

The Founding of the Association for Manufacturing Excellence

Summarized at a Meeting of its Founders, February 2, 2001

As a formal organization, the Association for Manufacturing Excellence (AME) was founded in 1985. However, much of its history occurred earlier. AME emerged from the American Production and Inventory Control Association (APICS), a story that began in the 1970s.

MRP was then the hot topic. APICS was the place to learn about it. Unfortunately all the early MRP packages assumed job shop operations requiring transactions at every step. Flow shops feared being snowed under by the paper blizzard.

The founders were rather forthright pointing this out. Soon they began to advocate eliminating waste, simplifying rather than complicating, and events led to the forming of AME. Along this time line were a few notable achievements:

Nov. 1978 APICS Annual Conference: A year earlier Nick Edwards had presented a paper explaining how and why flow shops had trouble with MRP. Ed Reznecik from Daisy Air Rifle challenged people to do something about it. By 1978 they were ready. Nick Edwards, Mac McCulloch, Doc Hall, Jim Mann, John Kinsey, and Dave Riggs (now deceased), along with many others, attended a rump meeting. Mac collected business cards.

1979: Using the cards, Mac invited everyone to the first workshop on repetitive production and inventory control systems at Briggs & Stratton in Milwaukee. On April 18, about 21 came, openly sharing their problems and experiences, and beginning to learn the different terminology by which various industries expressed the same ideas. A steering committee formed. Mac became our first chairman. For the next seven years, he held

the group together from his office on the kitchen table. Donna McCulloch not only tolerated this, but pitched in for many hours of envelope stuffing.

In September, Jim Mann hosted a bigger workshop on "home-grown" repetitive systems at Champion Spark Plug. The subject interested major players: IBM, Kodak, and the auto companies. Still strictly "unofficial," the group had no name.

In October, at the APICS annual meeting Doc Hall summarized the group's findings about repetitive manufacturing systems. Larry Higgason (Ford) came to learn and soon became an activist. American industry was starting to go sour. Talk broadened beyond production and inventory control systems.

1980: At Bendix in Southfield, MI, the mood darkened. John Kinsey, Ken Wantuck, Doc, Larry and others at this meeting had been exposed to "Japanese manufacturing." While we dinked with MRP, the Japanese were eating our lunch; something more significant was needed. Afterward, Mac and Nick visited the APICS president to seek recognition as a special interest group of APICS. We became the Repetitive Manufacturing Group (RMG) of APICS, but to front the next workshop, we opened our own bank account. By APICS rules, we weren't supposed to do that.

In September, Ford hosted a three-day workshop on "JIT" with Arthur Andersen. Larry Higgason helped recruit companies to attend and began drumming up interest in the Automotive Industry Action Group (AIAG), which formed as a sub-committee of the Detroit APICS Chapter (to avoid the



Figure 1. Robert W. (Doc) Hall at an early AME meeting.

appearance of conflict with anti-trust laws). Higgason, John Kinsey, and Bill Maddox led the way. Thus AIAG began as a group similar to RMG, with some of the same people involved.

The news was grim; Chrysler in bankruptcy; machine tools going down the tubes; electronics beginning to hurt. Xerox discovered that it paid more to suppliers for the materials in a copier than their Japanese competitors charged customers for a similar unit.

In October, the Detroit APICS Chapter supported by several members of the Repetitive Manufacturing Group sponsored the first-known conference in the United States on "Japanese Manufacturing" at Ford World Headquarters Auditorium. The featured speaker was Fujio Cho, now president of Toyota. Others: Roy Harmon (A. Andersen), and Jinichiro Nakane (Waseda University, Tokyo, and associate of Cho). Nearly 500 people came. They left mumbling and shaking their heads.

The next day, the same performance was repeated for about 300 persons in Pittsburgh, sponsored by the Pittsburgh APICS Chapter, the Repetitive Manufacturing Group, and Arthur Andersen.

1981: The workshop format jelled in

almost its present form at Schlage Lock. The program focused on a topic: bill of material configuration at order entry, the forerunner of configurators and mass customization. We toured the plant. Afterward we had Q&A and offered suggestions to the hosts. Shortly thereafter, the steering committee decided to concentrate on the physical changes necessary in manufacturing.

By June we had organized a workshop at Kawasaki Motorcycle in Lincoln, NE. Among the 50 or so attendees were most of the AME founders, plus several other familiar names, Ed Hay, Ken Wantuck, and Richard Schonberger. Those who had never before seen "JIT" in action had an epiphany: standard containers, cells, kanban, fail-safe, and a simple process. Doc Hall wrote a well-publicized case on Kawasaki. Schonberger started writing his first book.

1982: A workshop at Omark Industries (now Oregon Cutting Chain) was another eye-popping experience. Thousands of feet of material travel reduced to a few feet. Omark featured the first company-wide conversion to lean. Omark then called it ZIPS, Zero Inventory Production System.

Schonberger published the first book on what we now call "lean." Doc Hall circulated an 80 page manuscript on the new system. APICS wanted to convert it into a book, so Doc larded the manuscript with production control detail, and titled it "Stockless Production." At the last minute, APICS changed the title to *Zero Inventories* to correspond with the launch of a Zero Inventories Crusade. (APICS' earlier, very successful MRP Crusade began in 1970.)

At the same time, AIAG created the first known video on "lean," a four-hour tape of its JIT conference featuring Wantuck and Ricard, and priced at \$300. Over 1100 copies were sold. For the next several years, that tape funded AIAG, allowing it to separate from APICS. The Repetitive Manufacturing Group (RMG) remained with APICS, but co-sponsored activities with AIAG. Eventually, backed by corporate memberships, AIAG became a major standard-setting body of the auto industry.

In November, a workshop at Buick City focused on stamping and the relationship with the UAW. Ken Stork (Motorola) joined. The RMG continued to concentrate on the new "JIT" movement.

1983: The two-year APICS Zero Inventories Crusade began. Doc, Ken McGuire, Ken Stork, Ed Hay, and Ed Heard gave hundreds of presentations, many to APICS Chapters, but also to any group that was interested. Because of the troubles of the time, crowds were sometimes large.

February brought a memorable shop floor workshop at NOK, LaGrange, GA, a Japanese mechanical seal company, featuring kanban, fail-safe quality, and a few cells.

Ernie Huge (FMC) joined. At a side meeting, the RMG began to structure. As chairman, Mac did "everything," Don (Quartermaster) Geis became treasurer, Doc Hall the secretary/documentarian, and Ken Stork the program leader. This structure didn't fully comply with APICS rules.

In July, the increasingly formalized RMG steering committee met in Schaumburg, IL. We reviewed the speakers' list for the Zero Inventories Crusade. Higgason and Ricard developed the entire "JIT flight" for the 1983 APICS Annual conference. We affirmed a formal structure and a planning budget based on three annual workshops.

On September 15, Ernie Huge issued the first *Just-in-Time Technical Development Newsletter*, passing out copies for free. Demand grew; nothing like it could be found elsewhere. Issues came out sporadically whenever Ernie collected enough to compile 10-15 pages. This newsletter evolved into *Target*.

A month later, a big workshop at Hewlett-Packard, Greeley, CO concentrated on the cells, kanban squares, and teams that had been featured in an underground video taped at an internal H-P manufacturing conference. (Generally known as the "Styrofoam box video," it demonstrated the advantages of a pull system. It's still shown occasionally.)

All the work was strictly voluntary. From their kitchen table offices, Mac, Jim Schwai, and their wives kept the Repetitive



Figure 2. Mac McCulloch, Briggs & Stratton.

Manufacturing Group going. The Zero Inventories Crusade was at its peak throughout the United States and Canada. Several members of the RMG made multiple presentations per week.

1984: With the Zero Inventories Crusade still in full stride, things started to come to a head with APICS. A workshop at Deere, in Horicon, WI, demonstrated mixed model assembly and the beginnings of a few cells. There an APICS representative verbally asked the RMG steering committee to relinquish its treasury and positions. Soon after, a letter dated September 16 formally asked the new chairman, Lee Sage, and all other officers of the Repetitive Manufacturing Group to resign. Although there was little money in the treasury, the officers saw no choice but separation from APICS.

Serious plans took shape at a September workshop at IBM-Raleigh. Stork had drafted a business plan for a "Society for the Advancement of Manufacturing Excellence" (S.A.M.E.), including a proposed mission statement, distinctive competencies, membership targets, and fees (\$100 per year).

The phone lines stayed hot up to the day the founders made the commitment, Sunday, October 28, 1984, at the Marriott Pavilion in St. Louis. Attending:



Figure 3. Sid McCready (IBM) and Lee Sage (Cadillac Gage).

Lee Sage, Chairman, Cadillac Gage
 Don Geis, Hoover Worldwide
 Robert "Doc" Hall, Indiana University
 Larry Higgason, Ford Motor Company
 Rolland "Mac" McCulloch, Briggs & Stratton
 Len Ricard, General Motors
 Jim Schwai, Briggs & Stratton
 Ken Stork, Motorola
 Bill Thurwachter, Arthur Andersen
 Bill Wheeler, Coopers & Lybrand

For a name, we settled on *Association for Manufacturing Excellence Through Just-in-Time*. (The "Through Just-in-Time" part was quickly but quietly dropped.)

Mission statement: "To achieve world class productivity through education, research, documentation, and interchange on the successful application of improved manufacturing practices."

AME's signature event would be the "how to" workshop. By policy we would give the host a critique at the end of each one. Sixteen potential workshop sites were identified for 1985. The bank account held a whopping \$3700.

Dues would be \$100 per year. The RMG mailing list would be invited to join the new association as soon as a legal entity could be

constituted.

1985: Lee Sage sent a two-page letter of invitation to everyone on the old mailing list. Almost immediately about 300 pioneer members signed on. Legal incorporation was finally completed on February 8.

Target began publication. Ernie Hugel of FMC was the editor. Lea Tonkin volunteered to add a professional editor's touch. Mac McCulloch and his son Jeff did graphics and production.

As the year rolled along, the number of workshops fell far short of 16. We decided to organize an annual conference. The first one was held September 12-13 at the Drawbridge in Covington, KY (Cincinnati). Attendance: 186. Speakers: Al Wordsworth (Black & Decker), Tom Gelb (Harley-Davidson), Steve Bara (GM-NUMMI), Gene Adesso (IBM-Raleigh), Bruce Aldrich (Omark), Ray Rissler (GE Appliance), Mike Rowney (Omark).

By November, we sensed that our reach was not high enough or broad enough. To broaden the mission, we sought the advice of top executives.

1986: In February, we held what became known as the Mountain Shadows meeting in Scottsdale, AZ. The AME board was advised by seven top executives:

Vaughn Beals, CEO, Harley-Davidson
 Craig Barrett, COO, Intel
 Neil Jorgensen, V.P. NCR
 Jack Warne, CEO, Omark Industries
 Carlton Braun, V.P. Motorola
 George Senn, V. P. Briggs & Stratton
 Dick Love, V.P., Hewlett-Packard

This meeting had a major influence on AME. The executives first asked questions of the board, then met in private with Doc taking notes. Their main recommendations:

- Convince CEOs. Pushing techniques isn't enough.
- Put general managers on the board.
- Hire a full-time executive director. Get a staff to do detailed work.
- Make some videos to persuade CEOs.
- Have no consultants on the board. They create a negative appearance.

Short of money, the board attempted to

carry out these recommendations. The first video didn't appear until 1988. To expand the number of activists cultivating workshops, we started forming regions, beginning with the Northeast. After the second annual conference in Chicago, AME had 759 members and about \$150,000 in the bank.

Consulting companies were hot to recruit most board members. Ernie Hulse left FMC to become a consultant and resigned from the board. Ken Stork replaced him as editor of *Target*. Lee Sage had also become a consultant; at the end of his term, he resigned as president. By year's end, all consultants, new and old, had left the board, replaced by several executives. Ken Stork became the new president, Doc Hall the *Target* editor. By-laws were revised to limit board members to two consecutive three-year terms.

Our early years were tumultuous. Some of the accomplishments were notable. But when the time was ripe, we did not push hard enough to broaden the mission and expand the movement:

- Our mission, knowledge, and activities were not broadly and continuously publicized. Operations folk are not natural marketers.
- The need for a total enterprise approach beyond manufacturing was never successfully promulgated. We stayed too manufacturing-oriented.

- We did not develop the processes necessary for *thought leadership*:
 - No executive advisory board – never “really got to” the CEOs
 - No leverage of intellectual property (*Target*, etc.)
 - No organization to develop content or knowledge management.
 - No certifications or company awards.
 - Little formalized benchmarking or development of a networking process.
 - No “manufacturing institute” (or other institute).

AME's challenges today are not so different from the ones faced 20 years ago. The sense of crisis is not the same.

By the eight founders present at the history compilation meeting February 2, 2001.

Nick Edwards

Don “Quartermaster” Geis

Robert “Doc” Hall

Larry Higgason

Jim Mann

Mac McCulloch

Lee Sage

Ken Stork.

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