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The Round-up

Bob Galvin Wins Gold Award As Top Semiconductor Executive

Bob Galvin

A weekly newspaper reporting business and financial news has named Bob Galvin as the best chief executive in the semiconductor industry.

Based on the Olympic tradition of gold, silver and bronze awards, Motorola's Chairman of the Board received the gold award. The paper presented its silver award to Jerry Junkins of Texas Instruments and its bronze award to T.J. Rodgers of Cypress Semiconductor Corp.

Bob received the top award, according to TWST, for several reasons. "Recognizing the global nature of the semiconductor business, this management has made a concerted effort to seek international joint ventures. In addition, the leadership at Motorola has structured the communications strategy in such a way as to insulate individual segments from the highly-competitive downcycles that besiege these products. Sales are strong in the Communications Sector, a feature that augurs well for Motorola's bottom line in the future."

The article cites Motorola's strategy of "maximum diversification compared to all semiconductor companies, with a strong technology thrust, principally in microprocessors."

An investment adviser sums up his feelings in the article in this manner: "I've admired Motorola because the company, through its product mix and customer mix and its personnel policy, has always fared much better than everybody else during industry downturns."

A professional investor is quoted comparing Motorola to Intel. "While Intel gets all the press notice in microprocessors because those products are the standard chosen by IBM, it's Motorola who's first to the market with what I think is often a technically-superior product. That's debatable; but John Scully would agree with me since Apple uses it. Motorola is right there on the leading edge in microprocessors and doesn't really lag anywhere. I can't identify any single weakness they have in semiconductors...their weakness is public relations. They don't blow their own horn enough."

Another investment pro says: "Motorola is the best managed semiconductor operation in the U.S. They maintained profitability throughout the downturn, annual profitability in the semiconductor business and they're emerging out of the downturn with increased market share. They really effectively manage their business."

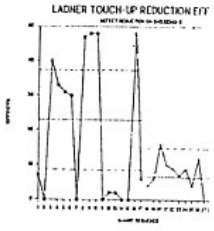
Also mentioned in the article is Motorola's flexibility, such as "exiting the D-RAM market when things were really bloody, and now they have come back effectively through an arrangement with Toshiba. So they're mobile; when they see the market improve, they re-enter with a different strategy."

The article goes on to cite other major Motorola accomplishments including strength in Discretes and custom chips, asset management and expense control.

The thoughts of the panelists who selected Bob Galvin for this award may have been best expressed by this comment: "I think their biggest weakness is that the street (Wall Street) still doesn't appreciate that this is probably the smoothest-running organization within the industry."

Rising To The Quality Challenge

Dave Neuer (R), Vice President and General Manager Communication Division, presents the "Supplier Statistical Process Control" award to members of Mechtronics of Arizona, Inc., SPC team.



GRAPH 1

By Mikel Harry

Today, there are many stories alerting all of us to the importance of customer satisfaction to corporate survivability and economic prosperity. Everywhere we turn there is someone delivering the message — Quality is a business issue! As we all know, the attainment of quality excellence is an ongoing challenge.

One of the many ways in which Motorola is meeting this challenge is through the goal of "six-sigma" product quality. Essentially, this goal says that there will be no more than 3.4 defects per million parts.

But what is GEG doing to attain this level of product quality? Presently, we are implementing Statistical Process Control, or "SPC" as it is most often referred to, within our manufacturing processes and our supplier base. GEG is also moving SPC into the designs of its products so that they are resilient to variations in part quality and the manufacturing processes.

How is this being done? As you may recall from an earlier ROUND-UP article, 12 GEG engineers were certified as Statistical Process Control (SPC) Instructors during the fall of 1986, after a very rigorous training program. Since this time, much change has been occurring within the four divisions — thanks to the work of these people and many other Motorolans. For example, during December 1986, the Communications Division organized nine SPC problem solving teams to tackle several persistent problems. However, before going off to do "battle" with their problems, they were trained in the use of several very powerful SPC tools. Some of those tools included process control charts, design of experiments, fishbone diagrams, multi-vari charts, and good old common sense.

After being trained in the SPC tools, each of the nine teams were given a specific "application problem." Although each problem was unique, they all related in one way or another to the manufacturing goal: significant reduction in the amount of time it takes to rework printed wiring boards (PWB's). This particular goal was established by the division's Manufacturing Manager, Lou Chavez, and supported by the Quality Assurance Department Manager, Dick White.

Next, the teams went through an "SPC Applications Workshop" to assist them in structuring their respective problem so that it was within their "line of sight." This was done under the leadership of John Hathaway and Ron Lawson, two of the SPC champions for the Communications Division.

The outcome of their effort was quite impressive. A CMA SPC team was able to track down a costly source of product variation and make a substantial improvement in the marking legibility on PET wiring harnesses. The LADNER team was able to reduce the number of defects observed during touch-up by 70% (see graph 1). Simultaneously they were able to decrease the amount of time it takes to touch-up a PWB by 50%. As another example, a second CMA team developed a new way to encapsulate wiring harness connectors. This success ultimately led to the elimination of a rework operation. These are but just a few of the quality and cost improvements which the problem solving teams were able to make.

During a presentation on April 1, 1 Comm. Div. teams displayed the cesses to the General Manager, Dave and the Production Operations Ma John Barto. During this presentatio reinforced the need for ongoing improvement and illustrated how th sion will become "Best in Class" w help of SPC and Short Cycle Manu ing (SCM).

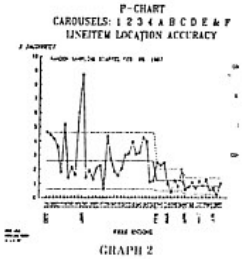
Within TED, Cathy Lawson (SPC nical Coordinator and Champion) ha working directly with many of the p to implement SPC within their ma turing processes. Not only is she usin herself to solve problems, she is shari knowledge and expertise with others they can effectively use it.

On the supplier front, Ray Gre (TED Supplier QA Engineer) and A lica (SED QA Section Manager) have to implement the supplier SPC pr within the group. They are currently ing with Kathy Buffington (GEG Tr Department Manager) in order to fi organize SPC materials for training pliers in process control. This will s cantly help to put the quality in "up f

At SED, Russ Elias and Dennis Sp set out to get SPC implemented by fo fourteen SPC "tiger teams" to tackle plex and costly process problems results coming out of SED are impressive.

Within the Radar organization, Morrow and Rich Thompson are tra several engineers and managers to be "SPC Champions." Through the c pions, the organization will implemer statistical controls within their pr which, in turn, will help drive GEG t goal — six-sigma product quality.

But what is going on within the ce functions? The answer to this questi easy — "a whole lot is going on." For e ple, the Printed Wiring Facility initia "Total Yield Improvement" effort. ' first efforts involved the formation SPC problem-solving team led by D Humlicek. The team took on a tough lem when they set out to find out caused variations in PWB line width. dedicated efforts to the use of SPC he them discover that the scrubbing oper was causing a significant portion of problem. As another example, the s room implemented an SPC chart w helped them to make an improvemer part quality (see graph 2).



GRAPH 2

As you can readily see, GEG is agg sively rising to the six-sigma challe Ultimately, the use of SPC provides framework for a "win-win" situation is to say, we all win because customer isfaction is higher, yields are higher costs are lower. In turn, this will keep "out in front," now and long into the fut

Motorolans Roll Up Their Sleeves To Donate Blood

HAYDEN

ELLIOT

ROOSEVELT

CHANDLER

By Ralph Gallacci

Once again GEG employees have contributed generously to the Community Blood Drive program which was conducted at Hayden, Elliot, Roosevelt and Chandler plants July 20 through July 24.

Thanks again to the 1281 Motorolans who took a few minutes to roll up their sleeves to give "Life Saving Blood."

Betty Pichoa, Donor Resources Specialist for United Blood Services, expressed "Thanks" on behalf of the Services to all Motorolans who helped make this year's drive a success.