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# Domain Mastery for Mastering Change

**What are the positions on your team's roster to ensure that you win the game of 'change?'**

I just wanted to do my job, but they closed the plant and used dynamite on the blast furnace at which I worked. I just wanted to report the daily iron production, but then they made us do it using a computer. The list of changes over my career is endless.

After 50 years in the steel and manufacturing business, I continue to be amazed at the rate of change. Change continues to accelerate throughout the economy, our markets and our technology. And sadly, every steel plant that I ever worked at physically has been shuttered. The steel industry did not do change very well. Here are some thoughts so that our precision machining shops do not repeat the experiences of my former employers.

## Regulatory Change

When I first started at U.S. Steel, in an iron ore screening station in Youngstown, Ohio, the PPE available included a respirator authorized for use by MSA (Mine Safety Administration.) That was because there was no OSHA (Occupational Safety and Health Administration) at the time. OSHA was signed into law in December of 1970, and was enacted in April of 1971. In 1970, there was no OSHA requirement or standard for PPE. Today, OSHA enforces nearly 1,000 standards. In 2023, OSHA charged American businesses over $132 million for violations of just the top 10 most-cited regulations.

Who is the master of the domain of Occupational Safety and Health compliance in your shop? What is their budget to continuously improve their understanding, knowledge and ability to minimize the risk of an OSHA violation in your operation? Where can they go to get industry focused resources to level up your shop's compliance?

## Technology Change

When I first started calling on shops in the precision machining industry, the technology universally employed was cam automatic bar machines. I needed to be knowledgeable about how the additives or treatments in the steel my company made contributed to the successful machining of parts. I also needed to understand my customer's operations if I was going to be an effective advocate for our steel and a problem solver in their shop. The first "emergency claim" that put me on a same day flight to the customer. Our premium free machining steel was wearing a groove into the side of the form tool being used by our automotive customer. Fortunately, I knew that the side of the form tool shouldn't be doing the cutting, and I was able to help my customer. My knowledge of the steel domain would have been insufficient, but knowing how the customer's equipment functioned — or more correctly, was supposed to function — enabled me to lead their problem solving.

Who on your team is the domain master for how your customer uses the components that you produce? Who on your team is the domain master for the sourcing of materials and the implications for your operation if that sourcing changes ? Where can they go to stay current besides making another customer or supplier visit?

### Technology Change, Part II

Today, while cam automatic machines continue to be one method of producing high-precision, high-volume parts, there are a host of different technologies using computer numerical controls (CNC) rather than cams. Machines that can handle multispindle, high-volume production. Machines that might do turning, milling and rotary transfer, as well as offer a host of different ways to present tools to generate features including sub-spindles, synchronized sub-spindles, B-axis and Swiss technology — some of which now add laser capabilities on machine.

Who is your domain master for each and every one of these machining domains, and yes, where do they go to get the latest information to stay current and understand where those capabilities are headed? Attending the Precision Machining Technology Show every other year is one way, but what else is available?

### Market Change

When I started serving companies in the precision machining space, the single largest market was for turned parts for automotive. Mostly hose fittings, but also parts for fuel and brake systems as well. These parts were produced primarily on multispindle cam automatic bar machines, typically using free machining materials. There is still a role for these machines and these parts, but today, more shops that I visit are using CNC turning and CNC Swiss machines to produce sophisticated parts for medical, dental, firearms and electronics applications. And the growth in automotive is in new components from non-free machining materials for electric vehicles. Leaded steels, once the mainstay of our production processes, are no longer melted here in North America.

Our current domain knowledge is not enough. Just "doing the job" is no longer sufficient. All the domains are changing. Our jobs are changing as well. This means that the skills and abilities of our performers need to change.

Do you have a process for helping your people stay current and get ahead with changes in the technology that they use and the markets they serve? Do you have a process or pathway to grow the expertise you need in critical but non-production domains such as safety, regulatory, HR and IT/cyber systems and security? Quality requirements are becoming more challenging as well. A failure in any one of these areas could result in penalties and reputational damage that could cause the loss of your business.

PMPA is proud to provide programming and speakers at our various meetings and through webinars, podcasts and other deliverables to help shops identify challenges and find resources to help meet those challenges. Is your firm taking full advantage? Do you have a cadre of up and comers that are actively "changing their game" to keep your shop up to date with all of the changes? Or are you going to wait until the crisis arrives and then improvise? Or try to find and hire expensive outside expertise? Anticipation is the greatest value of management. How is your shop anticipating? Managing? What is your plan for developing the people to lead you through the inevitable change that is on its way? P

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