



An Engineer's Life...

Some of us

come to engineering, especially plastics engineering, in a most unlikely way. Today it seems like it was inevitable, as I am a co-owner of a business that primarily consults in the area of plastic composite technology. But that career path wasn't on my radar when I began my professional career.



I come from a small town in Pennsylvania where I didn't know any engineers. I have an uncle who is a chemist, and I think he was the one who influenced me to look at science or engineering as possible career. When I applied to Penn State, mechanical engineering sounded like it was right up this inveterate tinkerer's alley, and I discovered that it was. When I graduated, the job market was in one

of its periodic slumps, so I decided to go to graduate school at Caltech. That's where I met a recruiter from Ford, and how I got to Michigan.

My first close encounter with plastics came early in my career at Ford. I was the product engineer on an integrated grille opening and reinforcement panel that was molded in SMC. This was also my first exposure to SPE, as the part won the 1979 SPE Automotive Grand Award for *Most Innovative Use of Plastics*. During my time at Ford, I managed to complete my MBA at the University of Michigan by attending their evening program, and when I graduated I decided to get more involved in the plastics world.

I had noticed that the resin suppliers were doing the most innovative work on plastics applications, so I got a job as an engineer with GE Plastics (now SABIC). This was a wonderful place to develop my skills, and I took advantage of the opportunity by working in engineering and marketing, as well as a couple of joint-venture companies. Getting involved in a joint venture really tests one's ability to navigate different cultures, where you may not understand all of the rules, but you still have to get the job done. It can be frustrating and fun at the same time, but I found it to be a great experience.

Eventually, I decided that I needed experience at a Tier 1 supplier, and I joined a molder called Automotive Industries, which was acquired by Lear Corp. a few years later. During my time at Lear, I further expanded my background by taking jobs in consumer research, Six Sigma, sales and R&D. I even had a stint as vice-president of product engineering in the electrical division. Then, in 2007, I left to co-found our consulting business.

That's a lot of different assignments in different companies, so what's the overriding theme to this story? Well, like any building project, a career starts with a good foundation, and I got that by relentlessly pursuing technical and business education. But I added to that foundation by taking on a wide variety of assignments and always looking for new areas to expand my knowledge.

My materials background came largely through on-the-job training, and I always wished I had taken more of those courses when I was in school. I'm not sure how I could have anticipated that when I was younger, but I've always managed to find people who could teach me the basics, and then I've used my education and training to bring myself up to speed.

Today, I consider myself to be very lucky to be using nearly all of the skills I've acquired over the years. When you become an entrepreneur, you quickly come to realize that you need to perform all of the functions that make the business run, from accounting



An Engineer's Life CONTINUED FROM PAGE XX

and marketing to research, engineering, and program management. Composites are a highly technical area, and we spend a lot of time doing basic engineering and costing calculations to demonstrate that an idea is feasible. These can't be done without a technical and business background. Of course, we can perform more sophisticated analysis, but we often find that a quick hand calculation will save a lot of time and money before serious resources are deployed.

So my job today is like a capstone class for my career, and I continually discover that things I had had a fleeting association with in the past are now a big part of my professional life. When I started in the automotive world, *steel was king*, but I got an off-the-wall assignment to make a plastic front end for a truck. It turned me towards my present career, and I'm grateful that I was given that opportunity. I think Yogi Berra said it best: "When you come to a fork in the road, take it." To me, that's a winning philosophy and the way I try to live my engineer's life.

Tom Russell

Tom Russell, P.E., is currently chief-executive officer of Allied Composite Technologies, LLC. He has over 30 years of experience with leading manufacturing enterprises, and has an extensive background in plastic materials and processes. For 15 years, Russell was employed by the Lear Corporation, one of the world's largest automotive suppliers. At Lear, he held the positions of vice-president of Advanced Engineering - Interior Products Division, vice-president of Interior and Electronic Advanced Products, vice-president of Product Engineering for Electrical and Electronic Products, director of Advanced Sales, director of Six Sigma Deployment, director of Consumer Research and Analysis, and director of Research. Prior to joining Lear, Russell spent a decade at GE Plastics where he held a variety of engineering and marketing management positions. He began his career at Ford Motor Company as a product engineer. Russell holds a Master of Science degree in Mechanical Engineering from Caltech, an MBA degree from the University of Michigan, and a Bachelor of Science degree in Mechanical Engineering from Penn State University. He is a member of several professional organizations, a Registered Professional Engineer, and holds a U.S. patent.

APRIL 22-24, 2013, CINCINNATI, OH



SHOWCASE YOUR TECHNOLOGY AT
SPE'S ANNUAL TECHNICAL CONFERENCE
*World's Largest International Gathering of Plastics
Engineers, Scientists, & Business Professionals*

CALL FOR PAPERS in all Divisions and SIGs
that focus on:

- Troubleshooting
- Innovation
- Cost Reduction



www.antec.ws • DUKE ENERGY CONVENTION CENTER