asociacion Chilena de Control de Calidad 1985
Portuguese	Uniao Brasileira de Circulos de Controle de Qualidade (UBCCQ) 1985
Italian	Associazione Nazionale Circoli della Qualita Italiani (ANC-Qul) 1987
Marathi	'Sfoorty', B-Cabin, Shivaji Nagar Thane — 400 602 India. 1987

EVENTS OF THE 29TH (1988) QUALITY MONTH (NOVEMBER) “Quality First — Comfortable Society” “Judge by Fact, Act by Fact”

8th (Tue)	18th All Japan QC Circle Convention
9th (Wed)—11th (Fri)	27th QC Conference for Foreman
12th (Sat)	20th Consumer QC Conference
14th (Mon)	26th QC Conference for Top Management
15th (Tue)—18th (Fri)	38th Deming Prize Awarding Ceremony
24th (Thu)—25th (Fri)	4th QC Conference for Service Industry

NUMBER OF QC CIRCLE CONFERENCES IN JAPAN 1962—1987



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