

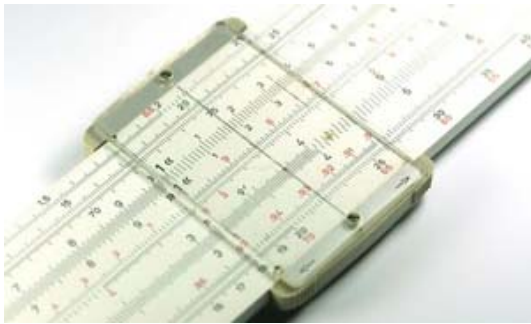


Ric Remembers

Back in 2002, Ric Marzolf, TriMark's Vice President of Research and Development, wrote an article for TriNews, TriMark's internal company newsletter, reflecting on his 25 years with the company. We thought our readers might find it interesting to see what he had to say at that time about the changes he experienced during that quarter-of-a-century. In honor of the 40th Anniversary, he agreed to give us an update on what's changed since that 2002 article appeared.

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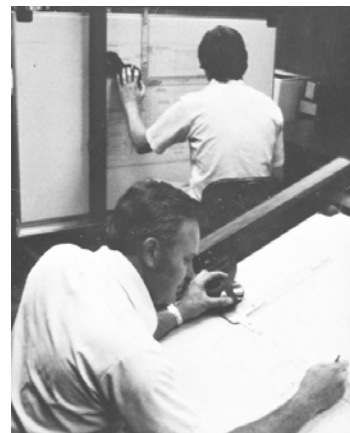
2002 is a milestone year for me; I attended my 30th High school reunion, reached my 25th anniversary at TriMark in August and recently celebrated 20 years of marriage. The cars I drove and the music I listened to (still do) are now considered classics. All of this of course dates my age, but I wanted to reminisce briefly about the changes I have seen at TriMark's product development going back to the good old days (kind of sounds like my parents doesn't it?).



Drawings were done in pencil on a drafting table or board hence the term "It's on the board" (in development) or "back to the drawing board" (major revisions required). Tools that were used in the drafting function included drafting machines, scales, compass, templates, triangles, and electric eraser/erasing shields to correct the mistakes. You can imagine the time and expense to

redraw a drawing or move a detail a mere .250 in. Project notes, meeting minutes and a lot of calculations were hand written on lined paper. Slide rules were used for computations, including multiplication, division, powers, roots and trigonometric functions with the first calculators being used in 1975. Mine was a Texas Instruments TI-1250 and cost \$60 for a basic four-function model

TriMark's Product Development process has gone thru a total of 3 major programs – PDG, Flexibility, and the current P3 process plus continuous improvements and updates for each. Prototypes were crude, costly, took a long time and were done toward the end of the development





cycle. The tolerances were atrocious and a great deal of fine-tuning was involved to get them to work the way they should. I have one of the first Travel Trailer prototypes (Elixir Lock) from 1977 in my office if you would like to see it. By comparison our new Stratasys FDM (Fusion Deposition Modeling) rapid prototype machine is more akin to a copy machine than the DTM SLS sinter station machine we previously had and it light years ahead of the rubber molds and machined prototypes. It will offer us better accuracy, faster build times and more robust parts.

Then came the advent of the computer in the early 80's, which changed the way we communicated and documented ideas. Two-dimensional CAD systems came in the mid-80's with 3D CAD following in the late-80's. Both automated the design and development of parts and drawings and allowed for the use of electronic data on the manufacturing side. Communication has gone from letter/phone to fax to instantaneous e-mail and teleconferencing (No, I am not old enough to remember the Telex machine), but it is hard to imagine life without e-mail and the Internet today.

Tooling has gone from labor- intensive set-ups on milling machines, to EDM machines to computer controlled CNC and EDM machines. Complex shapes and contours were not attempted until the early-90's when we tooled-up the 60-400 Flush Baggage Lock. Materials have also progressed with engineering plastics and powder metal components providing replacements/alternatives for zinc die casting and metal stampings. Product testing has gone from painfully slow and some times incomplete field testing by the customer to in-house bench testing to computer generated analysis (FEA's).

One of the most surprising things to me are the number of product lines that were developed in the 1970's that we are selling today with several still in the top 20 products sold. Granted there have been revisions, and upgrades but the basic product is the same. These products are the 50-100 2-rotor latches, 60-200-travel trailer latch, 30-100-compartment latch and the 30-200 flush paddles. Several of these products were TriMark's first foray into the door hardware arena, which was a major departure from the simple window hardware that was the company's humble beginnings.

"Most of the changes in technology seem EVOLUTIONARY until you get down into the effect that each has had and then you discover that the impact is more REVOLUTIONARY."

So to wrap-up this newsletter, while we tend to think that TriMark is very set in our ways and resistant to change – there have been numerous proactive improvements, updates and changes thru the years, in company ownership, technological advances, materials, processes, organizational structure and personnel. Most of the changes in technology seem evolutionary until you get down into the effect that each has had and then you discover that the impact is more revolutionary. The times



have definitely changed and TriMark has done well in keeping-up and responding to the changes. TriMark is a stronger more responsive company with clearer goals and objectives than ever before, but the business environment has also changed; the pace is quicker, the customers are more demanding and we have more competition than we have ever had. We are competing in a global marketplace with some of our top customers struggling in a tough worldwide economy. We have a great workforce; the best active projects ever, good process improvement initiatives started and excellent technological tools in-place. Once we get everything to hit on all 8 cylinders we will be on our way to being a world-class designer, manufacturer and distributor of global hardware products.

2011 Update

Electronics technology continues to change the way we work, communicate and collaborate. The computer has turned this era into the Information Age, plus the Internet enables us to conduct research regarding products and services quickly and efficiently and to have instant access to knowledge with a simple mouse click that would have been difficult or impossible to find even 5 years ago. In addition, web enabled programs allows access 24/7 anywhere in the world for viewing, downloading and entering information. Sales representatives are no longer the gatekeepers of information. The days when customers had to meet with sales reps to get information on company products and services are gone. Today, buyers can search and review company websites for products, best practices, proven approaches to problems and begin evaluating possible solutions months before sitting down with a salesperson.

We are also able to exchange and store information freely, laptop computers and now smart phones provide connectivity while traveling, at home and even in meetings. It is hard to stay away from the e-mails, texts and phone calls after hours or even on vacation. What is surprising to me is the fact that new modes of communication do not seem to completely displace old ones; radio did not destroy the newspaper; television did not kill radio; and the Internet did not make TV extinct. In each case, the information environment becomes integrated and more complex.

The most noticeable change in product development is the drastically shorter time expected to create a successful product. In addition, global collaboration demands that product information be devoted to concurrent engineering software with shared databases that can be accessed by all members of the design team.